

ARKANSAS PUBLIC SERVICE COMMISSION

IN THE MATTER OF ENTERGY ARKANSAS,)
 INC.'S APPLICATION FOR AN ORDER)
 FINDING THE DEPLOYMENT OF)
 ADVANCED METERING INFRASTRUCTURE)
 TO BE IN THE PUBLIC INTEREST)
 AND EXEMPTION FROM CERTAIN)
 APPLICABLE RULES)

DOCKET NO. 16-060-U
 ORDER NO. 8

ORDER

In this Order, the Arkansas Public Service Commission (Commission) approves the Settlement Agreement (Settlement Agreement or Agreement) filed by the parties to this docket, finding that Entergy Arkansas Inc.'s (EAI) deployment of Advanced Metering Infrastructure (AMI) is in the public interest. The Commission notes that when implemented as part of EAI's Formula Rate Plan in Docket No. 16-036-FR, the Agreement is estimated to result, on a net basis, in a typical customer in the residential class using 1,000 kWh per month experiencing an increase of \$0.45 per month, or an increase of approximately 0.45% of the total bill. As the deployment grows over the five-year installation plan, the estimated bill impact increases to \$0.90 in 2019, \$1.08 in 2020 and 2021, and then declines to \$0.93 in 2022 as deployment is completed.

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I. Procedural History

On August 19, 2016, Entergy Arkansas, Inc. (EAI or the Company) filed a *Motion for Protective Order of Non-Disclosure* notifying the Commission that it expected to file an *Application for an Order Finding the Deployment of Advanced Metering Infrastructure to be in the Public Interest and Exemption from Certain Applicable Rules* (Application). On August 31, 2016 by Order No. 1, the Commission granted EAI's *Motion for Protective Order of Non-Disclosure*. On September 1, the Office of Attorney General Leslie Rutledge (AG) filed its written notice of intent to be an active party in this Docket. On September 19, 2016, EAI filed its Application pursuant to Ark. Code Ann. § 23-4-101 *et seq.*, and Sections 2, 3, 4, and 7 of the Commission's *Rules of Practice and Procedure* (RPPs). Insofar as the Commission should find it applicable and to the extent EAI's proposal should be determined to constitute the acquisition of an operating unit or system, EAI further sought Commission approval and a public interest finding pursuant to Ark. Code Ann. § 23-3-102 for the deployment of the infrastructure described in the Application. In support of its Application, EAI filed the Direct Testimonies of Richard C. Riley, Oscar D. Washington, Rodney W. Griffith, Jay A. Lewis, Dr. Ahmad Faruqui, and Barbara L. Casey. On January 26, 2017, by Order No. 2, the Commission adopted a procedural schedule proposed by the General Staff (Staff) of the Commission, EAI, and the AG (collectively, the Joint Parties), setting the case for a public hearing on August 31, 2017. The procedural schedule accommodated EAI's request that an order be entered in this Docket no later than the hearing on EAI's Rate Schedule No. 44, Formula Rate Plan Rider (Rider FRP) 2017 filing (Docket No. 16-036-

FR), to give EAI sufficient time to incorporate any changes resulting from an Order in this Docket into its 2018 Rider FRP rate adjustment.

On June 1, 2017, the AG filed the Direct Testimony of Barbara R. Alexander. On the same date, Staff filed the Direct Testimonies of Ronald G. Garner, Elana Foley, Regina L. Butler, Judy Kay Lindholm, and John G. Athas. On June 2, 2017, Staff filed the Substitute Redacted Direct Exhibits of Mr. Athas. On June 29, 2017, EAI filed the Rebuttal Testimony of Melanie Taylor (adopting the testimony previously filed by Mr. Washington on behalf of EAI), Ms. Casey, Mr. Faruqui, and Mr. Lewis.

On August 11, 2017, EAI, Staff, and the AG (the Settling Parties) filed their *Joint Motion to Approve Settlement Agreement, Excuse Witnesses, and Waive Hearing* (Joint Motion), attaching the *Settlement Agreement* (Agreement) as Joint Motion Exhibit 1. In support of the Agreement, the Settling Parties filed the Settlement Testimonies of Ms. Butler and Ms. Taylor and the Supporting Testimony of Sarah Page Tacker.

On August 16, 2017, by Order No. 5, the Commission directed the Settling Parties to file Supplemental Direct Testimony and present appropriate witnesses to address additional issues identified in the Order. On August 18, 2017, by Order No. 6, the Commission excused from the hearing all Non-Settlement witnesses, with the exception of EAI witnesses Lewis and Griffith and Staff witness Athas. On August 24, 2017, the AG filed the Supplemental Testimony of Ms. Tacker, Staff filed the Supplemental Direct Testimony of Ms. Butler, and EAI filed the Supplemental Direct Testimony of Raiford L.

Smith.¹ On August 28, 2017, the Commission granted EAI's Motion and the Parties' Joint Motion to permit EAI's Settlement and Non-Settlement witnesses and the Joint Parties' Supplemental Witnesses to appear as panels. On August 31, 2017, the Commission conducted a public hearing.

II. Summary of Parties' Pre-Settlement Positions

1. EAI Direct Testimony

Richard C. Riley

EAI Witness Richard Riley states the purpose of his Direct Testimony is to support the Company's Application for an order finding the deployment of AMI to be in the public interest and exempt from certain APSC rules. Riley Direct at 4 – 6. Mr. Riley introduces EAI's other witnesses and describes their testimony. He explains why EAI is proposing to deploy AMI at this time, emphasizing that EAI's customers are becoming more knowledgeable and, with technology innovations, are increasing expectations in communication and available information. He refers to AMI as the foundation of an advanced power grid and elaborates on the meaning of this statement. *Id.* at 9-12. Mr. Riley discusses quantifiable benefits and non-quantifiable benefits to customers that will be provided by AMI deployment, as summarized in the Application at ¶ 24 and discusses in more detail in the testimonies of Mr. Washington and Mr. Lewis. He states that EAI is proposing to include the costs and the quantified benefits of deployment in EAI's Rider ECR as they are projected to occur. He states that EAI intends to include certain communications and IT infrastructure expected to be in place by 2018, in the 2017 Rider FRP filing as part of EAI's 2018 Projected Year Costs. He states that EAI

¹ At the public hearing on August 31, 2017, Mr. Smith was unable to attend owing to flooding in Houston caused by Hurricane Harvey. His testimony was adopted by EAI witness D. Andrew Owens.

witness Casey explains this process in more detail in her Direct Testimony. Mr. Riley states that the AMI deployment is precisely the type of multi-year project that was contemplated for inclusion in Rider FRP filings, so that the costs would be reflected in rates near the time they were incurred. *Id.* at 21. He requests an Order from the Commission no later than prior to the hearing on its 2017 Rider FRP filing, which shall occur at least 50 days before the date on which rates determined by the Rider FRP will go into effect in 2018. *Id.* at 19 – 21.

