

\$4.1 BILLION PROPOSAL TO LAFAYETTE |

To Operate and Manage LUS Electric, Water and Wastewater

NextGEN
UTILITY SYSTEMS

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October 3, 2018

By Hand

Joel Robideaux, Mayor-President
Kenneth P. Boudreaux, Council Member (District 4)
Bruce Conque, Council Member (District 6)
Nanette S. Cook (District 7)
Liz Hebert, Council Member (District 8)
Patrick Lewis, Council Member (District 3)
705 West University Avenue
Lafayette, LA
70506

Re: NextGEN \$4.1 Billion Proposal to Lafayette

Dear Mayor-President Robideaux and Lafayette Public Utilities Authority Members:

NextGEN Utility Systems ("NextGEN") is pleased to submit our proposal to the City of Lafayette which includes:

- **\$1.3 billion** in compensation to Lafayette
- **\$2.8 billion** in additional economic benefits
- **10%** annual reduction in residential electric customer bills over the first three years
- An estimated **400** new direct jobs and **250** new indirect jobs for Lafayette
- Future **Fortune 500** NextGEN headquarters in Lafayette

NextGEN believes there is a significant opportunity for the City of Lafayette to take advantage of a great asset in LUS and for NextGEN to invest in LUS to make it a true leader in a changing industry and a catalyst for creating high paying jobs for Lafayette. NextGEN proposes to enter into a Cooperative Endeavor Agreement with Lafayette whereby NextGEN would assume responsibility for the management and operation of the LUS electric, water and wastewater utility assets for a period of forty (40) years, under the following terms and conditions:

- 1) **City Ownership and Authority:** Ownership of LUS and ultimate control of the assets will at all times be retained by the City of Lafayette and authority to approve utility rates will remain with the Lafayette Public Utilities Authority. **THERE WILL NOT BE A SALE OR LEASE OF LUS OR ITS ASSETS.**

- 2) **\$1.3 Billion in Compensation to Lafayette:** NextGEN's compensation package includes over \$1.3 billion in nominal dollars (not including the economic benefits from NextGEN's construction and operation of its headquarters) as follows:
- a) **\$140 million in upfront cash.** NextGEN will pay Lafayette an initial amount of \$140 million in cash. The reduction of this up-front cash amount from the amount in the Letter of Intent is due primarily to the following changes:
 - i) NextGEN is continuing the In Lieu of Taxes payments from LUS to the City of Lafayette
 - ii) NextGEN is reducing residential electric bills for the first three years of the Cooperative Endeavor Agreement
 - iii) LUS reduced its forecasted revenue (2018E \$28 million lower)
 - iv) LUS increased its forecasted capital expenditures
 - b) **\$184 million in debt relief.** NextGEN will defease outstanding LUS gross indebtedness of \$184 million (the anticipated outstanding balance of the Series 2010, Series 2012 and Series 2017 bonds as of March 31st, 2019). When combined with the continued payments from NextGEN, we believe this will give Lafayette the ability to raise an estimated \$400 million after this transaction for other uses.
 - c) **\$920 million in continuing In Lieu Of Taxes payments.** NextGEN will pay to Lafayette an estimated aggregate of \$920 million in continuing payments based upon a percentage of base utility revenues in line with what LUS currently funds via the In Lieu Of Taxes. Those ongoing payments are projected to average \$23 million annually for the 40-year term.
 - d) **\$64 million in growth sharing payments.** NextGEN will provide additional earn-out payments to Lafayette of up to \$64 million if LUS exceeds its projected annual base rate electric revenue growth of 2.1%, calculated and paid every three years throughout the term of the Cooperative Endeavor Agreement. The earnout payments will be made through revenue sharing under which Lafayette and NextGEN will share 50%/50% any cash-flow derived from cumulative base rate revenue growth above 2.1% annually. NextGEN will aggressively pursue growth opportunities through annexation and economic development as discussed below.
- 3) **Residential Electric Bill Reductions:** NextGEN will commit to reduce retail residential electric customer bills by 10% for the first three years of the Cooperative Endeavor Agreement. NextGEN will also complete strategic initiatives and will present a proposal in late 2021 for new rates, which NextGEN believes could potentially preserve lower rates beyond 2021. Water and wastewater rates will be set through 2021 in accordance with the water and wastewater rate projections set forth by the City's consultant NewGen Strategies and Solutions in its proposed forecast. Rates thereafter may only be modified with the approval of the Lafayette Public Utilities Authority or City Council. Such rates would include increases needed to provide for capital deployed by NextGEN, using the same procedures and practices as are currently in use for LUS NewGen Strategies and Solutions is the City's independent consultant and has no relationship to NextGEN.

- 4) **Future Fortune 500 Lafayette Headquarters:** NextGEN intends to construct an \$8 million mixed-use commercial building to accommodate the NextGEN corporate headquarters for the purpose of serving multiple utilities across the Southeastern U.S. NextGEN expects to create 400 full-time direct and another 250 indirect new jobs in five years. The Economic Impact Study conducted by Louisiana State University economist Dr. Jim Richardson provided herewith concludes that the headquarters would create a nominal value of approximately \$2.8 billion in economic contributions to Lafayette over the term of the agreement.
- 5) **NextGEN's Expertise and Commitment:** NextGEN's team of utility executives will work directly in partnership with LUS employees to implement the objectives of the Cooperative Endeavor Agreement and will commit to improving LUS's performance across all facets of the business while maintaining competitive rates.
- 6) **NextGEN Responsibilities and Consideration:** NextGEN will directly receive any and all revenues from the operation of the utility system and will be responsible for all expenses incurred, as well as maintenance of the system. The In Lieu of Taxes payments will be made from LUS to the City of Lafayette.

The Lafayette Economic Development Authority and Dr. Richardson agree that the collective economic benefits to Lafayette from NextGEN's proposal amount to over \$4.1 billion in nominal value and represent one of the largest single economic contributions to Lafayette by a private enterprise in the City's long history.

NextGEN has provided Lafayette with its report detailing the assessment and evaluation of the electric, water and wastewater divisions of Lafayette Utilities System ("LUS"). In conducting the assessment, NextGEN and its consultants interacted directly with key LUS management, LUS's outside consultants and personnel at LUS plants and facilities. In every instance, LUS employees were professional and responsive to our requests for information. There is no doubt LUS has a dedicated and knowledgeable team that we want to retain as the foundation upon which we will recruit and train LUS's future workforce. Our review also revealed that LUS is generally reliable, affordable and has good customer satisfaction. We intend to provide LUS with even more resources to improve this level of service. Our Assessment also uncovered a number of opportunities across the electric, water and wastewater utilities that will require significant investment and expertise to address:

- Rationalization of significant 3rd party outsourcing of key functions to multiple providers, including Cleco, The Energy Authority, NewGen Strategies and Solutions and others
- Re-allocating capital away from fossil generation into local distributed generation such as solar with battery storage
- Increased utilization of the Mid-Continent Independent System Operator market purchases with appropriate hedging mechanisms to protect customers against extreme events
- Qualification of transmission assets for cost recovery
- Improving safety culture and performance
- Increasing requirements for cyber and physical security
- Planning and implementing a utility of the future: smart city, electric transportation,

- distributed generation and "microgridding" critical customer load
- Simplifying water rates and complying with the EPA Administrative Order on wastewater
 - Preserving and growing customer base and expanding LUS service territory
 - Reducing general and administrative costs, especially travel and entertainment

As discussed in our report, addressing these challenges will drive LUS to become the flagship of municipal utility modernization across the Southeast. These commitments form the key strategic initiatives that NextGEN will adopt for LUS to deliver to Lafayette.

NextGEN greatly appreciates the opportunity to have worked with Lafayette in preparing and submitting this proposal. This cooperative endeavor with NextGEN will establish LUS as a leader among municipal utilities and Lafayette as the home to an innovative company that will transform the utility business model. We look forward to discussing this proposal in more detail and sharing NextGEN's vision with you, the LPUA and all of Lafayette's citizens.

Economic Study

ECONOMIC IMPACT STUDY |

Prepared by Dr. James A. Richardson

NextGEN
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**Economic Impact Associated with the
Management of the Lafayette Utilities System by
NextGEN Utility Systems**

**Prepared for
NextGEN Utility Systems**

**Prepared by
Dr. James A. Richardson*
Professor of Economics and Public Administration
Louisiana State University**

October, 2018

*Analysis and findings in this report are solely the work of Dr. Richardson.

Economic Impact Associated with the Management of the Lafayette Utilities System by NextGEN Utility Systems¹

Executive Summary

NextGEN Utility Systems (“NextGEN”) has put forth a proposal to the City of Lafayette (the “City”) for the right to manage its electric, water, and wastewater systems (the “Proposal”) amounting to **\$1.329 billion in nominal dollars**, including a \$140 million up-front cash payment to the City. In addition, NextGEN will provide \$21 million in electrical utility bill reductions for residential customers over the first three years of NextGEN’s management, creating additional earnings in the Lafayette economy of **\$3.9 million**. The City has the opportunity to add more value to the Proposal by using the \$140 million up-front cash payment to initiate new projects, thereby spurring economic growth. NextGEN, in addition, will build a corporate headquarters in Lafayette for managing utilities throughout the Southeastern United States, generating personal earnings in nominal value of just over **\$2.775 billion** over the 40-year term with Lafayette local governments getting almost \$175 million in local tax receipts. The projected economic impact of the Proposal with respect to the City of Lafayette totals **\$4.108 billion**.²

NextGEN Proposal Overview

The Proposal provides a cash payment, accepts certain financial obligations and responsibilities currently borne by LUS, and offers LUS’ residential customers an electrical bill reduction during the first three years of service.

- NextGen makes a \$140 million cash payment to the City.
- NextGen provides ongoing payments to the Lafayette Consolidated Government based on a percentage of Base Utility revenues in line with what LUS is currently providing via ILOT payments.³
 - These ongoing payments are projected to average \$23 million annually or total \$920 million over the 40-year term.
- Retirement of LUS’ current debt of \$184 million.
- An earnout/sharing of an estimated \$64 million based on revenue growth exceeding 2.1%.
- An estimated 10% bill reduction for residential electrical utility users in NextGEN’s first three years of management, amounting to \$21 million.

¹ Report was done by Dr. James A. Richardson, Professor of Economics and Public Administration at Louisiana State University at the request of NextGEN.

² The present value of the total economic impact exceeds \$2.531 billion.

³ The ILOT payments from LUS to the City amounted to \$22.6 million in 2017, \$23.3 million in 2016, \$22.8 million in 2015, \$22.1 million in 2014, and \$21.6 million in 2013.

NextGEN’s Proposal to the City and to LUS’ residential customers amounts to \$1.329 billion in nominal dollars. This does not account for any ongoing economic impacts that may be encouraged by this proposal and without accounting for the creation of NextGen’s headquarters in Lafayette and its economic impact on Lafayette’s economy.

Payment to City of Lafayette: As proposed, the City will receive a lump-sum payment of \$140 million as of the date of the final agreement for the transfer of the management of LUS to NextGEN. The City’s financial outcomes under various interest rate possibilities are summarized in Table 1.

Table 1. Alternative Investments of \$140 Million by City of Lafayette

Financial Outcomes	Possible Rates of Return Associated with City’s Investment			
	0.995%, Short-term U.S. Government Securities, 2017	2.267%, U.S. Government Securities with 3-year, 10-year, and 30-year Maturities, 2017	3.740%, Corporate Bonds, AAA, 2017	6.00%, Selection of Appropriate Mutual Funds
Dollars as of 2059 if \$140 million Invested in Varying Financial Markets	\$208.0 million	\$401.7 million	\$608.1 million	\$1,440.0 million
Possible Outcomes if \$140 million used by City to Enhance Economic Development	Invest in innovation centers, cyber-security networks, health care initiatives, emerging technology centers, or other such activities to diversify local economy; creating net new jobs, personal earnings, and local tax receipts—these investments could add much more than \$1.44 billion to the Lafayette economy over the next 40 years.			

Table 1 provides a benchmark for the decision to invest in economic development projects in Lafayette. For example, the investment of \$140M will lead to realized cash balances between \$208.0M and \$1,440.0M by 2059. The \$140 million payment allows for the consideration of projects that could produce as much or more benefits for the Lafayette economy. Lafayette could use the \$140 million to attract new enterprises to the area such as innovation centers, cyber-security networks, health care initiatives, emerging technology centers, and other activities to diversify the Lafayette economy and enrich the community. These activities will create net new jobs, earnings, and local tax receipts for governments in Lafayette Parish. Having the cash available provides options for the City and gives the City time to deliberately and thoughtfully consider any number of alternatives. The total benefits of expanding the Lafayette economy should easily outperform the investment return on \$140 million if simply invested in market funds.

Reduction in Electrical Utility Bills for Residential Customers of \$21 million over Three Years

Residential customers will receive an estimated 10% reduction in their electricity bills, amounting to \$21 million in the aggregate for the first three years, which is a net plus for the Lafayette economy over these three years. Lafayette residents will have a choice with using this \$21 million

from saving the money to paying down other debts to making new purchases. The net new economic activity by Lafayette households is projected to support 38 additional jobs in Lafayette for this three-year period; create additional earnings of approximately \$3.9 million over the three-year period with a present value of \$3.785 million; and, generate \$961,000 of net new local tax receipts. The reduction in electricity utility payments for residential customers will give a short-run bump to the Lafayette economy.

