GDS Associates, Inc. Engineers and Consultants

## ANNUAL ENGINEERING REPORT FISCAL YEAR ENDED SEPTEMBER 30, 2017

Prepared for: SAM RAYBURN MUNICIPAL POWER AGENCY



May 2018

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## ACRONYMS

Cubic Feet Per Second	cfs
United States Department of Energy	DOE
Economic Development Rate Plan	EDRP
Energy Independence and Security Act	
Entergy Asset Management	EAM
Entergy – Koch Trading L.P.	EKT
Entergy Gulf States, Inc.	EGSI
Entergy Gulf States Louisiana, LLC	EGSL
Entergy Power, Inc.	
Entergy Power Marketing Corporation	ЕРМС
Electric Reliability Council of Texas	
Energy Texas, Inc.	ETI
Entergy Wholesale Operations Marketing L.P.	EWOM
Federal Energy Regulatory Commission	FERC
Gulf States Utilities	
Jasper-Newton Electric Cooperative Inc	JNEC
Jasper Economic Development Corporation	JEDCO
Kilowatt	kW
Kilowatt Hour	kWh
Kilovolt	kV
Megawatt	MW
Midcontinent Independent System Operator, Inc.	MISO
Public Utility Regulatory Policies Act of 1978	PURPA
Purchase Money Security Interest	PMSI
Power Purchase and Sale Agreement	PPSA
Public Utility Commission of Texas	PUCT
Remote Terminal Unit	
Renewable Energy Credits	RECs
Requirements Power Supply Agreement	RPSA
Regional Transmission Organization	
Senate Bill 7	SB-7
System Capacity Sales Agreement	
Southeastern Electric Reliability Council	SERC
Sam Houston Electric Cooperative	SHECO
Southwest Power Pool	SPP
Sam Rayburn Dam Electric Cooperative, Inc	SRDEC
Sam Rayburn G&T Electric Cooperative, Inc	
Sam Rayburn Municipal Power Agency	
Supplemental Requirements Power Supply Agreement	
Southwestern Power Administration	
Unit Power Sales Agreement	
United States Army Corps of Engineers	
Vinton Public Power Authority	VPPA

#### **EXECUTIVE SUMMARY**

Pursuant to its duties as Consulting Engineer to Sam Rayburn Municipal Power Agency ("SRMPA"), GDS Associates, Inc. ("GDS Associates") has prepared an annual engineering report for the Fiscal Year ended September 30, 2017 ("Fiscal Year 2017") in accordance with SRMPA's Bond Indenture and Power Sales Contracts. Such report includes, to the extent applicable: (i) a report on the operations of the System (as defined herein); (ii) a report on the sufficiency of rates and charges to pay for System costs; (iii) requirements for future power and energy; and (iv) recommendations concerning changes in operation and the making of repairs, renewals, replacements, extensions, betterments and improvements to all or part of the System required pursuant to the applicable Project Agreements; the estimated effect of such changes on the cost of power and energy, if any; and as to the appropriate amounts of reserves for the foregoing.

The following are summaries of various subjects of the report:

**Operations of the System.** In October 2017, SRMPA made the scheduled principal payment of approximately \$12,215,000 on its outstanding debt. SRMPA did not issue any additional debt during Fiscal Year 2017. As of September 30, 2017, SRMPA had only one series of bonds outstanding, the Series 2012 Bonds, in an aggregate principal amount of 67,505,000 million. The Series 2012 Bonds have been assigned ratings of BBB+ by Fitch Ratings and BBB+ by Standard & Poors Rating Services, and such ratings were not withdrawn or revised by the rating agencies during the Fiscal Year 2017.

During Fiscal Year 2017, SRMPA collected \$28,119,022 in operating revenues from the Members, exclusive of \$4,870,493 from Boomerang, and \$437,600 from sales to SRG&T, \$1,095,229 from hydroelectric sales to MISO and earned \$227,975 in interest income, resulting in a total collection of \$29,879,826 to meet operating expenses and debt service requirements, exclusive of \$4,379,546 power supply costs for Boomerang. The debt service coverage ratio for the period during Fiscal Year 2017 was 1.22, which satisfied the debt service coverage requirement under the Indenture.

**Sufficiency of Rates and Charges.** For Fiscal Year 2017, a new energy rate of \$79.50 per MWh went into effect to provide revenues to meet SRMPA's required coverage target of 1.20 or more by the end of the Fiscal Year. SRMPA has met the budgeted revenue amounts and it is sufficiently above the expected cumulative revenue collections requirement level as of the end of the Fiscal Year 2017. The wholesale cost of power, net of excess coverage refunded to the Members, is conservatively projected, based on a 1.20 debt service coverage ratio, to be approximately 90.1 mills per kWh for Fiscal Year 2018 and is expected to continue in the 90-91 mills per kWh range through Fiscal Year 2021.

**Requirements for Future Power Supply.** SRMPA's Fiscal Year 2017 annual peak demand was 86.3 MW with energy sales of 367,381 MWh, inclusive of the City of Liberty's Boomerang load. SRMPA's actual energy requirement in Fiscal Year 2017 was slightly lower due to the decreased production at Boomerang. Besides that increase, the total Members' demand and energy requirements were slightly higher due to the combination of a hotter summer and a milder winter weather. The Sam Rayburn Hydro Project and the R. D. Willis Hydro Project provided approximately 10 percent of SRMPA's total energy requirements, while the Entergy (RPSA) purchases provided for the remaining 90 percent. SRMPA's RPSA related energy

consumption is projected to increase at an average annual rate of about 0.4 percent. The projected annual actual growth rates in energy sales for the individual Members' ranges from a low of approximately 0.1 percent for the City of Jasper, Texas, to 0.6 percent for the Cities of Liberty and Livingston, Texas. While actual purchases will fall above or below the trend line in some years, overall long-term energy purchases should trend with the projections.

**Findings as to Changes in Operation and Capital Improvements.** Based on our review of the information provided by SRMPA and others as described in this Report, we find that:

- 1. There are significant renewals, extraordinary repairs, replacements, modifications, capital additions and betterments that are currently planned for the Sam Rayburn Dam Project and the Robert Douglas Willis Hydro Project the cost of which, if any, would be chargeable to SRMPA. The step-up transformer on Sam Rayburn Unit No. 2 failed on April 25, 2014. On July 22, 2015, the Secretary of the Army accepted a gift from the Sam Rayburn Dam Electric Cooperative, Inc. ("SRDEC") for two 50 MVA replacement transformers installed at the Sam Rayburn Hydro Project along with ancillary projects totaling approximately \$6.25 million. The SRDEC's gift accelerated the in-service date by over twelve months with the in-service of the first of the two replacement transformers on November 18, 2016 and the second on February 2, 2017 recouping approximately \$1.5 million in lost market revenue from the loss of Sam Rayburn Unit No. 2. The U. S. Army Corps of Engineers has also initiated studies to rehabilitate the turbines and generators at Sam Rayburn beginning as early as 2021. The rehabilitation project at both Sam Rayburn Units Nos. 1 and 2 is expected to increase the generation capacity by 30 - 50 percent. The U.S. Army Corps of Engineers, at the request of SRMPA, has initiated a study of the disposition of the R.D. Willis hydropower units that have been in forced outage since November 19, 2015 due to a transformer bushing failure and subsequent failure of the station service transformer. The U.S. Army Corps of Engineers replaced the transformer bushing and station transformer and R.D. Willis Unit No. 2 was returned to service on September 29, 2017. Repairs remain to be completed by the U.S. Army Corps of Engineers on Unit No. 1.
- 2. There are significant renewals, extraordinary repairs, replacements, modifications, capital additions and betterments that are currently planned and installed for Sam Rayburn Municipal substations. SRMPA has order six new 50 MVA substation from Delta Star at a total cost of approximately \$4,000,000 for installation over a two year period in SRMPA Member Cities' distribution substations. The first transformer was installed and energized on November 4, 2016 and the final transformer is scheduled to be installed in the third quarter of 2018. SRMPA has chosen to invest current excess funds from the Cambridge Project into this proactive reliability project prior to experiencing issues with the substation transformers as they approach the end of their useful life over the coming years.
- 3. SRMPA and its management, consisting of SRMPA's Board of Directors and other supervisory personnel, to our knowledge (i) have conformed to the requirements and covenants of the Bond Indenture and Power Sales Contracts, and (ii) as of September 30, 2017, were not in default with respect to any of the covenants, agreements, or conditions on their part contained in the Bond Indenture and Power Sales Contract.

#### **PURPOSE AND BACKGROUND**

#### 1.1 **PURPOSE AND SCOPE**

This Annual Engineering Report ("Report") for the Fiscal Year Ended September 30, 2017 ("Fiscal Year 2017") has been prepared by GDS Associates, Inc. ("Consulting Engineer") in accordance with the requirements set forth in the Bond Indenture and the Power Sales Contracts of the Sam Rayburn Municipal Power Agency ("SRMPA"). The September 1, 2012 Indenture ("2012 Indenture" or "Indenture") became effective in conjunction with the September 19, 2012 issuance of \$108,940,000 of Power Supply System Revenue Refunding Bonds, Series 2012 Bonds ("Series 2012 Bonds"). The Series 2012 Bonds were issued under a refunding plan to refinance under a new indenture all of SRMPA's outstanding debt at the time of the issuance. SRMPA's outstanding debt prior to this refunding consisted of \$136,225,000 of Power Supply System Revenue Refunding Bonds, Series 2002 Bonds"). Prior to the 2012 Indenture, the 2002 Indenture was in effect, having become effective in conjunction with the July 25, 2002 issuance of the Power Supply System Revenue Refunding Bonds, Series 2002 Bonds. The Series 2002 Bonds were issued under a refunding Bonds, Series 2002 Bonds. The Series 2002 Bonds were supply System Revenue Refunding Bonds, Series 2002 Bonds. The Series 2002 Bonds were issued under a refunding plan to refinance under a new indenture all of SRMPA's debt that was outstanding plan to refinance of the Series 2002 Bonds. The Series 2002 Bonds were issued under a refunding plan to refinance under a new indenture all of SRMPA's debt that was outstanding at the time of the issuance of the Series 2002 Bonds.

The 2012 Indenture, in pertinent part, requires that:

The Issuer (SRMPA) shall cause the Consulting Engineer to prepare and file with it and the Trustee no later than 150 days following the end of each Fiscal Year, a report or survey with respect to the management of each Project, the operation and maintenance of the properties constituting such Project, the making of necessary and proper renewals and replacements thereof and the status of the Annual System Budget and the construction budget applicable to any part of any Project which is under construction. Such report or survey must contain information as is necessary to comply with the applicable Power Sales Contracts and must be in sufficient detail to show whether the Issuer (SRMPA) has performed and complied with the covenants contained in this Indenture relating to such matters and must state whether, to the knowledge of the signer, after an investigation undertaken in good faith and with due diligence, the Issuer (SRMPA) is in default with respect to any of the covenants, agreements, or conditions on its part contained herein, and, if so, the nature of such default.

In addition to the requirements under the 2012 Indenture, the Consulting Engineer is required to prepare a comprehensive annual report pursuant to the Power Sales Contracts between SRMPA and the Cities of Jasper, Liberty, and Livingston, Texas (collectively, the "Members") with respect to the System. The 2012 Indenture defines the System as follows:

"System" means the Project, as now or hereafter existing and used for or pertaining to the generation, transmission, or transformation (or any combination of the foregoing) of power and energy and including general plant and administrative facilities of the Issuer (SRMPA) and all the interest of the Issuer (SRMPA) in the electric generation, transmission, or transformation facilities, general plant and administrative facilities of the Issuer (SRMPA), together with all additions, betterments, extensions, and improvements to the Issuer's (SRMPA) power and energy system or any part thereof hereafter made and together with all lands, easements, and rights-of-way of the Issuer (SRMPA) and all other works, property, or structures of the Issuer (SRMPA) and contract rights and other tangible and intangible assets of the Issuer (SRMPA) in connection with or related to the Issuer's (SRMPA) power and energy system, and power supply contracts between the Issuer (SRMPA) and any supplier of power and energy to the Issuer (SRMPA). Notwithstanding the prior sentence, the term "System" does not include any project, properties or facilities of the Issuer (SRMPA), or any interest therein, which the Issuer (SRMPA) determines does not constitute a part of the System for the purposes of the Power Sales Contracts.

Section 21 of the Power Sales Contracts requires the Consulting Engineer to prepare a report with respect to the System (tangible and intangible assets of SRMPA) which shall include a report in reasonable detail, for the preceding contract year (Fiscal Year), reviewing the following:

- 1. the operations of the System;
- 2. the sufficiency of rates and charges to pay current System costs;
- 3. requirements for future power and energy; and
- 4. recommendations concerning changes in operation and the making of repairs, and renewals, replacements, extensions, betterments, and improvements.

Section 21 of the Power Sales Contract further states that:

If, in the performance of its duties, the Consulting Engineer becomes aware of the fact that the Agency (SRMPA) in any material way shall have failed to perform or comply with the covenants and agreements contained in this Contract or the Indenture, or the Agency (SRMPA) or any other party in any material way shall have failed to perform or comply with such party's covenants and agreements contained in this Contract or the Indenture, the Project Agreements or any other contractual commitment thereof pertaining, directly or indirectly, to the System, such report shall specify the details of such failure. In the wording of such report, the Consulting Engineer may rely, unless the Consulting Engineer has reason to believe that any of the reports or findings are not accurate, upon the audit report of the independent certified public accountants to the Agency (SRMPA), reports of Gulf States Utilities Company ("GSU") with respect to other Projects, and the reports and findings of qualified independent consultants to the Agency (SRMPA) having special skill, knowledge and experience with respect to the matters relied upon.

Any capitalized term used in this Report, to the extent not defined herein, indicates that such term is defined in the particular agreement or document being discussed. Any summary descriptions of agreements or other documents in this Report are (i) based on our understanding of such agreements, (ii) are not to be regarded as full statements, and consequently do not purport to be complete in every respect, and (iii) are qualified by reference to such agreement or document.

#### **1.2 HISTORY OF SRMPA**

SRMPA is a municipal corporation and political subdivision and body politic and corporate of the State of Texas organized under the laws of the State of Texas. It was created in 1979 by concurrent ordinances adopted by the governing bodies of its Members, the Cities of Jasper, Liberty, and Livingston, Texas. SRMPA was formed to undertake the planning, financing, development, acquisition, and operation of projects for the generation and transmission of electric power and energy to supply the present and future needs of its participants, including the Members and the Town of Vinton, Louisiana, through the Vinton Public Power Authority ("VPPA").

Prior to November 1980, the Members and VPPA obtained all of their power requirements from the SRDEC. SRDEC supplied such power from its entitlement to the output of 52 megawatts ("MW") of hydroelectric power from the federally-owned Sam Rayburn Dam Hydro Project ("Sam Rayburn Dam Project"), marketed by the Southwestern Power Administration ("SWPA"), United States Department of Energy ("DOE"), and from wholesale power purchased from GSU, now known as Entergy Louisiana, L.L.C. ("ELL") and Entergy Texas, Inc. ("ETT"). Beginning in 1980, the Members and VPPA purchased all of their power and energy requirements from SRMPA. SRDEC now delivers Sam Rayburn Dam Project federal hydropower to SRMPA for delivery to the Members, while VPPA receives Sam Rayburn Dam Project hydropower directly from SRDEC effective in 2002. VPPA also began in 2002 to purchase its power and energy requirements directly from Entergy Corporation ("Entergy") and SWPA.

On June 6, 1980, SRMPA entered into the Joint Ownership Participation and Operating Agreement ("Joint Ownership Agreement") with GSU and Sam Rayburn G&T Electric Cooperative, Inc. ("SRG&T"), which allowed SRMPA to acquire a 20 percent undivided interest in the Nelson Coal Power Station Unit No. 6 ("Nelson 6"). At that time, SRMPA also entered into agreements with GSU, which provided for: (i) the transmission by Entergy of the output of Nelson 6 and the Sam Rayburn Dam Project to SRMPA's delivery points; (ii) the sale by GSU of the supplemental power and energy required to satisfy SRMPA's current load and normal load growth in excess of SRMPA's resources; and (iii) the supply by GSU of reserve capacity, backup energy, and replacement energy.

In 1985, SRMPA issued bonds to finance the acquisition of Nelson 6 Excepted Facilities and the construction of the Town Bluff Hydropower Project, later renamed the Robert D. Willis Hydro Project ("R. D. Willis Project"). The acquisition of Nelson 6 Excepted Facilities was consummated on June 18, 1992.

On December 1, 1989, SRMPA began selling 24.89 percent of the power received from the R. D. Willis Project to SRG&T under the Town Bluff Hydro Project Power Assignment Agreement ("SRG&T Agreement"). This agreement is in place for a 32-year period ending December 1, 2021. The R. D. Willis Project is detailed in Section 3.5 of this Report.

On December 18, 1992, SRMPA transferred the title to its 20 percent undivided interest in Nelson 6 and the associated Excepted Facilities to VPPA. Concurrently, SRMPA and VPPA entered into the Unit Power Sales Agreement ("UPS Agreement"). Under the UPS Agreement, SRMPA secured rights from VPPA to the net electrical output of Nelson 6, and, in return, paid all charges billed by GSU related to Nelson 6. In 1994, Entergy merged with GSU and reformed the operating entity as Entergy Gulf States, Inc. ("EGSI"). EGSI became responsible for all outstanding contracts between GSU, SRDEC and SRMPA. In 2007, EGSI was split into two entities, ETI and Entergy Gulf States LLC ("EGSL"), splitting the assets and operations along state lines. EGSL became the Entergy entity responsible for the UPS Agreement. In 2015, EGSL merged with ELL and ELL became the Entergy entity responsible for the UPS Agreement.

During Fiscal Year 1998, SRMPA exited the generation business and signed the Requirements Power Supply Agreement ("RPSA") with Entergy Power Marketing Corporation ("EPMC"), now assigned without novation to Entergy Wholesale Operations Marketing, L.P. ("EWOM"). EPMC merged into Entergy-Koch Trading L.P. ("EKT") before the assignment to EWOM. EKT remained responsible for the underlying obligation to serve SRMPA in accordance with the RPSA. In November 2004, EKT became part of Merrill Lynch Global Commodities. The RPSA remains in effect as before and SRMPA continues to be served by Entergy through these same entities, and administered by EWOM. The Report will hereafter reference EWOM as the Entergy entity responsible for the RPSA.

The RPSA became effective on November 1, 1998. Under the RPSA, SRMPA purchases capacity from EPMC, now EKT, administered by Entergy Asset Management ("EAM"), for a lump sum payment in 1998 and continues purchases of delivered power and energy sufficient to meet Member requirements under a set price schedule. This price schedule escalates at an average of approximately 1.6 percent per annum from the effective date through September 30, 2021. Under the RPSA, EWOM is required to meet SRMPA's load and normal load growth requirements as measured from SRMPA's benchmark load, contractually set under the RPSA at 70.676 MW.<sup>1</sup> SRMPA's allowable load growth that EWOM is required to serve under the RPSA increases by an average of three percent per year in excess of the stipulated SRMPA benchmark load, with the maximum load service obligation based on a five-year forward rolling average of the escalating load service obligation value,<sup>2</sup> normalized for weather. EWOM's maximum load service obligation is available to serve SRMPA's new load through its Member's retail customers and cannot be marketed externally as excess capacity. EWOM is required to supply energy needed to meet all load served by SRMPA under the RPSA, with purchases under the RPSA offset by SRMPA's entitlement to its hydropower resources.

In Fiscal Year 1998, SRMPA also negotiated the System Capacity Sales Agreement ("SCSA") with EPMC, then merged into EKT, which resulted in SRMPA selling all 110 MW of excess system capacity provided by the RPSA to EKT in return for a lump sum payment. All costs associated with Nelson 6 were recovered under the SCSA through charges to EKT for the cost of all energy associated with this capacity on an ongoing basis. The charges billed to EKT were equal in amount to charges billed by EGSI to VPPA and SRMPA under the UPS Agreement. The SCSA eliminated all risks to SRMPA associated with Nelson 6 and effectively released SRMPA from its responsibility for its share of Nelson 6, except for administrative responsibility for the charges and billings discussed above. The SCSA and the UPS Agreement ended as of October 1, 2003 when the title to Nelson 6 transferred out of escrow to a third party nominee of Entergy Power, Inc. ("EPI").