Oscar D. Washington

Mr. Washington asserts that AMI deployment will create value through enhanced reliability, operational efficiencies, and new products and services. He describes components of AMI and the customer service and operational benefits resulting from AMI implementation, as well as EAI's customer information and data privacy policy and energy efficiency (EE) issues. Washington Direct at 5 – 6. He also provides support for EAI's request for exemption from the Commission's General Service Rules (GSRs). He notes that AMI will have the capability to support pre-pay programs, which he states can benefit customers by allowing them to better manage their bill and potentially avoid disconnection for non-payment. He describes the process EAI plans to use for educating customers about the ability to access and use the information and programs enabled by AMI deployment and notes that the education efforts and costs are separate from EAI's energy efficiency (EE) customer education efforts. *Id.* at 8-16.

Mr. Washington cites examples the benefits of other functionalities and programs that could be implemented in the future, using AMI technology: greater grid resiliency on the distribution system (e.g., automatic rerouting of power during an outage);

advance identification of assets such as transformers that are approaching failure; development of more flexible billing and payment options for customers; and the offering of dynamic pricing programs such as time-of-use (TOU) pricing. He notes that most of these incremental functionalities and programs would require additional investments. *Id.* at 16-18.

Mr. Washington describes the current meter reading process and meter services, noting that costs of meter reading are included in customer rates and are one component of operational benefits that may be eliminated by AMI. He adds that after AMI installation nearly all residential connections and disconnections will be performed remotely. Likewise, he states that the need for physical re-reads will be virtually eliminated because customer service can perform remote read confirmation, the opportunity for error in physical monthly manual reads is eliminated, and the analytics software that will be utilized can detect errors and confirm accuracy. *Id.* at 21-23. He testifies that after AMI deployment, EAI expects to no longer need contract meter reading services, noting that any on-site reading will be performed by EAI employees. He states that the exact number of eliminated EAI positions will be determined after the design phase of the AMI project and cites to Mr. Lewis's analysis for a calculation of estimated benefits that will occur gradually over several years. *Id.* at 23 – 24.

According to Mr. Washington, another benefit expected from AMI deployment is lower customer bills resulting from the reduction of Unaccounted For Energy (UFE), which includes technical issues such as power dissipation on the lines, and non-technical issues such as meter tampering, theft, improper installation, programming errors, meter damage/failure, and accuracy. Both during and after AMI deployment, he

states, EAI will inspect each meter for evidence of tampering and diversion and be able to pursue cost recovery through standardized processes. *Id.* at 26 – 27.

Mr. Washington explains how benefits associated with consumption and peak capacity reduction are achieved by AMI, which will enable customers to employ tools to access, track, and decide whether and/or how to adjust their energy usage. He notes that EAI will provide notifications to interested customers who have pre-set usage thresholds. *Id.* at 28 – 29. He testifies that while EAI does not plan to offer dynamic pricing or specific new demand response (DR) programs with the AMI deployment, it does plan to provide customers with peak event notifications by text or email, with suggestions that customers take steps to reduce their usage during peak load times on the system. Customers will have an option to opt-out of the notifications. He states that the program will not include any direct monetary incentives to the customer and points to the testimony of Dr. Faruqui, who explains why it is reasonable to believe the notifications will result in a modest reduction in peak load. *Id.* at 29 – 30.

Mr. Washington describes additional AMI benefits that have not been quantified by EAI, including outage management benefits, improved billing accuracy, reduced or eliminated meter reading estimates, possible reduction in calls to the call center, safer field operations due to reduction in the number of personnel and vehicles in the field, and the avoided cost to install bi-directional meters. He notes that AMI may also allow for additional distribution system optimization and monitoring, which would provide improved overall system reliability. He testifies that even without quantifying these benefits, the Company's cost-benefit analysis shows that the benefits of EAI's AMI deployment outweigh its costs. *Id.* at 32 – 34.

Mr. Washington provides confidential exhibits containing Entergy Corporation's policies and procedures addressing customer information protection and states that as a general policy, the Company does not share its customers' information with other organizations for commercial or marketing purposes. He states that the AMI deployment does not result in a need to revise EAI's policies and procedures. *Id.* at 35 – 37.

With respect to possible exemptions from Commission rules, Mr. Washington testifies that the current 24-hour extension policy under GSR 6.09(B)(1), from which EAI has already been granted an exemption, is “arguably outdated and unnecessary for disconnects that can be performed remotely” under AMI. He adds that EAI's customer education plan (CEP) is intended to inform customers of changes in how the customer interacts with EAI, including the Company's disconnect and reconnect policies as a result of AMI. *Id.* at 38-41. Mr. Washington states that EAI is not proposing changes to the current fees for reconnects and premises visits at this time, but is planning to revisit the rate calculations post-deployment to allow the Company to gain experience operating the remote systems and acquire actual cost data for these activities such that the fees can be more accurately calculated. *Id.* at 41 – 42.

Mr. Washington testifies that EAI is proposing an option for customers to opt-out of receiving an advanced meter, asserting that all of the costs associated with the opt-out provision, in addition to the cost of AMI deployment, must be borne by the customers making the choice not to have an advanced meter. He states that EAI does not believe commercial or industrial customers should have the option, and certain rate schedules should likely also be excluded. However, he states, EAI is not proposing rate schedule

changes for customers choosing to opt-out. Instead, the specifics of the opt-out tariff, including costs and procedures, would be presented to the Commission in a separate filing after approval of EAI's Application in this docket. Finally, Mr. Washington states that EAI is requesting an exemption from *Special Rules Electric* 7.08(B) that requires testing of meters for accuracy requirements and removal of any meters found to be defective. Because all of EAI's meters will be replaced, he states, there is no need for these tests to be conducted during the AMI deployment. *Id.* at 42 – 44.