Benefits of Economic Development and Growth Resulting from NextGEN Investment

NextGEN will establish its headquarters for municipal utility management in the Southeastern United States in Lafayette. This commitment is projected to provide:

- 400 net new direct jobs and 250 net new indirect jobs to be retained for the 40-year term
- \$2.775 billion of net new earnings in nominal dollars over the 40 years
- \$175 million of net new tax receipts in nominal dollar over the 40 years

The economic development and growth potential to the City amounts to **\$2.775 billion and this is a permanent improvement in the local economy.**

Net Business Development: Construction and Operation of NextGEN Headquarters⁴

NextGEN will build an \$8 million headquarters for its municipal utility management operations in Lafayette. The construction of the headquarters building will be completed in approximately 12 to 15 months and will lead to overall business transactions in Lafayette Parish of \$9.949 million, net new employment of 46, personal earnings of \$2.66 million or about \$58,000 per job, and net new local tax receipts of \$160,000. The construction will be short-term, but it sets the stage for the ongoing economic activity.

NextGEN is anticipating an ongoing payroll of \$30,000,000.⁵ This amounts to earnings directly associated with NextGEN's headquarters in nominal terms of \$1.14 billion without allowing for any inflation or approximately \$71.1 million in present value terms. These are only earnings directly related to NextGEN and do not factor in any secondary economic impacts. And, we do not include any other spending by NextGEN in the Lafayette economy in addition to its payroll. NextGEN's addition of 400 jobs starting in 2022 represents about 20% of the average increase in jobs per year in Lafayette from 1990 through the present based on the U.S. Bureau of Labor Statistics.

The 400 new NextGEN employees will drive \$381M in annual economic activity in Lafayette Parish. Personal earnings will increase by \$49.4 million annually, and an additional 250 jobs (in addition to the 400 direct jobs created by NextGEN) will generate new local tax receipts of \$3.16 million. The nominal value of the economic activity created by the operations of NextGEN's

⁴ The Lafayette Economic Development Authority provided information regarding the economic impact of certain activities on the Lafayette Parish economy.

⁵ 400 employees with an average salary of \$75,000.

headquarters over the 40-year term amounts to \$2.775 billion, assuming a 2% increase in wages which is in line with national wage increases. The nominal value of the net new local tax receipts from 2022 through 2059 is \$175 million.⁶ These are net new tax receipts going to the City of Lafayette, the parish government, the school board, the sheriff, and other governmental agencies in the parish.

The investments by NextGEN will most likely lead to other economic activities in Lafayette that we cannot project right now, just like it is reasonable to anticipate the City of Lafayette will use its \$140 million up-front cash payment in such a fashion that additional economic development will be forthcoming. We have focused only on the events that we know will happen. We are not speculating on any other developments that could be forthcoming because of the investments and initiatives of NextGEN and the opportunities that become available to the City of Lafayette.

Conclusion

The NextGEN Proposal provides Lafayette with \$1.329 billion in cash and financial obligations plus an additional \$2.775 billion of economic growth and development benefits related to the construction and operation of NextGEN's Lafayette headquarters.

The total nominal benefit of the NextGEN proposal is \$4.108 billion. The present value of the Proposal for the Lafayette community is over \$2.531 billion.

⁶ The present value of the net new earnings will amount to \$1.543 billion and the present value of the local tax receipts will be \$97.224 million.

Assessment

NEXTGEN UTILITY SYSTEMS |

Assessment and Evaluation of Lafayette Utilities System (LUS)
Electric, Water and Wastewater

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INTRODUCTION

As a result of NextGEN Utility Systems (NextGEN) unilaterally approaching Mayor-President Joel Robideaux regarding potential management alternatives for the Lafayette Utilities System (LUS), Mayor Robideaux tasked NextGEN with analyzing the current state of LUS and providing a proposal to manage and operate LUS for the Mayor, the Lafayette Public Utility Authority (LPUA), City-Parish Council and citizens of Lafayette to evaluate. A number of events preceded the discussion regarding this analysis that further reinforced the need for such a review:

- The impending retirement of the LUS Utilities Director after 35 years of service.
- A Public Service Commission audit of LUS Fiber questioning a \$1.7 million payment from LUS to LUS Fiber, which also revealed that approximately half of LUS's lift stations are not connected to the LUS Fiber System so as to allow for timely discovery and correction of sanitary sewer overflows (SSOs).
- A proposal by LUS for the city to invest in a new-build gas plant (estimated at \$120 million) that would further strain the city's bonding capacity and outstanding bond debt.
- Requests from LUS customers for renewables and cleaner energy generating alternatives, along with growing concern about the environmental issues surrounding Rodemacher 2, a 36-year-old coal plant, and the costs associated with its ultimate decommissioning.
- An Environmental Protection Agency (EPA) Administrative Order issued in early 2018 listing numerous violations related to LUS's wastewater operations that outlined specific and costly corrective actions that must be undertaken in order to comply with federal regulations.

Taken together, these events spurred interest in exploring potential alternatives for the management of LUS services and/or assets that may involve reduced risk, lower costs and greater long-term benefits to the City and its residents.

LUS is known for being a great partner to the Lafayette community. NextGEN's assessment of LUS affirmed high customer satisfaction and the reliability of its transmission and distribution system. However, opportunities exist to improve upon that performance, deliver greater value to Lafayette's citizens, create better opportunities and benefits for LUS employees and reposition LUS assets to ensure rates remain affordable. For example, as a result of LUS's decision to join the Midcontinent Independent System Operator (MISO) in 2013, LUS now has access to a wide range of cost-effective generation resources and supply procurement options, like all utilities affiliated with MISO¹. LUS has made significant capital investments in legacy generation that is no longer dispatching at sufficient levels to justify ongoing operations, since fuel and variable operating costs exceed market prices over many hours during the year. This is a challenge that many utilities face, particularly smaller municipalities and electric cooperatives that may not have the scale and access to capital of large investor-owned companies. The proposed cooperative endeavor between LUS and the city will allow LUS to take advantage of NextGEN's capabilities and resources, including capital, planning and organizational tools, as well as deep utility experience to creatively address this challenge.

¹ See Introduction to MISO discussion on p. 7

Furthermore, a review of available data indicates a need for a new internal culture at LUS that focuses on employee retention and growth and health and safety, including training and wellness programs. Additionally, a recently-issued EPA Administrative Order could require significant, but unbudgeted, capital expense to correct numerous deficiencies that exist within LUS's wastewater system.

LUS is a valuable asset for citizens of Lafayette. NextGEN can deliver even more value to Lafayette citizens through its operation of LUS. Rather than simply focusing on operating LUS's electric and water utilities to maintain existing operations, NextGEN will bring expertise and resources to prepare LUS for the future needs of a rapidly changing utility operations model. One only needs to look to Mayor Robideaux's vision for a technology-driven, smart city in Lafayette as the foundation upon which challenges should be identified, embraced and addressed in due order - a formula that leading, forward-looking municipalities have utilized to great benefit in recent years. As a step forward in meeting this objective, NextGEN will identify key priorities necessary to develop and implement an innovation strategy that provides a roadmap for LUS to become a "Utility of the Future."

"We must operate and manage our utility and fiber systems in innovative ways that maximize our return on these assets. The production of energy is a constantly changing industry. Regulations, technology, politics, all contribute to the demand for nimble responses. We are a government. Governments are not known for being nimble. We own a coal plant and an economically obsolete gas plant. It is imperative that we engage in frank discussions about how to continue providing the most reliable utility service, find the money to invest in upgrades to our aging utility infrastructure, and take advantage of 21st century energy technologies."

-Mayor-President Joel Robideaux | April 2018

NextGEN's evaluation focused on LUS electric, water and wastewater functions in order to:

- 1) Evaluate the current LUS system and operating and financial landscape, including assets, rates, capital expenditures and risks; and
- 2) Understand the level to which NextGEN's expertise, capabilities and resources can deliver operational efficiencies and savings, thereby allowing LUS to potentially reduce rates.

The key findings of that evaluation and assessment are outlined below and discussed in greater detail throughout this report.

Risks and Missed Opportunities

- LUS currently outsources significant portions of its operations. Its largest asset, the Rodemacher 2 coal plant of which the Lafayette Public Power Authority (LPPA) owns 50 percent, is operated by minority owner Cleco. LUS contracts with The Energy Authority (TEA) to perform all of its energy management, power sales and purchases and fuel purchasing. It also contracts with NewGen to assist with its annual budgeting and Capital Improvement Plan. Furthermore, LUS contracts with service providers to perform maintenance at the in-city plants and to assist with transmission, distribution and substation construction and repair, as well as with water system repairs. This leads us to conclude that any transition to outside management is consistent with current operations.
- The entry of LUS into MISO, a regional transmission organization, in 2013 dramatically expanded LUS's access to wholesale generation and diminished the competitive position of its own generators in the regional power market. These changes require LUS to reconsider its investment strategy relative to its existing and future generation resources and the opportunities associated with re-focusing investment on more local/distributed resources.
- LUS has significant capital and operating costs associated with the Rodemacher 2, Hargis-Hébert and T.J. Labbé plants, which combined only produce approximately 42 percent of LUS's power. However, lower-cost supply is available to LUS through the MISO market. As a result, most of LUS's demand is satisfied through market purchases, and it is expected that production from LUS-owned units will continue to decline.
- LUS's operating and maintenance costs for the in-city generators and its forced outage rates exceed industry standards for similar units, which further increases costs while reducing asset productivity. This current state argues for a thorough review of generation options, which is typically addressed through comprehensive integrated resource planning and should include all potential wholesale and distributed resources, as well as energy efficiency measures and demand response strategies.
- A recently issued EPA Administrative Order could significantly increase LUS's required investment in its wastewater system. These potential costs may not be fully captured in the current Capital Improvement Plan. Careful planning will be required to minimize further increases in wastewater rates, which are already among the highest in the state.
- LUS can make significant improvements in safety and training. The safety culture at LUS is cause for concern as evidenced by a historical pattern of missing self-identified safety targets.
- A significant portion of LUS operations is supported by an aging workforce, but it appears that LUS does not have plans in place to retain critical staff and replace retiring talent. In some areas, there is only one remaining subject matter expert. LUS's efforts to recruit and retain employees are further challenged by compensation packages that are not competitive with private sector alternatives. LUS employees have not received a salary merit increase in three years. This situation highlights the challenge faced by smaller utilities in attracting and retaining in-demand talent to develop and implement new programs and initiatives.

- As seen in the cases of recent natural disasters such as Hurricanes Harvey and Maria, electric and water infrastructure may not be sufficiently resilient to address a future of more frequent and severe weather events, as well as cyber breaches that can undermine the security of the grid and integrity of customer data. LUS has made minimal investment to:
 - Protect its physical assets and customer data from such cybersecurity threats
 - Address electric grid resilience; and
 - Prepare its transmission and distribution system for the transition to smart grid technology, distributed energy resources, electric vehicles, increased energy efficiency and penetration by demand response and intermittent renewable resources.
- Actual costs for the full decommissioning of the retired Curtis A. Rodemacher plant and Doc Bonin facility may exceed current estimates due to historical environmental contamination documented at these facilities. Additional recognized environmental conditions (RECs) exist because LUS lacked analytical testing records of transformer oils with no secondary containment at several transformers. LUS should operate with a comprehensive understanding of retirement and decommissioning costs in order to make important decisions about the future of its assets and how it should systematically transition to alternatives in a seamless and cost-effective manner.
- LUS's transmission facilities are not currently configured or qualified to receive revenue recovery for use of LUS transmission by others. Exploring the benefits of qualifying its transmission system with the Federal Energy Regulatory Commission (FERC) and MISO for revenue recovery could offset transmission costs and reduce customer bills.
- The city has the right to pursue growth and annexation of additional unincorporated land into its corporate limits pursuant to state law and thereby expand the service territory of LUS. Territory expansion can be a valuable option to preserve and increase customer count and thereby maintain low rates. Over the past 15 years, Lafayette has operated under an agreement with SLEMCO that placed certain restrictions on Lafayette's rights of annexation and expropriation and provided for certain payments to SLEMCO in the event of Lafayette's growth into a defined "Area of Influence." In some instances, the payments required under the SLEMCO agreement exceeded the reasonable value of the customer acquisition; regardless, LUS still pursued those acquisitions. This agreement terminates in September of 2018. Lafayette now has the right to pursue territorial growth under state law without the restrictions of the SLEMCO agreement. NextGEN will explore and pursue opportunities to extend the LUS service territory on terms more favorable than the prior SLEMCO agreement, which could involve pursuing a new agreement with SLEMCO that makes better economic sense for Lafayette and avoids costly expropriation lawsuits.
- LUS is currently operating as a utility focused on maintaining declining assets and continuing to operate as it has for decades. However, the industry in which LUS operates has rapidly evolved in recent years, and current LUS operations are not structured to meet the complex needs of a rapidly changing electric utility industry.

Other Observations

- LUS has a history of providing quality customer service to Lafayette residents. LUS customers have a strong appreciation for the local, personalized assistance offered across LUS utilities.
- LUS's residential electric rates are among the lowest in the state based on a comparison to six other major Louisiana cities. LUS's commercial electric rates are also competitive within that same peer group, falling just below the median.
- Overall, the transmission and distribution lines are well maintained with no major areas of concern. Additionally, LUS's electric distribution system is highly reliable with better performance than the national and regional averages on all four reported reliability metrics.
- LUS utilizes a complex tiered water rate structure, whereas a flat rate structure should be considered for adoption. LUS's water rates are the lowest among major Louisiana municipalities while LUS's wastewater rates are among the highest in the state.

