

January 21, 2020

VIA E-MAIL
VIA U.S. MAIL

Katherine Collier, Executive Secretary
Mississippi Public Service Commission
501 North West Street, Suite 201A
Jackson, MS 39201

**Re: Order Establishing Docket to Investigate the Development and Implementation of
Integrated Resource Planning Rule
Docket No. 2018-AD-064**

Dear Katherine:

On behalf of Mississippi Power Company and pursuant to the Commission's Order in the above referenced docket, I enclose the original and twelve (12) copies of the Company's Plan and Schedule in preparing the Annual Energy Plan. I have also included a copy of this letter, which I would appreciate your stamping with the filing date and returning to me in the enclosed self-addressed, stamped envelope.

Very truly yours,

MISSISSIPPI POWER COMPANY



SHAWN SHURDEN

SSS:alm

cc: All Parties of Record
Frank Farmer, Esq.
Chad Reynolds, Esq.
Mr. Virden Jones

BEFORE THE MISSISSIPPI PUBLIC SERVICE COMMISSION

MISSISSIPPI POWER COMPANY
EC-120-00097-00

DOCKET NO. 2018-AD-64

**IN RE: ORDER ESTABLISHING DOCKET TO INVESTIGATE
THE DEVELOPMENT AND IMPLEMENTATION OF AN
INTEGRATED RESOURCE PLANNING RULE**

**MISSISSIPPI POWER COMPANY'S NOTICE OF PROPOSED PLAN AND
SCHEDULE FOR ITS ANNUAL ENERGY DELIVERY PLAN**

Pursuant to the Mississippi Public Service Commission's (the "Commission") November 22, 2019 Final Order Amending Rule 29 to Establish Integrated Resource Planning and Annual Energy Deliver Reporting Requirements, Mississippi Power Company ("MPC" or the "Company") submits the following:

1. The Commission has directed all public utilities subject to the provisions of the Order Amending Rule 29 to present for Commission approval a proposed plan or schedule according to which the utility will meet the reporting requirements of the Annual Energy Delivery Plan.

2. MPC plans to file its Annual Energy Delivery Plan on November 15th of each year. MPC will satisfy the requirements set forth in Section 107 of Rule 29 in preparing the Annual Energy Delivery Plan, as further described in Attachment A.

WHEREFORE, PREMISES CONSIDERED, Mississippi Power Company hereby submits this Proposed Plan and Schedule for its Annual Energy Delivery Plan.

MPC further prays for such other, further, and general relief as may be required, beneficial, or needed.

This the 21st day of January 2020.

MISSISSIPPI POWER COMPANY

BY:



Shawn S. Shurden

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Mississippi Power Company

Plan and Schedule for Its Annual Energy Delivery Plan

January 21, 2020

I. Overview

On November 22, 2019, the Mississippi Public Service Commission (the “Commission”) entered its Final Order adopting modified Rule 29: Integrated Resource Planning and Reporting. Among other provisions, Rule 29 requires public utilities like Mississippi Power Company (“MPC”) to file an Annual Energy Delivery Plan (“EDP”), which is meant to inform the Commission on the efforts of regulated utilities to “improve energy delivery, through modernization of existing infrastructure, improvements to lower energy delivery costs . . . and/or through expansion of energy delivery to additional customers.”¹

In preparation for filing its first annual EDP, MPC must present the Commission a proposed plan or schedule setting out how MPC intends to comply with the reporting requirements of the EDP. Section 107 of Rule 29 provides that the EDP must provide information on the following substantive components: 1) demand-side management (“DSM”); 2) distributed energy resources (“DER”); 3) transmission and distribution systems; 4) access to DSM and DER for low-income customers; and 5) enabling technology that furthers reliability, economic development and access to enhanced customer services.

MPC proposes to file its EDP annually on or about November 15 in docket no. 2019-UA-231 and anticipates that such filing will inform MPC’s formula rate plan filing. At minimum, the report will contain the information on each of the components and sub-components set out in Rule 29, Section 107.1 through 107.5 and incorporating the format prescribed in Section 107.6. MPC understands that the development of the EDP will be an iterative process and intends to meet with Commission and Staff personnel over the course of the next few months to obtain and incorporate feedback prior to MPC filing its first EDP.