Rodney W. Griffith

Mr. Griffith's testimony describes the technical aspects of EAI's current plan to replace all of its existing meters with advanced meters that enable two-way communication; the implementation of supporting systems; the implementation of a Meter Data Management System (MDMS); and implement a new Distribution Management System (DMS). Griffin Direct at 4 – 6. He provides an overview of EAI's approach to implementing AMI, describes and discusses the AMI procurement process, including the Request for Proposal and contracting process; the advanced electric meters; the communications infrastructure; MDMS; system integration of the various AMI components into existing and planned IT infrastructure; and DMS and Outage Management System (OMS). He identifies the vendors EAI selected for the components and explains why they were selected. *Id.* at 22 – 35. He also describes how data being collected, stored, and transmitted by the advanced meters will be protected and testifies that standards and research are being used by EAI's vendors to guide the development and implementation of AMI cyber-security controls to protect AMI components and

customer data, which will be implemented during the build, test, and deployment phases. *Id.* at 41 – 48.

Mr. Griffith testifies that his Direct Table 2 provides the breakdown of the implementation costs, and additional detail is provided in his Confidential EAI Direct Exhibit RWG-1. Table 2 breaks the cost down as follows: 1) meters and installation - \$95.1 million; 2) Communications - \$25.4 million; 3) MDMS -\$ 6.9 million; 4) System Integration - \$ 17.7 million; 5) DMS/OMS - \$12.5 million; and 6) Other - \$57 million, for a total AMI deployment cost of \$214.5 million. He states that the estimated implementation costs contain a contingency amount. He testifies that the costs began to be incurred with a small portion in 2015 and the remaining costs to be incurred largely in 2016-2018. He further states that EAI has implemented a process to track spending and ensure compliance with the contracts and budgets. He also states that there will be ongoing costs incurred to support the expected 15-year life of the advanced meters, which are estimated to be \$5 million (See EAI Direct Exhibit RWG-2). He describes the types of costs that are included in the O&M estimate, and he states that the costs are in the cost-benefit analysis supported by EAI witness Lewis. *Id.* at 43 – 48.

Jay A. Lewis

EAI witness Jay Lewis discusses the expected benefits from AMI deployment and how the benefits were quantified for each Entergy operating company. He separates the benefits into two categories: (1) Operational Benefits and (2) Other Benefits. He testifies that the hardware and installation costs will be borne by each operating company while certain overhead expenses will be shared by the operating companies. Expenses such as IT systems expense, certain software licensing costs, the costs related

to the meter testing facility, as well as the overall system integration and project support will be assigned based on the total number of customers located in each operating company's jurisdiction. He explains that a 15-year useful life for the AMI meters is recommended for two reasons: first, the Commission approved a 15-year useful life for the smart meters in OG&E's AMI application in Docket No. 10-109-U; and second, the 15-year life takes into consideration the effects of technological obsolescence. Using the assumed benefits and proposed 15-year useful life, Mr. Lewis states that EAI customers will receive a net present value benefit of \$232 million. Lewis Direct at 4 – 8. His Table 1 below summarizes the benefits and costs.

Table 1 – Summary of Cost-benefit Analysis

Benefits	Nominal (\$M)	PV (\$M, 2016)
<u>Quantified Operational Benefits</u>		
Routine Meter Reading	\$156	\$94
Meter Services	\$103	\$62
Reduced Customer Receivables Write-	\$11	\$7
Total Quantified Operational Benefits	\$270	\$162
<u>Quantified Other Benefits</u>		
Consumption Reduction	\$303	\$180
Peak Capacity Reduction	\$145	\$85
Unaccounted For Energy Reduction	\$123	\$72
Elimination of Meter Reading Equipment	\$6	\$3
Total Quantified Other Benefits	\$577	\$340
Total AMI Quantified Benefits	\$847	\$502
AMI lifetime costs to customers	Nominal (\$M)	PV (\$M, 2016)
Depreciation & Amortization	\$209	\$133
Return on Rate Base	\$100	\$70
AMI O&M Costs	\$96	\$59
Property Tax	\$11	\$8
Total AMI Costs	\$415	\$270
Net AMI Benefit	<u>\$431</u>	<u>\$232</u>

Id. at 9.

Mr. Lewis describes and discusses each of the quantified Operational and Other Benefits. With respect to the Other Benefits, he states that EAI does not plan to provide dynamic pricing options such as time-varying pricing when it initially deploys AMI. Instead, customers will be able to access detailed usage data to help them better understand and manage their energy consumption. If customers reduce their consumption, then EAI will save on fuel costs and customers will see lower monthly bills in the short term until rates are reset in the next FRP filing. He predicts that residential and commercial customers will reduce their annual consumption (energy usage) by 1.75 percent, with the net present value benefit from lower energy usage being \$180 million. He states that to arrive at this benefit estimate, EAI reviewed consumption data from other utilities that have deployed AMI and found a reduction range between 1.5 percent and 2.0 percent. *Id.* at 10 – 18.

Mr. Lewis estimates that EAI can save \$85 million by reducing its peak capacity in two ways (1) in conjunction with the overall 1.75 percent reduction in energy consumption described above; and (2) from specific notifications that encourage customers to voluntarily reduce or shift energy use from peak times to other times of the day on the highest use days. His estimate is based on data from other utility AMI deployments. He estimates that 5 percent of residential and commercial customers would voluntarily take action, in response to text alerts or email messages. To determine how much peak load shifting would occur as a result of the behavior of the 5 percent of customers expected to be action takers, Mr. Lewis estimates that they will voluntarily reduce 7.5 percent of their peak usage on the handful of days each year when they are sent alerts. By multiplying 5 percent by 7.5 percent, Mr. Lewis estimates that

EAI will reduce its peak capacity by 0.375 percent. When combined with the 1.75 percent overall estimated usage reduction discussed above, which is assumed to occur throughout the day, including at peak times, the total estimated peak capacity is 2.125 percent or an annual capacity reduction of 85 MW. *Id.* at 19 – 22.