On November 1, 1998, SRMPA began obtaining its required power and energy from SRDEC, SWPA, and EKT, under the RPSA. The RPSA allowed SRMPA to reduce electricity rates to its Members from an annual average of 76 mills per kilowatt hour ("kWh") to 70 mills per kWh in Fiscal Year 1998. SRMPA further decreased its rates to the Members during Fiscal Year 2001. Implementation of the RPSA eliminated income variability caused by Nelson 6

<sup>&</sup>lt;sup>1</sup> Under the RPSA, the total benchmark load is designated as 78 MW, with SRMPA entitled to 70.676 MW of benchmark load, and VPPA entitled to 7.324 MW of benchmark load.

<sup>&</sup>lt;sup>2</sup> Inclusive of the five-year forward rolling average, EWOM's maximum load service obligation to SRMPA was 127.760 MW in Fiscal Year 2017, and EWOM's maximum load service obligation to VPPA was 13.240 MW in Fiscal Year 2017, with both values escalating at three percent per fiscal year through the term of the RPSA.

operations and maintenance risk. It allowed SRMPA to stabilize wholesale power costs at 70 mills per kWh and further reduced it to as low as 65 mills per kWh at the beginning of Fiscal Year 2001 due to the expenses, operating fund levels and the power supply rates outlined in the RPSA.

In 1998, EPMC entered into a Power Purchase and Sale Agreement ("PPSA") with EPI, to purchase generation sufficient to meet EPMC's obligations to SRMPA under the RPSA. SRMPA holds a perfected purchase money security interest ("PMSI") in the PPSA equal to SRMPA's \$59,605,565 capacity prepayment made under the RPSA. Entergy supplied SRMPA with a Support Agreement pledging not to allow EPI, its wholly owned subsidiary, to divest itself of generating assets sufficient to serve SRMPA load under the PPSA. In addition, SRMPA received a Guaranty from Entergy of up to \$35,000,000 supporting the contract performance of both EPMC and EPI, subject to the prior application of benefits due to SRMPA under the terms of the PMSI. The payable amount of the Guaranty is subject to a net present value adjustment which factors the remaining term of the RPSA. Under the RPSA, EPMC is obligated to serve SRMPA from all contracted sources, which is broader than the PPSA. The PPSA was designed to give a point of security to SRMPA for EPMC's contract performance. The Guaranty confirms that security by supporting EPI's performance under the PPSA and PMSI.

On June 1, 2001, SRMPA filed with the Public Utility Commission of Texas ("PUCT") an application to certify the Sam Rayburn Dam Project and the R. D. Willis Project as existing renewable resources and nominate them for Renewable Energy Credits ("REC"). The Public Utility Regulatory Act established a renewable energy credits trading program requiring that 2,000 MW of new renewable energy capacity be built in Texas by 2009. Although SRMPA is not obligated to purchase RECs if not participating in retail competition, generation of renewable resources and RECs may be sold by such a resource to competitive retailers. SRMPA's REC application was approved in August 2001. SRMPA is entitled to earn the 44,711 MWh and 26,374 MWh of annual RECs for the Sam Rayburn Dam Project and the R. D. Willis Project, respectively, as nominated. The PUCT's Senate Bill 20, enacted in August 2005, expanded the goal from 2,000 MW of renewable capacity from non-wind renewable resources.

In July 2007, the PUCT amended Senate Bill 20's §25.173 rules regarding renewable energy resources and enhanced the goal set out in Senate Bill 20 by raising the ceiling for qualification of hydropower as a small producer from 2 MW to 10 MW. For a renewable energy facility to be eligible to produce RECs, it must be either a new facility or a small power producer. Under this definition, existing small hydropower units under 10 MW are eligible to produce RECs. The R. D. Willis Project qualifies as a small hydroelectric facility. RECs can be generated, transferred, and retired by renewable energy power generators. In January 2011, an additional proposal for rulemaking by the PUCT addressing the removal of RECs at both hydropower facilities and re-registration and treatment as RECs was commented on by SRMPA in support of this proposal to the PUCT. As of July 2011 (six months after the order), no action was taken, causing the proposal to become automatically considered closed. There has been no indication by the PUCT that the program will be revived in the near future. Therefore, SRMPA continues to hold RECs for each hydro as before until further notice.

As of July 2010, EWOM and SRMPA entered into the SRMPA Full Requirements Power Supply Agreement to serve the City of Liberty's Boomerang Tube, L.L.C. ("Boomerang") customer load. Boomerang is a large industrial customer with a steel pipe and tube production facility in the City of Liberty. Boomerang currently has an electrical load of approximately 25 MW during full operation. SRMPA entered into this agreement, in parallel to the RPSA, to supply Liberty with the electric energy that Liberty needs to satisfy its obligation to serve Boomerang. The agreement to serve Liberty's Boomerang facility will be in effect until September 30, 2021. Power sale revenues under this agreement approximated \$4,870,493 and \$4,201,292 for the years ended September 30, 2017 and 2016, respectively; while power purchases approximated \$4,379,546 and \$3,686,964, respectively. The power sale revenues and power purchases related to the Boomerang Retail Contract, as discussed in Section 3 of this Report, are not includable as "revenues" or "cost of revenues" under the 2012 Indenture and are not pledged as "net revenues" securing the Series 2012 Bonds.

#### **1.3 POWER SALES CONTRACTS**

Under virtually identical Power Sales Contracts, as amended and restated as of July 1, 2002, with the Members, SRMPA has agreed to sell, and each Member has agreed to buy on a "take or pay" basis, all the power and energy required by the Member for the operation of its electric system. Under each of these contracts, a Member agrees to take or pay for all power and energy required by its retail electric system. Such contracts have been in effect since 1981, and by their terms will remain in force at least until all of the Bonds have been paid or discharged. The maximum amount of power and energy required to be sold and delivered by SRMPA and purchased and taken by the Members under the Power Sales Contract shall not exceed the owned or contracted power supply resources available to SRMPA and shall not include off-system sales by the Members. None of the Members have defaulted under their contracts.

For each Member, the obligation under its take-or-pay Power Sales Contract with SRMPA requires payment of its proportional share, based on energy demand, of (i) SRMPA's debt service on outstanding Bonds and (ii) all other SRMPA costs of operating the System.

The Power Sales Contracts require SRMPA to adopt rates and charges for electric power and energy and other services to be paid by the Members adequate to pay all System costs of SRMPA, including all payments of principal and interest on SRMPA Bonds, all costs of operating and maintaining the System, and all amounts necessary to meet the requirements of any rate covenants of SRMPA.

Each Member agrees in its Power Sales Contract to maintain and collect rates and charges for the electric service provided to its customers which will produce revenues sufficient, together with other revenues and receipts available to its electric system and available electric system financial reserves, to enable it to pay to SRMPA all amounts payable by such Member under its Power Sales Contract and to pay all other amounts payable from, or which might constitute a lien on, the revenues and receipts from its electric system.

#### 1.4 INDUSTRY HISTORY OF DEREGULATION AND RETAIL COMPETITION

The electric industry in Texas has been in a period of transition since the beginning of retail competition in January 2002. The PUCT established requirements for wholesale and retail utility systems operating within the Electric Reliability Council of Texas ("ERCOT"). The ERCOT system encompasses much of Texas except for portions of East Texas and the Texas

Panhandle. SRMPA is located outside of ERCOT and within Entergy's transmission system in East Texas. These areas outside of ERCOT were once included within the Southwest Power Pool ("SPP"). However, in 1998, Entergy abandoned the SPP in favor of joining the SERC Reliability Corporation ("SERC"). The ERCOT system is electrically isolated within the borders of Texas and does not interconnect across state lines with synchronous transmission to import or export power with neighboring states. Therefore, ERCOT does not fall under the Federal Energy Regulatory Commission's ("FERC") jurisdiction. ERCOT is the only Independent System Operator under the jurisdiction of its state commission. Since the Members are not physically a part of ERCOT, they are not impacted by the PUCT transmission regulations directed at the ERCOT system. In the East Texas portion of SERC, the PUCT regulates only retail utility operations other than those of municipal utilities and certain electric cooperatives.

Deregulation of the electric industry in Texas was initiated by the State Legislature. In June 1999, then Governor George W. Bush signed into law Senate Bill 7 ("SB-7"), the electric industry-restructuring bill that reorganized the electric industry in Texas. A principal focus of SB-7 was customer choice and the implementation of retail competition. With the exception of transmission and distribution services, all aspects of the electric industry are deregulated within ERCOT. Outside ERCOT, where the FERC regulates transmission and wholesale power sales, SB-7 deregulation applies only to retail sales and distribution services. Since SRMPA's Members have not elected to deregulate, SB-7 does not apply.

Under SB-7, the PUCT could delay competition within a region if the region is unable to offer fair and reliable service to all customers. The PUCT can also delay competition if a region does not meet three requirements: (i) transmission reliability overseen by an independent organization; (ii) openly accessible transmission and distribution systems; and (iii) generation ownership and control by any one entity limited to 20 percent. In 2001, the PUCT staff determined that retail competition was not economically feasible in East Texas within SERC and decided not to begin retail competition for customers in East Texas served by Entergy. EGSI also went through the generation divestiture process only to find it did not produce asset market values at levels that would encourage other power producers to invest in the market. New power providers have been reluctant to come into the East Texas region due to existing transmission constraints and limited markets resulting in a low value on generation assets.

SB-7 has had limited or no effect on SRMPA's operations because: (i) it is a wholesale power supplier not engaged in retail sales; and (ii) SRMPA's municipal members engaged in retail sales have not elected to participate in retail competition. In addition, within the respective annexed dual certified areas of each municipal member, competition has been ongoing for years with the surrounding cooperatives in Jasper and Livingston, and with ETI in Liberty. These dual certified areas are not open to other competition. Further, each of the Members is party to a requirements power supply contract with SRMPA. Under this contract, the power is priced to include all the costs of SRMPA including debt service and administrative expenses. The Members remain liable for SRMPA's obligations regardless whether they elect to engage in retail competition within their municipal boundaries, including dual certified areas. Jasper and Livingston are surrounded by the service areas of cooperatives, which currently sell power and energy at lower rates and are not required to participate in retail competition under SB-7. Similarly, ETI surrounds Liberty and, has not been competitive with Liberty in Liberty's dual certified area. As a result, the Members have (i) already engaged in retail competition with the dual certified annexed portions of their municipal service areas, (ii) experienced and withstood retail competition at their retail service area boundaries, and (iii) retained loads in their respective single certified portions of their respective service areas sufficient to meet their obligations.

In 2002, retail competition was further delayed by the FERC when it decided that an adequate competitive wholesale market in Southeast Texas could only exist when a Regional Transmission Organization ("RTO") was formed. In 2003, lacking an RTO, the FERC was working with Entergy to develop interim solution with new market protocols and appropriate market rules and governance needed to encourage competition in East Texas. The completion of the market rules and procedures and the creation of a regional RTO were anticipated to occur in late 2004. In late 2003, the sponsors of SeTrans RTO, which include Entergy, suspended their effort to develop the RTO due to their lack of confidence in securing consensus support and approvals from the state and Federal agencies involved. Early in 2004, Entergy also began seeking a third party overseer for its portion of transmission system that serves southeast Texas focused on ensuring a fair and independent operation as a means to help facilitate competition in that region. In mid-2004, the PUCT rejected Entergy's plans to implement an RTO. The PUCT believed that a FERC approved RTO needed to be in place and that the Entergy RTO plan would not encourage retail competition on the system. Entergy was compelled to suspend its pilot RTO plan for southeast Texas.

Competition within ERCOT began on January 1, 2002, at which time customers of most investor-owned utilities in Texas had a choice of retail electric service providers. The affiliated retail electric service provider of the utility that served the retail customer on December 31, 2001, continued to serve customers who did not select another electric service provider. Effective January 1, 2002, municipally owned utilities and electric cooperatives had the option to elect "opt-in" to retail competition. Municipally owned utilities and electric cooperatives could elect to participate in retail competition in the future by action of their governing body or board.

Outside ERCOT, in Southeast Texas, where the SERC governs electric reliability, the view of potential success of deregulation going forward remains mixed. Some experts believe that states still considering deregulation, such as Texas, could face the same problems as those experienced by California and the states in the Northeast. Many states, Louisiana for example, have taken a deliberately cautious approach to deregulation and have delayed their plans while waiting to see how successfully Texas performs and whether other neighboring states now considering deregulation effectively move forward. Possible deregulation flaws, similar to those that helped cause problems with the California plan, and that could still occur in Texas, include possible shortage of supply, unforeseen increases in demand, and low margins in cost of power, price signaling and market structure issues, as well as political and regulatory risks.

#### 1.5 INDUSTRY HISTORY OF REGULATION

The FERC issued a series of orders since 1995 addressing wholesale competition issues in terms of transmission and generation. FERC Order Nos. 888, 889, and 890 were issued to enhance access to the wholesale market. Requirements included in the FERC Order Nos. 888, 889 and 890 were: (i) development of open access, non-discriminatory transmission tariffs; (ii) separation of transmission and wholesale power market functions from regulated generation activity; (iii) creation of Open Access Same Time Information Systems; (iv) greater consistency and transparency in available transmission capacity calculators; and (v) open, coordinated and transparent planning. The introduction of these new requirements to existing transmission

system providers is projected to enhance the opportunity for development of a dynamic and competitive wholesale power marketplace.

In January 2000, the FERC issued Order No. 2000, which encouraged public utilities to form RTOs. An RTO acts as an independent operator and controller of the electric transmission grid over which electric generation is transmitted. Opening the wholesale power market is expected to contribute to market-based pricing in future years that is likely to be below previous cost-of-service tariff-based levels. Increased access to the wholesale market resulting from the changes in the transmission system access and pricing is also expected to increase access by any entity interested in potential opportunities of buying and selling capacity and energy. The RTO would operate and control interstate transmission systems.

In December 2007, the President signed the Energy Independence and Security Act ("EISA") of 2007, requiring utilities to consider, for adoption, rejection, or modification by December 19, 2009, the implementation of (i) integrated resource planning; (ii) rate design modifications to promote energy efficiency investments; (iii) smart grid investments; and (iv) smart grid information. SRMPA studied technologies that would allow implementation of standards, as modified to fit its needs and has completed the regulatory assessment as required under the EISA. Municipal utilities, such as SRMPA, are designated as "non-regulated" under EISA, as well as the Energy Policy Act of 2005 ("2005 Energy Policy Act"), because those utilities are not regulated by state utility commissions.

On August 8, 2005, the 2005 Energy Policy Act was signed into law. Provisions in the 2005 Policy Act included: (i) repeal of existing Public Utility Holding Company Act requirements; (ii) conditional termination of the mandatory federal purchase and sale requirements for cogeneration and small power production; (iii) expansion of the FERC's merger review authority; (iv) re-authorization of renewable energy production incentives for solar, wind, geothermal, and biomass and authorization of new incentives for landfill gas; (v) incentives for development of new commercial nuclear power plants and other non- or low-carbon emitting technologies; (vi) establishment of a 7.5 percent goal for increased renewable energy use by the federal government by 2013, and of a 20 percent required reduction in energy use by federal buildings by 2015; and (vii) increased funding for weatherization of low-income homes and for state energy efficiency programs. The 2005 Energy Policy Act also amended the Public Utility Regulatory Policies Act of 1978 ("PURPA") by adding five new standards that municipal utilities must consider and determine whether to implement. These new standards address net metering, diversity of fuel sources, efficiency of fossil-fuel-fired generation, time-based or "smart" metering, and the interconnection of distributed generation. Furthermore, Sections 221 and 222 of the 2005 Energy Policy Act preclude entities (including entities not generally subject to the FERC's rate jurisdiction) from reporting false information relating to the price of electricity sold at wholesale or the availability of transmission capacity or engaging in market manipulation in connection with the purchase or sale of electric energy or transmission services.

On July 21, 2011, the FERC issued Order No. 1000, which among other things required public utility transmission providers to participate in a regional transmission planning process that produces a regional transmission plan and that incorporates a regional and inter-regional cost allocation methodology. Similar to Order No. 890, the FERC stated that it will implement its authority under Section 211A on a case-by-case basis. However, in Order No. 1000, the FERC appeared to expand upon the current reciprocity provisions. Further, the FERC stated that is has the authority to allocate costs to beneficiaries of services provided by specific transmission

facilities even in the absence of a contractual relationship between the owner of the transmission facilities and the identified beneficiary.

Although Order Nos. 888, 889, 890, 2000 and 1000 (collectively, the "FERC Rules") do not directly regulate municipally owned utilities and other non-FERC regulated utilities, such as SRMPA, the FERC Rules have a significant impact on such utilities' operations. The RPSA protects SRMPA from changes in wholesale generation and transmission costs due to changes in the FERC Rules. The FERC Rules have significantly changed the competitive climate in which the non-FERC regulated utilities operate, giving their customers much greater access to alternative sources of electric transmission services. The rules require them to provide open access transmission service conforming to the requirements for jurisdictional utilities whenever they are properly requested to do so under the 2005 Energy Policy Act or as a condition of taking transmission service from a FERC regulated utility. In certain circumstances, the non-FERC regulated utilities are required to pay compensation to their present suppliers of wholesale power and energy for stranded costs that may arise when the non-FERC regulated utilities exercise their option to switch to an alternative supplier of electricity.

Historically, electric utilities operating in the ERCOT area of Texas have not had any interstate connections other than in certain emergency situations, and hence electric generation and transmission facilities within the ERCOT area of Texas have not been subject to the FERC regulatory or licensing requirements on the basis of such interstate connections. Over the past several years, various efforts have been made to provide some interstate connections. These efforts have resulted in protracted judicial and administrative proceedings involving ERCOT members. The FERC has issued orders, which, among other things, permit the ERCOT members to avoid federal regulations of rates as the result of the ordered interconnections with another interstate connected utility.

In May 2011, each of Entergy's operating companies filed a report with their respective state commissions outlining the expected benefits of joining the Midwest Independent Transmission System Operator ("MISO"), a regional transmission organization serving 15 states. In late 2011, the Entergy operating companies formally asked for approval to transfer operational control of their transmission facilities to MISO with a target implementation date of December 2013. ETI filed an application in April 2012 for approval to join the MISO RTO. ETI requested approval from the PUCT to transfer operational control of its system to MISO. ETI projected that there would be significant benefits to joining MISO, including providing centralized commitment and dispatch for electric generating units and operating both dayahead and real-time markets for energy and operating reserves. In addition, within the MISO region, the RTO ensures grid reliability and performs transmission planning. The PUCT approved ETI's application with conditions at the end of October 2012. Entergy contended that joining MISO was the best option for its customers and would provide the largest customer benefits. According to Entergy, customers would obtain the benefits of a combined operation of a larger pool of power resources across an even larger footprint, while also maintaining access to low-cost, clean and reliable power resources. On December 19, 2013, Entergy formally integrated its four-state footprint into the MISO control area. With the addition of the Entergy operating companies, the MISO region, renamed the Midcontinent Independent System Operator, now stretches from Canada to the Gulf of Mexico.

With the execution of the RPSA with EPMC, SRMPA acquired a delivered fixed cost power supply. As a result, SRMPA is not faced with market-driven increases in power supply or delivery costs. SRMPA is in a good position to withstand any potential impacts from Texas

retail competition and from the FERC changes in wholesale power markets and transmission services. The FERC regulatory changes pertaining to wholesale power supply and transmission access do not currently affect SRMPA, because the RPSA with Entergy calls for a fixed-price delivered requirements power supply through September 30, 2021, without fuel, transmission, or other cost adjustments. As the term of the RPSA meets its end in 2021 and wholesale power supplies become more significant, the principal on current debt will be repaid in full thereby eliminating the debt service, the largest cost component of SRMPA's total wholesale power cost. SRMPA believes that the above factors will enable it to maintain a competitive position as it continues to meet current and future obligations.

#### **1.6 SRMPA HISTORICAL ACTIVITIES**

SRMPA has taken several active steps to reduce and stabilize wholesale power costs to its Members. During Fiscal Year 1998, SRMPA negotiated a long-term RPSA with EPMC, which merged with EKT. At the same time, SRMPA also negotiated the SCSA with EKT. The SCSA eliminated all risks to SRMPA associated with Nelson 6 and effectively released SRMPA from responsibility for Nelson 6, along with all costs associated with Nelson 6, including all risk associated with environmental regulations and issues. Further, all such Nelson 6 costs, as well as fuel and operating costs, were recovered by SRMPA in its price for the sale of excess system capacity to EKT under the SCSA. As of October 1, 2003, Nelson 6 was transferred out of escrow to a third party nominee of EPI thereby terminating the SCSA and is no longer an administrative issue for SRMPA.