In the following pages, MPC provides a summary and examples of the information it expects to provide relative to each component of the EDP.

II. Demand-Side Management

MPC continually assesses Demand Side Management and Energy Efficiency programs for implementation with the objective of promoting the most cost-effective options. Our belief is that helping customers use electricity wisely is in the best interest of our customers and MPC while maximizing customer satisfaction.

Utilizing Rule 29 allows MPC to respond with new processes and measures, taking advantage of new technologies and customer expectations. MPC has maintained a robust DSM/EE plan since 2014. MPC intends to build from the “Quick Start” experience and anticipates that the reporting format for DSM as an appendix to the EDP will resemble that previously used for Rule 29 reporting. While not finalized, the following is MPC’s current work plan for 2020 that will be used to develop the EDP that will be filed for 2021.

¹ RP 29.107.

2020 Portfolio Objectives and Design

MPC plans to implement a portfolio of DSM programs for the 2020 calendar year to achieve cost-effective energy and demand savings for MPC customers. Programs planned for 2020 are in a transformational phase between Quick Start DSM programs initiated in 2014 and the comprehensive DSM programs to be offered in conformity with the new version of Rule 29.

Key objectives of MPC's 2020 programs include:

- offering measures and technologies that reliably lower energy bills for customers
- increase customer satisfaction through MPC-led program engagement
- broaden customer participation in DSM programs through cost-effective interventions

MPC has started the process of identifying programs that deliver on those objectives. Many of these programs are updated continuations of existing and successful Quick Start efforts that consider current customer behavioral trends and technological improvements in the market. Some of these programs can begin immediately as they do not require significant start-up work. During 2020, MPC will evaluate additional programs that will be phased in over the year.

For program design and modifications, Mississippi Power Company selected Brightline Group, a woman-owned consulting team with nationally-recognized expertise in DSM planning and evaluation. Brightline is based in Boulder, CO, with an office in Ridgeland, MS. Brightline engaged in a dedicated planning process to align MPC's 2020 DSM plan with identified key objectives, current DSM program best practices, and regional energy efficiency trends. The planning process for transitioning from Quick Start programs toward programs with more tailored objectives incorporated review of multiple data sources such as:

- MPC historical program performance
- Regional DSM program offerings
- Recently completed energy efficiency market potential studies for peer utilities

Measures identified for the 2020 DSM plan were assessed for cost-effectiveness, weighing measure costs with anticipated energy and demand savings and associated avoided costs. Measure-level cost-effectiveness was considered in determining which measures were to be included, as well as alignment with existing programs and objectives.

The Commission has recognized the benefit of strategic load growth to all customers. MPC will evaluate programs to ensure they meet the objectives defined in Section 107.1 and do not conflict with Commission goals. In compliance with Rule 29, MPC will seek Commission approval prior to implementing strategic load growth programs.

MPC will include in the Annual Energy Delivery Plan a description of all programs that have been implemented during the previous 12-month period to include relevant metrics, such as: eligibility

requirements, participation levels, program delivery method, energy savings, demand savings and costs.

Evaluation of Demand-Side Management Offerings

Rule 29 stipulates utilities evaluate cost-effectiveness of their DSM portfolios using three industry-accepted tests, including Total Resource Cost (TRC) and the Utility Cost Test (UCT). MPC's third selection will be Rate Impact Measure (RIM) testing. Individual period results of these tests will be filed with the annual EDP.

The TRC test measures the net costs of a program as a resource option based on the total costs of the program, including both the participants' and the utility's costs. In general, it is the ratio of the discounted total benefits of the program to the discounted total costs over a specified time period. A benefit-cost ratio greater than one indicates that the program is beneficial to the utility and its customers on a total resource cost basis.

The UCT (also known as the Program Administrator Test – PAC) measures the net costs of a program as a resource option based on the costs incurred by the program administrator and excluding any net costs incurred by the participant. A benefit to cost ratio above one indicates that the program would benefit the administrator's cost environment.