Potential Areas for NextGEN Capital Investment

Based on the findings of this evaluation and assessment, NextGEN proposes a further evaluation of the following potential investment and improvement opportunities:

- Development of distributed solar generation with energy storage
- Transmission projects that would qualify LUS facilities for MISO revenue recovery
- Performance improvements to increase synergies and production from in-city gas plants
- Full fiber/digital upgrades to sewer lift stations
- Potential burying of key distribution lines in areas surrounding hospitals and government facilities to provide further protection from outages
- Repurposing/refurbishing of the Curtis A. Rodemacher facility

Potential Strategic Partnerships

Existing and potential new programs at the University of Louisiana at Lafayette present opportunities for collaboration with LUS on several fronts, including the following.

Cybersecurity

LUS's existing Center for Critical Infrastructure Cybersecurity could potentially become a U.S. Department of Homeland Security Science and Technology Center of Excellence. In partnership with NextGEN, LUS and DHS, UL Lafayette has access to a complete electric system - from generation to distribution - as the testing ground for innovation in cyber protection. NextGEN will work with UL Lafayette to establish such a Center of Excellence.

Renewables

UL Lafayette's existing solar Photovoltaic Applied Research and Testing (PART) Lab, in the College of Engineering, and its Alternative Energy Center in Crowley are developing technologies that require practical applications. LUS electric, water and wastewater facilities should be both the proving grounds and beneficiaries of these technologies. NextGEN will expand these existing programs and, more importantly, link UL Lafayette and LUS as collaborators to successfully implement the work.

Big Data

UL Lafayette's Center for Business and Information Technologies is developing next generation technologies surrounding big data, predictive analytics and other technologies that are key components of the "Utility of the Future." Its National Science Foundation Industry University Cooperative Research Center (IUCRC) brings together a consortium of researchers and students across multiple universities to advance research and innovation specifically applicable to utilities. LUS should be an active participant in this work, both to address LUS's own needs for future planning and to establish LUS as a leader of innovation among municipal utilities. NextGEN would foster this partnership.

Introduction to MISO

Historically, LUS-owned generators produced all of the electricity required by its customers. In 2013, LUS joined the Midcontinent Independent System Operator (MISO), a regional transmission organization, and integrated LUS's transmission system with the MISO South region. MISO improves reliability and economics by aggregating load and generators across a large geographic region. The "sharing" of generators and high voltage transmission across a large operating area provides customers access to lower cost generation, including state-of-the-art, large-scale, gas combined cycle plants and wind energy derived from projects operating in high wind resource areas in the Midwest. Reliability is also improved by joining supply with neighboring utilities. MISO's primary mission is to ensure the safe and reliable operation of the bulk electric power system and to operate competitive and non-discriminatory electric power markets. LUS must develop an integrated resource plan (IRP) to address its generation mix among owned, contracted and purchases from MISO.

- 99.99% system reliability
- 42 million end-use customers
- 400+ market participants
- \$25 billion energy market
- 5-minute dispatch to over 6,000 electric generating units

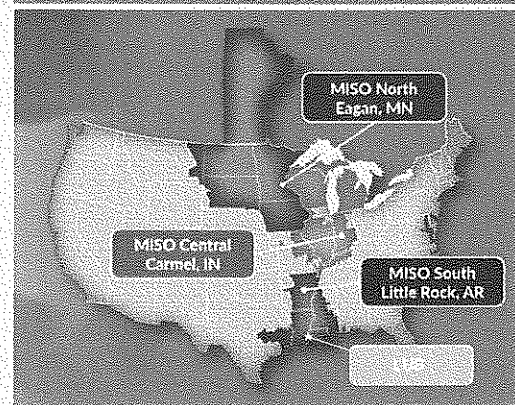


Figure 1: MISO Summary (Source: MISO)

EVALUATION AND ASSESSMENT

Operational Review of the LUS Electric System

The LUS Electric System operates and maintains power generation, transmission, distribution and customer assets that collectively serve approximately 66,000 retail customers and provide a peak load of approximately 450 MW.

LUS owns 461 MW of generation capacity. However, due to forced outage rates, LUS's recognized unforced capacity value in MISO for these units is 408 MW. Since this creates a capacity shortfall against LUS's peak loads, LUS also contracts for an additional approximate 60 to 75 MW of capacity. The largest portion (261 MW) of LUS's nameplate generating capacity comes from a wholesale power sales contract with the LPPA, the entity created to own a 50 percent interest in Rodemacher 2 at the Brame Energy Center in Boyce, Louisiana. Rodemacher 2 is operated by Cleco, which owns 30 percent of the unit. The Louisiana Energy and Power Authority (LEPA) owns the remaining 20 percent of Rodemacher 2. In October of 2012, the LPPA and Lafayette Consolidated Government (LCG) extended the power sales agreement until 2047.

LUS also owns and generates electricity from two operating natural gas-fired, peaking generating plants in Lafayette - T.J. Labbé and Hargis-Hébert - and each have a nameplate capacity of 100 MW. LUS retired two gas power plants in Lafayette that must be decommissioned, the Doc Bonin Plant and Curtis A. Rodemacher Station. LUS estimates the costs of decommissioning these plants at \$20 million and \$5 million respectively. The full cost of decommissioning these plants has not been reserved.

The LUS transmission and distribution system consists of 31 miles of 69 kV transmission line, 16 miles of 230 kV transmission line and 989 miles of distribution line. The structures consist of a mixture of wooden and steel monopoles with some H-frame structures. These transmission assets are not currently qualified to receive transmission credits in MISO or revenue for the use of LUS transmission by others, which would offset transmission costs. Potential transmission projects should be considered and pursued with a goal of qualifying LUS's transmission assets to receive such payments.

NextGEN's review of LUS's electric system included both a detailed review of the available documentation for LUS assets and a series of field visits and meetings with staff, including the Interim Utilities Director. An in-depth review and analysis of relevant documentation focused on those components that could represent significant risks or costs relevant to the planned investments, with a particular focus on the T.J. Labbé and Hargis Hébert generation facilities and the LUS transmission and distribution systems. Site visits were conducted between June 14, 2018 and June 22, 2018. Interviews with LUS personnel were also held at the generating facilities and at the LUS administration office.

LUS Electric Division Staffing

LUS Electric: Manning Table by Department

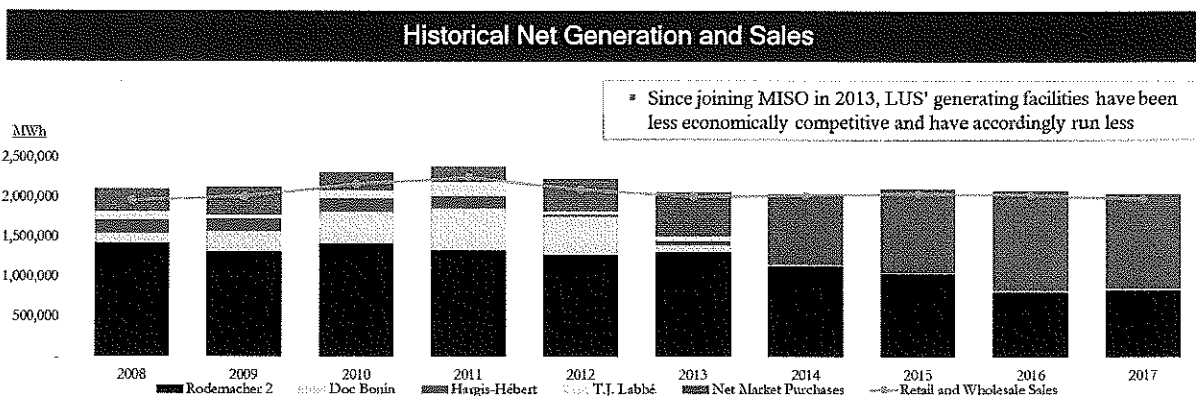
Department	Current (FY17-18)	Proposed (FY18-19)
Transmission and Distribution	51	51
Energy Control	21	21
Substations and Communications	7	7
Power Production	38	35
Power Marketing	9	9
Engineering Electric System Construction	9	9

*Source: FY 2018-2019 Proposed Operating & Five-Year Capital Improvement Budget

The staffing of the electric division appears adequate. Further consideration should be given to the allocation of staffing, particularly considering the significant headcount dedicated to power production despite the limited productivity of the T.J. Labbé and Hargis-Hébert units.

Summary of Key Observations and Recommendations – Electric System

- Since joining MISO in 2013, the utilization of LUS-owned generation plants has decreased because it is cheaper to purchase power from other suppliers (via MISO) than to generate power with LUS's plants. With access to lower cost power, the dispatch of the Rodemacher 2 coal plant and the Hargis-Hébert and T.J. Labbé peaking plants has declined to the point that these units provide only approximately 42 percent of the LUS system requirement on an annual basis. Significantly, T.J. Labbé and Hargis-Hébert contributed collectively less than 2 percent of LUS's power sales in 2017 but still burden LUS with substantial fixed costs. These older, inefficient units require above-market prices for power. In addition, establishing the potential for energy efficiency in both the commercial/industrial and residential sectors will be important in evaluating the most attractive supply options.



- Rodemacher 2 was originally planned and operated as a baseload generation facility to be LUS's primary source of power. However, its utilization has declined over the past five years. Declining natural

gas prices have caused higher efficiency, combined cycle natural gas units to be cheaper sources of baseload power than older coal units, such as Rodemacher 2. The decrease in Rodemacher 2's generation and capacity factors are primarily driven by LUS's access to energy sources at lower rates through MISO than what LUS can produce with its own assets. Current gas price and power market studies indicate that Rodemacher 2's dispatch will continue to decline as new combined cycle units come on line.

- Lafayette presently has a Power Sales Contract (PSC) with LPPA, which owns 50 percent of the Rodemacher 2 unit. Under the PSC, LCG has "take or pay" obligations to cover all costs and debt relating to LPPA's ownership of Rodemacher 2. LPPA's 50 percent ownership in Rodemacher 2 gives it the authority to require additional analyses regarding material changes or expenditures at the plant and to potentially reject such recommendations or actions. Cleco is a 30 percent co-owner and is the operator of Rodemacher 2. Cleco, as a Louisiana Public Service Commission (LPSC)-regulated utility, earns a rate of return on capital investments made at Rodemacher 2. Therefore, Cleco's economic interests are potentially misaligned with those of LUS. LPPA should exercise its right as 50 percent owner to ensure that Cleco does not drive further uneconomic capital decisions regarding the future operation of or investment in Rodemacher 2, particularly in light of the plant's decreasing dispatch trajectory. LUS should also explore with the co-owners' options to retire Rodemacher 2 early and replace it with combined cycle capacity.
- LUS's T.J. Labbé and Hargis-Hébert units have experienced numerous forced outages that have contributed to a high average Forced Outage Rate (FOR) exceeding the acceptable industry standard range for similar units. The physical condition of Hargis-Hébert demonstrates that the plant is not maintained as well as is the T.J. Labbé plant. However, maintenance plans do exist to improve the physical condition of the Hargis-Hébert plant. In addition, NextGEN would seek to identify whether additional revenues might be derived from leveraging the performance response of these flexible aeroderivative turbines.
- Historical maintenance costs for the LM6000 combustion turbine units, located at T.J. Labbé and Hargis-Hébert, are approximately \$9.00/MWh. This is significantly higher than typical LM6000 maintenance costs of \$3.40/MWh. LUS indicated previously that increased wear and tear on the units occurred due to partial load operation.
- The Doc Bonin Plant has been retired, and the associated decommissioning costs are estimated to be \$20 million.
- The Curtis A. Rodemacher Plant on Pinhook Road was retired in the 1990s and decommissioning efforts were initiated shortly thereafter, but the generation facility and building have not been dismantled and remediated. Environmental issues likely exist at the site due to the age of the building and a lack of regulation during a majority of the generator's operation from approximately the 1940s to the 1990s. Preliminary estimates to decommission this facility are reported at \$5 million, but total remediation costs are expected to exceed that amount given the history of environmental contamination.
- LUS's Electric Distribution System appears highly reliable with reported reliability indices (i.e. SAIDI/SAIFI/CAIDI/MAIFI) significantly better than the national and regional averages for electric utilities. Performance has improved year-over-year from 2014 to 2017, reflecting the effectiveness of LUS maintenance and testing programs.

- LUS substations appear in good condition overall. Exceptions include the older Doc Bonin and Pinhook substations. These substations contain older equipment, and plans to rebuild critical 69kV portions of the substations are under evaluation. Unlike many utilities, LUS substations do not have redundant battery systems, and all protection equipment for system components is located in common panels. As envisioned by NextGEN, a grid modernization plan would likely include the installation of grid automation and potentially energy storage at LUS's existing substations.



Figure 2: Rusting Transformer

- Approximately half of the transformers on the main road and residential side street distribution lines are rusting. Some transformers are in poor condition and should be replaced. Failures will lead to future service disruptions and reduction in reliability performance. The age and condition of distribution equipment, including transformers, provide a strong opportunity for identifying and implementing Non-Wires Alternatives (NWAs). NWAs could, for example, include using batteries paired with solar PV and distribution automation instead of building a new distribution substation or re-conducting a line. Exploring these alternatives could potentially keep customer rates in check and substantially improve grid resiliency.