Mr. Lewis describes and explains how he calculated his estimates of reductions in UFE non-technical energy losses that can be expected from AMI deployment. He estimates the total net present benefit from identifying these UFE losses at \$72 million. *Id.* at 22 – 27. He states that deploying the advanced meters will allow EAI to eliminate the expense of maintaining and replacing its handheld electronic devices used by contract meter readers, as well as the related O&M costs associated with annual software and warranty costs. He estimates that the net present benefit is \$3 million. *Id.* at 27 – 28. Mr. Lewis testifies that EAI is seeking confirmation from the Commission that it will be allowed to continue to include the remaining book value of the existing meters in rate base, consistent with the normal treatment of asset retirements, and to depreciate those assets using current depreciation rates. Mr. Lewis says the book value of the existing meters as of December 31, 2015, is \$57 million. The meters are being depreciated at a rate of 2.6 percent annually which equates to \$3.1 million per year in expense over the remaining 18 years of their depreciable life. *Id.* at 29.

Mr. Lewis discussed EAI's recommendation that an opt-out provision be made available to residential customers, so as to minimize the types of non-advanced meters that would have to be maintained and thereby minimizing costs related to the small number of customers who may desire to opt out. He recommends that customers opting

out pay all of the costs associated with keeping an existing meter and that EAI use a formal process to document the customer's voluntary decision to opt out. *Id.* at 31 – 33. Based upon EAI's review of actual opt-out rates of other utilities that have deployed AMI, Mr. Lewis testifies that it would be reasonable to assume that approximately 0.25 percent of EAI's customers could ultimately choose to opt out. Based on the estimated opt-out rate, he recommends a one-time fee in the range of \$75 to \$150, and a monthly fee between \$20 and \$30 per month. *Id.* at 33 – 35.

Ahmad Faruqui

Dr. Faruqui testifies for EAI regarding the reasonableness of the methodology and assumptions used by EAI to quantify certain non-operational benefits associated with EAI's deployment of AMI – those described in Mr. Lewis's Direct Testimony as "Other Benefits." According to Dr. Faruqui, AMI will provide customers with new information that will lead them to change their energy consumption. Dr. Faruqui also reviews EAI's recommended meter opt-out proposal and the benefits arising from reductions in UFE. Faruqui Direct 4-5. He describes the AMI experience in the U.S. as being the result of utilities and regulators recognizing that new digital infrastructure is needed to modernize the grid so that utilities can keep up with advancements in energy technologies on both the supply and demand sides. He testifies that AMI will improve the customer experience by 1) enabling the growing trend toward greater customer engagement; 2) providing customers with access to new information that could not be provided by existing meters; 3) producing customer bill savings resulting from the reduction in consumption as the result of new information about energy usage. *Id.* at 8-10.

Dr. Faruqui testifies that EAI's estimate of savings in energy consumption are similar to the estimated savings of other utilities that have deployed AMI. He further testifies that the energy savings associated with two utilities – Potomac Electric Power Company and Baltimore Gas & Electric are incremental to the impacts of the utilities' EE and demand-side management programs. He states that, in addition to overall energy savings, EAI has assumed that AMI will lead to peak electricity demand reductions and that peak demand savings attributable to AMI is proportional to energy savings on a percentage basis. He cites studies by the Lawrence Berkeley National Laboratory, DNV-GL, and The Cadmus Group as confirming that EAI's assumed impact from peak notifications is realistic. *Id.* at 11-23.

Dr. Faruqui testifies that he reviewed EAI's assumed reductions in UFE and its recommendations regarding an AMI opt-out policy. He states that EAI's estimated UFE-related benefits are consistent with assumptions he has observed in other approved utility AMI deployment applications, citing eight utilities that quantified the benefits. He noted that avoided peak demand associated with the reduced UFE could also be included as a benefit in EAI's cost-benefit analysis, but noted that EAI has not included this potential benefit, since the Company focused only on the avoided energy costs. Therefore, he states, EAI's estimate is conservative. *Id.* at 24 – 27.

With respect to EAI's opt-out recommendation, Dr. Faruqui agrees with Mr. Lewis's recommendation for establishing upfront and on-going opt-out fees, testifying that this makes sense because, otherwise, customers who opt out would be unfairly subsidized by customers who accept a new advanced meter. He testifies that the highest opt-out rate (around one percent) was in Pacific Gas & Electric Company's northern

California service territory, whereas in other utility cases, including other utilities in California, the rate is only a fraction of one percent. *Id.* at 27 – 32

Dr. Faruqui summarizes his conclusions about the reasonableness of EAI's proposal by stating that:

- Advanced metering is a necessary platform to keep up with customer expectations in the digital age and to facilitate the integration of new energy technologies on both sides of the customer meter.
- EAI's methodological framework for assessing the costs and benefits of AMI is consistent with industry practices and includes reasonable assumptions.
- EAI has been conservative in its assessment of the many benefits of deploying AMI.
- There are additional new AMI-enabled programs, which EAI could offer in the future.

For the above reasons, Dr. Faruqui believes the future realized benefits of EAI's proposed AMI deployment could be even higher than those quantified by EAI witness Lewis. *Id.* at 33.

Barbara A. Casey

Ms. Casey states that EAI's multi-year AMI project is precisely the type of investment in assets that was contemplated in Docket No. 15-015-U for inclusion in Rider FRP. For example, EAI's Rider FRP uses a projected test year, so the capital investments forecasted to close to plant accounts in each year and any forecasted O&M expenses will be included in the Rider FRP rate calculation for each specific year. By using the Rider FRP, AMI deployment costs will be reflected in rates near the time they

are incurred. Using the Rider FRP will also allow customers to see the effects of the benefits as they are realized. She states that EAI estimates that it will begin to put AMI capital investments into service in 2018. Therefore, Ms. Casey says the July 2017 Rider FRP filing, which projects Year 2018, will be the first to include forecasted AMI amounts. Casey Direct at 5-6.

Ms. Casey testifies that EAI has already incurred expense related to evaluating and selecting vendors and doing preliminary design work. EAI is currently recording these costs in construction work in progress and will move them to expense accounts in a future Rider FRP filing when they are expected to be placed in service. *Id.* at 6.

Ms. Casey says EAI spent \$327,000 in 2016 for costs related to its customer education plan and EAI has budgeted the same amount for 2017. In addition to these costs, EAI incurred expense of \$322,000 in 2017 for IT maintenance and support, which was not included in its 2016 Rider FRP filing. She testifies that EAI is requesting that these customer education and IT expenses totaling \$976,000 be deferred as a regulatory asset until they can be included and recovered through the July 2017 Rider FRP filing. *Id.* at 7-8.