The RIM test measures what happens to customer bills or rates due to changes in utility revenues and operating costs caused by the program. This test adopts the perspective of all customers, including program participants and non-participants. In general, the test is the ratio of the discounted total benefits of the program to the discounted total costs over a specific time period. A benefit-cost ratio above one indicates that the program is beneficial to all customers.

Annual Reporting Requirements

Mississippi Power's Demand-Side Management and Energy Efficiency Programs, within the company's Annual Energy Delivery Plan, will include data reported historically in the filed Annual Report and will include separately cost-effectiveness calculations. Examples of such data are presented in Tables 1 and 2 on the following page.

TABLE 1**2014 -2018 MPC Quick Start Program Results**

Program Name	Number of Participants	Annual kWh Savings	kW Savings	Program Expenses
Neighborhood Efficiency	4,150	4,191,553	1,829	\$2,923,448
Behavioral Analysis	98,247	14,508,775	3,321	\$1,452,760
Residential Energy Audit & Direct Install	2,106	3,983,798	1,312	\$1,932,222
Res/Com HVAC Tune-up and Replacement	1,014	1,981,917	1,188	\$1,223,643
Small Business Direct Install	381	7,538,299	1,824	\$2,299,756
Large C&I Prescriptive and Custom	119	34,069,808	4,630	\$3,605,738
Res/Business Lighting	18,156	5,586,849	3,801	\$962,189
School Kits and Education	22,092	2,148,951	1,116	\$933,889
Commercial Development Pilot				\$10,067
EM&V				\$920,966
Marketing & Advertising				\$639,039
Totals	146,265	74,009,950	19,021	\$16,903,717

TABLE 2**2018 MPC Quick Start Program Results**

Program Name	Number of Participants	Annual kWh Savings	KW Savings	Program Expenses
Neighborhood Efficiency	865	1,009,917	378	\$766,177
Behavioral Analysis	24,713	4,809,020	826	\$191,353
Residential Energy Audit & Direct Install	687	1,099,593	251	\$558,648
Res/Com HVAC Tune-up and Replacement	89	564,242	339	\$185,589
Small Business Direct Install	90	2,110,803	439	\$545,432
Large C&I Prescriptive and Custom	44	7,267,621	1,129	\$815,795
Res/Business Lighting	3,910	1,551,854	1,486	\$134,389
School Kits and Education	4,979	710,802	846	\$224,388
EM&V				\$105,437
Marketing & Advertising				\$78,118
Totals	35,377	19,123,852	5,695	\$3,605,326

Cost Recovery for Demand Side Management

In accordance with Rule 29, MPC intends to recover DSM investments (as defined in Section 107.1(c)) through its Performance Evaluation Plan ("PEP"). While a different mechanism may be developed as the process progresses, MPC anticipates that it will establish a regulatory asset account to which it will record DSM costs for recovery of and on those amounts and which will be amortized over time (e.g., 3 years or over the average life of the portfolio). This regulatory account may also be "trued-up" to comport with Rule 29's provision allowing "a mechanism to adjust budgets and cost recovery to respond to customer demand, to take advantage of market opportunities, to deal with oversubscription and to avoid stop-start funding."

III. Distributed Energy Resources

Mississippi Power Company believes that Distributed Energy Resources, DER, as defined in Rule 29, provides a viable supply and demand side resource. Presently, MPC envisions DER to fall into three key areas of utility owned or controlled resources: Common DER, Customer Sited DER and Enhanced Grid Investments.

Common DER

Common DER includes those technologies under the definition of DER included in Rule 29. In addition, these DER include Company owned or controlled resources such as solar PV, solar battery technology, energy storage, wind, energy storage technologies, electric vehicles and other electric battery based technologies capable of being controlled and interconnected to the system, conventional small scale generation including CHP, conventional fuel based generation, as well as utility side microgrid deployments utilizing assorted generation, storage, and control technologies aimed at augmenting capacity and energy output as well as enhancing reliability and performance in a given area. These types of resources will be either utility or customer initiated.