SRMPA purchases all requirements to meet load and load growth from Entergy under the RPSA as assigned without novation to EWOM, and administered by EAM, net of SRMPA's share of federal hydroelectric power from the R. D. Willis Project and the Sam Rayburn Dam Project. The RPSA allowed SRMPA to reduce wholesale power costs to its Members from an annual average of approximately 76 mills per kWh in Fiscal Years 1996 through 1998, to approximately 70 mills per kWh in Fiscal Year 1999, due to the savings realized by SRMPA through the transfer of the operations, maintenance, fuel and transmission costs, and risk associated with Nelson 6 to EKT, through the SCSA, and the fixed power supply costs achieved under the RPSA. SRMPA rates under the RPSA became effective on November 1, 1998. On January 1, 2001, SRMPA authorized the utilization of available funds and savings to reduce further its average wholesale power cost to as low as 65 mills per kWh.

As discussed earlier, in September 2012, SRMPA issued the Series 2012 Bonds under a new indenture that were used to defease all of SRMPA's then outstanding Series 2002 Bonds. Issuance of the Series 2012 Bonds allowed SRMPA to: (i) revise certain bond covenants, including reduction of SRMPA's required cash holdings, allowing those funds to be utilized for the repayment of principal coincident with issuance of the Series 2012 Bonds; and (ii) make the repayment period of the Series 2012 Bonds coterminous with SRMPA's RPSA in 2021. In addition, the issuance of the Series 2012 Bonds resulted in reduced debt service requirements.

In October 2002, SRMPA adopted an Economic Development Rate plan that offered incentive for SRMPA to enhance its competitive and financial position. The plan provided each of the Members with the potential to attract new customers and stimulate load growth thereby lowering their overall average cost of service. The rate plan was designed to operate independently from the current rate structure. The rate plan applied to new commercial or industrial loads. SRMPA's associated charge to the Members recovered the cost of power supply under the RPSA, plus 10 mills per kWh for the new load additions. Retail customers meeting certain criteria were designated this classification for participation on a nondiscriminatory basis for a single two year term with an option to renew as assessed by SRMPA. SRMPA does not currently serve any customers under this rate plan.

In January 2005, SRMPA continued its efforts to reduce overall power costs to its Members and strive for increased retail load growth by implementing two additional incentive-based rate plans called the Large Load Economic Development Rate and the Large Load Rate plans. The Large Load Economic Development Rate and the Large Load Rate plans offered incentive for load growth through lower wholesale rates to each of the Members and provided each the potential to attract new and previous retail customers, stimulate load expansion, and retain existing retail customers; thereby lowering SRMPA's overall average wholesale cost of service. The reduction in SRMPA's overall average wholesale cost of service was accomplished by increasing load and increasing SRMPA's net revenues available for debt service.

The Large Load Economic Development Rate and the Large Load Rate plans were two distinct plans adopted concurrently but implemented sequentially. The Large Load Economic Development Rate plan was implemented first, followed by the Large Load Rate plan. The decision regarding whether to implement the Large Load Rate plan was based on its economic benefit foreseen at that time as a function of the additional load acquired under the Large Load Economic Development Rate plan. As more new load was subscribed over the term of the Large Load Economic Development Rate plan, the anticipated benefits under the subsequent Large Load Rate plan became more apparent and made effective accordingly. The Large Load Economic Development Rate plan was similar in structure to the Economic Development Rate. The Large Load Rate plan was a new rate offered as a discount to the Members with qualified large load customer subscribers. The Large Load Economic Development Rate and Large Load Rate plans applied to certain types of large commercial or industrial loads within the Members' service areas. The rate plan targeted large loads of at least 500 kW at an 8 mill adder to further encourage load growth. The initial Large Load Economic Development Rate charge recovered SRMPA's cost of power plus an adder on energy usage over the initial term of five years. At the end of the initial term, the Large Load Rate charge then became a function of the amount of new, expanded, and returned previous customers that were captured over the initial term under the Large Load Economic Development Rate. Potential Large Load Economic Development Rate and Large Load Rate customers meeting certain load level and industry type may have qualified. SRMPA made the Large Load Economic Development Rate and Large Load Rate available under a long-term non-discriminatory agreement for service with the Members regarding nominated qualified customers. In June 2008, both the Large Load Economic Development Rate and Large Load Rate were suspended. The Board approved a new economic development rate in October 2012, which is further discussed in Section 4.4.

The Members continued to review the reliability of the electric systems at each of the Members in response to the emergency created by Hurricane Rita in 2005 and from Hurricanes Ike and Gustav in 2008. In particular, the City of Jasper, identified alternatives that could enhance the level of reliability of their system during similar emergency conditions in the future. Several alternatives to increase Jasper's reliability were identified: (i) additional switching; (ii) black start operation at the Sam Rayburn Dam Hydropower Project; (iii) backup generation at select customer locations or at select substations; and (iv) adding supply lines to certain city substations. Any review included regional planning reports and discussions regarding operations and repairs with the EGSL and ETI. For example, the outage durations for each city were dependent upon both the level of physical damage and Entergy's scheduling and emergency repair capability and policies. The comprehensive review, which addressed the level of reliability, the estimated costs and the schedule for implementation associated with each alternative, was completed and presented to the SRMPA's Board for consideration. The cost of these alternatives varied between a small or fractional percentage of annual costs to no cost at all. SRMPA funded the capital costs by using cash on hand and excess revenues collected above the coverage requirement. These improvements did not warrant the issuance of additional debt.

In July 2010, EWOM and SRMPA entered into the SRMPA Full Requirements Power Supply Agreement for the City of Liberty's Boomerang load. The City of Liberty and Boomerang are parties to the certain Retail Power Purchase Agreement (the "Boomerang Retail Contract") to which the City of Liberty provides Boomerang with all electrical loads up to 35 MW, or upon request such greater amount not to exceed 40 MW, required by Boomerang to operate its steel pipe and tube production facility. SRMPA entered into this agreement, in parallel to the RPSA, to supply the City of Liberty with the electric energy that it needs to satisfy its obligations under the Boomerang Retail Contract. The rate schedules included both a short-term rate schedule and a long-term rate schedule. The short-term rate schedule allowed the City of Liberty to provide an immediate response to the customer for electric service. Subsequently, the short-term rate schedule was superseded by the long-term rate schedule. The long-term rate agreement to serve Boomerang will be in effect until September 30, 2021.

#### 1.7 SRMPA CURRENT ACTIVITIES – CAMBRIDGE PROJECT

SRMPA and VPPA began conceptual development of a separate wholesale power enterprise called the "Cambridge Project" prior to 2010. The Cambridge Project is distinct and separate from SRMPA's primary wholesale power supply mission of serving its Members, although the project compliments SRMPA's performance. SRMPA's revenues, funds, and accounts established under the Indenture are not comingled with Cambridge Project accounts and are not available to the Cambridge Project enterprise. The Cambridge Project is independent from SRMPA's existing operations that secure SRMPA's payment obligations to holders of the Series 2012 Bonds. Preparation of a report by the Consulting Engineer is not required for the Cambridge Project, and reporting on this project is beyond the scope of this Report. However, due to the potential impact of the Cambridge Project on SRMPA and its Members a limited discussion of the Cambridge Project is provided in this section.

During Fiscal Years 2010 and 2011, SRMPA and VPPA were engaged in discussions with Entergy operating companies regarding additional power supply and purchase arrangements that became effective on December 1, 2011. The new power supply contractual arrangements (i) enable the Cambridge Project to obtain four new wholesale loads, and (ii) provide SRMPA with firm power supply for the next 25 years to serve its Members (under the Supplemental Requirements Power Supply Agreement ("SRPSA")). The four wholesale loads of SRMPA consist of two large oil refineries, a chemical company and ETI. The two oil refineries and chemical company are served through VPPA. The Cambridge Project supplements the existing SRMPA and the VPPA Systems under the RPSA.

Under the SRPSA with EWOM, SRMPA reduced the right to increase purchases for load growth at a maximum 3 percent annual rate to a 2 percent annual growth rate, which is more in line with anticipated growth rates. The SRPSA assures an energy supply to SRMPA beyond the 2021 termination of the RPSA to 2035, and provides that if SRMPA has load growth above

the anticipated rate, EWOM will provide service for such load. Should any of the Cambridge Project contractual arrangements be terminated, all Cambridge contracts will terminate and SRMPA and VPPA Systems will revert to their original condition with wholesale energy provided under the RPSA for SRMPA to serve its participating Members. The four VPPA retail customers that are served by VPPA in the default situation, as well as ETI, which may elect to be served by VPPA in the default situation. The additional power supply resources to the Cambridge Project include generation from third parties and power supply purchases from EGSL and from EWOM. In addition, SRMPA entered into contractual arrangements with EGSL and EWOM for power supply management and delivery.

The Cambridge Project load requirements consist of approximately 325 MWs of high load factor industrial load and a 225 MW block load sale to ETI. The supply portfolio consists of 220 MWs from EWOM, 110 MWs from EGSL, 220 MWs from the Nelson Industrial Steam Company and 5 MWs from City Water & Light, Jonesboro, Arkansas.

The objective of the Cambridge Project is to consistently meet the service obligations of SRMPA and VPPA and to provide for competitively priced long-term wholesale power supply to 2035 under the SRPSA. Any potential income in excess of costs derived from the Cambridge Project may be used to reduce long-term power supply costs to the Members, build reserves and make transfers to SRMPA for potential distribution to the Members and to capture the value of the unused portion of the "headroom" embedded in the original RPSA.

#### 1.8 FUNDS ESTABLISHED UNDER THE INDENTURE

The Indenture established special funds to hold proceeds from debt issuances, for purposes of establishing and maintaining certain reserves. The Indenture also established special funds into which revenues from Members are to be deposited and from which operating costs, debt service and other specified payments are to be made. The following table summarizes the funds established pursuant to the Indenture.

Fund	Held By
Revenue Fund	Trustee <sup>[1]</sup>
Operating Fund	SRMPA
Bond Fund	Trustee <sup>[1]</sup>
Debt Service Account	
Reserve Account	
Rebate Fund	Trustee <sup>[1]</sup>
Operations Reserve Fund	SRMPA
Subordinated Indebtedness Fund	Trustee <sup>[1]</sup>
Rate Stabilization Fund	SRMPA
Refund Fund	Trustee <sup>[1]</sup>
General Fund	SRMPA

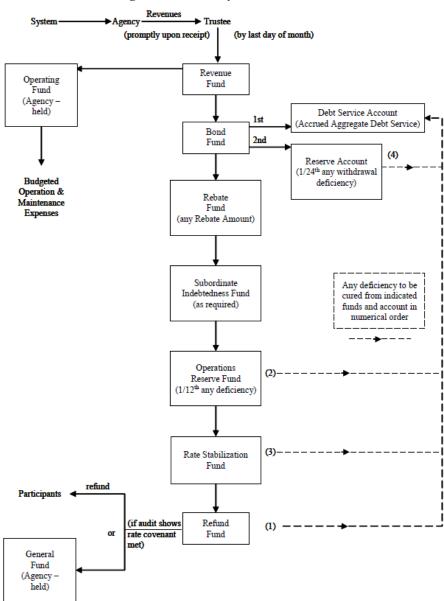
)

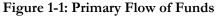
[1] The Trustee at September 30, 2017 was the Bank of New York Mellon Trust Company, N.A.

SRMPA deposits all Revenues upon receipt thereof to the credit of the Revenue Fund. As soon as practicable in each month after the deposit of Revenues into the Revenue Fund, the Trustee makes the following transfers from the Revenue Fund in the following order in the amounts required to be deposited for such intention as provided in the Indenture:

- 1. to SRMPA for deposit into the Operating Fund (to pay operating expenses);
- 2. to the Bond Fund (to pay debt service on bonds);
- 3. to the Rebate Fund (to pay Rebate owed to the Internal Revenue Service);
- 4. to any Subordinate Indebtedness Fund (to pay debt service on subordinated debt);
- 5. to the Operations Reserve Fund (for purposes described further in this section);
- 6. to the Rate Stabilization Fund (for purposes described further in this section);
- 7. to the Refund Fund (for purposes described further in this section); and
- 8. thereafter to the General Fund (for purposes described further in this section).

The payments to the Trustee by SRMPA of its Revenues and the monthly application by the Trustee of such Revenues in accordance with the Indenture are reflected in the following figure.





#### **1.8.1 SUBORDINATE INDEBTEDNESS**

Under the Indenture SRMPA may, at any time, issue Subordinated Indebtedness payable out of, and which may be secured by a security interest in and pledge and assignment of, such amounts in any Subordinated Indebtedness Fund or the General Fund as may be available for the purpose of payment thereof. However, any security interest and pledge and assignment must be subordinate in all respects to the security interest in and pledge and assignment of the Trust Estate created by the Indenture as security for the Bonds. Any Subordinated Indebtedness issued under the Indenture may not be accelerated unless all Outstanding Bonds under the Indenture have been accelerated. As of September 30, 2017, SRMPA did not have any outstanding Subordinated Indebtedness.

#### 1.8.2 BOND FUND - RESERVE ACCOUNT

In the event that amounts in the Bond Fund - Debt Service Account are insufficient for the purposes of paying the principal of, premium, if any, and interest on the Bonds when due, the deficiency shall be made up from the Reserve Account after giving effect to the amounts in the Refund Fund and the Operations Reserve Account.

SRMPA is required, pursuant to the Indenture, to fund a Reserve Account in the Bond Fund in an amount equal to the Reserve Requirement, which is defined as the lesser of (i) 10 percent of the par amount of the Bonds, as such amount is permitted to be adjusted by the Internal Revenue Code, (ii) the Maximum Annual Aggregate Debt Service coming due on Outstanding Bonds in the current or any future Fiscal Year, but excluding interest to be paid from deposits in the Debt Service Account in the Bond Fund made from the proceeds of Bonds or Subordinated Indebtedness, or (iii) 125 percent of the average annual Debt Service on the Bonds (the "Reserve Requirement").

If the amount on deposit in the Reserve Account exceeds the Reserve Account Requirement, the excess may be withdrawn to pay or provide for payment of the outstanding Bonds in accordance with the Indenture.

According to SRMPA, the Reserve Account Requirement at September 30, 2017 was \$12,401,008.

#### 1.8.3 RATE STABILIZATION FUND

SRMPA is required, pursuant to the Indenture, to have on deposit an amount equal to 10 percent of the aggregate annual debt service coming due in the Fiscal Year beginning October 1, 2012, and thereafter from time to time SRMPA may deposit in the Rate Stabilization Fund such amounts as SRMPA shall determine necessary to maintain a balance equal to 10 percent of the aggregate annual debt service coming due on the Outstanding Bonds in the current or any future Fiscal Year. No deposit of Revenues to the Rate Stabilization Fund may be made to the extent withdrawals of Revenues for any Fiscal Year to be deposited in the Rate Stabilization Fund would have reduced the debt service ratio computed pursuant to the Indenture for such Fiscal Year below 1.10.

To the extent that amounts in the Operations Reserve Fund (as described further in this section) are insufficient to make any payment from the Operating Fund the amounts from the Rate Stabilization Fund may be applied, as necessary, to make good the deficiency.

Whenever the money on deposit in the Rate Stabilization Fund exceeds the maximum annual debt service coming due on the Outstanding Bonds in the current or any future Fiscal Year, the excess may be withdrawn and deposited in the Refund Fund. All Interest or other earnings on deposit in the Rate Stabilization Fund shall be withdrawn therefrom and accounted for as Revenues.

According to SRMPA, the deposit in the Rate Stabilization Fund balance at September 30, 2017 was \$1,613,785.

#### 1.8.4 **OPERATIONS RESERVE FUND**

SRMPA is required, pursuant to the Indenture, to deposit the Operations Reserve Requirement to the Operations Reserve Fund sourced with proceeds from the previously issued Series 2002 Bonds and amounts transferred from SRMPA's General Fund or otherwise lawfully available to SRMPA. The "Operations Reserve Requirement," as defined in the Indenture, means an amount equal to 45 days of Operation and Maintenance Expenses, measured on a straight line basis for the prior Fiscal Year as set forth in the most recent audited financial statements. Within 120 days after SRMPA's audited annual financial statements become available, if the balance of the Operations Reserve Fund is less than the Operations Reserve Requirement, then SRMPA shall deposit to the Operations Reserve Fund amounts which after twelve equal monthly installments will equal such deficiency.

To the extent that amounts in the Refund Fund are insufficient to provide for any such insufficiency, if (i) at any time or from time to time amounts in the Operating Fund are insufficient to make any payment from the Operating Fund required, or (ii) if on the final business day of any month the amount in the Debt Service Account is insufficient to equal the amount required to be in that Account, then in either case the Trustee must apply amounts from the Operations Reserve Fund to the extent necessary to make good the deficiency.

Whenever the money on in the Operations Reserve Fund exceeds the Operations Reserve Requirement, the excess may be withdrawn therefrom by written request of SRMPA and applied pursuant to the Indenture.

According to SRMPA, the balance in the Operations Reserve Fund at September 30, 2017 was \$2,448,411.

#### 1.8.5 REBATE FUND

SRMPA is required, pursuant to the Indenture, to establish a Rebate Fund. The Rebate Fund shall be applied for payment of any Rebate Amount as defined in the Indenture. If SRMPA directs the Trustee to make payments from the Rebate Fund on any date and the amounts therein are insufficient to make such payments, the Trustee shall request additional deposits from SRMPA in the amount of any deficiency.

According to SRMPA, there was no balance in the Rebate Fund at September 30, 2017.

#### 1.8.6 **REFUND FUND**

SRMPA is required pursuant to the Indenture, to establish a Refund Fund. After all deposits from the Revenue Fund are made to the various Funds and Accounts established pursuant to the Indenture, but prior to any deposit to the General Fund, the Trustee applies any remaining amounts in the Revenue Fund to the Refund Fund.

Not later than the last business day of each month, prior to application of any amounts in the Reserve Fund or the Operations Reserve Fund, the Trustee applies amounts then held in the Refund Fund to Funds and Accounts held under the Indenture to the extent of any deficiency in the amount of any scheduled deposits from the Revenue Fund.

According to SRMPA, the balance in the Refund Fund at September 30, 2017 was \$1,598,948.

#### 1.8.7 GENERAL FUND

SRMPA is required, pursuant to the Indenture, to establish a General Fund whereby the amounts in the General Fund may be used for: (i) the purchase or redemption of Bonds, and expenses related thereto; (ii) payment of any Rebate Amount; (iii) improvements, extensions, betterments, renewals, and replacements of the System; (iv) payments to the Subordinated Indebtedness Fund or for payments of principal or redemption price of and interest on any Subordinated Indebtedness; or (v) any other lawful purposes of SRMPA.

#### 1.9 BONDS OUTSTANDING/SUMMARY OF BOND ISSUANCES

Table 1-2 shows that, as of September 30, 2017, SRMPA had issued eleven separate series of Bonds in aggregate principal amount of \$1.080 billion, of which ten series were no longer outstanding. After giving effect to approximately \$873 million in aggregate principal amount of Bonds that have been refunded and approximately \$139 million in aggregate principal amount of Bonds that have been paid at maturity, the net amount of Bonds outstanding as of September 30, 2017, was an aggregate principal amount of \$68 million.

		11104110 0110 #11	(" )	
Series	Principal Amount Issued	Refunded/ Defeased	Paid At Maturity	Outstanding as of September 30, 2017
1981	<b>\$ 157,25</b> 0	\$ 152,565 <sup>[1]</sup>	\$ 4,685	\$ -
1982	162,140	153,140 [2]	9,000	-
1985 [3]	179,696	173,491 [4]	6,205	-
1985A	43,900	42,400	1,500	-
1993A	153,420	132,220	21,200	-
1993B	89,595	83,320	6,275	-
2002A	117,605	96,225	21,380	-
2002B	52,660	40,000	12,660	-
2002C <sup>[5]</sup>	10,705	-	10,705	-
2002D <sup>[5]</sup>	4,340	-	4,340	-
2012	108,940	-	41,435	67,505
Total	\$ 1,080,251	\$ 873,361	\$ 139,385	\$ 67,505

# Table 1-2: Bonds Issued and Outstanding as of September 30, 2017 Amounts Shown in (\$000)

 Includes \$3,880,000 of principal amount of bonds defeased with proceeds from the sale of government securities held by SRMPA.

[2] Includes \$5,885,000 of principal amount of bonds defeased with proceeds from the sale of government securities held by SRMPA.

[3] Amounts do not reflect accretion on the portion of these bonds that were issued as Capital Appreciation Bonds.