- Overall, the transmission and distribution wiring suggests no major areas of concern. However, existing transmission circuits are supported by a variety of structure types including, wood poles and steel towers, while new transmission circuits typically use galvanized steel poles. There were no new transmission circuits or improvements initiated in 2017, despite the presence of wood "T" poles that present a transmission disruption risk in severe storms.

Summary of Transmission and Distribution Inspection

	Length	Type of Poles	Condition	Common Faults
69 kV Transmission	31 Miles	Wood and Steel	Good	Squirrels, Woodpeckers, & Weather
230 kV Transmission	16 Miles	Mainly Steel; Some Wood	Good	Weather & Vehicle Damage
Distribution	989 Miles	Mainly Wood; Some Steel	Fair	Squirrels, Woodpeckers, Rotting, Leaning, & Checking

- LUS's transmission facilities are not currently qualified to receive transmission credits in MISO or revenue for the use of LUS transmission by others, which could provide payments to offset current transmission costs and reduce customer bills. LUS should evaluate with MISO and the FERC the potential to qualify its transmission assets for revenue recovery.

- LUS has made little to no investment in key risk areas or to prepare for emerging technology, such as:
 - Protecting its physical assets and customer data from cybersecurity threats;
 - Increasing electric grid resilience in the face of increasingly severe weather events; and
 - Preparing its transmission and distribution system for the emergence of smart grid technology, distributed energy resources and intermittent renewable resources.

NextGEN would address these imperatives through a comprehensive innovation plan and resulting strategic initiatives to guide future investments and asset disposition.

The following is a summary of key environmental observations related to due diligence performed in analyzing the LUS electric system:

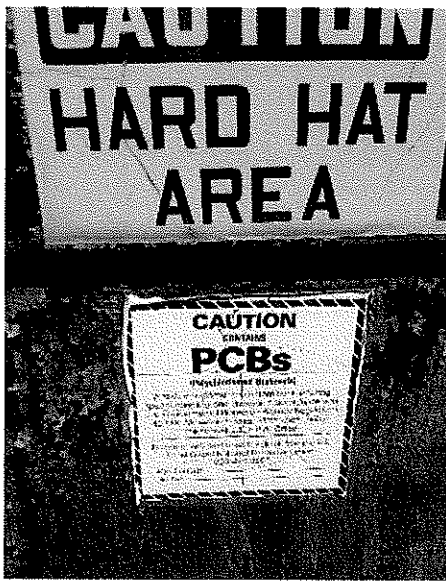


Figure 3: Caution PCB Sticker, Retired Curtis A. Rodemacher Generating Facility

- Some asbestos at Doc Bonin remains. When an area of asbestos requires maintenance, the asbestos is either encapsulated or remediated. The Louisiana Department of Environmental Quality (LDEQ) has implemented a site-specific remediation standard for Chromium III for Doc Bonin Chemical Storage Area #3, which requires that the property use remain commercial.
- Lack of analytical testing records of transformer oils, combined with a lack of secondary containment at several transformers, constitute a REC due to the unknown concentration of PCBs and the threat of a future release of unknown substances into the environment.
- The Curtis A. Rodemacher facility is an area of known contamination, with hazardous materials such as asbestos-containing materials (ASM) and polychlorinated biphenyls (PCBs) located on the site.

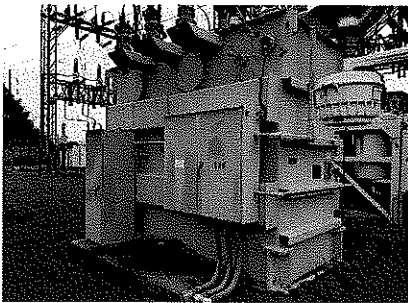


Figure 4: Stained Concrete and Stressed Vegetation - Pinhook Transformer T-10

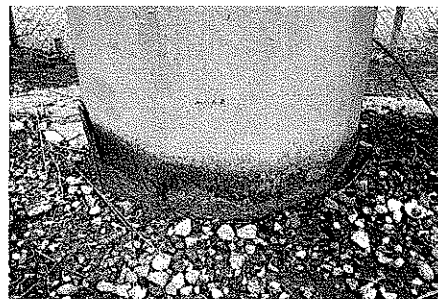


Figure 5: Foundation Deterioration

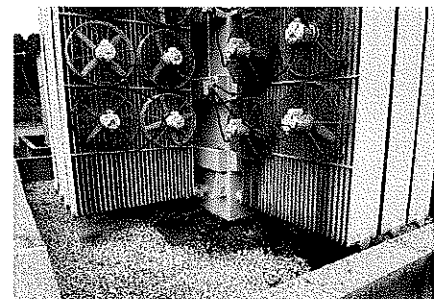


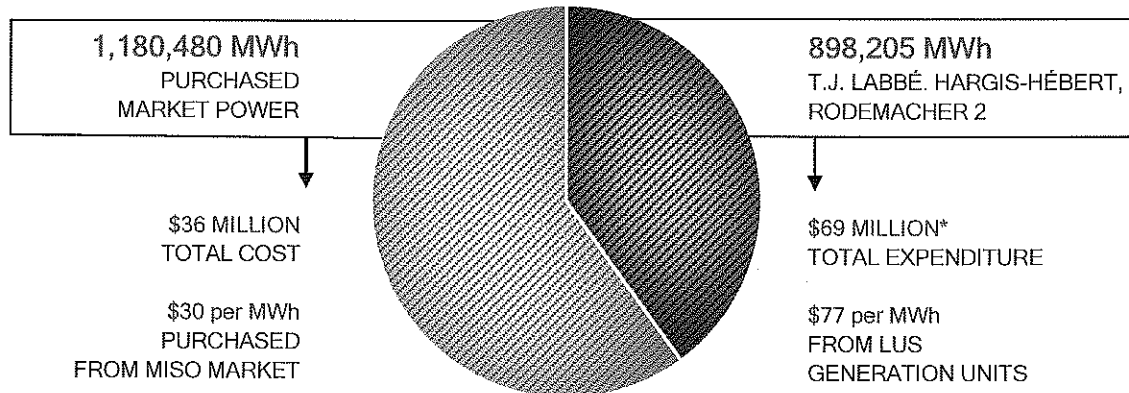
Figure 6: Transformer T-80A Oil Leak Facing East

Resource Inefficiency Observations

While LUS's generators are producing a small fraction of its overall energy requirements, LUS continues to be forced to fund fixed costs to operate and maintain these units. Furthermore, LUS anticipates additional future capital investments in these units despite diminishing benefits to LUS customers. LUS's proposed Capital Improvement Plan (CIP) through 2023 includes capital expenses of \$5 million for continued investment in the two in-city gas plants. However, these plants are only contributing two percent of LUS's overall energy needs, and lower cost capacity and energy can be purchased in the market and potentially from distributed resources that can provide significant resiliency and other benefits. This CIP does not include additional capital and special equipment that will be required for these units. Although Rodemacher 2's capital costs flow through LUS's operating expenses and are therefore not reflected in the CIP, LPPA's share of Rodemacher 2 is burdened with a balance of \$70 million of debt associated with prior capital investments. LUS customers must shoulder this debt in addition to any future capital investment and ultimately the decommissioning costs associated with the facility.

Similarly, operating expenses reflect disproportionate spending by LUS to maintain generating units that are not delivering value to the system. In Fiscal Year 2016-2017, LUS spent \$69 million of its operating budget to cover its own generating units and had to purchase an additional \$36 million of power in the market to meet LUS customer needs. The \$36 million market purchase comprised 58 percent of LUS's supply, while the \$69 million only covers 42 percent, which demonstrates the gross disparity between LUS's units' cost and market power prices. Simply put, LUS is continuing to fund the costs of its legacy generation that are not market competitive. It is critically important to LUS's customers, as well as the city, for LUS to undertake a distinct and comprehensive review of its supply options that can inform LUS, the city and other stakeholders on how LUS should organize its power supply going forward.

TOTAL POWER SUPPLIED (MWh) 2017



* LUS does receive capacity value from these units which based on current MISO capacity pricing for the Lafayette zone would be approximately \$1.5 million.

This review should include the exploration of the early retirement of Rodemacher 2, the potential acquisition of existing combined cycle generation, purchase of wind energy from existing or new utility scale plants that benefit from federal tax credits, distributed energy resources, battery storage connected at transmission and distribution voltages and energy efficiency/demand response to better manage and reduce supply costs.

Resource and Market Study

As part of its analysis of LUS assets and operations, as well as the industry in which it operates, NextGEN consultants performed a Resource and Market Study for the MISO South markets with a focus on Louisiana. Included herein is a competitive analysis of the generators owned by LUS (the Portfolio), and a high-level evaluation of potential future generation options, including options considered by LUS.

MISO Market and Market Clearing Prices

Demand for electricity fluctuates throughout the day. As the load used by consumers increases, MISO orders additional generation resources online to produce energy. Generators are generally dispatched from the least expensive to the most expensive to operate, in a ranking known as “merit order,” as shown in Figure 7.

Fuel is the largest component of most generators’ operating costs. Therefore, the merit order of generators is primarily driven by fuel type and the efficiency of fuel use. Wind, solar and hydroelectric resources have no associated fuel costs (with the exception of pumped storage hydroelectric), and therefore these units occupy the lower end of the merit order. Next in merit order are typically nuclear units. Their position near the bottom of the supply curve allows them to be dispatched continuously throughout the year. Historically, coal units have been dispatched after nuclear, followed by natural gas and oil-fired units on the margin. In more recent years, as the price of natural gas has decreased, natural gas-fired units have begun to displace coal-fired units on the supply stack. Figure 8 shows the changing dynamics between coal and natural gas costs over time. By maintaining an aging coal plant and high-cost, inefficient peakers, LUS is not properly adjusting to current market dynamics that align with the projected abundance of cheaper natural gas, and it has no evident plans to do so. This may exacerbate future cost inefficiencies due to LUS’s continued reliance upon Rodemacher 2.

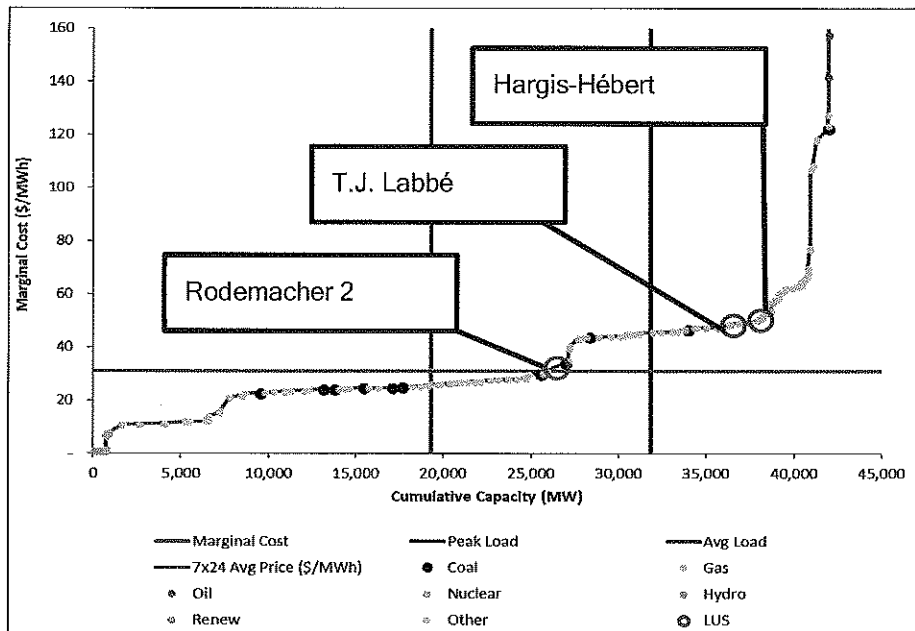


Figure 7: MISO South Supply Stack - 2018

LUS Generator Competitiveness

Generators will start up, ramp up, ramp down and shut down to follow load on an hourly basis. To minimize cost, LUS and MISO “dispatch” generators in order of cost, from least-expensive to most-expensive. Since joining MISO, LUS generators have become more expensive compared to other available generation sources in MISO-South. Therefore, LUS generators ran less after joining MISO in 2013.