Customer Sited DER

Customer sited DER includes Company owned or controlled resources such as solar PV, conventional small-scale generation technologies, and microgrid deployments aimed at improving resiliency for those customers who have critical needs that require even higher levels of reliability and performance. Like other DERs, customer sited resources augment the utility's broader needs during normal deployment yet prioritize a customer's specific need during local outages or during the mission requirements of the customer. Typically, the inception of these DER will be customer driven and their usefulness to the utility will be evaluated uniquely. Location, usable capacity, type of resource, and cost all will contribute to the usefulness and effectiveness of the distributed resource.

Enhanced Grid Investments

From an electric utility perspective, MPC views Enhanced Grid Investments (“EGI”) relative to DER as including solar battery solutions, conventional generation resources, and other supply side resources strategically placed within the system to improve reliability, voltage regulation, capacity augmentation, and/or shorten outages should they occur. These resources will typically be utility initiated.

Anticipated investments in DER (along with DSM) will be included as an appendix to the annual EDP and recovery of and on those investments will be addressed in PEP. Additionally, the DER appendix to the EDP the annual avoided cost calculations utilized in connection with the Mississippi Renewable Energy Net Metering Rule.

IV. Transmission and Distribution

MPC serves more than 187,000 customers in 23 counties in southeast Mississippi. MPC’s service territory consists of a fragmented area within the 23 counties and covers an area of approximately 1,149 square miles. MPC’s customer base, by number of customers, is comprised of 82% residential and 18% commercial and industrial. MPC also serves over 70 wholesale delivery points from the Company’s transmission system. The facilities used to serve MPC’s retail and wholesale customers include 2,235 miles of transmission lines (46kV, 115kV, 230kV and 500kV), 5,576 miles of distribution overhead lines (4kV, 12kV, 23kV, and secondary voltages), 605 miles of underground lines (4kV, 12kV, and 23kV), and 145 substations.

To comply with Rule 29, MPC anticipates filing a detailed transmission and distribution plan as part of its annual EDP. Specifically, MPC will comply with the reporting requirements set out in Section 107.3, which includes transmission and distribution projects, collaborative transmission planning, and the adequacy of system reliability, resiliency and storm hardening.

MPC’s history of providing value to our customers is evidenced by our reliability and customer satisfaction results. We focus on the customer’s needs and thoughtfully balance reliability, affordability, resiliency and safety. Rule 29 will help to continue such results.

MPC plans to fund flexible, forward-thinking grid investments through strategic capital asset management programs and proven innovative technology upgrades. Our existing and future capital programs and projects are part of a three-pronged approach: Reliability and Resiliency, Grid Optimization and Innovation, and Tactical and Innovative Planning. Each of these capital programs are described in more detail below.

Reliability and Resiliency

Reliability is simply keeping the lights on, which is measured in our performance rates through SAIDI and SAIFI. Resiliency is the ability of a utility to recover quickly from storm or other catastrophic damage. Improvements in either category often compliment the other, making the system less likely to have interruptions and automatically or quickly recover if it does.

For our distribution system, we will continue to invest in smart grid devices such as reclosers and TripSavers® which allow for isolation of trouble and automatic restoration of service in a self-healing network. Most faults on the distribution system are temporary (70-80%)² and the use of these devices will allow temporary faults to be cleared and avoid permanent outages to our customers. Since MPC began deploying these technologies six years ago, an estimated 20 minutes in SAIDI has been avoided. Currently about 42% of our customers are on a self-healing network, meaning without human interaction, the problem is automatically isolated to a few customers until crews arrive to complete the necessary repairs. The current plan is to continue deployment of these proven upgrades in reliability and resiliency. In addition, smart grid devices enhance our system to react intelligently and dynamically with a shifting energy landscape involving distributed energy resources and bi-directional power flow.