 [4] Includes \$11,715,000 of principal amount of bonds defeased with proceeds from the sale of government securities held by SRMPA.

[5] All or a portion of these Bonds were issued as federally taxable.

All Bonds issued through September 30, 2017, have been issued to finance: (i) the acquisition and construction of Nelson Coal Unit No. 6 and the cost of related transmission facilities; (ii) the Robert Douglas Willis Hydropower Project; (iii) the purchase of SRMPA's share of the Excepted Facilities from GSU; (iv) certain fund deposits required under the Indenture; (v) costs and expenses associated with issuance of such Bonds; or (vi) the refunding of Bonds.

Table 1-3 sets forth the total annual debt service requirements for all outstanding Bonds issued through September 30, 2017 that are expected to paid from revenues.

Period Ending October 1,	Principal Installments	Interest Payments	Total Debt Service
2017	\$ 12,215	\$ 3,375	<b>\$ 15,590</b>
2018	12,830	2,765	15,595
2019	13,470	2,123	15,593
2020	14,140	1,450	15,590
2021	14,850	743	15,593
Total	\$ 67,505		

Table 1-3: Total Debt Service Requirement for Bonds Issued Through September 30, 2017
Amounts Shown in (\$000)

#### 1.10 BOND RATINGS

SRMPA has received ratings on its Bonds from two investment services groups comprising of Standard & Poor's, a division of The McGraw-Hill Companies, Inc. ("Standard & Poor's") and Fitch IBCA, Inc. ("Fitch").

Table 1-4 shows the ratings that SRMPA's Bonds have been assigned as of September 30, 2017 by the two investment services groups identified above:

	Standard & Poor's	Fitch
Rating	BBB+	BBB+
Outlook	Stable	Stable

Table 1-4: Bond Ratings

The ratings by Standard & Poor's and Fitch reflect only the views of such organizations and any desired explanations of the significance of such ratings and any outlooks should be obtained only from the respective organizations. Generally, a rating agency bases its rating on the information and materials furnished to it and on investigations, studies, and assumptions of its own. There is no assurance such ratings will continue for any given period of time or that such ratings will not be revised downward or withdrawn entirely by the respective rating agencies, if, in the judgment of such rating agencies, circumstances so warrant. Any downward revision or withdrawal of such ratings may have an adverse effect on the market price of SRMPA's outstanding indebtedness.

#### 2 **OPERATIONS OF SRMPA**

#### 2.1 AUTHORIZED ACTIVITIES

SRMPA is a municipal corporation and political subdivision and body politic and corporate of the State of Texas organized under the laws of the State of Texas. SRMPA was created in 1979 by concurrent ordinances adopted by the governing bodies of the Cities of Jasper, Liberty, and Livingston, Texas. The purpose for forming SRMPA was to undertake the planning, financing and operation of resources for supplying electric power and energy needs to the participants, including the three Members and the Town of Vinton, Louisiana, through VPPA. SRMPA is organized pursuant to Texas Utilities Code, Sections 163.051 through 163.102, as amended (the "Enabling Act"). The Enabling Act authorizes SRMPA to, among other things: (i) acquire, own and operate electric facilities and engage in the generation and transmission of electric power and energy in or outside of Texas; (ii) issue revenue bonds and pledge SRMPA's net revenues for the payment of revenue bonds; (iii) sell, purchase or exchange electric power and energy to, from, or with electric utilities located in or outside of Texas; and (iv) establish and collect rates and charges necessary to produce revenues sufficient to pay all operation and maintenance expenses, debt service requirements on all revenue bonds issued, and other charges necessary to fulfill its contractual commitments.

#### 2.2 BOARD OF DIRECTORS

SRMPA is governed by a Board of Directors, consisting of six directors who serve without compensation. The governing body of each of the three Members appoints two individuals to serve on the Board. Under the concurrent ordinances that created SRMPA, the terms of the members of the Board are two years, with the term of one member from each city expiring annually. The majority vote of a quorum is required for the Board to take action. Four directors constitutes a quorum. The Board of Directors sets SRMPA's policies and administrative procedures. The elected members of the Board, as of September 30, 2017, are listed below:

City	Name	Office	Municipal Title
Jasper, TX	Mike Lout	Vice President/Director	City Representative
Jasper, TX	Randy Sayers	Director	Mayor
Liberty, TX	Carl Pickett	President/Director	Mayor
Liberty, TX	Gary Broz	Secretary/Director	City Manager
Livingston, TX	Clarke Evans	Director	Mayor
Livingston, TX	Judy Cochran	Director	Council Member

Table 2-1: Board of Directors

Below is a brief description of the background of the Board's officers:

**Mr. Carl Pickett**, President of SRMPA. Mr. Pickett presently serves as Mayor of the City of Liberty and was elected to office in May 2006. After graduating from Liberty High School, he obtained a Bachelor of Business Administration degree from the University of Texas at Austin – majoring in accounting - and a Juris Doctor degree from the University of Texas School of Law. Mr. Pickett has professional memberships with the State Bar of Texas and the Texas Society of CPAs. He has practiced law for 44 years in the areas of real estate, probate and business law and has been a CPA for 42 years while working in the areas of fiduciary,

partnership, corporate, and individual income taxation, estate and gift taxation, and non-profit entities tax compliance. Since 1971, Mr. Pickett has been a principal in the law firm of Pickett & Pickett, P.C. He is a member of the Liberty Rotary Club and Immaculate Conception Catholic Church. Prior to becoming mayor of the City of Liberty, he served for twenty-one years as a member of the Liberty Independent School District Board of Trustees. Currently he also serves as a member of the Board of the Sam Rayburn Dam Electric Cooperative and as a Trustee on the Lee College Foundation Board of Trustees. Mr. Picket was elected President of SRMPA in 2017.

**Mr. Mike Lout,** Vice President of SRMPA. Mr. Lout presently represents the City of Jasper. Mr. Lout is a 1974 graduate of Jasper High School who has worked in the broadcasting and communications industry for many years. He has worked as a communications technician for Temple-Eastex Forest that, up until a few years ago, was the largest private landowner in the State of Texas, and operates paper mills and building product-manufacturing operations. He also worked for many years for LTS Wireless, a company based in Lumberton Texas that builds radio towers, cellular systems and two way and microwave circuits both on and off shore for the oil and gas industry. Mr. Lout currently owns KJAS Radio in Jasper, Texas and KWUD Radio in Woodville. In 1999, he received the Texas Broadcasters Association's Broadcaster of the Year Award. He has been a ham radio operator since the age of 15 and is a private pilot and commercial radio and radar technician. Mr. Lout was elected Vice President of SRMPA in 2009.

**Mr. Gary Broz**, Secretary of SRMPA. Mr. Broz presently serves as the City Manager for the City of Liberty since 2009. After graduating from Paint Rock (Texas) High School in 1973, he obtained a Bachelor of Science degree in Animal Science with a minor in Chemistry from Sul Ross State University in Alpine, Texas in 1977. Mr. Broz returned to Paint Rock and joined the family farming and ranching operations where he later became managing partner of Paint Rock Wool Warehouse from 1982 to 1987 and was elected Mayor of Paint Rock in 1983 serving two terms. In 1987, Mr. Broz went to work for the City of Brady, Texas rising through the ranks as a crew member, Purchasing Agent, Director of Public Works, Assistant to the City Manager, and Assistant City Manager. In September 1997, he was named Interim City Manager and in January 1998 was named City Manager. Mr. Broz left Brady in November 2000 to become the City Manager in Port Lavaca, Texas where he served for nine years. In November 2009, he became the City Manager of Liberty, Texas. Mr. Broz was elected Secretary of SRMPA in 2017.

#### 2.3 MANAGEMENT

The Board retains E. Bruce Mintz, C.P.A. and attorney, in Liberty, Texas to serve as the Executive Director of SRMPA. The Executive Director, at the direction of the Board of Directors, corresponds with accountants, attorneys, and engineers representing SRMPA, as needed, prepares and forwards invoices to the Members for their respective share of power purchased, prepares invoices for and monitors other receivables due to SRMPA, prepares accounts payables for approval by the Board of Directors and payment, oversees SRMPA's compliance with the Texas Open Meetings Act, and other day-to-day business affairs of SRMPA.

The following table reflects the firms that provide professional services to SRMPA.

Company	Service
Fulbright & Jaworski L.L.P., Houston, TX	General Counsel
Fulbright & Jaworski L.L.P., Houston, TX	Bond Counsel
GDS Associates Inc., Marietta, GA	Consulting Engineer
Nowlin & Associates, Inc., Natchitoches, LA	Engineer
Axley & Rode, L.L.P., Lufkin, TX	Independent Auditor
Raymond James   Morgan Keegan, New York, NY	Financial Advisor

Table 2-2: Professional Services

#### 2.4 MANAGEMENT CONTROLS

Under the Power Sales Contracts, SRMPA's management is required to submit to the Members the following quarterly reports:

- 1. A financial and operating statement relating to the System;
- 2. A status report of the current annual System budget;
- 3. A report on the status of the construction budget for all projects currently under construction; and
- 4. A status report on operations of the System.

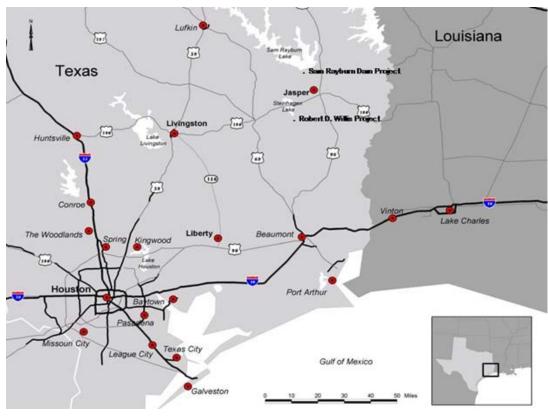
The Power Sales Contracts require SRMPA to retain a Consulting Engineer to assist, advise and make recommendations to SRMPA on matters relating to electric power generation, transmission, power supply, electric utility operations, rates and billing charges, monitoring of SRMPA performance and annual budgets. Under the Power Sales Contracts, the Consulting Engineer is to prepare, within 150 days following the close of each Fiscal Year, a report reviewing:

- 1. The operations of the System;
- 2. The sufficiency of SRMPA's rates and charges; and
- 3. The requirements for future power and energy.

In addition, the Consulting Engineer is to submit any recommendations concerning changes in operation and the making of repairs, renewals, replacements, extensions, betterments, and improvements. SRMPA is required to develop, in conjunction with the Consulting Engineer, an annual forecast of its power and energy requirements for the next ten years. Based upon the forecast, SRMPA will prepare a power and energy plan including a schedule of power and energy resource acquisition and operating plans. SRMPA is also required to retain an independent certified public accountant and to submit financial statements audited by such an independent certified public accountant to the Trustee and Members within 90 days after the end of each Fiscal Year. The Fiscal Year 2017 audit was made available to SRMPA. The independent certified public accountant's financial statements for Fiscal Years 2017 and 2016 are included in Appendix A of this Report.

#### 2.5 CITY ECONOMIC AND CUSTOMER INFORMATION

The Cities of Jasper, Liberty, and Livingston, Texas are located in Southeast Texas. The following map indicates the location of the Cities, the R. D. Willis Project site, the Sam Rayburn Dam Project site, and the major cities in the general vicinity.



#### Figure 2-1: Map of Members

The Members independently own and operate their respective electric systems and distribute electric power and energy at retail to residential, commercial, and industrial customers and for municipal and public use within their service areas. The dominant industrial and commercial activities in the region include agriculture, timber and related paper industries, retailing, recreation and oil and gas.

#### 2.5.1 CITY OF JASPER

The following description and information was provided by the City of Jasper.

The City of Jasper is located in Southeast Texas, inside Jasper County, and is approximately 135 miles northeast of Houston and 72 miles north of Beaumont. The municipal boundaries of Jasper cover approximately 10.6 square miles. According to the 2010 federal census, the City of Jasper had a population of 7,590. Jasper County is bordered on the north by San Augustine and Sabine counties, on the east by Newton County, on the south by Orange County, and on the west by Hardin and Tyler counties. The construction of Sam Rayburn Reservoir in the mid-1960s near Jasper brought the county a new industry, as water again proved a valuable resource. The Angelina River and its tributaries feed the reservoir, which attracts boaters, fishermen, and tourists. Jasper County is the 86<sup>th</sup> largest in population of the

254 counties in Texas, with a population of 35,648 in 2017. The county consists of 970 square miles. The following table presents the historical population statistics for the City of Jasper.

Year	<b>City Population</b>	<b>County Population</b>	State Population
1960	4,489	22,100	9,580,000
1970	6,251	24,692	11,198,655
1980	6,959	30,781	14,229,191
1990	7,160	31,102	16,986,510
2000	8,247	35,604	20,851,820
2010	7,590 [1]	35,710	25,145,561
2011	7,590 [1]	36,296	25,674,681
2012	7,590 [1]	35,927	25,613,722
2013	7,656	35,639	26,448,193
2014	7,656	35,649	26,448,193
2015	7,637	35,552	26,956,958
2016	7,619	35,506	27,469,114
2017	7,658	35,648	28,304,596

Table 2-3: City of Jasper's Historical Population Statistics

[1] Based on the 2010 federal census.

The City of Jasper's economy is based primarily on forest products. Jasper County consistently ranks among the top five forest products producing counties in Texas, with over 480,000 acres of timberland. The production of feed and fiber products is also a major factor in the City of Jasper's economy. The Sam Rayburn Reservoir, the largest man-made reservoir wholly within the State of Texas, is located approximately ten miles north of the City of Jasper and is a popular recreational area. The construction of retirement and second homes near the reservoir has contributed to the City of Jasper's economy. The City of Jasper, as the largest city within a 60-mile radius, serves as a regional retail shopping and services center for an estimated 15,000 to 20,000 people.

The City of Jasper expects expansion of its local economy and job base during the next few years. The Jasper Economic Development Corporation ("JEDCO") pursues goals of job base generation and job diversification that will be advanced by the completion of two industrial parks. In 2002, JEDCO completed the unique Jasper Airport Industrial Park, which connects to the Jasper County Airport. Offering direct runway access, the Jasper Airport Industrial Park attracted Mobile Specialty Vehicles. In addition, the Jasper Rail Park was further developed with North Star Resources, a wood processor and WATCO Transportation Services, a short-line rail company.

The following tables set forth certain information provided by the Texas Workforce Commission, with respect to the annual average workforce, employment, and economic data for Jasper County or the City of Jasper for the calendar years indicated.

	Civilian Labor			County	State
Year	Force	Employment	Unemployment	Rate	Rate
2008	15,963	14,945	1,018	6.4%	4.8%
2009	16,246	14,316	1,930	11.9%	8.2%
2010	15,907	14,010	1,897	11.9%	7.9%
2011	15,672	13,990	1,682	10.7%	7.2%
2012	16,019	14,498	1,521	9.5%	6.0%
2013	15,730	14,212	1,518	9.7%	6.1%
2014	15,479	14,326	1,153	6.9%	5.1%
2015	14,293	13,299	994	7.0%	4.2%
2016	13,462	12,336	1,126	8.4%	4.6%
2017	13,406	12,358	1,048	7.80%	3.8%

# Table 2-4: County of Jasper's Workforce and Employment Data Source: Texas Workforce Commission, City of Jasper

#### Table 2-5: City of Jasper's Economic Statistics

Year	Building Permits	Assessed Valuation	Retail Sales	Sales Tax Receipts
2008	\$ 5,567,000	\$254,748,766	\$240,897,705	\$3,948,694
2009	\$10,726,130	\$273,473,461	\$241,971,773	\$4,100,308
2010	\$10,758,184	\$276,783,095	\$241,008,387	\$3,851,780
2011	\$ 3,027,088	\$283,052,752	\$253,488,321	\$3,851,263
2012	\$ 8,653,996	\$286,909,609	\$250,052,395	\$3,831,529
2013	\$ 9,837,052	\$293,992,942	\$255,970,769	\$4,053,708
2014	\$ 6,807,965	\$305,577,587	\$259,226,354	\$4,073,997
2015	\$ 9,613,288	\$309,667,359	\$260,483,658	\$4,113,286
2016	\$ 6,429,360	\$307,198,176	\$275,536,502	\$3,507,421
2017	\$ 1,861,426	\$313,054,483	284,959,503	\$4,075,828

The City of Jasper's electric system was established in 1938. The system consists of two substations, one mile of 138 kilovolts ("kV") sub-transmission line and approximately 159 miles of 13.8 kV distribution lines. The City of Jasper's electric department maintains approximately 4,423 customers in a service area of approximately 35.5 square miles. In addition to the Jasper electric system retail service within the original single-certified part of the City of Jasper, the Jasper-Newton Electric Cooperative, Inc. also serves customers in the remaining dual certified areas in the City of Jasper. The City of Jasper electric department serves all other customers within the City of Jasper's single certified service area. Currently there are approximately 300 acres of developable property in the City of Jasper's dual certified area. In addition, the City of Jasper electric department serves a number of customers outside of the Jasper city limits.

The City of Jasper offers competitive utility rates to attract new residential, commercial, and industrial developments. The following tables present a summary of operating statistics relating to the electric utility system of the City of Jasper.

Year	Residential	Commercial	Industrial	City Total
2008	3,418	979	7	4,404
2009	3,536	880	5	4,421
2010	3,519	901	3	4,423
2011	3,531	922	3	4,456
2012	3,522	936	5	4,463
2013	3,523	993	5	4,521
2014	3,514	968	5	4,487
2015	3,482	988	5	4,475
2016	3,460	922	6	4,388
2017	3.438	980	5	4,423

#### Table 2-6: City of Jasper's Electric System Number of Customers

#### Table 2-7: City of Jasper's Electric Sales

	Meg	Megawatt Hour Sales			
Year	Residential	Commercial & Industrial	City Total	Total Revenue	Revenue/MWh
2008	45,396	52,675	98,071	\$10,689,026	\$109.00
2009	45,656	49,173	94,828	\$11,221,048	\$118.30
2010	49,492	53,840	103,332	\$12,154,141	\$117.60
2011	48,725	51,179	99,904	\$12,198,446	\$122.10
2012	47,069	51,152	98,391	\$11,273,378	\$114.60
2013	46,511	51,322	97,663	\$11,609,299	\$118.90
2014	48,371	51,004	99,375	\$12,292,735	\$123.70
2015	48,864	49,803	98,667	\$12,605,494	\$127.76
2016	45,455	49,424	94,879	\$12,466,220	\$131.39
2017	42,575	47,645	90,220	\$11,921,591	\$132.14

The following table sets forth the five largest electric customers of the City of Jasper for the Fiscal Year ended September 30, 2017.

Tuble 2 of only of Jusper of the Eurgeot Electric Customers				
Customer	Business	Annual Energy (MWh)		
Christus Jasper Memorial Hospital	Healthcare	3,915		
Jasper Independent School District	Education	3,203		
Terra BioChem	Manufacturing	2,571		
Brookshire Brothers	Groceries	1,849		
Hart Lumber	Lumber	1,366		

#### Table 2-8: City of Jasper's Five Largest Electric Customers

### 2.5.2 CITY OF LIBERTY

The following description and information was provided by the City of Liberty.

The City of Liberty, the county seat of Liberty County, is located on U.S. Highway 90 approximately 30 miles east of Houston Intercontinental Airport, 45 miles northeast of

Houston and 45 miles west of Beaumont. The municipal boundaries of the City of Liberty cover over 45 square miles. Easy access to these metropolitan areas, a low cost of living, high quality of life, and a rich heritage make the City of Liberty a great place to be a permanent citizen. The City of Liberty offers residents a small town atmosphere while providing all the modern services one expects from larger cities. According to the 2010 federal census, the City of Liberty has a population of 8,397. The Big Thicket National Preserve, in the northern part of the county, provides recreation with its trails and paths that afford a myriad of bird watching opportunities and a place to enjoy nature. The City of Liberty is home to the Sam Houston Regional Library and Research Center, which opened in 1977, and has seven municipal parks. The City of Liberty annually celebrates the Liberty Jubilee - Family Fun Fest the fourth Friday and Saturday of March, the Celebration of Independence Day held on July 3rd in the Liberty Municipal Park, the Trinity Valley Exposition and Fair in October, and the Christmas parade in late November or early December. Liberty County is the 47th largest in population of the 254 counties in Texas, with a population of 81,704 in 2017. The county consists of 1,176 square miles. The following table presents the historical population statistics for the City of Liberty.