Ms. Casey includes in her testimony Table 1 which summarizes the annual estimated revenue requirement for each year from 2018 through full deployment in 2022. As shown in Table 1, each year the revenue requirement reflects the *net* of the estimated O&M expenses and savings.

Table 1 – Forecasted Revenue Requirements (\$M)

	2018	2019	2020	2021	2022
Estimated Annual AMI Plant in Service Closings	77.9	35.6	57.5	36.9	0.1
Estimated Net Operation and Maintenance Expense or (Savings)	1.1	1.7	(1.3)	(7.2)	(11.2)
Estimated Revenue Requirement	7.1	14.4	17.2	17.1	14.8

Id. at 8-9.

Ms. Casey testifies that EAI is requesting that it be allowed to discontinue its meter testing program once the AMI deployment begins. She includes a revision to EAI's schedule of exemptions to add an additional schedule, Schedule of Exemptions from *Special Rules – Electric*, to include an exemption from this rule during deployment. See, EAI Direct Exhibit BLC-1. If this exemption is granted, the Company anticipates filing to withdraw this language early in 2023 or after deployment is complete, or as the testing program resumes. *Id.* at 10.

2. AG Direct Testimony

Barbara R. Alexander

Ms. Alexander testifies that she previously submitted testimony to the Commission on behalf of the AG in Docket No. 10-109-U, OG&E's AMI docket. In this docket, she recommends that EAI's Application be denied because the costs are likely to exceed EAI's estimated benefits. However, she also identifies certain conditions that should be imposed if the Commission determines to approve deployment of AMI. Alexander Direct at 6. Observing trends toward electric utility investment to modernize and upgrade their distribution and transmission systems, Ms. Alexander states that there are important consumer protection and regulatory policies and recommendations

that should be applicable to any Smart Grid proposal, including EAI's in this docket, citing policies adopted by the National Association of State Utility Consumer Advocates, AARP, Consumers Union, National Consumer Law Center, and Public Citizen. She asserts that most of these overarching policies and recommendations are not met by EAI's Application. *Id.* at 7.

Ms. Alexander outlines these policies and recommendations:

1. Smart meter proposals must be cost-effective, and utilities must share the risks associated with the new technologies and the benefits used to justify the investment.
2. Time-of-use or dynamic pricing must not be mandatory; consumers should be allowed to opt-in to additional dynamic pricing options.
3. Regulators should assess alternatives to smart meters to reach the same load management goals, particularly direct load control programs.
4. Smart meter investments should not result in reduced levels of consumer protections, especially relating to the implementation of remote disconnection, and traditional billing and dispute rights should be retained.
5. Privacy and cyber-security concerns must be addressed prior to a smart meter rollout.
6. Utilities and other policymakers should include comprehensive consumer education and bill protection programs in any evaluation or implementation of smart meter proposals, the costs of which need to be included in the utility's analysis of the cost effectiveness of its proposal.

7. Investments in Smart Grid need to be verifiable and transparent and the utilities need to be held accountable for the costs they want customers to pay and the benefits they promise to deliver. Costs should be reasonable and prudent.

Id. at 7 – 8.

Ms. Alexander summarizes EAI's AMI Application, cost-benefit analysis, and proposed cost recovery mechanism. *Id.* at 9 - 12. She notes that if the cost recovery is approved through the FRP, Arkansas ratepayers may assume a disproportionate amount of risk compared to benefits received. She also notes that, unlike OG&E, EAI did not apply for or receive any federal funding to offset the cost of the deployment in Arkansas (She states OG&E offset 1/3 of the costs using a federal grant.). In addition, she expresses the following concerns:

- EAI describes the AMI deployment as an “initial and foundational step” toward grid modernization, but provides no insight into the magnitude of future expenditures;
- EAI claims costs will be lower due to the scale of deployment, but provides no information about deployment in other jurisdictions;
- EAI claims deployment is due, in part, to meet customer expectations, but does not elaborate;
- She disagrees with EAI recovering the costs before the projected benefits would occur; and
- EAI has not provided data of any pilot program or study on its Arkansas customer base to support its proposed consumption and peak load reduction calculations included in its “other quantified benefits” analysis.

Id. at 13 – 20.

Ms. Alexander asserts, with regard to the last-mentioned item, that such an analysis of EAI's customer base would, for example, explore how many of its Arkansas customers have central air conditioning, or how many already have or use a programmable thermostat. This information would be crucial to predicting whether or how its customers will respond to text alerts that ask for reduced usage of electricity during certain peak periods. While EAI's predicted consumption and peak load reduction will rely on customer usage of its web portal and mobile device applications, she points out that the Company has not included any information in its Application on broadband penetration in its rural service areas. When asked for demographic information about its customer base, she notes, EAI provided the following information, none of which was directly discussed or apparently taken into account in this AMI deployment proposal in terms of either bill impacts or predicted customer behavior changes relied upon for its "other quantified benefits."

- EAI's customers reflect a significant level of poverty, with 12% of customers having annual income of less than \$15,000; an additional 12% have annual income between \$15,000 and \$25,000;
- 55% with a high school diploma or less;
- 51% rural and 34% suburban;
- 19% African American;
- 81% single family homes, with 17% renting

Id. at 19 – 20.

Ms. Alexander testifies that there is a substantial low-income population in EAI's service territory, noting that the Company received 63,339 energy bill-payment assistance grants from the federal Low Income Home Energy Assistance Program (LIHEAP) and other assistance programs (including the Company's fuel fund called The Power to Care, for which customer contributions are solicited) for its low-income customers in 2015, totaling \$19.4 million. She notes that these benefit payments are labeled "transactions," so it is likely that they were provided to duplicate accounts in some cases. She cites publicly available information that shows that Arkansas's households with income 50% below the federal poverty level (FPL) experience a home energy burden of 29%, meaning that these families must pay 29% of their annual household income to pay home energy bills. Households with income between 50% and 100% of the FPL pay 15% of their annual income for home energy bills. She notes that the number of households that confront this home energy burden is significant: 91,000 Arkansas households live with income at or below 50% of the FPL; an additional 129,000 households live with income between 50% and 100% of the FPL. *Id.* at 20.