MPC will continue to test and replace aging underground cable, inspect and treat wood poles, and replace aging equipment identified during routine inspections. Transmission will continue replacing aging equipment to reduce the risk of unplanned outages and mitigate against catastrophic failures. Our focus will be targeted to critical equipment such as transformers, breakers, switches, relays, substation monitors, and polymer insulators. We also continue to invest in fiber optic cable to replace aging overhead ground wire to allow for more efficient communications and relay protection.

In addition, we will begin to invest in storm hardening our system by upgrading to higher grades of construction in targeted areas. Storm hardening will mitigate the risks and improve resiliency of our system following small and large storms. For the distribution system this will be upgrading our standards of construction in targeted areas to Grade B construction. Also, targeted undergrounding of lines that are outage prone, subject to corrosive environments, or lines having vegetation issues. MPC will invest in storm hardening our transmission system by replacing all wooden structures within higher extreme wind zones or upgrading aging lines to current design standards including extreme wind. Additionally, we will invest in replacing aging switch houses in areas close to the coast with storm hardened designs and/or raising them in flood prone areas.

² Electrical Distribution - System Protection, Third Edition, Cooper Power Systems, 1990

Grid Optimization and Innovation

Grid optimization and innovation is leveraging technology to better serve customers and provide growth opportunities while eliminating or reducing recurring O&M costs. This began with the approval of our AMI project. This will provide operational efficiency in outage reporting, reduced site visits to read meters, and enable MPC to offer increased service and convenience to our customers.

Another aspect is replacing and improving our fiber connectivity. MPC continues to look for partnership opportunities to install fiber optic cables to aid in broadband development in underserved areas of Mississippi. MPC and Southern Company have fiber networks that span the entire service territories and provide critical communication pathways between major cities. We see this as an opportunity for our assets, which run through rural communities, to serve as the backbone network to provide access to high speed broadband networks to those communities through the right partnerships.

Tactical and Innovative Planning

Tactical and innovative planning is investments in distribution and transmission planning solutions that balance current and future capacity, redundancy, and operational flexibility needs. MPC works in coordination with SCS Planning to address the requirements of the NERC Reliability Standards for planning the transmission system and develop projects to fulfil those needs.

MPC will continue to systematically convert our remaining 4kV distribution system to 12kV. Standardizing on 12kV voltage will improve capacity and reduce on-going costs by reducing stock material.

The remainder of MPC's capital expenses are categorized as general business expenses. These include new business expenditures used to purchase and install new facilities or upgrade existing facilities required to serve new customers and new load. Commitments include expenditures used to fund projects that are required by others such as DOT relocations, engineering and supervision salaries/expenses associated with the capital projects, fleet (mechanized equipment and vehicles), non-AMI meters, tools and equipment, capital transformer account, and capital data systems and application development and support.

MPC will describe all transmission and distribution projects and programs currently under construction or planned in the planning horizon, which will include, for example, a brief project description and costs or budgeted costs by the four categories described above. An example of this data is shown in table 3 on the following page.

Table 3
Distribution Plan 2020-2021 – Template
(not actual - example only)

	2020 PROJECTED	2021 PROJECTED	
Reliability and Resiliency	\$20,700,000	\$30,700,000	
Cyber Security	1,500,000	1,500,000	On-going initiatives to enhance cyber security measures
End of life replacements	10,500,000	10,500,000	Proactive replacement of equipment that has met end of useful life
GLT and Reinforcement	1,500,000	1,500,000	Replacement and/or treatment of wood poles identified by ground line inspections
Reclosers and Trip Savers	6,000,000	6,000,000	Installation of automated devices to reduce frequency and duration of outages
Storm Hardening	-	10,000,000	
Underground Cable Replacement	1,200,000	1,200,000	Underground cable testing and replacement
Planning	\$1,450,000	\$1,450,000	
Distribution Voltage Conversions	750,000	750,000	Conversion of 4kV to 12kV equipment
Load Growth	700,000	700,000	Planned improvements resulting from steady state system load growth or contingency studies
Grid Optimization and Innovation	\$15,500,000	\$8,250,000	
AMI	5,500,000	250,000	AMI
Communication Network Upgrades (Fiber)	10,000,000	8,000,000	Plant Barry-Logtown Underground Fiber Project (MPSC Docket No. 2019-UA-121)
General Business	\$24,950,000	\$21,650,000	
Commitments	7,000,000	7,000,000	FTE Salaries and Expenses, DOT work, Leased Facilities work
Fleet	4,500,000	4,500,000	Fleet and vehicles
LTE	1,000,000	-	LTE build out and conversions
Meters - Non-AMI	450,000	450,000	Capitalized non-AMI meters for residential, commercial, and industrial customers
New Business – Distribution	3,500,000	3,500,000	Labor and equipment for new electrical service to all customer classes
New Business – Lighting	2,000,000	2,000,000	Labor and equipment for new lighting to private and governmental customers
Other	2,800,000	500,000	Distribution capital data equipment and applications, internal training
Tools and Equipment	700,000	700,000	Capital tools and fleet equipment
Transformers – Capital	3,000,000	3,000,000	Capital transformers for distribution service to new customers
Grand Total	\$62,600,000	\$62,050,000	