Year	City Population	County Population	State Population
1960	6,127	31,595	9,580,000
1970	5,591	33,014	11,198,655
1980	7,945	47,088	14,229,191
1990	7,690	52,726	16,986,510
2000	8,033	70,154	20,851,820
2010	8,397	75,840	25,145,561
2011	N/A	75,945	25,674,681
2012	N/A	76,571	25,613,722
2013	8,743	N/A	26,448,193
2014	8,836	76,907	26,448,193
2015	8,919	78,117	26,956,958
2016	9,039	79,654	27,469,114
2017	9,175	81,704	28,304,596

Table 2-9: 0	City of Liberty'	s Historical	Population	Statistics
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The City of Liberty's economy is based on manufacturing, retail activities, agriculture, chemical production, and oil and gas extraction. The City of Liberty has seen growth based on its close proximity to the larger metropolitan areas of Southeast Texas. Houston and Beaumont are a short drive in either direction along U.S. 90.

The following tables set forth certain information provided by the Texas Workforce Commission, with respect to the annual average workforce, employment, and economic data for Liberty County or the city of Liberty for the calendar years indicated.

	004100	1 01140 11 01110100	Commission, City	01210010	
Year	Civilian Labor Force	Employment	Unemployment	County Rate	State Rate
2008	32,199	30,314	1,885	5.9%	4.8%
2009	32,628	29,001	3,627	11.1%	8.2%
2010	32,463	29,096	3,367	10.4%	7.9%
2011	33,082	30,082	3,300	10.0%	7.2%
2012	33,057	30,452	2,605	7.9%	6.0%
2013	33,338	30,882	2,456	7.4%	6.1%
2014	31,466	29,293	2,173	6.9%	5.1%
2015	31,311	29,096	2,215	7.1%	4.5%
2016	31,371	29,006	2,365	7.5%	5.0%
2017	31,384	29,091	2,294	6.2%	7.3%

#### Table 2-10: County of Liberty's Workforce and Employment Data Source: Texas Workforce Commission, City of Liberty

#### Table 2-11: City of Liberty's Economic Statistics

Year	<b>Building Permits</b>	Assessed Valuation	Retail Sales	Sales Tax Receipts
2008	N/A	\$444,257,451	\$221,876,586	\$2,142,069
2009	\$ 6,425,700	\$442,043,438	\$206,939,002	\$1,987,989
2010	\$25,331,740	\$443,378,162	\$206,883,494	\$1,756,434
2011	\$ 2,503,500	\$482,496,738	\$226,180,588	\$2,052,692
2012	\$ 2,119,500	\$523,999,255	\$233,747,528	\$2,002,343
2013	\$ 6,901,013	\$558,347,602	\$235,461,921	\$2,024,017
2014	\$ 8,612,869	\$579,147,941	\$250,379,596	\$2,255,012
2015	\$ 7,388,507	\$551,071,528	\$248,383,937	\$2,034,082
2016	\$22,072,074	\$587,306,311	\$249,071,942	\$1,942,455
2017	\$ 7,960,628	\$621,544,721	\$249,757,340	\$1,873,914

The City of Liberty's electric distribution system, established in 1939, consists of approximately 80 miles of 13.8 kV distribution lines, 3 miles of 69 kV distribution lines, two substations owned and operated by SRMPA and one substation owned and operated by the City of Liberty, interconnected to 138 kV transmission lines of EGSI, which supply power and energy to the City of Liberty's system. The City of Liberty has the exclusive right to furnish electric service to its customer solely within its original single certified service area. Customers located in areas annexed by the City of Liberty who were served by other utility systems prior to annexation continue to receive service for such other utility system, consistent with the Texas Public Utilities Regulatory Act. The City of Liberty's two competitors outside the single certified service area are ETI and Sam Houston Electric Cooperative ("SHECO") in respective dual-certified areas. The City of Liberty's system has a combined total of approximately 3,666 residential, commercial, and industrial customers in 2017.

The City of Liberty offers competitive utility rates to attract new residential, commercial, and industrial developments. The following tables present a summary of operating statistics relating to the electric utility system of the City of Liberty.

Year	Residential	Commercial	Industrial	City Total
2008	2,710	894	-	3,604
2009	3,002	895	-	3,897
2010	2,770	837	1	3,608
2011	2,817	830	1	3,648
2012	2,727	828	1	3,556
2013	2,816	827	1	3,644
2014	2,814	834	1	3,649
2015	2,861	776	1	3,638
2016	2,863	834	1	3,698
2017	2,844	821	1	3,666

#### Table 2-12: City of Liberty's Electric System Number of Customers

#### Table 2-13: City of Liberty's Electric Sales

	Megawatt Hour Sales				
Year	Residential	Commercial & Industrial	City Total	Total Revenue	Revenue/MWh
2008	40,062	62,889	102,951	\$10,446,780	\$101.50
2009	42,555	60,322	102,877	\$10,383,546	\$100.90
2010	40,775	58,080	98,855	\$10,968,231	\$111.00
2011	41,909	123,684	165,593	\$16,956,294	\$102.40
2012	39,576	153,847	193,423	\$17,679,763	\$ 91.40
2013	40,983	157,037	198,020	\$16,894,645	\$ 85.30
2014	41,773	165,036	206,809	\$17,363,684	\$ 83.96
2015	41,684	132,377	174,061	\$17,348,117	\$ 99.67
2016	39,820	98,630	138,450	\$14,957,108	\$108.03
2017	38,299	133,277	171,576	\$15,266,819	\$ 88.98

The following table sets forth the five largest electric customers of the City of Liberty for the Fiscal Year ended September 30, 2017.

#### Table 2-14: City of Liberty's Five Largest Electric Customers

Customer	Business	Annual Energy (MWh)
Boomerang Tube, LLC	Manufacturing	79,808
Wal-Mart	Retail	5,625
Liberty Forge	Manufacturing	2,623
Brookshire Brothers	Grocery	2,093
Liberty ISD (Middle School)	School	1,817

### 2.5.3 CITY OF LIVINGSTON

The following description and information was provided by the City of Livingston.

The City of Livingston, the county seat and principal commercial center of Polk County, is located approximately 70 miles north of Houston on U.S. Highway 59. The municipal

boundaries of Livingston cover 8.5 square miles. Tourism, lumbering, ranching and the production of gas and oil continue to be important economically to the City of Livingston. The City of Livingston's 2010 population was 5,335 according to the federal census. Polk County is in the East Texas Timberlands region on the east bank of the Trinity River. The Neches and Trinity rivers border the county. Lake Livingston, a man-made reservoir on the Trinity River, covers 82,600 acres. It is located west of Livingston on U.S. Highway 190. Lake Livingston is an important tourist attraction and an economic asset to the city. A wide range of public and commercial recreational facilities, including full-service marinas, camping and motel accommodations are located along the shoreline. Polk County is the 70<sup>th</sup> largest of the 254 counties in Texas in population, with a population of 47,916 in 2017. The county consists of 1,110 square miles.

The following table presents the historical population statistics for the City of Livingston.

Year	City Population	County Population	State Population
1960	3,398	13,861	9,580,000
1970	3,965	14,457	11,198,655
1980	4,928	24,407	14,229,191
1990	5,019	30,687	16,986,510
2000	5,433	41,133	20,851,820
2010	5,335	45,413	25,145,561
2011	N/A	45,725	25,674,681
2012	5,238	45,580	25,613,722
2013	5,250	45,656	26,448,193
2014	5,200	45,790	26,448,193
2015	5,169	46,079	26,956,958
2016	5,172	46,972	27,469,114
2017	5,130	47,916	28,449,00

Table 2-15: City of Livingston's Historical Population Statistics

The City of Livingston's sales tax revenue, a major indicator of the economic condition of the area, increased by 4.51 percent or \$162,166 from the previous year.

The City of Livingston's Utility Fund revenues were affected by both temperatures and rainfall this past year. The combined total of electric sales revenue and water and sewer revenues increased in a 3.09% from the previous year.

The City of Livingston issued a total of 63 building permits for commercial and residential construction projects in 2017 with a total construction value of \$12,414,398.

There are various projects and issues which will continue to affect the future economic outlook of the City of Livingston in a very positive manner including:

• The Angelina College satellite campus in the City of Livingston has improved education, job training and employment skills for the residents of the City of Livingston.

- The designation of the U.S. Highway 190 East/West corridor through the City of Livingston as a future interstate highway (I-14), which will increase the growth and development of the community.
- In May 2016, the casino on the Alabama-Coushatta reservation opened, which is located 17 miles east of the City of Livingston on U.S. Highway 190. This gaming facility has increased tourism and employment in the area.
- The construction of the \$235,000,000 Roy O. Martin project, a new state-of-the-art oriented strand board facility, which will provide more than 1,000 jobs during construction and 165 permanent jobs when it opened in the spring of 2017.
- The construction of the R.C. "Joe" Thomas hydroelectric generating facility on the Lake Livingston dam, which currently provides construction jobs and will have a generating capacity of 24 MW. The facility will operate on a "run of the river" basis and is estimated to be completed in mid-2019.

The following tables set forth certain information provided by the Texas Workforce Commission, with respect to the annual average workforce and employment data for Polk County or the City of Livingston for the calendar years indicated.

			·,,,,,,,,,,,,,,,,,,	8	
Year	Civilian Labor Force	Employment	Unemployment	County Rate	State Rate
2008	16,691	15,608	1,084	6.5%	4.8%
2009	17,748	15,919	1,829	10.3%	8.2%
2010	18,392	16,611	1,781	9.7%	7.9%
2011	18,233	16,590	1,643	9.0%	7.2%
2012	18,275	16,889	1,386	7.6%	6.0%
2013	17,939	16,628	1,311	7.3%	6.1%
2014	17,955	16,846	1,109	6.2%	5.1%
2015	16,925	15,906	1,019	6.0%	4.3%
2016	16,884	15,867	1,017	6.0%	4.7%
2017	17,285	16,267	1,025	6.3%	3.9%

# Table 2-16: County of Polk's Workforce and Employment DataSource: Texas Workforce Commission, City of Livingston

Year	Building Permits	Assessed Valuation	Retail Sales	Sales Tax Receipts
2008	\$ 7,317,952	\$416,592,823	\$215,469,133	\$3,232,037
2009	\$ 77,806,658	\$457,462,152	\$217,767,667	\$3,266,515
2010	\$ 24,685,515	\$462,301,785	\$203,450,467	\$3,051,757
2011	\$ 15,722,342	\$457,989,421	\$214,335,000	\$3,215,025
2012	\$ 11,348,948	\$469,807,185	\$223,147,533	\$3,347,213
2013	\$ 5,694,144	\$469,968,449	\$248,714,733	\$3,730,721
2014	\$ 9,473,160	\$483,038,851	\$228,759,934	\$3,431,399
2015	\$ 6,762,540	\$487,364,377	\$232,565,000	\$3,488,475
2016	\$ 5,067,989	\$507,304,981	\$239,833,267	\$3,597,499
2017	\$12,414,398	\$522,194,229	\$250,644,333	\$3,759,665

Table 2-17:	City of	f Livingston's	Economic	Statistics

The City of Livingston's electric system, established in 1922, consists of two substations interconnected to two separate 138 kV transmission lines of ETI and approximately 150 miles of 13.8 kV distribution lines. The City of Livingston serves about 3,286 customers in a service area of approximately 8.5 square miles. The City of Livingston is the sole supplier of retail electric service solely within the single certified area of the original city limits. Customers located in areas annexed by the City of Livingston who were served by another utility prior to annexation may continue to receive service from such other utility system, pursuant to the Texas Public Utilities Regulatory Act. SHECO serves approximately 3 of the 8 residential customers and 5 of the 69 commercial customers within the City of Livingston's dual certified area.

The City of Livingston offers competitive utility rates to attract new residential, commercial, and industrial developments. The following table presents a summary of operating statistics relating to the electric utility system of the City of Livingston.

Year	Residential	Commercial	Industrial	City Total
2008	2,360	969	-	3,329
2009	2,351	980	-	3,331
2010	2,319	977	-	3,296
2011	2,276	968	-	3,244
2012	2,328	967	-	3,295
2013	2,292	989	-	3,281
2014	2,326	994	-	3,320
2015	2,316	1,000	-	3,316
2016	2,316	998	-	3,314
2017	2,299	987	-	3,286

Table 2-18: City of Livingston's Electric System Number of Customers

	Me	les			
Year	Residential	Commercial & Industrial	City Total	Total Revenue	Revenue/MWh
2008	30,605	54,333	84,938	\$ 8,216,734	\$ 96.70
2009	29,640	52,454	82,094	\$ 8,418,324	\$102.60
2010	32,131	54,899	87,030	\$ 9,501,366	\$109.20
2011	31,818	57,575	89,393	\$10,012,821	\$112.00
2012	28,116	54,775	82,891	\$ 9,279,739	\$111.90
2013	28,901	55,815	84,716	\$ 9,585,562	\$113.10
2014	29,358	55,428	84,786	\$ 9,593,788	\$113.15
2015	29,363	56,282	85,645	\$ 9,729,073	\$113.59
2016	28,567	54,728	83,295	\$ 9,637,304	\$115.70
2017	27,095	55,534	82,629	\$9,577,919	\$115.91

#### Table 2-19: City of Livingston's Electric Sales

The following table sets forth the five largest electric customers of the City of Livingston for the Fiscal Year ended September 30, 2017.

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Customer	Business	Annual Energy (MWh)
Livingston Independent School	Education	8,797
County of Polk	Government	2,792
Brookshire Brothers	Grocery	2,266
Lowe's	Building Supply	2,188
H.E.B. Pantry Foods	Grocery	1,909

#### Table 2-20: City of Livingston's Five Largest Electric Customers

### **RESOURCES AND MAJOR PROJECTS**

#### 3.1 HISTORICAL RESOURCES

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Prior to November 1980, the Members and VPPA obtained all of their power requirements from the SRDEC. The SRDEC supplied such power from its entitlement to the output of 52 MW of hydroelectric power from the federally-owned Sam Rayburn Dam Project, marketed by the SWPA, under the DOE, and from wholesale power purchased from GSU, now ETI. In November 1980, the Members and VPPA began purchasing all of their power and energy requirements from SRMPA. Beginning in 2002, VPPA started purchasing its wholesale power requirements directly from Entergy and SWPA.

On June 6, 1980, SRMPA entered into the Joint Ownership Agreement with GSU and SRG&T, which provided for SRMPA to acquire a 20 percent undivided interest in the Nelson 6 unit. At that time, SRMPA also entered into agreements with GSU which provided for: (i) the transmission by GSU of the output of Nelson 6 and the Sam Rayburn Dam Project to SRMPA's delivery points; (ii) the sale by GSU of the supplemental power and energy required to satisfy SRMPA's load and load growth in excess of SRMPA's resources; and (iii) the supply by GSU of reserve capacity, backup energy and replacement energy. Nelson 6 is a 550 MW coal-fired, steam electric generating facility constructed by EGSI at the Roy S. Nelson Station located on the Houston River near West Lake, Louisiana. The unit was placed into commercial operation on May 31, 1982. EGSI, as Project Manager, operates and maintains the unit as majority owner and agent for the minority co-owners.<sup>3</sup>

In 1985, SRMPA issued bonds to finance the acquisition of Nelson 6 Excepted Facilities and the construction of the Town Bluff Hydropower Project, later renamed the R. D. Willis Project. The acquisition of Nelson 6 Excepted Facilities was consummated on June 18, 1992. On December 1, 1989, SRMPA began selling 24.89 percent of the power received from the R. D. Willis Project to SRG&T under the SRG&T Agreement. This agreement is in place for a 32-year period ending December 1, 2021.

On December 18, 1992, SRMPA transferred title to its 20 percent undivided interest in Nelson 6 and the associated Excepted Facilities to VPPA. Concurrently, SRMPA and VPPA entered into a UPS Agreement. Under the UPS Agreement, SRMPA secured rights from VPPA, which were designed to provide SRMPA with the net electrical output of Nelson 6. The value received by SRMPA from the sale was used to make a prepayment to VPPA for power charged for the output of Nelson 6 over its remaining life, to 2021. SRMPA paid EGSI, on behalf of VPPA, a monthly energy charge on an on-going basis. This charge included fuel costs, operations and maintenance expenses, renewals and replacement costs, station service expenses, transmission, and charges for support facilities. The energy charge was based on actual charges billed to VPPA by Entergy. SRMPA paid VPPA for the energy charge and simultaneously VPPA returned the payment to SRMPA so SRMPA could pay the same amount to Entergy as VPPA's irrevocable agent. The principal purpose of these transactions was to enable SRMPA to charge lower-cost, non-discriminatory and more stable rates to its Members.

During Fiscal Year 1998, SRMPA exited the generation business and signed the RPSA with EPMC, now assigned without novation to EWOM. EPMC was merged into EKT before the assignment to EWOM. The RPSA became effective on November 1, 1998.

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<sup>&</sup>lt;sup>3</sup> VPPA's 20 percent undivided ownership interest in Nelson 6 was transferred from escrow to a third party nominee of EPI on October 1, 2003.

In November 1998, SRMPA, VPPA, and EPI entered into a sales agreement by the terms of which VPPA agreed to sell, and EPI agreed to buy, VPPA's undivided ownership interest in the Nelson 6 Project. On November 1, 1998, SRMPA entered into a SCSA with EPMC, which merged with EKT. Under the SCSA, SRMPA sold excess system capacity to EKT for a lump sum payment while variable costs continued to be charged to EKT. Effective November 1, 1998, SRMPA purchased its requirements power supply, net of federal hydroelectric power, from EKT, under the RPSA. All Nelson 6 costs, as well as fuel and operating costs, were recovered by SRMPA in its pricing for the sale of excess system capacity to EKT under the SCSA. The SCSA effectively released SRMPA from its responsibility for its share of Nelson 6, except for administrative responsibility for charges and billings, which ended when VPPA's 20 percent undivided ownership interest in Nelson 6 was transferred out of escrow to a third party nominee of EPI on October 1, 2003. Upon which event SRMPA's purchase of VPPA's Nelson 6 output terminated along with the SCSA with EKT.

SRMPA currently neither owns nor assumes any risk associated with Nelson 6 operations. Prior to October 1, 2003, implementation of the RPSA eliminated all Agency risk associated with variability in Nelson 6 operations and maintenance expenses and related costs, and, on that date, the title to SRMPA's and VPPA's 20 percent undivided ownership interest in Nelson 6 transferred from the escrow to EPI's nominee.

# 3.2 REQUIREMENTS POWER SUPPLY AGREEMENT

Since November 1, 1998, SRMPA has obtained its required power and energy from: (i) SRDEC through the Sam Rayburn Dam Project; (ii) SWPA through the R. D. Willis Project; and (iii) EKT, under the RPSA, which was assigned, with SRMPA consent, without novation to EWOM in early Fiscal Year 2001. During Fiscal Year 1998, SRMPA exited the generation business and signed the RPSA with EPMC, which merged into EKT. The RPSA became effective on November 1, 1998. Under the RPSA, SRMPA purchases capacity from EKT for a lump sum payment and charges for continuing purchases of delivered power and energy sufficient to meet the Member requirements under a set price schedule. The price schedule escalates at an average of approximately 1.6 percent per annum, from the effective date through September 30, 2021. Effective November 1, 1998, SRMPA's demand, and energy requirements for Members, in excess of generation from the Sam Rayburn Dam Project and the R. D. Willis Project, are being met by the RPSA through EKT.

Under the RPSA, SRMPA contracted with EWOM, for a requirements power supply delivered to the Members' delivery points through September 30, 2021. SRMPA prepaid the capacity value of the RPSA in the amount of \$59,605,565. Energy charges, inclusive of all transmission costs and losses, are assessed based on Member usage.

The RPSA obligates EWOM to serve SRMPA's load net of SRMPA's allocation of federal hydropower, and includes the delivery of such federal hydropower to SRMPA's Members within the Entergy transmission system. SRMPA incurs no separate transmission charges within the Entergy transmission system and is not subject to fuel adjustments or other pass-throughs under the RPSA. The RPSA designates a fixed price schedule for delivered power and energy. In addition, the RPSA obligates EWOM to serve SRMPA's base load and normal load growth, as measured from SRMPA's benchmark load, contractually set as 70.676 MW.<sup>4</sup>

<sup>&</sup>lt;sup>4</sup> The total benchmark load under the RPSA is 78 MW. Under the Exit Agreement, SRMPA is entitled to 70.676 MW of benchmark load, and VPPA is entitled to 7.324 MW of benchmark load.