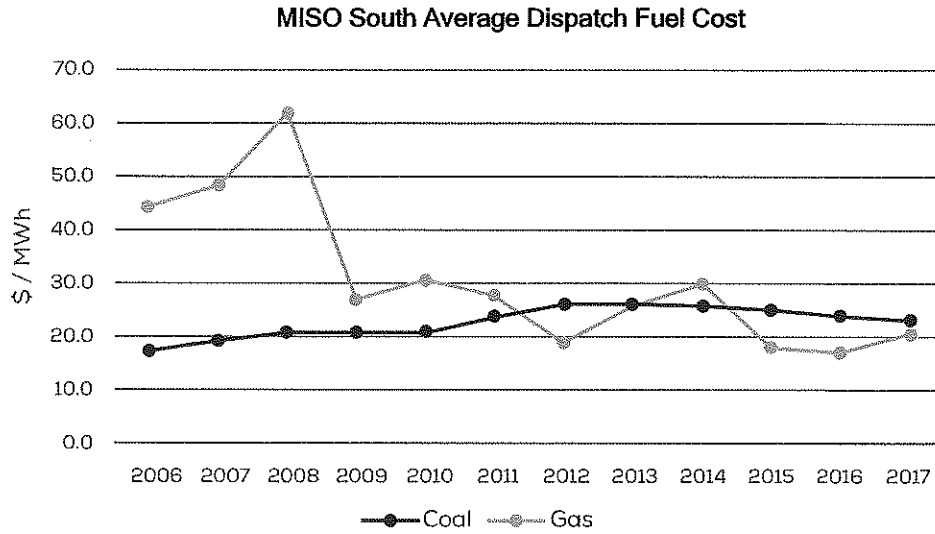


Figure 8: Coal vs. Natural Gas in MISO South

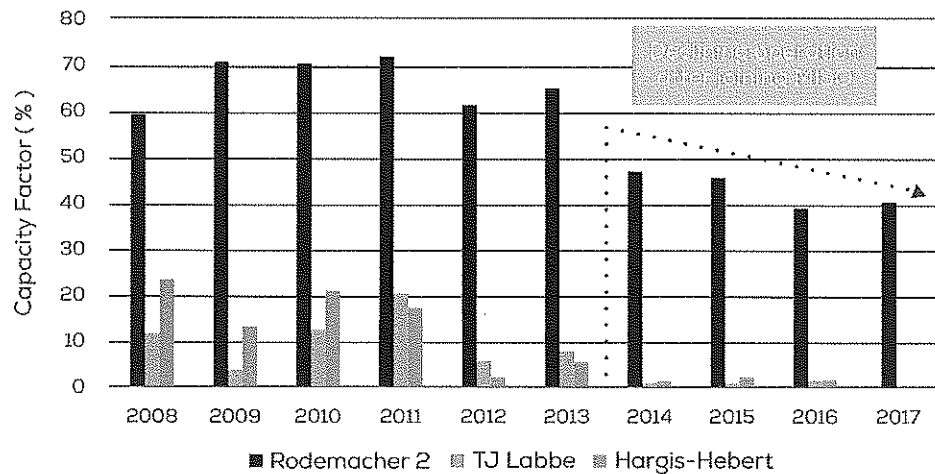


Figure 9: LUS Generators Operations

LUS Portfolio Issues

Rodemacher 2

This is a coal unit competing in a market that is increasingly dominated by natural gas. Utilization has decreased because natural gas prices are low and newer gas-fired generators have lower costs than Rodemacher 2. Future utilization will depend on natural gas price trends. The unit is 36 years old and may need increasing capital investment to remain operational. A conversion to natural gas may be technically feasible but would probably not be economic because Rodemacher 2 is not as efficient as newer combined cycle technology.

T.J. Labbé and Hargis-Hébert Gas Units

Dispatch of LUS-owned gas units has also declined in recent years due to high operating costs and high forced outage rates. As a result, these units are only contributing approximately 2 percent of LUS's total MWh sold. Generally, these types of peaking units are designed to provide capacity and grid services, not energy supply except during very limited peak periods or for grid support.

Market Purchases

Since joining MISO, LUS purchases all of its energy from MISO and sells all of its generation to MISO. It no longer generates solely to supply its own load. Market and energy prices can be volatile, but the current market prices reflect persistently low natural gas prices. If market conditions change, there is ample time to build new generation.

MISO South Average Dispatch Fuel Cost

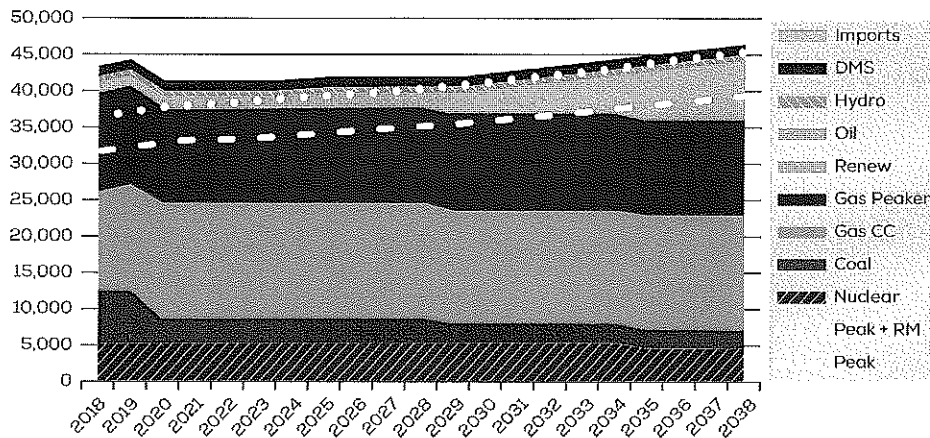


Figure 10: Capacity and Peak Demand for MISO South¹

Supply and Demand

MISO South’s capacity is dominated by natural gas-fired power plants and coal-fired power plants, with additional capacity from nuclear. In 2018, natural gas-fired units are projected to provide approximately 44 percent of energy in the market while coal-fired generation will provide 20 percent and nuclear units will provide 25 percent.

Renewable Unit Costs- Nominal \$

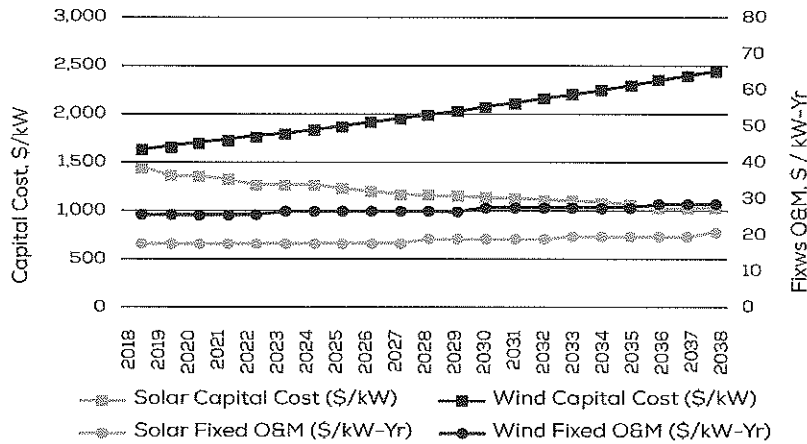


Figure 11: Capital and Fixed O&M Cost Estimates for Solar and Wind Resources

New Resource Characteristics

Solar capital costs are projected to improve over time, allowing solar to offset natural gas units as the generic new entrant capacity addition in some markets. Wind and solar cost curves are shown in Figure 11. Even today solar and wind have achieved cost parity in a number of retail markets, and utility scale solar is now cheaper than the variable costs of gas generation in Florida.

Future Portfolio Options

Mayor Robideaux has requested that NextGEN include an assessment of potential future power supply options for LUS, particularly in light of the prior LUS recommendation to build new gas-fired generators at the Doc Bonin site. Available future options include:

1. Market purchases from MISO
2. Bilateral power purchase contracts with an existing gas-fired combined cycle facility and/or utility scale wind or solar projects
3. Build new solar generation in combination with new battery storage
4. Build new gas-fired reciprocating engines.

Market Purchases. Based on NextGEN's analysis, the current least-cost option is to continue purchasing energy and capacity from the market. MISO South has sufficient generation to meet LUS supply needs for the foreseeable future with lower cost energy. For example, LUS needs to purchase less than 100 MW from a market with thousands of MW of surplus capacity. Capacity prices in the MISO auction have averaged \$2.50/kW-Year over the last five years. As such, LUS can buy from the market now and has time to make intelligent and careful choices before it needs to make a firm decision to build new on-site generation assets.

Contract with an existing gas-fired combined cycle facility and/or utility scale wind/solar. Contracting with a gas-fired combined cycle unit could provide current cost savings and additional cost savings in the event of lower natural gas prices. Where there is a concern about potential longer-term gas pricing risk, many utilities are also taking advantage of long-term contracts with wind and solar plants that provide the ability to lock in prices over a 20- to 30-year period.

Build new solar generation. Building a new solar unit could increase costs initially but would provide a hedge should natural gas and energy prices exceed market forecasts. Many utilities are inclined to own their own generating units, believing it ensures they can control and manage supply most cost effectively for customers. However, there are challenges and risks in managing and structuring self-build projects, particularly for utilities that lack scale and must outsource engineering, project construction and management. NextGEN has significant experience in all phases of project construction, technology selection, commercial structuring and finance, and it is uniquely positioned to execute a self-build option.

Build new gas-fired reciprocating engines. Building new gas-fired reciprocating engines is the most expensive option of those considered, as it could increase costs significantly without providing the hedging benefits of solar power.

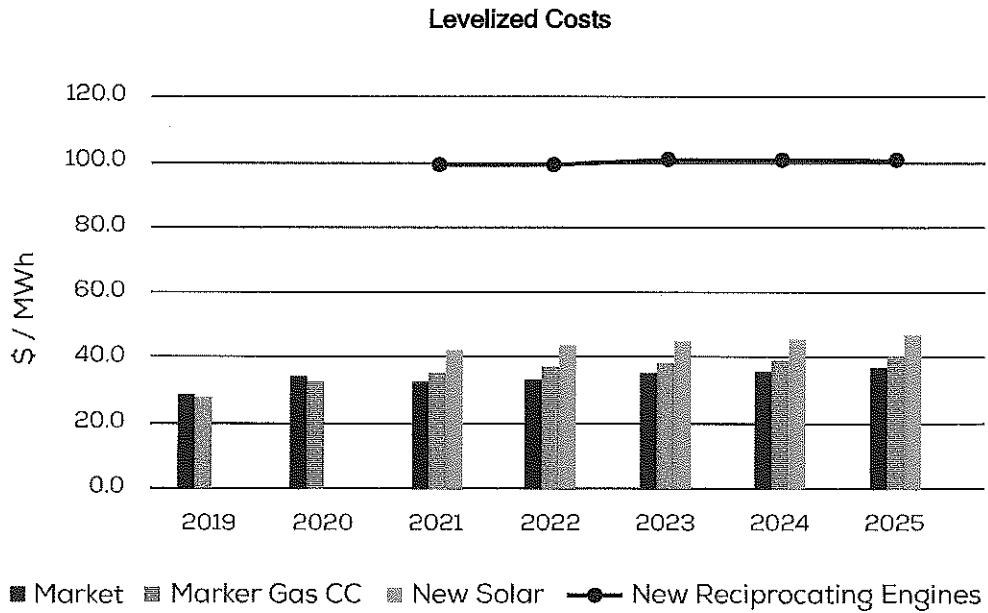


Figure 12: All-in Levelized Cost (\$/MWh)

LUS cannot appreciate the benefits of future generation resources without addressing complex financial, legal and regulatory issues that keep LUS tied to its existing units. NextGEN has the experience and the resources to craft and negotiate solutions to minimize further economic losses caused by an inefficient and costly fleet. NextGEN will leverage the industry expertise of its management team to determine and recommend long-term power supply options for Lafayette that are reliable, clean and affordable.

Future Challenges and Opportunities

LUS's current strategy and capital investment program demonstrate a focus on maintaining LUS's existing system. However, the U.S. electric utility industry is facing an increasing array of critical challenges as well as opportunities to empower customers, enhance resiliency and security, improve sustainability and reduce costs. The traditional utility business model of "keeping the lights on" will fail to deliver to customers the products and functionality they desire. According to *Electronic Storage Technologies, impacts and prospects*, a white paper published by the Deloitte Center for Energy Solutions, "the rising role of renewable generation, both grid-scale and distributed; tightening emission limits on fossil-fuel based generation; the acceleration of smart grid deployment; and the emergence of multiple options for electricity consumers to better manage overall consumption and the shape of their load, together point to a very different landscape than in the past." In order for LUS to continue to provide service value to its customers and support Lafayette's vision for its future, the utility must shift course from a focus on conventional generation and supply to an integrated approach to grid modernization, supply alternatives and commercial structures that take full advantage of LUS's existing transmission, distribution and fiber infrastructure.

NextGEN believes that LUS can develop a blueprint for the "Utility of the Future" and bring significant benefits to Lafayette, its customers, its employees and other stakeholders.

RENEWABLE ENERGY

Customers in Lafayette are requesting renewable power at a time when the cost of renewable resources is declining. In September 2017, concerns were raised by Lafayette citizens regarding the proposed construction of a new gas plant in the city and the lack of renewable resources in LUS's generation mix. LUS recently responded to this concern by suspending the planned construction of the gas plant and announcing a two-year, wind power purchase agreement from an out-of-state supplier. These were certainly steps in the right direction. It is now important for LUS to implement a systematic effort to develop, evaluate and implement an integrated roadmap for its future, that will undoubtedly include increasing reliance on renewable resources and energy efficiency.

Cities are announcing plans to actively support decarbonization of large sectors of the economy by electrifying them and powering them through zero carbon energy sources. There is a trend toward businesses purchasing renewables directly, and new business site selection specifications now routinely require a renewable energy component. Large corporate buyers, such as Walmart, have made it clear they are committed to moving forward with their renewable energy goals, with or without the overt support of utility companies. Businesses are setting sustainability goals to enhance their reputations and satisfy their investors and customers, who are increasingly demanding action on environmental stewardship and climate change. Other companies, particularly in technology, are refusing to locate major business operations in states where utilities or local regulatory commissions are unable to accommodate their desires to purchase renewable energy. Cities that do not address this segment could cede a tremendous growth opportunity to their competitors in the site selection/economic development arena.²

² Motyka, M., & Slaughter, A. (2017). Serious business: Corporate procurement rivals policy in driving growth of renewable energy [White paper]. Deloitte.