V. Customers

To further workforce and economic development, Mississippi Power currently funds numerous scholarship programs and supports STEM related programs throughout its 23-county service territory. The scholarships provided cover students pursuing both career technical paths and collegiate STEM programs at State Universities and Community Colleges. MPC's STEM related programs include those designed specifically for minorities and females as well as programs that expose all students to these vital career pathways. Continuation and potential expansion of these initiatives could be included in the Company's EDP.

In addition to its scholarship and STEM related initiatives, MPC's EDP will address how it proposes to reach low-income customers in relation to planned DSM and DER investments. For example, MPC will promote energy efficiency and conservation by continuing to offer robust low-income "whole home" measures that will include home energy assessments and direct-install measures for customers living in areas with a high portion of residents at or below 200% of the Federal Poverty Guideline. MPC will work in conjunction with our Community Development staff, local community leaders and action agencies, faith-based organizations, police departments and MPC area office staff.

Furthermore, MPC will closely evaluate the benefits of tariffed on-bill offerings that could be used to expand access to DSM and DER offerings for all income groups. The provisions of Rule 29 related to recovery of certain charitable contributions should also provide opportunity to specifically aid low-income customers.

VI. Enabling Technology

Throughout the IRP in general, and in the Enabling Technology section specifically, the Commission recognizes the quickly changing nature of utility service due to technology enhancements and the opportunity that these technologies may enable for more efficient, cost-effective and reliable service. The Commission encourages the investment in these existing or new technologies by broadly defining what is considered the public interest as it relates to these technologies – 1) improving reliability, 2) promoting economic development, and 3) providing customer access to enhanced services. Investments meeting these criteria, in some measure, are designated as Enhanced Grid Investments ("EGI").

In the EDP, MPC anticipates proposing any new EGI investments and discussing how each investment meets the criteria established by the Commission. Initially, MPC will focus on the interaction of the T&D portion of the EDP and EGI. As noted above, many of the concepts in the EGI section are currently manifested in the MPC's vision for continued reliability and resiliency, optimization, and innovation of the Company's T&D system to enhance the customers' experience. Parallel to this activity, MPC will evaluate current innovative efforts outside of Power Delivery that may also meet this EGI criteria, such as DSM and DER. The investments judged to meet the EGI criteria and expected to be spent in the following year will be presented in the EDP.

VII. Conclusion

In preparation for filing its first annual EDP, MPC is proposing the format described in this document as the means by which the Company complies with the reporting requirements of the EDP, as described in the provisions of Rule 29. As described above, MPC's annual EDP will provide substantive information regarding its plans for DSM, DER, transmission and distribution systems, access to DSM and DER for low-income customers and enabling technologies that furthers reliability, economic development and access to enhanced customer services. MPC understands that the development of the EDP will be an iterative process and intends to meet with Commission and Staff personnel over the course of the next few months to obtain and incorporate feedback prior to MPC filing its first EDP. MPC proposes to file its EDP annually, on or about November 15, in docket no. 2019-UA-231 and anticipates that such filing will provide information in which the Company will incorporate into its formula rate plan filing each year.