Load growth was stipulated to be three percent over a five-year future rolling average compounded annually from the 70.676 MW benchmark, regardless of actual load growth.

Factoring in the five-year forward rolling average allowable load growth, the maximum load service obligation under the RPSA that was available to SRMPA in Fiscal Year 1999 was 75.045 MW,<sup>5</sup> with this value escalating at three percent annually through Fiscal Year 2021. For Fiscal Year 2017, the maximum load service obligation under the RPSA was 127.760 MW. The load available above the Fiscal Year 2017 SRMPA load (64.81 MW without the Boomerang coincident peak load of 14.85 MW) was roughly 50 MW. A breakout of Entergy's service obligations under the RPSA to SRMPA's Members is shown in the following table.

Fiscal Year	Maximum Load Service Obligation under RPSA (MW) <sup>[1]</sup>	Fiscal Year	Maximum Load Service Obligation under RPSA (MW) <sup>[1]</sup>
1999	75.045	2011	106.997
2000	77.297	2012	110.207
2001	79.616	2013	113.513
2002	82.004	2014	116.918
2003	84.464	2015	120.426
2004	86.998	2016	124.039
2005	89.608	2017	127.760
2006	92.296	2018	131.593
2007	95.065	2019	135.540
2008	97.917	2020	139.607
2009	100.855	2021	143.795
2010	103.881		

Table 3-1: EWOM Obligation to SRMPA Members Under the RPSA

[1] VPPA's share of the RPSA is excluded.

While SRMPA's load has grown at less than three percent annually, capacity is available to meet potential SRMPA annual load growth in excess of three percent per annum. This available capacity can only be utilized by the Members and cannot be marketed externally as excess capacity. This available capacity benchmark will enable SRMPA to offer incentive rates to the Members sufficient to attract new load from large commercial and industrial consumers. Any additional loads or customers within the Members will increase SRMPA's revenues, lower average rates and improve the economic health of the Members.

Under the terms of the Exit Agreement, VPPA exited SRMPA upon completion of the 2002 refunding, and received entitlement to 9.39 percent of power and energy under the RPSA. VPPA's percentage share is based on the five-year non-coincident peak demand for VPPA versus the five-year non-coincident peak demand for SRMPA as a whole, calculated by determining the peak demand for each Member for each Fiscal Year. This percentage share reflects the actual peak demand of each Member and allocates available capacity based on individual Member demand.

<sup>&</sup>lt;sup>5</sup> EWOM's maximum load service obligation in Fiscal Year 1999 under the RPSA formulation is 82.823 MW. Under the Exit Agreement, EWOM's maximum load service obligation to SRMPA was 75.045 MW in Fiscal Year 1999, escalating at three percent annually, and EWOM's maximum load service obligation to VPPA was 7.777 MW in Fiscal Year 1999, also escalating at three percent annually.

As previously discussed, through the Cambridge Project, SRMPA and VPPA began additional power supply and purchase arrangements that became effective on December 1, 2011. The power supply contractual arrangements provide SRMPA with firm power supply beyond the term of the bonds (2021) for the next 25 years to serve its Members under the SRPSA. Under the SRPSA with EWOM, SRMPA reduced the right to increase purchases for load growth at a maximum 3 percent annual rate to a 2 percent annual growth rate, which is more in line with anticipated growth rates. The SRPSA assures an energy supply to SRMPA to 2035 (beyond the 2021 termination of the RPSA), and provides that if SRMPA has load growth above the anticipated rate, EWOM will provide service for such load. Should the contractual arrangements be terminated, all related contracts will terminate and SRMPA and VPPA Systems will revert to their original condition with wholesale energy provided under the RPSA for SRMPA to serve its participating Members. The objective of the SRPSA is to consistently meet the service obligations of SRMPA and to provide for competitively priced long-term wholesale power supply until 2035.

## 3.3 REQUIREMENTS POWER SUPPLY AGREEMENT FOR THE CITY OF LIBERTY AND BOOMERANG

As of July 2010, EWOM and SRMPA entered into the SRMPA Full Requirements Power Supply Agreement for the City of Liberty and Boomerang load. The Boomerang Retail Contract states that the City of Liberty provides Boomerang with all electrical loads up to 35 MW, or upon request such greater amount not to exceed 40 MW, required by Boomerang to operate its steel pipe and tube production facility. SRMPA entered into this agreement, in parallel to the RPSA, to supply the City of Liberty with the electric energy that it needs to satisfy its obligations under the Boomerang Retail Contract. The rate schedules include both a short-term rate schedule and a long-term rate schedule. The short-term rate schedule allows the City of Liberty to provide an immediate response to the customer for electric service. Subsequently, the short-term rate schedule was superseded by the long-term rate schedule. The long-term, cost-based rate agreement to serve Boomerang will be in effect until September 30, 2021.

Under this agreement for both short and long-term rates, electric service is available to the City of Liberty at the Liberty Substation at a three phase primary voltage of 138 kV and frequency of 60 cycles per second for electrical loads up to a maximum of 35 MW, or upon request, a greater amount not to exceed 40 MW. The following charges are described in detail in the agreement:

- 1. A capacity charge, as modified from time to time, multiplied by the peak demand, as adjusted for power factor and applicable losses, equal to the greater of (i) the peak demand for the current month and (ii) the largest peak demand for the immediately preceding eleven month period;
- 2. A reserve charge, as modified from time to time, multiplied by 15 percent of the peak demand, as adjusted for power factor and applicable losses, equal to the greater of (i) the peak demand for the current month and (ii) the largest peak demand for the immediately preceding eleven month period, a fuel charge for fuel, as modified from time to time, multiplied by the total kWh of energy delivered, as adjusted for applicable losses; and
- 3. A transmission charge subject to the provisions of the Entergy Open Access Transmission Tariff and based on Entergy's Network Transmission Service Tariff

inclusive of ancillary services, scheduling and operational costs required for such delivery, net of transmission energy imbalance charges.

All transmission system rate increases, and directly assigned transmission and delivery-related costs are passed through to the City of Liberty as incurred, without adders. The delivery point is at the Liberty Substation at a voltage of 138 kV, and an administrative charge of \$0.001 per kWh is added to recover administrative costs incurred by SRMPA. In addition, the City of Liberty is required to maintain a level of service quality for all its customers based on prudent industry standards. The kW peak demand is adjusted by dividing by the actual power factor and multiplying by 0.90. For a leading power factor, a power factor of 1.0 is used for the actual power factor. During any hour that the voltage level at the City of Liberty's meter is less than 138 kV, an adjustment for transformer losses of 1.5 percent on all applicable charges apply. During any hour that the voltage level at the City of Liberty's meter is equal to or greater than 138 kV, no adjustment for transformer losses will apply. The City of Liberty's Boomerang energy usage for Fiscal Year 2017 was 77,482 MWh, and its coincident peak with the City of Liberty was 14.85 MW inclusive of transformer losses.

#### 3.4 SAM RAYBURN DAM HYDRO PROJECT

The Sam Rayburn Dam Project consists of a powerhouse and associated equipment located at the Sam Rayburn Dam on the Angelina River, 10 miles northwest of Jasper, Texas. The project came online in 1966 with two 26,000 kW generating units and operates as a storage facility with a hydraulic capacity of 9,900 cubic feet per second ("cfs"). The project is owned, operated, and maintained by the United States Army Corps of Engineers ("USACE"), Fort Worth District.

In 1963, the SRDEC was organized under the Electric Cooperative Corporation Act, Texas Utilities Code, Chapter 161. The members of SRDEC are the Cities of Jasper, Liberty, and Livingston, Texas, the Town of Vinton, Louisiana, three rural electric cooperatives including the Jasper-Newton Electric Cooperative, Inc., the Sam Houston Electric Cooperative, Inc., and the Houston County Electric Cooperative, Inc., which joined SRDEC effective April 1, 1984. In 1964, SRDEC entered into a contract with the SWPA whereby SRDEC received an allocation of the output of the Sam Rayburn Dam Project. SRDEC also entered into a contract with GSU under which GSU agreed to schedule and dispatch the Sam Rayburn Dam Project power and to provide supplemental wholesale power to satisfy the remaining power requirements of the members of SRDEC. SRDEC's contract for Sam Rayburn Dam Project output was renewed in 2014 and expires on September 30, 2027.

Under the current Sam Rayburn Dam Project Contract, SRMPA receives approximately 15.3 MW<sup>6</sup> on behalf of the Members. The Amended and Restated Tripartite Agreement, dated January 1, 1991, among SRDEC, SRG&T and SRMPA, serves as the arrangement whereby SRDEC holds the Sam Rayburn Dam Project allocation and serves as agent for SRMPA and SRG&T in the receipt and billing for the purchase of the hydropower output of the Sam Rayburn Dam Project from SWPA.

<sup>&</sup>lt;sup>6</sup> Prior to implementation of the Exit Agreement, SRMPA was entitled to one-third, or about 17.3 MW, of the hydropower output from the Sam Rayburn Dam Project. VPPA is entitled to 2 MW under the SWPA allocation of federal hydropower to municipal preference customers in Louisiana, and receives its entitlement from SRMPA under the Exit Agreement. In return, VPPA pays for its share of operations and maintenance expenses, plus additions, betterments, improvements, and a share of joint-use costs as billed by the SWPA, calculated as 11.54 percent (2 MW/(1/3 of 52 MW)) of SRMPA's charge for its allocation of Sam Rayburn Dam Project power and energy.

The annual generation at the Sam Rayburn Dam Project for Fiscal Year 2017, net of station service, was 96,110 MWh, as reported by the SWPA, of which SRMPA retained 28,334 MWh, as reported by Entergy, exclusive of VPPA's share. The Entergy figures are used for accounting and billing purposes within SRMPA. SRMPA retained amount from the Sam Rayburn Dam Project offset purchases of generation from EWOM under the RPSA. Generation from the Sam Rayburn Dam Project interconnects directly with the Entergy transmission system.

The USACE is responsible for making adequate renewals and replacements and maintaining the project in accordance with good utility practice. The cost of operating and maintaining the Sam Rayburn Dam Project is charged to SRMPA through rates set by SWPA. In Fiscal Year 2017, SWPA charged SRMPA a fixed cost of \$112,120 per month for operations and maintenance at the Sam Rayburn Dam Project, exclusive of VPPA's share, extending the prior charge for another fiscal year. The step-up transformer on Sam Rayburn Unit No. 2 failed on April 25, 2014. The USACE has accepted a gift from SRDEC to (i) replace the step-up transformers on both Sam Rayburn Units Nos. 1 and 2 and (ii) implement various related ancillary projects at a cost of \$6.25 million in 2016. SRMPA contributed to SRDEC during Fiscal Years 2015, 2016 and 2017 approximately \$1,845,000 over this three year period towards the cost of replacement of the generating facilities being installed by the USACE. The USACE has also initiated studies to rehabilitate both turbines and generators at Sam Rayburn beginning as early as 2021. The rehabilitation project at both Sam Rayburn Units Nos. 1 and 2 is expected to increase the generation capacity by 30 – 50 percent.

The associated dam and impoundment, known as Sam Rayburn Dam and Lake, was completed in 1965, and is owned by the USACE. The impoundment is formed by a 12,400-foot-long and 176-foot-high combined earthen fill and concrete dam. Overtopping of the structure is controlled by a 640-foot-long uncontrolled labyrinth spillway with a stilling basin. The controlled low-flow outlet works consist of two 10 x 20 foot gated control conduits and two 18 x 26 foot power conduits. The project controls a drainage area of 3,449 square-miles and provides 6,336,200 acre-feet of total storage capacity.

# 3.5 ROBERT DOUGLAS WILLIS HYDRO PROJECT

The R. D. Willis Project consists of a powerhouse and associated equipment located at the Town Bluff Dam on the Neches River, southwest of Jasper, Texas. The project came online in 1989, is equipped with two 4,000 kW generating units, and operates as a run-of-river facility with a hydraulic capacity of 4,500 cfs. Although the total nameplate capacity of the project is 8 MW, hydraulic limitations hold the overall project capacity to 4.5 MW.<sup>7</sup> The R. D. Willis Project was financed by SRMPA and constructed by the USACE, Fort Worth District. The USACE owns, operates, and maintains the project, and its power is marketed through SWPA. In return for financing the construction of the R. D. Willis Project, SRMPA received a 50-year output contract extending to 2037. Under this contract, SRMPA pays for R. D. Willis Project operations and maintenance, required additions, renewals and replacements, and general administrative overhead under rates designed by SWPA.

<sup>&</sup>lt;sup>7</sup> After the Exit Agreement became effective, VPPA received 7.05 percent of power and energy, calculated as 75.11 percent of 9.39 percent, from the R. D. Willis Project. This calculation holds while the R. D. Willis Power Assignment Agreement with the SRG&T remains in effect through December 1, 2021. VPPA pays 9.39 percent of R. D. Willis Project operations and maintenance charges billed by the SWPA, and receives 9.39 percent of revenues from sales of power and energy from the R. D. Willis Project to the SRG&T under the SRG&T Agreement while that agreement is in effect. SRMPA's share of net R. D. Willis Project output is now 68.06 percent, calculated as 75.11 percent of 90.61 percent, while the SRG&T Agreement is in effect, and 90.61 percent after termination of the SRG&T Agreement.

SRMPA is responsible for providing transmission facilities to take delivery of the output of the R. D. Willis Project at the dam site and delivery of that output to the Entergy transmission system, where transmission responsibilities are then covered under the RPSA. The USACE is only responsible for those transmission facilities necessary to make the interconnection at the dam. SRMPA meets its transmission responsibility through contractual arrangements with the Jasper-Newton Electric Cooperative, Inc. ("JNEC") and Entergy. Since the R. D. Willis Project is in JNEC's service area, SRMPA contracted with JNEC to construct the necessary transmission facilities to receive, transmit, and deliver the power and energy from the R. D. Willis Project to Entergy's transmission system in return for payment for such service. These facilities were completed in November 1989. Once delivered to the Entergy transmission system, power and energy from the R. D. Willis Project is treated as SRMPA generation under the RPSA.

Pursuant to the SRG&T Agreement, SRMPA agreed to sell SRG&T a 24.89 percent share of the output, net station service, of the R. D. Willis Project for a term of 32 years ending December 1, 2021. Under the SRG&T Agreement, SRG&T pays 24.89 percent of all SRMPA's cost and expenses in any way incurred in connection with the R. D. Willis Project, including debt service related to project construction, during the term of the agreement. In return, the SRG&T receives 24.89 percent of net power and energy made available to SRMPA from the R. D. Willis Project each month.

The annual generation at the R. D. Willis Project for Fiscal Year 2017, net of station service, was 86 MWh as reported by the SWPA, of which SRMPA retained 58 MWh, as reported by Entergy, exclusive of VPPA's share. The amount of power SRMPA retains from the R. D. Willis Project offsets purchases of generation from EWOM under the RPSA. The USACE is responsible for making adequate renewals and replacements and maintaining the project in accordance with good utility practice. The cost of operating and maintaining the project is charged to SRMPA through rates set by SWPA. For Calendar Year 2017, SWPA charged SRMPA a fixed cost of \$99,375 per month, which will continue in Calendar Year 2018. The U.S. Army Corps of Engineers at the request of SRMPA has initiated a study of the disposition of the R.D. Willis hydropower units that have been in forced outage since November 19, 2015 due to a transformer bushing failure and subsequent failure of the station service transformer. R.D. Willis Unit No.2 was return to service on September 29, 2017 and was gradually raised to approximately 3 MWs of output. The USACE is procuring crane services to clear organic debris from the trash racks to make necessary repairs on R. D. Willis Unit No. 1.

The associated dam and impoundment, known as the B.A. Steinhagen Lake and Town Bluff Dam Project, was completed in 1951 and is owned by the USACE. The impoundment is formed by a 6,698-foot-long and 45-foot-high combined concrete and steel dam. Overtopping of the structure is controlled by a 6,100-foot-long uncontrolled spillway. The controlled low-flow outlet works consist of six 40 x 35 foot tainter gates. The project controls a drainage area of 7,573 square-miles and provides 306,400 acre-feet of storage.

### 3.6 SRMPA SUBSTATIONS

In May 1989, SRMPA purchased all the substations serving the Members at that time. The purchase price was \$4,748,019, which was funded using surplus bond proceeds. The substations were leased back to each Member. These leases were later extended from 2005 to 2015, and are subject to another 10-year extension by the respective lessees out to 2025. SRMPA has an agreement with each individual Member for the operation and maintenance of their respective substation facilities.

Since 1995, the substations for each Member have been either replaced or significantly upgraded, with recent substation construction activities providing a higher level of quality of service. Substations have also been added to better serve each Member. Each Member is currently served by two substations, and all substations are owned by SRMPA and leased to the Members. Transmission lines separately serving each substation and/or using two transformers at each substation increasingly provide a favorable level of redundancy that augments reliability and safety.

SRMPA annually budgets for the maintenance and repair of its substation facilities. The budget includes funds for the repair of equipment and systems experiencing minor operating problems. Funds are also included for routine preventive maintenance of power transformers, circuit breakers and other related equipment. The budget also includes a contingency fund for unplanned maintenance and repairs, which must be handled on an emergency basis by each Member.

The engineering firm of Nowlin and Associates, Inc. advises SRMPA with regard to the maintenance and upkeep of these substation projects. Nowlin and Associates, Inc. has advised the Consulting Engineer that these facilities have been maintained in good working order and in accordance with good utility practice.

With the assistance of engineering firm of Nowlin and Associates, Inc., SRMPA has proactively ordered and purchased six replacement substation transformers from the manufacturer Delta Star at a total cost of approximately \$8,000,000 for installation over a two year period in SRMPA Member Cities' distribution substations. The SRMPA Board canceled an order for a seventh 138/69 KV transformer as a result of a recommendation by Nowlin and Associates, Inc. to construct a new 1.5 mile long express feeder on the Liberty distribution system instead. SRMPA is funding the transformer project from the Cambridge Fund. SRMPA has chosen to invest current excess funds into this proactive reliability project prior to experiencing issues with the substation transformers as they approach the end of their useful life over the coming years. As of September 30, 2017, SRMPA has expended approximately \$3,600,000 on these projects.

The substation transformers are being constructed and shipped to the member cities for installation on a staggered basis over two years. The scheduled delivery of the new substation transformers is shown in the following table:

Substation	Installation Date or Expected Installation Date	Energized Date
Liberty Sub – T1	11/4/2016	12/27/2016
Livingston Sub – T1	1/6/2017	1/21/2017
Jason Sub– T1, Jasper, TX	6/9/2017	6/30/2017
Liberty Sub – T2	9/29/2017	10/20/2017
Livingston Sub – T2	3/16/2018	
Jason Sub– T2, Jasper, TX	6/28/2018	

#### Table 3-2: Substation Transformer Delivery Schedule

Each Members' electric supply system and substation equipment configuration are currently designed at a capacity level to accommodate the existing load and the expected load growth, even with a single transformer contingency, through Fiscal Year 2021. Each Member could accommodate more than twice its estimated load throughout the term of the RPSA under this

contingency. At full substation capacity, a Member could accommodate the entire remaining load allowed under the RPSA above the currently estimated total load projected for all Members through Fiscal Year 2021.

#### **3.6.1 JASPER SUBSTATIONS**

The City of Jasper, Texas, receives power and energy at the Jason Substation, which is interconnected to the Entergy transmission system at the 138 kV level. The Jason Substation contains: (i) two 25/33/44 MVA, 138 kV - 12.5 kV power transformers; and (ii) associated structures, buses, switches, metering, and relaying systems.

During Fiscal Year 2017, the 50 MVA Jason Substation transformers T1 was placed on the pad on June 9, 2017 to complete assembly, connection and in-service, which was achieved on June 30, 2017. The Jason Substation Transformer T-2 is scheduled to be replace in the third quarter of 2018.

In addition to improvements to the Jason Substation, an additional substation, named the Lindsey Substation, was constructed in 1995 to serve the city's load center in the southwest area of the city. The Lindsey Substation consists of: (i) one 15/20/25 MVA 138 kV-12.5 kV power transformer; and (ii) associated structures.

The Lindsey Substation is served by a 138 kV transmission line that extends nearly 3 miles from the Jason Substation.

#### 3.6.2 LIBERTY SUBSTATIONS

The City of Liberty, Texas, takes delivery of power and energy at the Liberty Substation, which is interconnected to the Entergy transmission system at the 138 kV level. The Liberty Substation is also interconnected with the Beaumont Avenue Substation by a 69 kV transmission line.