CYBERSECURITY

In light of recent events affecting U.S. utilities, cybersecurity is a focus - from both physical asset and data breach standpoints. An interconnected grid forces every utility, regardless of size, to share in the risk of cyber threats. Every connection point to the grid creates a potential threat. Additionally, because utilities have large customer bases and billing systems that are interconnected to all of their citizens, the risk of data breaches and identity theft is becoming a major concern among utilities. As a result, utilities are investing in and implementing measures to protect against cyber threats. LUS has not yet formulated a plan to address this concern. Distributed energy solutions have the potential to mitigate cyber threats, particularly for large commercial and industrial customers; thus, an integrated approach to grid modernization that incorporates behind-the meter ("BTM") IT solutions will be important.

UL Lafayette is home to the Center for Critical Infrastructure Cybersecurity, which brings together diverse expertise from across the university to develop technology for cyber protection. This research includes malware, hardware-based security, cyber physical systems, cloud security, internet security, cyber terrorism and data breaches. One specific project addresses security issues for the smart charging of electric vehicles. With such a resource in Lafayette, LUS should be a leader in this space within the region. NextGEN proposes to partner with UL Lafayette in projects such as these to establish LUS as an international utility cybersecurity center of excellence, which will include how to mitigate cyber risk through reliance upon micro grids with advanced Internet of Things ("IoT") processes and systems.

UTILITY OF THE FUTURE: DIGITAL GRID, DISTRIBUTED ENERGY RESOURCES, MICROGRID

Smart city initiatives constitute a major component of Plan Lafayette, the city's 20-year master plan, and Mayor Robideaux's stated priorities. Lafayette has been named one of five Mozilla's five Gigabit Communities, recognizing its commitment to becoming a center for technology. LUS's ability to provide "last mile" connectivity is a key strength that most utilities do not have and forces them to rely upon cellular or RF bandwidth provided by external parties to support Advanced Metering Infrastructure (Smart Meters), Distribution Automation, Smart Home and other web-based customer applications.

NextGEN views these technologies as part of an integrated approach to the "Utility of the Future" which is comprised of the following elements:

- **Grid Modernization:** Transitioning from a grid with one-way power flows to one that manages two-way power flows across many distribution connections enables customers to choose how they wish to purchase and manage their electric energy supply and what kinds of energy services best fit their needs, including cost, resiliency, reliability, sustainability, power quality and cybersecurity. The new digital grid will require implementation of distribution automation, an advanced distribution management system and smart meters, and it can also incorporate local generation resources such as community solar and battery storage to help manage and balance supply from both distributed and utility scale sources. Ultimately, incorporating new blockchain technologies to allow for peer-to-peer "transactive energy" may also be possible and will be enabled by grid modernization.
- **Distributed Energy Resources/Microgrids:** There is broad industry consensus that these technologies are now cost competitive and that there are a host of technology providers and contractors with significant experience in implementing these kinds of BTM solutions. Several utilities such as Edison International and Exelon are offering customized energy services particularly to commercial and industrial customers. Other companies, including distributed solar developers, offer integrated solar and battery storage solutions to customers throughout the U.S. In addition, several municipal electrics leveraging off their strong relationships with their customers and focused on customer service have embarked on innovation initiatives to provide these kinds of energy services as part of an

integrated grid modernization/empower the customer initiatives. NextGEN believes that LUS is an ideal candidate for developing a program to transition to this innovative “Utility of the Future” model and capability.

Electric Grid Resilience

A combination of more frequent and severe weather events, as well as heightened concerns regarding cyber and physical risk on the grid, has motivated many households, businesses, governments and communities to look more closely at utility systems built around microgrids to add resilience.³ A report by the Deloitte Center for Energy Solutions, *Reinventing resilience: Defining the model for utility-led renewable microgrids*, states that “while hardening measures may continue to be an effective way to enhance the resilience of the grid, utilities are beginning to demonstrate how distributed, renewable generation in a microgrid setting can be a cost-effective alternative to traditional T&D investments.” LUS is in a particularly advantageous location to explore these options given the expertise UL Lafayette is cultivating in these areas.

CUSTOMER ENGAGEMENT AND EXPERIENCE

Evolving forms of customer participation are forcing electricity providers to adjust their business strategies. Many utility customers want to choose the resources in their energy supply mix and control usage through interactive Smart Home platforms, which include technologies such as Nest.⁴ While today customers can use these technologies for convenience, the key to expanded functionality and an enhanced customer experience is to link web-based applications with the Smart Grid. NextGEN's proposed strategy for evaluating and implementing an integrated grid modernization program with a roll-out of new customer services that are enabled by this investment will permit LUS to move toward this enhanced customer experience.

In parallel with this innovation program, it will be important to continue to make progress to enhance the customer experience. In this regard, Lafayette's proposed five-year capital and improvement budget includes \$4.6 million in investment at the two customer service locations in the city where, according to LUS, it handles over 30,000 walk-in transactions per month. Generally speaking, walk-in transactions involve an inconvenience to the customer, and in most cases, carry an unnecessary expense to the utility. Some level of walk-in transactions is always necessary, which will require physical customer service centers. However, LUS's data suggests that half of its customers engage in walk-in transactions. Almost uniformly, greater automation of customer service functions rather than walk-in transactions results in greater customer satisfaction.

LUS should conduct a customer experience assessment prior to making significant capital investment at the customer centers to better understand the current service center experience (process, transaction time, wait time, etc.); customer attitudes, behaviors, needs and motivations related to LUS's service; and pain points and opportunities for customer experience improvements. This study would use observational research at the customer centers and customer interviews, along with an audit of LUS call center interactions to determine the type of interaction (bill pay, service complaint, address change, etc.). Armed with a better understanding of why customers are using the service centers and making service calls, and what that experience is like, LUS can determine the best way to invest in improving customer service.

³ Motyka, M. (2018). 2018 outlook on renewable energy [White paper]. Deloitte Center for Energy Solutions.

⁴ Motyka, M., Slaughter, A., & Smith, S. (2017). Choose, aggregate, transact: Increasing options for electricity customers [White paper]. Deloitte Center for Energy Solutions

ECONOMIC DEVELOPMENT/QUALITY OF LIFE

The largest driver for utility system demand is economic development and successful growth of a city's businesses and population. Quality of life is becoming the most significant driver for economic development, company location and millennials' decisions of where to live. LUS must be a major participant in economic development efforts and in creating incentives to lure new companies to Lafayette, establishing an environment in which Lafayette's younger generations want to remain and raise their children and attracting new generations of citizens to Lafayette. Fiber has opened the door to new economic development opportunities for Lafayette, but a conventionally-focused electric system and severely-constrained water and wastewater departments present impediments to success for new businesses seeking to locate in Lafayette. These two divisions of LUS must address the numerous challenges discussed herein to improve overall quality of life for Lafayette's citizens and better position the city to attract new economic growth.

NextGen's strategy to identify and implement an actionable, cost-effective innovation program that will drive enhanced sustainability and resiliency while meeting large commercial and industrial demand for improved power quality and reliability will be key to attracting and retaining business in the city.

OPPORTUNITIES FOR PARTNERSHIPS

As mentioned above, UL Lafayette is pursuing programs in every one of the future challenges discussed above. NextGEN's proposed cooperative endeavor with LUS creates a platform for additional strategic partnerships with other major Lafayette stakeholders such as UL Lafayette, CGI, Lafayette Economic Development Authority (LEDA), One Acadiana and other organizations in collaborating to plan and implement Lafayette's vision for the future.

Operational Review of the LUS Water and Wastewater Divisions

NextGEN's consulting team also evaluated the economic and technical aspects of the LUS water and wastewater utilities. This review included observations within the following departments: water treatment facilities, water distribution facilities, wastewater treatment facilities, wastewater collection facilities and environmental compliance. Specific areas of review within these departments included management and technical components to assure an adequate level of performance.

An initial review was conducted using documents provided by LUS, with information verified during on-site visits to the facilities. Site inspections were performed by a team composed of water and wastewater professionals and engineers with expertise in water and wastewater operations. This team reviewed operating costs and proposed capital improvements for the water and wastewater systems, as well as a number of operational areas and functions - noting key observations related to the management, operation, maintenance and performance of the identified departments in the table below.

OVERVIEW

LUS Water and Wastewater: Manning Table by Department

Department	Current (FY17-18)	Proposed (FY18-19)
Civil Engineering (serves only water/wastewater)	17	17
Water Treatment (Production and Administration)	44	43
Water Maintenance (Distribution)	24	24
Sewer Maintenance (Treatment and Administration)	61	61
Wastewater Maintenance (Collection System)	37	37
Environmental Compliance (includes labs)	17	17

*Source: FY 2018-2019 Proposed Operating & Five-Year Capital Improvement Budget

Staffing is generally sufficient, although overall staff allocation should be reconsidered given the disparities between water and wastewater repair efficiency and anticipated needs of EPA Administrative Order compliance work.

LUS Labor Costs

Current LUS labor costs are \$11,683,544 per year. Overtime costs are significant and make up 17.2 percent of salary costs. Further analysis of overtime costs and related drivers is required.

Rate Structure and Revenues

Water rates appear low when compared to other municipalities across the state. The current national average water bill for a family of four using 150 gallons per day is \$112.04/month. Water rates for major municipalities in Louisiana range from a low of \$2.39/1,000 gallons to \$7.04. LUS is the lowest at \$2.39. A flat rate structure could be adopted rather than the complex structure under which the company currently operates.

LUS wastewater rates, on the other hand, are some of the highest among utilities in the state at \$6.85/1,000 gallons of water used.

Water and Wastewater Divisions CIP

The water division has a five-year CIP of \$19.5 million. In discussions with LUS staff, it was noted that this covers the installation of filters at the Commission WTP, improvements to the operations building at the South WTP and water distribution system improvements. We concluded that the water side of the utility is generally in good condition, and we do not see the need for expenditures beyond what are currently planned.

Proposed improvements at the Commission Boulevard plant could be deferred if the City of Broussard does not renew its water contract with LUS, which expires in 2020. The revenue generated by selling water to Broussard is \$613,321 per year, so it does not appear to be prudent to spend millions of dollars on a plant that benefits Broussard unless Broussard fees would cover such costs.

The wastewater division has a five-year CIP of \$58 million, of which \$32 million is for a major plant expansion at the South WWTP. That would leave a balance of \$26 million, or \$5.2 million per year, which may not be enough considering the work that will need to be done to comply with the EPA Administrative Order, as discussed in greater detail below.

LUS WATER DIVISION

LUS has four water treatment facilities with a capacity totaling 53 million gallons and an average daily production of 23 million gallons. LUS has more than 900 miles of water distribution pipe.

1. **North Water Treatment Facility.** - Design Capacity is 20.8 million gallons per day (MGD). This is a conventional water treatment plant with redundant upflow clarifiers. Chemicals used include lime (for hardness issues and corrosion control), aluminum sulfate - primary coagulant, chlorine (ton cylinders) for disinfection and polyphosphate (corrosion control in distribution system). 15 Gravity Filters. This site is manned 24/7.
2. **South Water Treatment Facility.** - Design Capacity is 23 MGD. This facility is also a conventional water treatment plant with redundant upflow clarifiers. Chemicals used include the same as the North Water Treatment Facility. Eight Gravity Filters. This site is manned 24/7.
3. **Gloria Switch Treatment Facility.** - Pulls from two wells. Capacity is 3.6 MGD. This facility utilizes six Greensand Pressure Filters. Chemicals used include potassium permanganate prior to filters and Hypochlorite after the filters for disinfection. This site is not manned. It is checked twice daily by utility personnel.
4. **Commission Facility.** - There are no filters at this site. This site pulls from two wells to boost pressure to most of the wholesale customers. Polymer is used as a sequestering agent (used for removing water hardness) and hypochlorite is used for disinfection. This site is manned 24/7.

OVERVIEW: LUS Water Division

- More than 54,000 retail customers
 - Chicot Aquifer water source. This is a large natural underground lake and its boundaries are roughly the triangle formed by Lafayette, Alexandria and Lake Charles, covering a 15-parish area in southwest Louisiana
 - LUS has no records or information indicating that there are any lines in its water distribution system that contain lead
 - Wholesale customers (Scott, Broussard, Youngsville, Milton and three Waterworks Districts) represented 28 percent of total water volume and 26 percent of total water sales revenue in 2016
 - In 2016, LUS showed un-accounted for water at 7.4 percent (Excellent)
-

Staffing Observations: Water Division

The water division staff is separated into four sections: fire hydrant maintenance and flow testing, meter maintenance and dress up, valve maintenance and inspections and regular distribution system maintenance. There are three supervisors within operations and two inspectors/troubleshooters. All crews are three-person crews and are equipped with one crew truck, backhoe and dump truck. Crew vehicles are inventoried and stocked separate and apart from the warehouse. This is different than the wastewater operations division where there are seven three-person crews total. Additionally, LUS has a contract labor force that is used to make repairs on any mains larger than six inches in diameter. At the time of our visit, all funds for contract labor were depleted, forcing the maintenance crews to make a 10-inch repair outside of their typical

operations. Engineering technicians were on-site to review and inspect the effort. If contract labor is used for the majority of these repairs, staffing seems excessive. A reduction in crew size and possibly the number of crews would improve efficiencies and simplify management responsibilities.

Facility Observations: General Assessment of Condition and Maintenance

Overall facility maintenance and appearance was a bit disorganized. Leadership has recently changed, and new leaders are building their experience to meet the challenges of the job. Equipment condition was good, but it was not as well maintained or as equipped as the wastewater operations staff. Additional support was needed from engineering to provide the technical support to the labor crews performing technical repairs. This would have been led within the wastewater division without outside help.