Furthermore, she states, the LIHEAP allocation to the entire state of Arkansas is a small portion of this home energy burden and totaled \$25 million in 2016, somewhat lower than the LIHEAP allocation in 2015. She adds that nationally, households below the FPL receiving LIHEAP benefits may spend over 16% of their monthly income on energy, while wealthier households spend only 3.6% of their income on energy bills. According to Ms. Alexander, the U.S. Census data confirms the vulnerability of Arkansas' residential customers to ensure payment of essential electric service: Over 30% of Arkansas households have income and benefits income of \$24,999 or less.

Arkansas's population includes 16% who are age 65 and older, 10.5% of whom subsist with income at or below the FPL. She notes that an even higher percentage of Arkansas households rely on Social Security (35.1%), with a mean benefit in the amount of \$16,942. *Id.* at 21.

Ms. Alexander opines that it is not appropriate to impose the considerable costs for AMI on Arkansas customers without sufficient analysis of the impacts of the increased costs and a consideration of the potential risk that lower- and fixed-income customers will see little in the way of benefits in their monthly electric bills. *Id.*

Ms. Alexander lists and describes the aspects of EAI's 15-year benefit estimates and other assumptions that she contends the Commission should not rely on when evaluating the AMI deployment. She then gives lengthy critiques of the testimony of EAI's witnesses and explains why these assumptions are not reasonable and should not be relied upon by the Commission to evaluate EAI's cost-benefit analysis for AMI deployment:

- a) EAI's predicted benefit in the form of reduced bad debt associated with quicker disconnections is not reasonable. *Id.* at 22;
- b) EAI calculates value based on vague and undefined consumption reduction and peak load reduction impacts due to the AMI investment. More particularly, EAI is claiming cost recovery for AMI results that are not distinguishable from EAI's current EE programs, which is highlighted and made more significant because EAI has failed to evaluate alternative means to achieve its desired consumption and peak load reduction results that are likely to be far less expensive than the costs of the AMI investment and do not

require AMI to achieve efficiency and demand response results. *Id.* at 23 – 41.

- c) EAI has not proposed any time-varying rate or other incentive for customers to make behavioral changes to reduce consumption of energy. *Id.* at 23;
- d) EAI's operational benefits include avoided costs for elimination of premises visits to disconnect service for nonpayment, and the dollar amount of operational cost savings associated with avoiding a premises visit as required by current Commission regulations should be eliminated from the benefit analysis.² *Id.* at 22 and 44 – 53; and
- e) EAI's Customer Education Plan should be rejected as not being properly designed, in that it is primarily a public relations presentation that, among other defects, emphasizes benefits from AMI that are not even reflected in EAI's Application and does not contain information on costs of AMI and customer bill impacts. *Id.* at 53 – 56.
- f) EAI's unquantified benefits should not be relied upon to justify the AMI investment, since the Company acknowledges that attaining these potential benefits "would require additional investments in infrastructure and technology at a later date in order to deploy and achieve the desired functionality."³ *Id.* at 56;

² Ms. Alexander notes that In OG&E's AMI docket the Company agreed in a stipulation to continue to make a premises visit prior to disconnection of service for residential customers. The Commission notes that in OG&E's most recent general rate case, Staff agreed with OG&E's request to discontinue premises visits as reasonable in that there is no apparent correlation between notices served and disconnects performed to justify the costs to customers. Direct Testimony of Staff witness Judy Kay Lindholm in Docket No. 16-052-U.

³ Direct Testimony of Oscar Washington at 18.

- g) While no specific Pre-Pay program has been offered by EAI, the inclusion of this proposed program as part of its AMI Application is troubling because under Pre-Pay customers will be required to purchase a specific amount of electricity in advance and will be disconnected automatically when their purchased usage expires. Pre-Pay programs represent a degradation of service for low-income and payment-troubled customers, who also forgo the consumer protections built into the current regulatory system that ensures proper notice, opportunity for payment arrangements, retention of service with medical certifications, and other protections that are designed to prevent disconnection where possible or when it is likely to cause significant adverse impacts on household health and welfare. *Id.* at 57 – 59;
- h) While EAI correctly states that it will not share the vast quantity of customer usage data that will be collected by AMI without the customer's affirmative consent, once this data exists, there will be an increased interest from third parties who will seek access to this data to market their products and services. These privacy-related and data access issues will require significant regulatory proceedings, including rules and tariff provisions that will need monitoring and enforcement, which EAI has not budgeted for in this project. She states that the Commission should not cavalierly adopt EAI's suggestion that further exploration and resolution of customer privacy policies is not required at this time. *Id.* at 59 – 63.
- i) EAI has apparently proposed to include its estimated operational cost savings that reflect 32% of its predicted costs on a net present value (NPV) basis as an

offset to estimated AMI costs in its FRP Rider. However, the Company has made no such commitment with regard to the “other quantified benefits” that represent 68% of its predicted benefits. Nor has EAI identified or included any performance metrics or reporting mechanisms that would allow the Commission and the public to determine whether any of the proposed benefits will actually occur. In other words, EAI seeks to recover its actual costs as they occur and require ratepayers to bear the risk that the majority of its benefits, many of which are questionable at best, will occur as predicted. This is not a fair bargain for ratepayers. *Id.* at 65.

- j) Regarding EAI’s estimated costs for AMI deployment, certain costs are either not included or potentially underfunded in the Company’s analysis, namely cyber-security, customer privacy, developing and implementing an opt-out policy, customer education development and implementation, as well as developing and reporting information on actual performance. In addition, another potential source of additional costs is the possibility of substantial cost overruns, in particular with respect to the installation of the two-way communication system and the integration of this system into the Company’s billing and outage management system. This is not a theoretical concern, as several utilities have incurred substantial cost overruns for actual deployment of AMI that have resulted in higher costs imposed on ratepayers to fix or reflect the unanticipated costs. *Id.* at 66.