The City of Liberty, Texas, was originally served by the National Substation and the Beaumont Avenue Substation. The SRMPA completed a rebuild of the existing Beaumont Avenue Substation in January 1998. The replacement substation is located on the same site as the old Beaumont Avenue Substation and connected with National Substation over the existing 69 kV transmission line.

The Beaumont Avenue Substation currently contains: (i) two 15/20/25 MVA, 69 kV - 13.8 kV LTC power transformers; (ii) six 13.8 kV distribution feeder circuits; and (iii) associated structures, buses, switches, metering, and relaying equipment.

In June 2001, the SRMPA constructed an additional substation, named the Liberty Substation, in Liberty, Texas, to replace the National Substation. The Liberty Substation is located next to the original National Substation and consists of the following:

- 1. Two new 50 MVA, 138 kV-13.8 kV power transformers;
- 2. Two 30/40/50 MVA, 138 kV-69 kV power transformers (one from National Substation);
- 3. Seven 13.8 kV power circuit breakers;
- 4. Two 69 kV power circuit breakers (two from National Substation); and
- 5. Substation structures, busses, switches, grounding systems, metering, relaying and control systems; and miscellaneous equipment.

As listed above, some of the equipment used in the Liberty Substation was removed from the National Substation and used at the Liberty Substation. All equipment relocated from the National Substation was tested and reconditioned, if necessary, prior to being energized in the new Liberty Substation. Upon completion of the Liberty Substation in Fiscal Year 2002, the Entergy transmission connections to National Substation were removed. The Liberty Substation is now connected to the Entergy transmission system through dual 138 kV line feeds into Entergy's Dayton and Raywood Substations.

The City of Liberty completed a new 138 kV – 13.8 kV substation (Boomerang Substation) that is fed from the same 138 kV bus on the delivery side at the Liberty Substation. The City of Liberty transferred Boomerang's load from Liberty Substation to the new substation in the fourth quarter of 2013.

During Fiscal Year 2012, one 30/40/50 MVA 138 kV – 69 kV power transformer purchased from Waukesha for the Liberty substation was reconditioned and de-rated to 28/37.33/46.66 MVA and was placed into service in the second quarter of 2014. Also, the RTU was upgraded in the first quarter of 2014 and the lockout relay was replaced in the fourth quarter of 2014.

During Fiscal Year 2017, the new 50 MVA T-1 transformer at Liberty Substation was placed on the pad on November 8, 2016 to complete assembly, connection and in-service, which was achieved on December 16, 2016. On September 29, 2017, the new 50 MVA T-2 transformer at Liberty Substation was placed on the pad with in-service achieved on October 20, 2017. Also during Fiscal Year 2017, Nowlin and Associates designed, staked and awarded the construction contract to complete a new 1.5 mile long express feeder on the Liberty Substation distribution system. The tree trimming is completed and the contractor has ordered all materials with construction work beginning in the fourth quarter of 2017. The Express feeder will consist of (i) a 13.8kV, (ii) 477 ACAR three-phase circuit that will begin at the Liberty substation and connect to Feeder No. 6, and (iii) a lightly loaded feeder out of the Beaumont Avenue Substation, near US Hwy 90. The Express feeder can be utilized to fully serve the distribution load for the city out of the Liberty Substation. Utilizing the Express feeder will also allow for the 69kV transmission from Liberty Substation to Beaumont Avenue Substation to be de-energized for maintenance or construction without causing outages for city customers.

# 3.6.3 LIVINGSTON SUBSTATION

The City of Livingston, Texas, receives power and energy at the Livingston Substation, which is interconnected to the Entergy transmission system at 138 kV. The Livingston Substation consists of: (i) two 15/20/25 MVA, 138 kV - 13.8 kV power transformers; and (ii) associated structures, buses, switches, metering, and relaying systems.

The Ogletree Substation, was constructed and completed during Fiscal Year 1995 to serve load growth on the opposite side of the City of Livingston. The Ogletree Substation consists of: (i) one 15/20/25 MVA, 138 kV - 13.8 kV power transformer with three feeder exits; and (ii) associated structures, buses, switches, metering, and relaying systems.

The Ogletree Substation is served at 138 kV by a transmission line extending approximately 4.6 miles from the Livingston Substation.

During Fiscal Year 1997, Entergy extended its 138 kV Line from the Livingston Substation to Entergy's Rich Substation located south of the city. This project converted the transmission service to Livingston Substation from a single radial to a redundant line configuration inside the city. As a result of these transmission improvements, SRMPA implemented certain improvements to the Livingston Substation. These improvements were required to accommodate the dual 138 kV line connections in the substation and were completed in 1999. The completion of the Entergy transmission line extension improved the reliability of transmission service to the City of Livingston, Texas.

During Fiscal Year 2012, SRMPA approved the construction of an express feeder to extend from Livingston Substation to the Ogletree substation to provide an alternative feed to the existing distribution feeders to improve reliability. This project was placed in service in the fourth quarter of 2014. Also, Ogletree feeder breaker repairs were completed in 2015. The Livingston Express Feeder distribution contractor work was completed in Fiscal Year 2015 with necessary Ogletree substation modifications completed in Fiscal Year 2016. The relays in Livingston substation were replaced during Fiscal Year 2016. During Fiscal Year 2017, Entergy pulled fiber optic cable into Livingston Substation to replace phone lines and purchased two new vacuum breakers for installation in 2018. The Livingston Substation transformer T-1 was installed and energized on January 17, 2017 and the Livingston Substation transformer T-2 is scheduled to be replace in the first quarter of 2018.

#### 3.7 SUBSTATION MAINTENANCE BUDGET

SRMPA has established an annual budget for the maintenance and repair of its substation facilities. The budget includes funds for the repair of equipment and systems experiencing minor operating problems. Funds are also included for routine preventive maintenance of power transformers, circuit breakers and other related equipment. The budget includes a contingency fund for unplanned maintenance and repairs, which must be handled on an emergency basis by each Member. The budget for scheduled maintenance and renewals for SRMPA substations during Fiscal Year 2017 was approximately \$240,000. This figure includes the annual testing and maintenance program implemented by an electrical contractor and the subsequent repairs that were identified in the maintenance program. It also includes a number of unscheduled maintenance projects that occurred during the Fiscal Year and substation insurance. It does not include renewal and replacement projects that carried over from the previous Fiscal Year.

#### SUFFICIENCY OF RATES AND CHARGES

#### 4.1 **REQUIREMENTS OF THE BOND INDENTURE**

According Section 7.14 of the 2012 Indenture:

The Issuer (SRMPA) shall, at all times while any of the Bonds are outstanding, establish, fix, prescribe and collect rates and charges for the sale or use of electric power and energy or related services produced, transmitted, distributed, or furnished by the System which are reasonably expected to yield income sufficient to satisfy the greatest of each of the following requirements, irrespective of whether the power or energy to be furnished by the System is suspended, interrupted or reduced: (a) Net Revenues for each Fiscal Year must be equal to at least the product of the Adjusted Aggregate Debt Service for that Fiscal Year times 1.20; (b) Revenues must be at least equal to the amount of all deposits required by the terms of the Indenture to be made into the Funds and Accounts held and not otherwise provided for; and (c) Revenues and other amounts available for such purpose must be sufficient to pay the sum of: (i) all Operation and Maintenance Expenses and all taxes, assessments, or other governmental charges lawfully imposed on the System or the Revenues there from, or payments in lieu thereof, payable by the Issuer (SRMPA); (ii) the principal of, premium, if any, and interest on the Bonds; (iii) the amount, if any, to be paid during such Fiscal Year into the Reserve Account of the Bond Fund and the Operations Reserve Fund; (iv) the amount, if any, to be paid into the Subordinated Indebtedness Fund during such Fiscal Year; (v) the costs to the Issuer (SRMPA) of the prevention or correction of any unusual loss or damage and of major repairs, renewals and replacements and of capital additions, betterments, improvements and extensions less that part, if any, of such costs as is provided for by insurance, by amounts available therefore in the General Fund or by reason of the sale of Bonds issued in accordance with this Indenture; and (vi) all other charges or obligations against the Revenues of whatever nature and whether now or hereafter imposed by this Indenture or by law or contract which the Issuer (SRMPA) expects to pay from Revenues.

Promptly upon any material change in the circumstances which were contemplated at the time the rates and charges were most recently reviewed, but not less frequently than once in each Fiscal Year, the Issuer (SRMPA) shall review the rates and charges for electric power and energy and related services and shall promptly revise the rates and charges as necessary to comply with the foregoing requirement so that the rates and charges produce money sufficient to enable the Issuer (SRMPA) to comply with all its covenants under this Indenture. The Issuer (SRMPA) further covenants that its rates, charges and income shall in any event produce Revenues sufficient to enable the Issuer (SRMPA) to comply with all of its covenants under this Indenture and to pay all obligations of the System, and will segregate and apply such Revenues or cause the same to be segregated and applied as provided in this Indenture.

#### 4.2 **REVENUES AND EXPENSES**

SRMPA issued the Series 2012 Bonds in order to provide funds to refund or defease all of SRMPA's then outstanding Series 2002 Bonds, and to pay the issuance costs of the Series 2012 Bonds. Issuance of the Series 2012 Bonds allowed SRMPA to:

- 1. Revise certain bond covenants, including reduction of SRMPA's required cash holdings, allowing those funds to be utilized for the repayment of principal coincident with issuance of the Series 2012 Bonds;
- 2. Make the repayment period of the Series 2012 Bonds coterminous with SRMPA's current RPSA in 2021;
- 3. Reduce debt service requirements; and

In Fiscal Year 2017, SRMPA collected \$28,119,022 in operating revenues from the Members, exclusive of \$4,870,493 from Boomerang, and \$437,600 from sales to SRG&T, \$1,095,229 from hydroelectric sales to MISO, and earned \$227,975 in interest income, resulting in a total collection of \$29,879,826 to meet operating expenses and debt service requirements, exclusive of \$4,379,546 power supply costs for Boomerang. The debt service coverage ratio with the Rate Stabilization Fund for the period during Fiscal Year 2017 was 1.22, which satisfied the debt service coverage requirement under the Indenture.

The forecasted and actual revenues are monitored quarterly by SRMPA and the Consulting Engineer. Review and analysis on changes in load, revenues, expenses, and other external factors are reported to SRMPA. Rate changes will be recommended by the Consulting Engineer if net revenues do not or anticipated to not meet forecasted expectations. For Fiscal Year 2017, a new energy rate of \$79.50 per MWh went into effect to provide revenues to meet SRMPA's required coverage target of 1.20 or more by the end of the Fiscal Year. SRMPA has met the budgeted revenue amounts and it is sufficiently above the expected cumulative revenue collections requirement level as of the end of the Fiscal Year 2017.

As shown in the following table, the revenues and expenditures are broken into major income and cost items and compare the relative percentage change of each item to SRMPA's totals for Fiscal Year 2017. In Fiscal Year 2017, SRMPA retained 28,334 MWh from the Sam Rayburn Dam Project, for which it paid an estimated \$1,345,441. Hydroelectric generation at the Sam Rayburn Dam Project was higher than forecasted in the Fiscal Year 2017 Operating Budget, as based on historical average generation. In Fiscal Year 2017, SRMPA retained 58 MWh of generation from the R. D. Willis Project, for which it actually paid \$842,558 inclusive of SRG&T's cost share. The SRG&T was assigned 21 MWh from the R. D. Willis Project. Hydroelectric generation at the R. D. Willis Project, as reported by the SWPA, was lower than forecasted in the Fiscal Year 2017 Operating Budget, as based on historical average generation due to combination of the failures of a high-side transformer bushing and the station service transformer.

	Member Cities		Percentage	B	oomerang	
Description <sup>[1]</sup>	B	udgeted	Actual	Change (%)		Actual
Operating Revenues:				0 \_ /		
Sales to Members						
City of Jasper	\$	9,975,606	\$ 9,696,145	(2.8)		
City of Liberty:						
RPSA		10,438,646	9,889,318	(5.3)		
Boomerang					\$	4,870,493
City of Livingston		8,723,240	8,533,560	(2.2)		
Sales to SRG&T – R. D. Willis		656,400	437,600	(33.3)		
MISO Revenues – R. D. Willis		111,152	-	(100.0)		
MISO Revenues – Sam Rayburn		1,003,164	1,095,229	9.2		
Total Operating Revenues	\$	30,908,208	\$ 29,651,851	(4.1)	\$	4,870,493
Purchased Power & Operating Costs:						
EWOM – Hydro and Other	\$	12,015,112	\$ 11,629,062	(3.2)	\$	-
JNEC Transmission		38,000	4,165	(89.0)		
EWOM – Boomerang Load		-	-	-		4,379,546
Total Production Expenses	\$	12,053,112	\$ 11,633,227	(3.5)	\$	4,379,546
Other Expenses:						
Substation Maintenance and Insurance	\$	240,000	\$ 223,957	(6.7)	\$	-
General and Administrative		280,642	291,621	3.9		
Outside Consultants		356,500	208,871	(41.4)		
Other Studies and Fees		78,552	-	(100.0)		
Subtotal Other Expenses	\$	955,694	\$ 724,448	(24.2)		
Total Operating Deductions	\$	13,008,806	\$ 12,357,676	(5.0)	\$	4,379,546
Net Operating Revenues	\$	17,899,402	\$ 17,294,176	(3.4)	\$	490,948
Plus: Interest Income		84,000	227,975	171.4		
Minus: Substation Renewal Funds		60,000	-	(100.0)		
Net Available for Debt Service		17,923,402	17,522,151	(2.2)		
Plus: Rate Stabilization Fund		1,559,025	1,559,019	-		
Total Available for Debt Service	\$	19,482,427	\$ 19,081,170	(2.1)		
Debt Service	\$	15,590,250	\$ 15,590,244	-		
Actual Net Coverage		1.15	1.12			
Actual Coverage with Rate Stabilization Fund		1.25	1.22			
Balance of Revenues	\$	3,892,177	\$ 3,490,926	(10.3)		

Table 4-1: Fiscal Year 2017 Reven	ue and Expense Breakdown
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[1] The SRG&T continues to pay SRMPA for their entire share of generation from the R. D. Willis Project. Correspondingly, the DOE and SWPA and JNEC continue to invoice SRMPA for all expenses associated with the Sam Rayburn Dam and R. D. Willis Projects. The payments from SRG&T to SRMPA and charges paid to the SWPA by SRMPA are inclusive of VPPA's respective share over the entire fiscal period and included in the Fiscal Year 2016 financials. Separately, SRMPA invoices VPPA for their respective charges net of revenues received from SRG&T.

#### 4.3 SRMPA RATES

Each Fiscal Year, SRMPA sets rates for sales to Members under the Power Sales Contracts. For Fiscal Year 2017, the rates were set at \$10.76 per kW of monthly-billed demand and 79.5 mills per kWh for energy usage. Voltage discounts of \$2.42 per kW of monthly billed demand and 1.39 mills per kWh for energy delivered at 138 kV are applied to power delivered at 138 kV, which includes the vast majority of energy delivered to the Members. For Fiscal Year 2017, the net wholesale power cost was approximately 92 mills per kWh. Rates are set based on reasonable assumptions but changes in weather and load conditions can affect the actual rate. Rates are adjusted if such a change adversely affects SRMPA revenues.

On the retail side, due to the spikes and fluctuations in fuel prices in Texas in recent years, the Members have been more competitive with respect to other local utilities since they no longer have the added costs of a fuel charge or fuel adjustment to consider as is the case with other utilities. The recent decrease in natural gas prices have provided some increased competitiveness to the other local utilities. For the past ten years, SRMPA's Members rates have remained relatively stable and competitive with most other utilities in the area.

The following table summarizes the retail cost of power charged by the Members to their customers, not including Boomerang, along with other municipal utilities, investor-owned utilities, and cooperatives in Texas for 2017 and shows that the Members' power costs are comparable to other entities in the region.

	<b>Residential Service</b>		ervice	(	Commer	cial S	bervice	Industrial Service		
Utility	500 1,000 kWh kWh					000 kWh t 35 kW				
Texas Municipalities:										
Jasper	\$	61.35	\$	122.71	\$	973.10	\$	1,946.21	\$	15,351.15
Liberty		57.97		111.79		962.89		1,609.20		N/A
Livingston		68.75		127.50		901.25		1,636.25		16,585.00
Austin Energy (City of Austin)	\$	47.10	\$	99.13	\$	892.04	\$	1,315.34	\$	12,873.18
CPS (San Antonio)		57.41		108.63		838.46		1,389.74		N/A
City of San Marcos		50.89		92.89		634.03		1,257.13		12,105.26
Investor Owned:										
El Paso Electric	\$	67.04	\$	128.15	\$	975.28	\$	1,431.40	\$	16,010.77
Entergy Texas		60.96		114.57		736.03		1,185.01		11,551.99
Southwest Public Service		60.53		110.96		739.58		998.38		10,377.35
Southwestern Electric Power		53.44		96.91		664.93		1,006.08		10,856.18
Cooperatives:										
Magic Valley EC	\$	58.34	\$	97.02	\$	592.23	\$	1,156.95	\$	12,066.47
Upshur- Rural EC		62.25		106.90		779.75		1,432.50		12,988.38
Victoria EC		66.65		110.57		700.04		1,377.08		13,757.91

# Table 4-2: Comparison of Average Monthly Electric Rates – 2017 Amounts Shown in (\$) [1]

[1] All data is from the Public Utility Commission of Texas, except for SRMPA Member data. Commercial and Industrial power costs are based on kVA, assuming an 85 percent power factor. The City of Liberty rate for Boomerang is under a separate contract.

# 4.4 ECONOMIC DEVELOPMENT RATES

On October 23, 2012, SRMPA adopted the Economic Development Rate ("EDRP") plan that offers incentive for SRMPA to enhance its competitive position and financial worthiness. The EDRP provides each of the Members with the potential to attract new customers and stimulate load additions which, thereby, results in the lowering of their overall average cost of service. The EDRP is designed to operate independently from the standard rate structure currently implemented. The EDRP applies to new commercial or industrial loads or current customers with an existing facility where the facility is expanded by at least 10 percent over the peak load (kW) of the prior twelve months at that facility, for only the additional load as served exclusively by a separate demand meter and any vacant existing facility has not been vacant for less than six months. SRMPA's associated charge to the Members recovers the cost of power, plus 40 mills per kWh for load additions. Customers meeting certain criteria will be designated this classification for participation on a non-discriminatory basis for a single two year term. A Member will charge the customer a marginal rate over the current year's RPSA energy wholesale cost rate, and in turn will be able to sell such energy to large commercial or industrial customers at rates lower than the current retail rate. This rate plan offers additional incentive for SRMPA's Members to enhance their competitive position by providing a rate with the potential to attract additional load, which, thereby, results in the lowering of SRMPA's average wholesale cost of power.

For Fiscal Year 2017, the Members held the following participating customers in the EDRP: (i) TerraBioChem – City of Jasper and (ii) Traeger – City of Jasper.

SRMPA's load forecast, the maximum load service obligation under the RPSA, and the resulting capacity anticipated to be available for these incentive rates are shown in the following table.

Fiscal Year	Maximum Load Service Obligation Under RPSA (MW)	Forecasted Agency Load (MW)	Load Service Available Above Forecasted Agency Load (MW)	Cost of Power Under RPSA (Mills/kWh)
2018	131.593	72.090	59.503	32.33
2019	135.540	72.455	63.075	32.76
2020	139.607	72.820	66.787	33.19
2021	143.795	73.185	70.610	33.62

Table 4-3: Capacity Available Under the RPSA

# 4.5 **PROJECTED OPERATING RESULTS**

Projections of SRMPA's operating results have been prepared on a Fiscal Year basis for the period 2017 through 2021, inclusive. The following table shows annual revenues and expenses of SRMPA. These revenues and expense estimates are based on the energy forecast discussed herein, along with historical estimates of other SRMPA expenses, and interest earnings based on current-day rates of return while other assumptions utilized for development of these projected wholesale power costs are noted. Debt service on Series 2012 Bonds, funds available for debt service, and coverage ratios are also shown. Under the terms of the 2012 Indenture, SRMPA may refund to its Members, debt service coverage in excess of SRMPA requirements after the calculation of annual debt service coverage is completed by SRMPA's Independent CPA, and such calculation shows coverage of at least 1.20 times debt service. Wholesale power

costs presented show both gross wholesale power costs and wholesale power costs net of that anticipated refund of prior year's coverage. The following Figures 4-1 and 4-2 show the sources and uses of revenues for SRMPA during Fiscal Year 2017.