Upon inspection of repair/crew trucks, tools were dirty and disheveled and stocked parts appeared minimal. Procedures are in place to eliminate this, but leadership does not appear to enforce these requirements. This was in direct contrast to the wastewater division. Vehicle stock is rotated out every 10 years. Maintenance crews are condensed into crew trucks for efficiency and less congestion at job locations. Vehicles did not appear to be well maintained. The general condition of trucks, backhoes, vac trucks, camera equipment, etc., was fair. Vehicle inspections did not appear to be conducted on a regular basis. However, maintenance and repairs are performed as needed.

Fire hydrants observed during this field visit were not uniform in appearance. Some were painted, and others appeared to have been neglected. This suggests the fire hydrant maintenance and flushing program requires more QA/QC activities. Hydrant, valve and meter preventative maintenance activities are performed according to operations staff. The field observations suggest these activities need more QA/QC to ensure objectives are being met and work is performed according to LUS guidelines. Better management and coordination, along with improved efficiencies and potential outsourcing of some of these activities, may improve performance. LUS should consider contract labor for hydrant and valve maintenance programs and combining maintenance crews and staff into a more efficient team of water service line and main technicians capable of performing larger repairs at a fraction of contract labor costs.

Better coordination and teamwork between both divisions would improve the quality of construction being performed. Engineering seems more involved in working with the water operations division, suggesting that there are redundancies and opportunities for greater efficiency in operations.

General observations show additional efforts toward preventative maintenance programs are needed. Better communication with other divisions would help prioritize critical projects and expedite needed funding for infrastructure projects as well as improve efficiency.

Operational Cost Assessment: Water Division

LUS Water Operations are operating at costs below national and regional statics at \$1,714/MGD. Significant operating costs are dedicated to overtime, which was projected at \$185,302 for fiscal year 2018. This is nearly 10 times greater than the overtime budget for comparable systems.

Capital Budget Assessment: Water Division

The LUS Five-Year Capital Improvement Budget for the Water Division allocated \$19.5 million for 2018-2023. This appears sufficient for capital needs.

LUS WASTEWATER DIVISION

Staffing Observations: Wastewater Operations

Lift Station maintenance is performed by nine mechanics in charge of one route of approximately 20 lift stations each. They carry well equipped trucks with cranes to perform most maintenance tasks individually. There are three instrument technicians that provide support specifically to the Lift Station Division. Having 12 employees cover 185 lift stations was expressed as difficult, with field observations supportive of this statement. Current staffing only allows for an average lift station inspection rate of one every three days. Given the limited monitoring capabilities, liabilities exist related to a station malfunctioning and not being caught until 72 hours later, which can surcharge collection systems and lead to SSO violations. Increased staff for a higher frequency of station monitoring would decrease susceptibility to these issues and overall risk associated with operations.

Wastewater Operations is divided into three groups, including a section for cleaning and video inspection and two maintenance sections (north and south). The cleaning and video inspection section includes one supervisor, three two-person vac truck crews, one one-person camera crew and two service lateral technicians. This team is responsible for the inspection of new construction (all done internally without customary impact fees provided by developers), preventative maintenance cleaning of the collection system and lift stations, line blockage call-outs, video inspections, flow monitoring and planning of maintenance activities. The two maintenance crews consist of one trouble-shooter, and three maintenance crews consisting of three-person teams with access to excavation and hauling equipment. All areas of the maintenance are performed internally including pavement removal and replacement.

Six sewer maintenance crews perform approximately 60 repairs per month. This suggests only 10 repairs per crew per month. However, these crews are also supporting the lift station division and executing larger scale projects. Currently, internal Sanitary Sewer Evaluation Survey (SSES) efforts identify needed repair locations, and these are performed by the operations staff. NextGEN would further review this staffing for supplementation or otherwise reorganize to improve the monthly repair rate.

OVERVIEW: LUS Wastewater Division

- Population Served: 44,830
 - Collection System is broken into basins, all mapped and coordinated by the Engineering Department
 - Ambassador Caffery Area has a growing populous, and LUS is planning to accommodate this growth
 - Total wastewater network length (miles) inside the district: 576 miles of gravity sewer
 - 12,538 Sanitary Sewer Manholes
 - 89 Miles of sewer force mains
 - 185 Lift Stations
-

On-call personnel are limited to one person in the lift station division. LUS should consider expanding the number of on-call personnel as this does not appear to meet the needs of properly performed 24/7 operations of 185 lift stations. Collections has a three-person crew scheduled for on-call on a two-week rotation, which LUS should consider modifying to a shorter rotation period to reduce staff fatigue.

Facility Observations: General Assessment of Condition and Maintenance

Overall, lift station appearance is excellent, and equipment condition is excellent. The inventory of parts is maintained in a centralized warehouse, and all repair crews are equipped with a full range of repair parts to ensure efficient work and minimal downtime while on location.

Vehicle stock is rotated out every 10 years and is well maintained. Maintenance crews are condensed into crew trucks for efficiency and less congestion at job locations. General condition of trucks, backhoes, vac trucks, camera equipment, etc., was good/excellent. This equipment is monitored weekly using a standardized checklist, and maintenance and repairs are performed as needed.

The internal inspection of all new development eliminates call-outs, which dramatically reduces the number of repairs and improves efficiencies within the wastewater division. Pressure testing, video testing, and dye testing are all performed prior to acceptance of utilities. Additionally, there are good relationships between Wastewater Operations and the Inspection Department. All services are located and incorporated into the GIS system for future reference.

There was a noticeable disconnect between Engineering and Operations. Specifically, Operations was not clear on why or how Engineering prioritized and subcontracted SSES work and related rehabilitative efforts. A more coordinated approach between the two divisions would improve efficiency and reduce redundancy. Capital projects could be better planned, and dissension between the wastewater staff and subcontracted SSES efforts could be eliminated. The abilities of the internal SSES team exceed those of the subcontractor, thus resulting in the duplication of efforts to complete basin assessments. However, given the current Administrative Order, additional SSES crews will be required to ensure the 10-year maintenance rotation is performed per EPA requirements.

General observations include excellent efforts towards preventative maintenance programs. More capital and better communication with engineering and the LUS administration would help prioritize critical projects and expedite needed funding for infrastructure projects.

Operational Cost Assessment: Wastewater Division

LUS wastewater division at \$3,239/MGD is operating below national statics but above regional areas. LUS's overtime costs are nearly 10 times greater than the overtime budget seen in other municipalities.

Capital Budget Assessment: Wastewater Division

The LUS Five-Year Capital Improvement Plan for Wastewater Collection has allocated \$25 million for 2018-2023. This capital budget may be insufficient for anticipated expenses related to the Administrative Order.

The LUS Five-Year Capital Improvement Budget for Wastewater Treatment has allocated \$33 million for 2018-2023. The capital budget is insufficient for anticipated expenses related to plant expansion needs. An estimated \$30 million would be required to increase capacities for a 20-year projected growth.

Potential Security Issues

Utility assets are in various locations and the impact of vandalism was observed during inspection. Two out of three lift stations observed were not fenced, and panels and hatches were not locked. Lockable lids, panels, etc., should be added. Area protection device improvements are needed, including fencing and cameras at certain lift stations.

There was no alert system for the outside areas. Signage was placed at lift stations with a number to call if alarm lights were blinking. Approximately 50 stations are without station monitoring systems. This is a significant vulnerability to SSOs due to the lack of real time, high water alarms during rain events or pump failures. Problems associated with these stations would only be noticed if physically inspected.

Fiber network for lift station monitoring currently covers only approximately 50 percent of the system, which needs to be expanded. Additionally, the fiber-monitored stations are not monitored by the Lift Station Division. There are plans in place to add a separate server to accommodate the lift station network. This will allow Wastewater Operations to monitor station performance directly. Priority should be placed on this effort to ensure security, safety, and better operational performance of the collection system.

EPA Administrative Order: Wastewater Division

The EPA issued Administrative Order CWA-06-2018-1783 in April 2018 based on an investigation conducted by the EPA in 2017. The order generally requires the following regarding LUS's sewer collection and conveyance system:

- SSES program to inspect all lines and manholes on a 10-year rotation cycle starting by November 1, 2020. Cleaning and inspection activities have to occur first in order to obtain the information to make decisions regarding sewer rehabilitation projects.
- Rehabilitation of defective pipes and manholes within three years of discovery with all rehabilitation efforts to be complete by November 1, 2033.

LUS's sewer collection system is comprised of approximately 12,313 manholes, 185 sewer lift stations and 576 miles of gravity sewer. LUS has received Administrative Orders from EPA before with the most recent prior to this one in the 1990s. LUS is currently budgeting \$11,405,000 over the next five years for identified sewer collection system project, with \$6,055,000 for identified sewer lift station projects and just a little over \$1 million per year for gravity sewer system inspection SSES and rehabilitation work. In light of the fact that this is not the first Administrative Order received by LUS, and in order to show EPA a good faith effort, it is strongly recommended to address the sewer collection issues to avoid being placed under a Consent Decree.

Based on the information collected by the consulting team and its experience in dealing with these issues on other systems, LUS could potentially face in excess of \$10 million in annual capital expenses over the 10-year compliance period to cover the issues outlined in the subject Administrative Order. LUS believes that its current forecast for wastewater operations is sufficient to comply with the Administrative Order and that the actual needed rehabilitation will be significantly less than the amount estimated by the consulting team. Careful planning will be required to ensure sufficient capital funds exist to support the work required to comply with the Administrative Order.

Other observations from the Administrative Order include the following:

- A reduction in SSOs will be required.
- Better SSO reporting is required.
- A capacity, management, operation and maintenance (CMOM) program is required by May 1, 2020.
- Annual progress reports are required.
- Operation and Maintenance procedures need to be enhanced and improved.
- SOPs are required.
- Training and educational items need to be implemented.
- Miscellaneous facility improvements including fencing of equalization basin and ancillary improvements to various sewer lift stations.
- Improved operational control at the treatment facilities.
- High flow storage basins at the wastewater treatment plants (WWTP) need to be modified to remove overflows resulting in sanitary sewer overflow.

All WWTPs are above the 75 percent average daily flow redesign demand. Therefore, capital improvement upgrades to meet average daily demands are required.

Safety and Standard Operating Procedures

A review of the *LUS Year 22 Accident and Sick Leave Reduction Program* summary report, which includes a comparison of LUS historical performance across key performance indicators to LUS-identified benchmarks, revealed safety concerns and opportunities for significant improvement in the overall welfare of LUS employees.

LUS Accident and Sick Leave Summary

Input	Benchmark	Low ('08-'17)	High ('08-'17)	Avg ('08-'17)
Vehicle Accidents	6	28	45	35.0
Preventable Vehicle Accidents	1	6	24	14.5
Job Injuries	5	14	31	22.8
Preventable Job Injuries	0	0	4	1.5
Sick Leave Usage	44	44	49	46.4

*Source: LUS Year 22 Accident and Sick Leave Reduction Program report

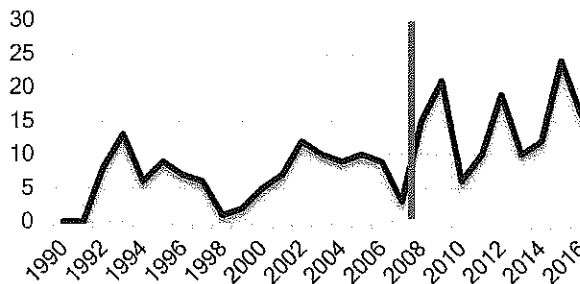
Total Annual Vehicle accidents between 2008-2017 ranged from 28 (2008) to 45 (2009), which is four to seven times the identified benchmark of six per year.

**Vehicle Accidents - Total Number
1992 - 2017**



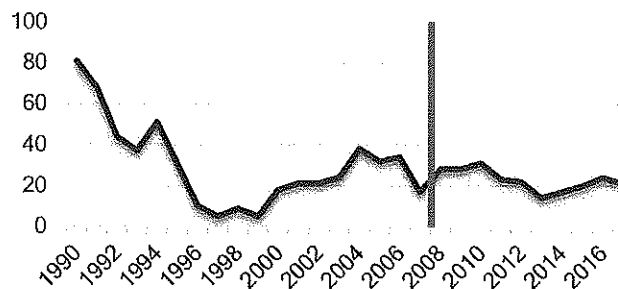
Total annual preventable vehicle accidents between 2008-2017 ranged from six (2010) to 24 (2016) with an annual average of 14.5 preventable accidents. This significantly exceeds the identified benchmark of one per year.

**Vehicle Accidents - Preventable
1992 - 2017**



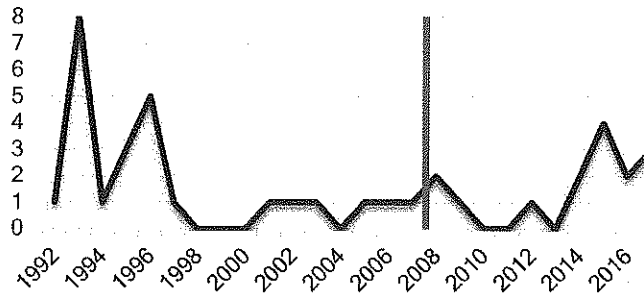
The identified benchmark for job injuries is five per year. Total annual job injuries between 2008-2017 ranged from 14 (2013) to 31 (2010).