Although Ms. Alexander’s primary recommendation is to reject EAI’s proposal and provide certain directives as to what will constitute an acceptable AMI proposal in

the future, she offers eight conditions as a starting point for the Commission's consideration if the Commission determines it should approve the implementation of AMI:

1. Reject the use of AMI to remotely disconnect a residential customer prior to compliance with existing consumer protection rules requiring a premises visit and the continuation of the current 24-hour rule in lieu of accepting payment at the customer's premises. EAI should eliminate such "savings" from its cost-benefit analysis.
2. If EAI is allowed to recover the costs for AMI that would occur prior to full deployment and prior to the demonstration that its costs and benefits have occurred as predicted in its business case, such cost recovery should include a requirement that all quantified benefits be offset to the actual costs as EAI has predicted they will occur. This would include both benefit categories of "quantified" and "other quantified" benefits. In order to properly allocate the risks associated with the failure to deliver the estimated benefits, the Commission should make it clear that under this approach any funds collected from ratepayers would be subject to refund.
3. Prior to AMI deployment, EAI should consult with Staff, the AG, and other interested parties to develop and file for Commission approval a performance-tracking plan and representative metrics to enable the Commission and the public to track the costs and benefits as identified by EAI. These measures should include metrics to track each cost category and benefit category that EAI intends to rely upon to prove the cost effectiveness of this investment.

4. Prior to deployment, EAI should be required to develop in consultation with Staff, the AG, and other stakeholders, a detailed CEP and budget with performance metrics to document that the subsequent expenditures of ratepayer funds for consumer education have achieved their intended purpose. EAI should be required to include all of its proposed consumer education costs associated with the implementation of AMI-related programs in its cost-benefit analysis.
5. Any efficiency or demand response program proposed by EAI that will require the use of AMI functionality should be submitted for review pursuant to the Commission's EE program rules and evaluation methodologies.
6. EAI should eliminate its suggestion that a pre-pay program targeted to low-income customers would be an acceptable use of AMI functionalities.
7. Prior to deployment of AMI, EAI should be required to develop and file a proposed opt-out meter policy, customer privacy policies, and a cyber-security plan to ensure that these new investments and the development of new programs reflect consideration of these important attributes of moving to a digital electric grid. The costs of developing and implementing these plans and programs should be included in the proposed AMI investment and analysis of cost effectiveness.

Id. at 67 – 72.

3. Staff Direct Testimony

Regina Butler

Ms. Butler recommends that the Commission find EAI's AMI deployment to be in the public interest and approve EAI's request consistent with Staff's recommendations. She testifies that the AMI deployment will enable EAI to:

- More efficiently and effectively provide service to customers;
- Provide better outage and distribution system management;
- More efficiently connect, disconnect, and reconnect utility service and more efficiently and cost effectively read customers' meters;
- Provide customers with more detailed and timely information regarding energy consumption and peak usage; and
- Offer customers additional services and service options.

For these reasons, she states, the Commission should find that granting EAI's request, consistent with Staff's recommendations, is in the public interest. Butler Direct at 6.

Ms. Butler testifies that Staff witness Athas evaluated EAI's cost-benefit analysis and concluded that it "is more likely than not to provide quantifiable net customer benefits over time." He also concluded that a relatively modest level of customer behavioral response is needed for the AMI build to exceed the break-even point on a net present value basis. *Id.* at 7.

Ms. Butler summarizes the following Staff recommendations related to EAI's proposed AMI deployment:

- Staff witness Foley recommends that EAI, Staff, and the AG work collaboratively to develop a detailed comprehensive customer education plan;

- Ms. Foley determined that introducing price response (TOU) programs simultaneously with the AMI deployment will increase the likelihood of achieving the benefits addressed by Staff witness Athas. Therefore, she recommends that EAI, Staff, and the AG work collaboratively to develop price response programs and a pre-pay service offering;
- Staff witness Lindholm recommends that EAI calculate a weighted average reconnection fee annually during the transition period. She also recommends that EAI calculate a reconnection fee for customers who opt-out of AMI;
- Ms. Lindholm recommends that the Commission grant EAI an exemption from the selective meter testing requirements in the Commission's *Special Rules Electric* Rule 7.08(B) during AMI deployment;
- Ms. Butler recommends that EAI work collaboratively with Staff and the AG to develop documentation regarding cyber-security controls developed for the AMI build, test, and deployment phases prior to AMI deployment; and
- She recommends that EAI work collaboratively with Staff and the AG to develop the proposed tariff and associated charges for EAI's proposed opt-out option.

Id. at 7-8.

Ms. Butler testifies that EAI proposes to include AMI capital investments and O&M expenses in its Rider FRP. She states that Rider FRP uses a forecasted test year. Therefore, according to EAI, AMI deployment costs will be reflected in rates near the time they are incurred, and the effects of the benefits will be included as they are realized. She states that EAI witness Casey testifies that the July 2017 Rider FRP filing

for the 2018 Projected Year will be the first Rider FRP filing to include AMI capital investments and expenses. *Id.* at 8-9.

Ms. Butler testifies that it is reasonable for EAI to recover the AMI deployment costs through Rider FRP. She states that Rider FRP will allow EAI to recover its AMI investment and expenses and “should also capture the operational benefits from reduced O&M expenses as the benefits are realized.” She recommends that the Commission approve use of Rider FRP for AMI cost recovery, subject to Staff witness Foley’s recommendations concerning recovery of customer education expenses incurred during 2016 and 2017. *Id.* at 9.

Ms. Butler testifies she has reviewed Entergy Corporation’s customer data privacy policies and finds that EAI has reasonable policies in place to address the protection of customer data that will be available as a result of the AMI deployment. *Id.* at 11.

Ms. Butler recommends that:

- The Commission find that EAI has reasonable policies and procedures in place to protect customer data;
- The Commission direct EAI to file documentation in this docket that confirms the cyber-security controls being developed for the AMI build, test, and deployment phases are in place prior to AMI deployment; and
- EAI work collaboratively with Staff and the AG to develop the documentation and that EAI file the documentation within 180 days of the Commission’s order in this proceeding.

Id. at 12.

Ms. Butler testifies that EAI's opt-out proposal is reasonable because it will address customer concerns and require the opt-out customers to pay the additional costs associated with electing that option. She also recommends that EAI work collaboratively with Staff and the AG to develop an opt-out tariff to be filed with the Commission within 180 days of the Commission's order in this proceeding. *Id.* at 14-15.

In summary, Ms. Butler recommends that the Commission:

- Find that EAI's proposed AMI deployment, including the removal and retirement of existing meters and installation of new advanced meters and supporting systems and equipment is in the public interest;
- Approve EAI's request, as modified by Staff witness Foley, to recover AMI deployment costs through Rider FRP;
- Find that EAI has reasonable policies and procedures in place to address the protection of customer data due to the AMI deployment;
- Require EAI to file documentation in this docket confirming that the cyber-security controls being developed for the AMI build, test, and deployment phases are in place prior to AMI deployment;
- Approve EAI's request to include an opt-out option in its AMI deployment; and
- Require EAI to work collaboratively with Staff and the AG to develop an opt-out tariff to be filed with the Commission within 180 days of the Commission's order in this proceeding.