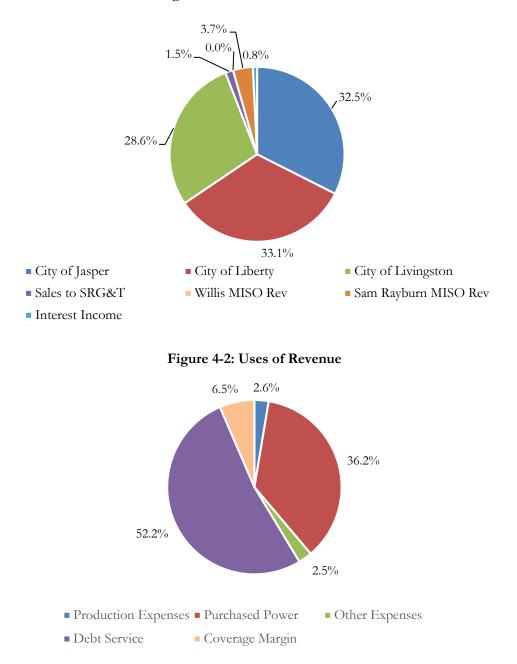


Figure 4-1: Sources of Revenue

The following table shows SRMPA's projected operating results for the period 2018 - 2021.

	Amounts Shown	1n (\$000)			
Line	Description	2018 <sup>[1]</sup>	<b>2019</b> <sup>[1]</sup>	2020[1]	2021 <sup>[1]</sup>
	Operating Revenues				
1	Total Sales to Members <sup>[2]</sup>	\$32,985	\$33,149	\$33.335	\$33,576
2	Sales to Members (RPSA) <sup>[3]</sup>	27,967	28,102	28,298	28,507
3	City of Jasper	9,673	9,717	9,716	9,719
4	City of Liberty	9,642	9,787	9,889	9,995
5	Large Industrial (Boomerang) [4][5]	5,018	5,047	5,037	5,070
6	City of Livingston	8,652	8,599	8,694	8,793
7	R.D. Willis MISO Revenue <sup>[6]</sup>	404	408	401	406
8	Sam Rayburn Dam MISO Revenue	986	996	979	991
9	Sales to SRG&T [7]	449	460	471	483
10	Total Operating Revenues <sup>[8]</sup>	\$34,82485	\$35,013		\$35,456
10	Total Oper. Revenues (excl. Boomerang) <sup>[5]</sup>	29,806		\$35,187	
11	Total Oper. Revenues (excl. boomerang)	29,800	29,966	30,150	30,386
	Operating Expenses:				
12	RPSA Purchased Power Rate (\$/MWh) [9]	32.33	32.76	33.19	33.62
	Energy Requirement (GWh):				
13	City of Jasper, TX <sup>[10]</sup>	102	102	101	101
14	City of Liberty, TX <sup>[10]</sup>	102	102	103	104
15	City of Livingston, TX <sup>[10]</sup>	91	90	90	91
16	Total SRMPA/RPSA Energy Req. [10]	295	294	294	295
	Less: (GWh)				
17	Energy from Sam Rayburn Dam Hydro <sup>[11]</sup>	28	28	28	28
18	Energy from R. D. Willis Hydro [11]	15	15	15	15
19	Net Entergy/RPSA Power Purchases (GWh)[10]	252	251	252	252
20	Energy Req., Boomerang (GWh) <sup>[10]</sup>	77	77	77	77
20	Total SRMPA Energy Req. (GWh) <sup>[10]</sup>	329	327	328	329
21	Total Skini A Energy Req. (O wil) 100	527	541	520	527
	Power Supply & Production Expenses:				
22	Cost of Power from Entergy RPSA [10]		\$9,808	\$9,918	\$10,071
23	Cost of Power from Entergy Boomerang <sup>[5][10]</sup>	4,942	4,983	4,981	5,020
24	O&M at Sam Rayburn Dam Hydro [11]	1,379	1,414	1,449	1,485
25	O&M at R. D. Willis Hydro <sup>[11]</sup>	864	885	907	930
26	JNEC Transmission <sup>[12]</sup>	38	39	40	41
27	Total Cost of Power	\$16,945	\$17,116	\$17,274	\$17,520
28	Total Cost of Power (excl. Boomerang) <sup>[5]</sup>	\$12,004	\$12,146	\$12,314	\$12,527
	Other Expenses:				
29	Substation Maintenance <sup>[12]</sup>	\$240	\$246	\$252	\$258
30	G&A and Outside Consultants <sup>[12]</sup>	\$240 528	\$240 542	\$252 555	\$258 569
31	Total Operating Expenses <sup>[12]</sup>	\$17,714	\$17,904	\$18,082	\$18,342
51	Total Operating Expenses 123	\$1/,/14	\$17,904	\$10,00Z	\$10,342
32	Net Operating Revenue	\$17,111	\$17,109	\$17,105	\$17,108
33	Plus: Interest Income <sup>[13]</sup>	180	180	180	180
34	Minus: Substation Renewal Fund <sup>[14]</sup>	-60	- 60	- 60	- 60
35	Net Income <sup>[15]</sup>	\$17,231	\$17,229	\$17,225	\$17,228
36	Less: Net Income from Boomerang	77	77	77	77
37	Net Available for Debt Service <sup>[15]</sup>	\$17,154	\$17,152	\$17,148	\$17,152
37 38	Rate Stabilization Fund Balance [15]	1,559	\$17,152 1,559	\$17,148 1,559	1,559
39	Total Available for Debt Service <sup>[15]</sup>	\$18,713			
39	Total Available for Debt Service [13]	\$18,/13	\$18,712	\$18,707	\$18,711
40	Debt Service [15]	\$15,595	\$15,593	\$15,590	\$15,593
41	Required Coverage Ratio [15]	1.20	1.20	1.20	1.20
42	Debt Service and Coverage [15]	\$18,713	\$18,712	\$18,707	\$18,711
43	Actual Net Coverage (Overall) <sup>[15]</sup>	1.16	1.16	1.16	1.16
44	Actual Coverage (Overall) <sup>[15]</sup>	1.10	1.10	1.10	1.10
45	Billed Wholesale Power Cost (\$/MWh) [16]	\$94.87	\$95.70	\$96.10	\$96.54
46	Prev. Yr.'s Coverage Refunded to Cities <sup>[17]</sup>	\$1,932	\$1,559	\$1,559	\$1,559
47	Cost of Power, Net of Refund	\$26,035	\$26,543	\$26,739	\$26,948
48	Whsle Pwr Cost, Net of Refund (\$/MWh) <sup>[18]</sup>	\$88.31	\$90.39	\$90.80	\$91.26
	· · · · /				

# Table 4-4: Projected Operating Results Amounts Shown in (\$000)

- [1] Fiscal Year Ending September 30th and assumes inflation used general expenses of 2.5%
- [2] Reflects total SRMPA sales for all billed at wholesale.
- [3] Reflects total SRMPA / RPSA sales at the billed wholesale power cost.
- [4] Reflects the sales to the City of Liberty customer (Boomerang) at the billed wholesale power cost under a separate agreement.
- [5] Boomerang revenues and expenses are illustrated separately.
- [6] Reflects SRMPA's 68.06 percent of R. D. Willis Hydro generation sold to MISO at the ETEC load zone.
- [7] Reflects the sale of 24.89 percent of R. D. Willis Hydro generation to SRG&T, net of VPPA's revenues from this sale.
- [8] Reflects total SRMPA sales for all billed wholesale power including sales to MISO and SRG&T.
- [9] Per SRMPA's RPSA contract with Entergy.
- [10] Per the Fiscal Year 2017 Engineering Report.
- [11] Supplied by SWPA, and reflect SRMPA's share of hydro generation from these projects.
- [12] Per SRMPA's Fiscal Year 2018 Annual System Budget.
- [13] Reflects interest income from debt service reserves and other holdings.
- [14] Reflects estimated capital expenditures for substation renewal.
- [15] Reflects debt service and coverage on SRMPA's Series 2012 Bonds.
- [16] Reflects the average billing rate requirement.
- [17] Reflects the refund amount from excess collections from the prior Fiscal Year.
- [18] Reflects the average billing rate requirement, net of the refund from the prior year's collections.

The wholesale cost of power, net of excess coverage refunded to the Members, is projected, based on a 1.20 debt service coverage ratio, to be approximately 90.1 mills per kWh for Fiscal Year 2018 and is expected to continue in the 90-91 mills per kWh range through Fiscal Year 2021. The wholesale cost of power under the RPSA is the delivered cost of power to the city substations, includes transmission and transmission losses, and is not subject to any fuel adjustments or capital costs associated with the supplier.

The projected operating results illustrate the projected sales to Boomerang at the billed wholesale power cost under a separate wholesale power supply requirements agreement. The load for Boomerang is projected to remain stable at an average of approximately 25 MW annually and have a capacity factor of 35 percent representing 76.7 GWh annually. Boomerang's pipe production has declined by approximately one-third from the prior fiscal year due to the dramatic decrease in oil prices and reductions in Exploration and Production activities in the United States. An administrative charge of \$0.001 per kWh is included in SRMPA charges to the City of Liberty and reflected in SRMPA's revenues.

The Consulting Engineer develops actual energy and demand rates and the corresponding wholesale power cost on an annual basis as part of SRMPA's budgeting process. The Consulting Engineer will also monitor energy and demand, gross revenues, and net revenues, and will report the results of this monitoring to SRMPA on a quarterly basis. If warranted by reduced energy purchases, reduced hydropower generation, or other draws on net income that may cause SRMPA to fall below coverage requirements, the Consulting Engineer will develop within the year Operating Budget revisions, including new forecasts for usage, revenues, and expenses, and will develop revised energy and demand charges for immediate SRMPA adoption.

## **POWER SUPPLY**

5

#### 5.1 CURRENT RESOURCES

SRMPA's demand, and energy requirements, not served by the R. D. Willis Project and Sam Rayburn Dam Project, are served through the RPSA. The following table shows SRMPA's balance of capacity and energy requirements compared to actual operations and generation resources in Fiscal Year 2017.

Description <sup>[1]</sup>	Capacity (MW)	Energy (MWh)
Generation Requirements:		
System Demand and Energy:		
Excluding Boomerang	64.81	290,199
Boomerang	21.50	77,482
Total	86.31	367,681
Generation Resources:		
RPSA	56.59	262,269
Entergy Contract (Liberty/Boomerang)	21.50	77,482
Sam Rayburn Hydro Project	15.33	28,334
R. D. Willis Hydro Project	4.08	58
Total Resources	97.50	368,144
Net Purchase (Net Transfer)	(11.19)	(463)
Surplus	-	-

Table 5-1: Fiscal Year 2017 Resources and Requireme	ents
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[1] The generation resources provide sufficient energy and capacity for SRMPA to meet its needs; therefore, no transferable surplus capacity or energy exists. In addition, SRMPA's transfer of energy to SRG&T from R. D. Willis is 845 (3,394 x (1-0.7511)) based on the DOE and SWPA figures.

### 5.2 DEMAND AND ENERGY REQUIREMENTS

SRMPA's Fiscal Year 2017 annual peak demand was 84.07MW with energy sales of 367,681 MWh, inclusive of the Boomerang load. SRMPA's actual peak demand and energy requirement in Fiscal Year 2017 was slightly higher due to the increased load at Boomerang and the total Members energy requirements were lower due a very mild winter weather.

The following table presents the projected and actual demand and energy requirements for each of the Members and SRMPA for Fiscal Year 2017.

	Projected		Percentage Change Actual
Description <sup>[1]</sup>	Budget	Actual	to Projected (%)
Energy Requirements (kWh):			
Jasper	102,175	99,962	(2.17)
Liberty:			
Main	105,874	100,593	(4.99)
South	76	408	433.48
Liberty Total	105,950	101,001	(4.67)
Livingston	91,264	89,236	(2.22)
Total	299,389	290,199	(3.07)
Capacity Requirements (kW):			
Jasper	25,053	22,383	(10.66)
Liberty:			
Main	25,699	23,210	(9.69)
South	190	442	132.63
Liberty Total	25,889	23,652	(8.64)
Livingston	20,725	19,204	(7.34)
Total	71,667	65,239	(8.97)
<b>Generation Resources:</b>			
Sam Rayburn Hydro Project	10,416	28,334	172.02
Robert Douglas Willis Hydro Project	14,508	58	(99.60)
Entergy Purchases	274,455	261,807	(4.61)
Total	299,379	290,199	(3.07)

Table 5-2: Fiscal Year 2017 Projected and Actual Load

[1] The capacity and energy requirements above do not include the City of Liberty Boomerang load.

The historical and forecasted demand and energy requirements for the Members and SRMPA are presented in the following table. The table projects SRMPA's RPSA-related energy consumption increasing at an average annual rate of about 0.4 percent. The projected energy growth rates remain low based upon historical growth characteristics experienced in prior fiscal years. The projected annual actual growth rates in energy sales for the individual Members ranges from a low of approximately 0.1 percent for the City of Jasper, Texas, to 0.6 percent for the Cities of Liberty and Livingston, Texas. While actual purchases will fall above or below the trend line in some years, overall long-term energy purchases should trend with these projections. In addition to the projected loads discussed above, Boomerang is projected to be an average of 25 MW annually and have a capacity factor of 35 percent or 76.7 GWh annually. The following table shows the actual peak demand (coincident with the City of Liberty peak) and energy usage for Boomerang in Fiscal Year 2017.

Table 5-3: Boomerang Load – Fiscal Year 2017								
Coincident								
Peak Demand	Peak Demand	Energy Usage						
(MW)	(MW)	(kWh)						
14.85	21.50	77,482						

The long-term projected growth is based on a historical analysis of energy usage, accounting for annual heating and cooling degree-days and average annual load factors. This analysis also accounts for certain annual gains and losses, weighting the effect of individual years where energy for any period was significantly changed. The primary reason for this weighting is to account for sudden, extraordinary load gains or losses that are unlikely to reoccur. These were one-time events; and therefore, the effects of these single events were reduced to develop a general trend line.

Since the majority of SRMPA's load is residential, weather or temperature has a strong impact on demand and energy. Heating and cooling degree days are important factors in the calculation of SRMPA's expected load, in that residential demand and energy use is a function of the heating or cooling required. Load Factor is also important in that the relationship between peak demand and energy usage is also a function of weather; a steadily warm or cold period will yield a higher load factor versus a period where temperatures fluctuates, with sudden temperature extremes captured by peak demand while average degree days and energy usage remain steady. Fiscal Year 2017 exhibited slightly higher than normal cooling degree-days and lower than normal heating degree-days. Normal averages are determined by the National Weather Service based on long-term averages. Looking at recent data, weather comparisons indicate that cooling degree-days and the heating degree-days have decreased over the past year. Thus, the winter temperatures in effect have been mild (around 65 degrees) with respect to the recent historical amounts. The Energy Information Administration's most recent projections of residential load in the SERC Reliability Corporation / Deltaregion assumes that energy usage will grow at an average of about 1.0 percent per annum over the period 2017 through 2050. By comparison, SRMPA's load growth has typically been about half of the projected load growth for the United States. The current expected growth rate for SRMPA is roughly 0.4 percent per year.

T: 1 XZ [1]	Jas	sper	Lib	Liberty		Livingston		SRMPA	
Fiscal Year <sup>[1]</sup>	kW	MWh	kW	MWh	kW	MWh	kW	MWh	
1998	28,494	126,805	22,976	99,359	20,280	89,752	71,750	315,910	
1999	28,278	120,924	24,255	100,556	19,404	89,383	71,937	310,863	
2000	27,900	118,888	24,809	101,629	20,496	82,391	73,205	302,908	
2001	26,910	112,316	25,302	95,908	19,224	83,711	71,436	291,935	
2002	25,110	107,195	23,666	105,200	18,780	83,363	67,556	295,758	
2003	25,434	106,847	24,824	104,978	19,764	84,561	70,022	296,380	
2004	24,678	105,283	25,017	105,531	19,440	86,171	69,135	296,985	
2005	24,966	106,672	24,958	106,655	20,376	88,826	70,300	302,153	
2006	26,082	108,483	25,330	111,167	21,108	89,696	72,520	309,340	
2007	25,794	107,463	25,430	110,059	19,992	89,205	71,216	306,727	
2008	23,976	106,036	25,247	107,443	20,316	89,614	69,539	303,093	
2009	25,056	106,816	25,336	108,648	20,724	91,085	71,116	306,549	
2010	25,164	111,560	25,897	112,209	21,372	94,367	72,433	318,130	
2011	26,190	112,492	26,888	112,259	21,504	95,645	74,582	320,390	
2012	23,799	106,335	25,247	107,443	20,316	89,614	69,362	303,392	
2013	23,891	105,990	25,197	104,393	20,698	90,792	69,786	301,175	
2014	25,417	106,933	25,460	107,111	19,668	92,188	70,545	306,232	
2015	25,446	107,211	26,699	104,802	20,636	93,865	72,781	305,878	
2016	23,885	104,190	25,951	103,226	20,558	91,300	70,394	298,710	
2017	22,383	99,962	23,222	101,001	19,204	89,236	64 <b>,</b> 809	290,199	
FY 2018 Budget	24,505	104,318	25,303	104,420	20,609	90,804	70,417	299,542	
2018	23,453	101,964	24,002	101,634	20,492	91 <b>,</b> 200	67,948	294,798	
2019	23,355	101,534	24,152	102,268	20,632	89,851	68,139	293,653	
2020	23,256	101,104	24,302	102,901	20,772	90,465	68,330	294,471	
2021	23,157	100,674	24,451	103,535	20,913	91,080	68 <b>,</b> 520	295,289	
2022	23,058	100,244	24,601	103,000	21,053	91,695	68,711	296,107	
2023	23,080	100,345	24,750	104,802	21,193	92,309	69,024	297,450	
2024	23,104	100,445	24,900	105,435	21,333	92,924	69,337	298,804	
2025	23,127	100,546	25,049	106,068	21,476	93,538	69,652	300,152	
2026	23,150	100,646	25,200	106,704	21,620	94,165	69,970	301,515	
2027	23,173	100,747	25,351	107,345	21,765	94,796	70,289	302,887	
2028	23,197	100,847	25,503	107,989	21,911	95,431	70,610	304,267	
2029	23,220	100,948	25,656	108,637	22,057	96,070	70,933	305,655	
Average Annual C	Compound	Growth (201	8 – 2029)						
Percentage/Year Normalized	0.1%	0.1%	0.6%	0.6%	0.6%	0.6%	0.4%	0.4%	

Table 5-4: Historical and Forecasted Loads	(Fiscal Years 1998 - 2028)
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 The capacity and energy projections above do not include Boomerang's load. The projections remain conservative for wholesale rate calculating. The statistical trending and weather normalization characteristics used in the projections above cause a difference in the reported projections between this Report and the Budget for Fiscal Year 2018.

#### 5.3 **PROJECTED CAPACITY REQUIREMENTS AND RESOURCES**

SRMPA has pre-purchased capacity and purchases energy through the RPSA. As discussed previously, SRMPA has entered into a separate power purchase agreement with EWOM to serve Boomerang's load. A projection of SRMPA's capacity requirements and resources through Fiscal Year 2021 are shown in the following table. This load projection illustrates the annual demand purchases associated with the power supply resources. Resources available exactly meet the projected capacity requirements leaving no excess capacity through 2021.

Fiscal Year	2018	2019	2020	2021
Capacity Requirements (MW):				
Projected Peak Demand:				
RPSA	67.95	68.14	68.33	68.52
Liberty/Boomerang	25.00	25.00	25.00	25.00
Capacity Transfers (MW):				
Sam Rayburn Dam Project Capacity to Entergy	15.33	15.33	15.33	15.33
R. D. Willis Projected Capacity to SRG&T	1.01	1.01	1.01	1.01
Total Capacity Transferred	16.34	16.34	16.34	16.34
Total Requirements and Transfers	109.29	109.48	109.67	109.86
Resources (MW):				
Entergy – RPSA	64.88	65.07	65.26	65.45
Entergy - Liberty/Boomerang	25.00	25.00	25.00	25.00
Sam Rayburn Dam Project	15.33	15.33	15.33	15.33
R.D Willis Hydro Project	4.08	4.08	4.08	4.08
Total Resources	109.29	109.48	109.67	109.86
Excess Capacity	-	-	-	-

 Table 5-5: Projected Capacity Requirements and Resources

# APPENDIX A: INDEPENDENT AUDITOR'S REPORT FOR 2017

# SAM RAYBURN MUNICIPAL POWER AGENCY

Financial Statements and Schedules September, 2017 and 2016 (With Report of Independent Auditor Thereon)