**Annual Count Job Injuries
1990 - 2017**



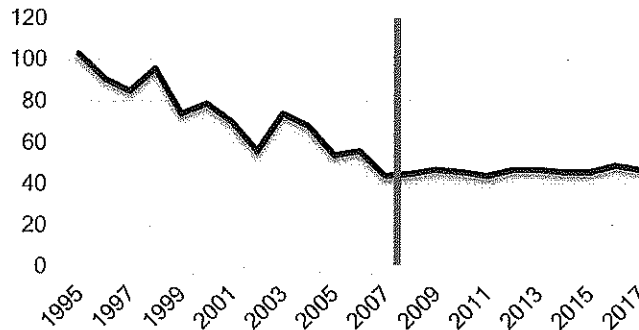
The identified benchmark for preventable job injuries is zero per year. Total annual preventable job injuries ranged from zero (multiple years) to four (2015). A significant uptick in preventable job injuries was observed from 2014-2017 with two to four preventable accidents reported each year.

**Annual Count Preventable Job Injuries
1992 - 2017**



The identified benchmark for sick leave is 44 hours per employee per year. Average hours of sick leave used per employee was consistently reported at 46 hours per employee annually between 2008-2017.

**Sick Leave Usage Average Hours/Employee
1995 - 2017**



The safety culture at LUS is cause for concern. There is a historical pattern of missing self-identified safety targets. Implementation of more robust safety and wellness programs would contribute to a safer work environment and healthier LUS employees.

During the water site inspections, field operators were wearing hard hats, reflective vests and appropriate footwear. Uniforms were worn with LUS logos, employees presented themselves professionally, and their clothing was appropriate for the work being performed. The general appearance was that personnel were outfitted with the appropriate safety equipment.

All employees are required to pass a written exam, health physical, back x-rays, drug screening and background checks. Random drug testing is performed and an LUS training officer is provided to ensure training is being performed, which includes safety, certification and equipment operation. That said, not all training exercises are covered. Safety meetings are described as occurring monthly; however, better records

need to be kept identifying who attended, performance, etc. Staff had mixed responses when asked about the availability and awareness of written safety policies. There are no written safety incentive programs but there are written accident report procedures. Response differed between water and wastewater staffing regarding whether an emergency response plan is in place for major events.

Given LUS's performance against its own safety benchmarks and comparable industry standards, combined with the lack of consistent responses among employees regarding safety questions, it is NextGEN's opinion that safety is not treated as a core value within LUS. Significant revisions in the overall safety program are recommended to reinforce safety at all levels of the organization. NextGEN's management team has implemented world-class safety programs within private utilities and would do the same at LUS.

STANDARD OPERATING AND TRAINING PROCEDURES (SOPS)

Minimal standard operating procedures (SOPs) were available for both the water and wastewater divisions. There are no standard operational procedures for treatment system repairs, equipment operation, etc. No tracking or trending is in place. Few operation and maintenance procedures are written, and many are hands-on only. There is no periodic report of relevant operation and maintenance activities. A hand-written log book is the only record.

Access to workplace procedures and safety guidelines are minimal, and responses to this question suggest poor communication down the ranks regarding where specific procedures and guidelines are located. Supervisors train and entrust their subordinates to perform required tasks. According to staff, division administration is not preparing plans for future training needs.

Lift Station employees do not utilize a work order system. LUS implemented a plan to improve this four years ago with no success, with Lift Station employees expressing a lack of understanding for why the work order system is needed. This suggests poor communication between management and staff.

Staffing and Succession Planning

While the current operating team is qualified and skilled, there is only one knowledgeable set of personnel for each critical facet of work. There are no succession plans established, which causes concerns of potential understaffing due to retirements, illnesses or injuries. Recruitment and succession plans are not sufficient to meet future workforce needs, and LUS lags in competitive salaries compared to other nearby utilities and the regional oil and gas industry. NextGEN would establish programs to recruit and train LUS's future workforce.

Furthermore, due to budget constraints associated with the city, LUS employees have not received a merit raise in three years. This limitation brought on by the city budget will make it increasingly difficult to compete for and retain talent, particularly in the technology sector. NextGEN would reverse this trend by restoring competitive benefits to LUS employees, including regular merit increases.



CONCLUSION

The analysis and due diligence performed indicate that LUS's electric, water and wastewater functions are not functioning at the level LUS customers and Lafayette residents assume and expect. Furthermore, recent management decisions involving capital investments and operating and maintenance requirements appear to have been made based on preserving the current state of operations as opposed to taking a forward-looking view and assessment of related needs and market trends.

LUS has an opportunity to become a leading municipal utility that delivers recurring value and reliability to customers. It operates in an environment and under city leadership where a vision for innovation and integrated technology is intertwined with the fabric of the community - one that in recent years has dramatically begun to re-position itself with a diversified economy and workforce. It is through this type of vision that economies demonstrate significant growth, and residents benefit as a result. A key example of this vision in action is how LUS Fiber has helped to position the area as a leader for technology and connectivity, attracting significant corporate and capital investment to the region, such as the 800 jobs that are being created by CGI. However, the current state and operational mindset of LUS's electric, water and wastewater divisions are highly inconsistent with that vision, much to the detriment of maximizing the potential for the city, parish and Acadiana region.

It is incumbent upon Lafayette leadership not to dwell on the challenges that exist within the current system but the opportunities that exist for the future system. In fully maximizing these opportunities, LUS can ensure utility rates remain constant or even decrease through operational efficiencies and more strategic use of energy-producing assets; build a foundation whereby smart city strategies such as microgrids, distributed energy resources and other emerging technologies can be easily integrated; and build upon current levels of customer service so that all Lafayette residents have the ability to engage with their utility system in the manner that is most desired and convenient for them.

This is a future that NextGEN can help to create for Lafayette and on behalf of LUS customers, refining key system elements and nimbly adapting operational and investment strategies to meet or exceed market-leading trends. Furthermore, as previously noted, Lafayette is not the only municipality with a municipal utility system facing these same types of challenges. NextGEN is positioned to make Lafayette the hub and headquarters of initiating similar operational improvements and strategic investments for other municipal utilities across the U.S., creating hundreds of jobs in the process and a resounding economic impact on the Lafayette community.

As CGI has noted previously as part of its Vision 2021: Executive Insight Series for Commercial Industries, "energy consumers drive the digital utility of the future." NextGEN stands ready to support the creation of that digital "Utility of the Future" for Lafayette and LUS customers. There is a clear path forward to do so in a manner that preserves all elements of the current system valued by customers while making strategic investments that yield long-term benefits both to customers and the overall Lafayette economy - positioning LUS to become the blueprint for the municipal "Utility of the Future" in the process.

WHY NextGEN

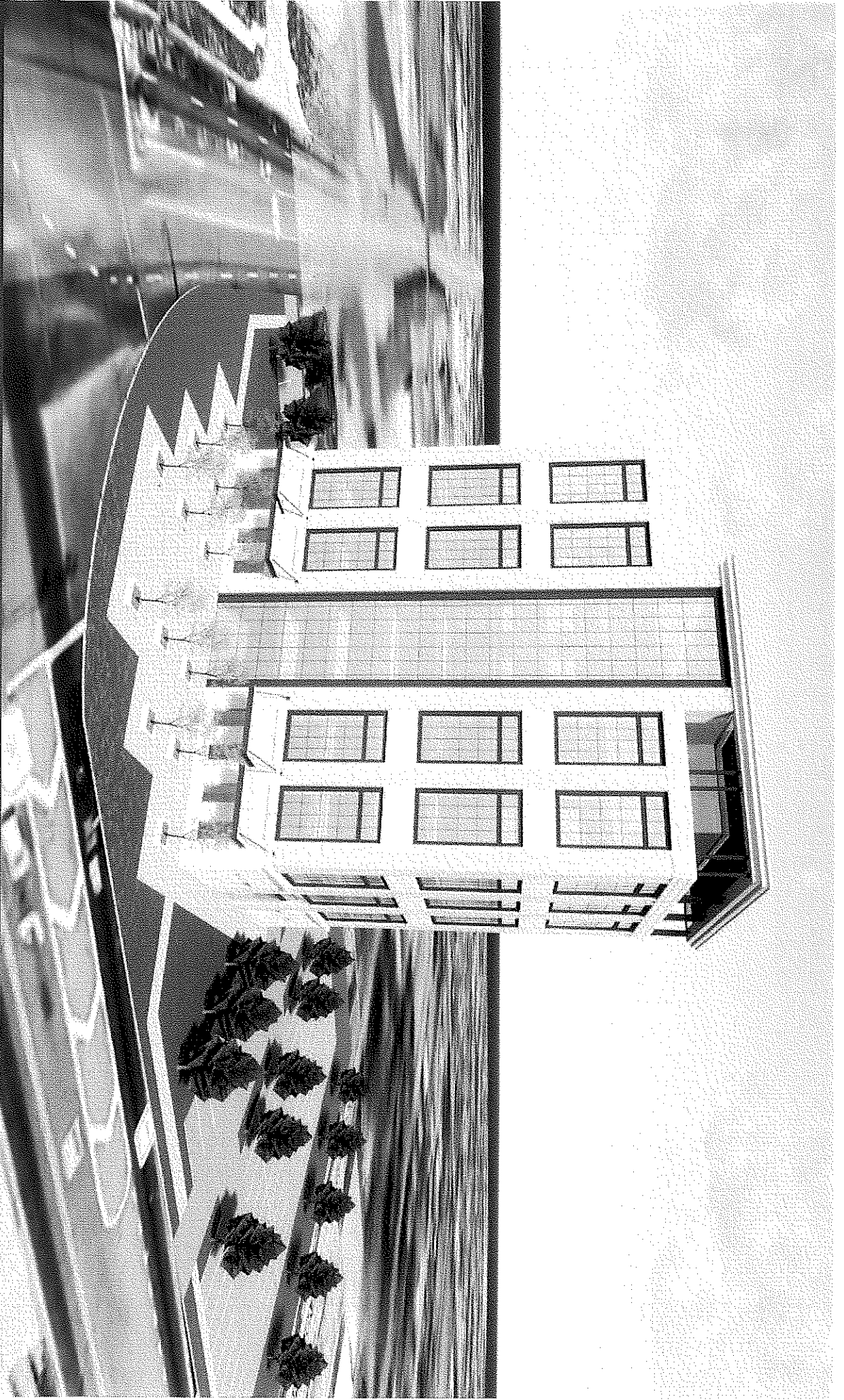
NextGEN is a team of utility industry experts who have served in senior management and executive roles for some of the top private utility companies in the U.S. In partnership with LUS, NextGEN will leverage the collective experience of its management team to drive efficiencies in operations and customer service, improve safety and performance and reconcile an increasing array of electric supply options from wholesale and distributed resources with LUS's evolving demand. Additionally, NextGEN will position LUS to take advantage of advanced technologies to meet the need for enhanced resiliency, cybersecurity and customer choice associated with the evolution to the "Utility of the Future," while preparing LUS's workforce for this future.

In the past, LUS has prioritized spending on generation and other electric infrastructure, based upon a legacy view of the electric system. This approach has not permitted LUS to focus on initiatives to improve the efficiency and effectiveness of core operations, as well as evaluating and implementing new strategies that can reduce costs and empower customers.

Specifically, LUS's decision in 2013 to join MISO fundamentally changed LUS's access to wholesale generation resources, including modern gas combined cycle and low-cost wind benefiting from significant federal tax credits. This expands LUS's power supply options and consequently changes the competitive position of its own generating resources in a regional power market that continues to challenge nuclear and coal generation and is forcing a wave of retirements of these facilities owned by both regulated utilities and independent power producers (IPPs). These shifts in the organized power market come at a time when there have been dramatic reductions in the cost of new technologies such as solar PV, which are driving toward grid price parity at a rapid rate, and NextGEN leadership have seen energy storage becoming increasingly competitive in both utility scale and distributed applications. However, LUS has not adjusted its strategy to keep pace with these evolving industry dynamics. NextGEN will utilize the expertise of its management team to take advantage of the opportunities to create savings for LUS and its customers, such as in leveraging the full benefits of the MISO marketplace while making strategic, forward-thinking investments in new resources connected directly to LUS's system (solar, battery storage, combined heat and power, microgrids) and leveraging new tools, such as energy efficiency and demand response, to provide significant benefits to its customers and promote local economic development and job creation.

NextGEN understands that LUS's ability to take advantage of these opportunities rests on empowering its employees. As a result, in parallel with re-thinking the architecture of the LUS system, NextGEN will focus on ensuring that LUS continues to attract and retain a quality workforce prepared to address the challenges ahead. For example, nearly one-third of LUS Electric employees have been with the system for more than 20 years, and there is increasing uncertainty about the timing and rate of retirement of these skilled and experienced workers. As a result, workforce and succession planning will be an important priority. Similarly, the NextGEN management team's deep experience in construction and operations takes into account the critical importance of safety, not only to the well-being of employees, but in creating a strong internal culture that values people. NextGEN has "tried and true" protocols, starting with proper and industry-leading benchmarking, to set clear health and safety goals that can become integrated into organizational culture.

NextGEN's proposal will provide an array of significant benefits LUS customers, LUS employees and the City of Lafayette, including improving affordability by lowering bills, rationalizing capital expenditures through integrated resources planning, improving organizational effectiveness, efficiency and expanding employee opportunities and safety, enhancing the customer experience, improving system resiliency and cybersecurity, improving environmental quality and implementing a thoughtful innovation initiative that expands customer services/choice and promotes economic development and job creation.



NextGEN
UTILITY SYSTEMS

\$8 MILLION
HEADQUARTERS