Id. at 15-16.

Elana Foley

Ms. Foley testifies that EAI's proposed Customer Education Plan is not yet complete but appears to address many of the necessary initiatives relating to customer awareness and understanding of the AMI deployment. To this end, Ms. Foley recommends that EAI coordinate with Staff and the AG to develop a detailed customer education plan that fits within the budget included in EAI's application and then present it to the Commission for review and approval within 180 days following the Commission's order issued in this docket. Ms. Foley also recommends that EAI provide a monthly Home Energy Report, free of charge, to customers who do not have internet access. Foley Direct at 3 – 4.

Ms. Foley states her belief that introducing price response programs such as Time-of-Use (TOU) Rates or Variable Peak Pricing Rates (VPP) simultaneously with the deployment of the smart meters will increase the likelihood that customers will see benefits. EAI's application did not include price response programs, so Ms. Foley is recommending that EAI, Staff, and the AG work cooperatively to develop price response programs that will allow customers to more fully take advantage of the new AMI technology and experience greater savings. She recommends that EAI file such programs with the Commission for its review and approval within 180 days following the Commission's order issued in this docket. *Id.* at 4 – 7.

Ms. Foley agrees with EAI's proposal to introduce a pre-pay program with its AMI rollout, but notes that EAI is still developing the program and may need to seek separate approval from the Commission for the necessary tariff to implement the program. Therefore, she recommends that EAI file its pre-pay program with the

Commission for review and approval within 180 days following the Commission's order in this case. *Id.* at 6 – 7.

According to Ms. Foley, Staff recommends that EAI file a comprehensive set of reporting requirements with the Commission prior to the AMI deployment and then annually. The data filed would enable the Commission to determine whether AMI is being deployed properly and on schedule, how it functions, to what extent customers are receiving benefits, how the costs compare to EAI's budget, and whether annual adjustments are necessary. Ms. Foley has included a copy of the reporting requirements in Direct Exhibit EF-1. *Id.* at 8.

EAI is proposing to replace its current OMS with a modern OMS that will allow EAI operators to accurately determine the number of customers affected by unscheduled and planned outages within a central operating environment. Ms. Foley agrees with installing a new OMS, but recommends that EAI establish a baseline System Average Duration Index (SAIDI) reflecting distribution system reliability prior to the deployment of AMI. Once the AMI is deployed, Ms. Foley recommends that EAI file a report in this docket annually comparing the then current SAIDI to the baseline SAIDI. *Id.* at 8-10.

For the 2016 expenses, Ms. Foley recommends that the Commission deny EAI's request to defer the customer education expenses in a regulatory asset. She points out that the 2016 O&M expenses were incurred prior to the implementation of EAI's FRP Rider. Therefore, EAI had an opportunity to recover those costs in base rates. For this reason, Ms. Foley argues that it would not be appropriate to include them in the 2018 FRP Rider. *Id.* at 10-11.

For the 2017 expenses, Ms. Foley recommends that the Commission deny the Company's request to defer the customer education expenses and the O&M expenses for IT maintenance and support in a regulatory asset to be recovered through the 2018 FRP Rider. Alternatively, Ms. Foley recommends that EAI include the actual 2017 customer education and IT maintenance and support expenses in the determination of the Netting of Historical Year Differences Adjustment in EAI's 2018 FRP Rider filing, to be recovered in 2019. *Id.* at 10-11.

Judy Kay Lindholm

Ms. Lindholm disagrees with EAI's proposal to keep its reconnection fee at the current level until AMI deployment is complete. The majority of costs in EAI's current \$39 reconnection fee are for labor and vehicle expense, which will not be applicable to remote connections. Therefore, the fee should be adjusted before full deployment is complete. Lindholm Direct at 3-4.

Ronald G. Garner

Staff witness Ronald G. Garner testifies that the purpose of his testimony is to address the depreciable life requested by EAI for the AMI capital investment and EAI's proposal to continue depreciating existing assets that will be removed from service due to the AMI implementation. In addition, Mr. Garner makes recommendations on the recording of AMI assets into accounts distinct from other meter assets and certain reporting requirements. Garner Direct at 4-5.

Mr. Garner testifies that EAI's estimated total cost for AMI is \$214.5 million. This includes capital expenditures and \$6.5 million for customer education expenses. *Id.* at 5-6. He states that EAI is proposing a 15-year depreciable life and 6.67%

depreciation rate for its AMI assets. EAI witness Lewis testifies the 15-year life considers the effect of technological obsolescence and falls within the range presented by other utilities deploying AMI. Mr. Garner testifies that Staff recommended a 15-year life and a 6.67% depreciation rate in OG&E's AMI Docket No. 10-109-U, which was approved by the Commission in Order No. 8 of that docket. He testifies that in future depreciation studies, Staff will review the actual experience of the Company and may recommend adjusting the rate. *Id.* at 6 - 7.

According to EAI, Account 370 includes \$51,286,983 in net book value meter assets as of December 2016. Mr. Garner testifies that based on the annual depreciation on the December 2016 balance, a remaining net book value will exist at the end of AMI implementation. EAI proposes to continue to depreciate these assets at the currently approved rate of 2.6%. Using December 2015 balances, EAI witness Lewis estimates a remaining life of approximately 18 years. *Id.* at 8-9.

According to EAI, Account 391.3 includes a \$712,712 net book value for handheld meter reading devices as of December 2016. Mr. Garner testifies that based on the annual depreciation on the December 2016 balance, a remaining net book value will exist at the end of AMI implementation. Based on the Company's response to APSC DR 2.5, EAI proposes to recover the net book value over the remaining life of the assets. *Id.* at 9-10.

Mr. Garner recommends EAI be required to establish a regulatory asset account and transfer the net book value of the existing meters and handheld meter reading devices into that account as the units are retired. He also recommends that any salvage received should be credited to the regulatory asset account. Because these assets were

prudently incurred investments, Mr. Garner recommends that EAI be allowed to earn a return on the regulatory asset. He also recommends that the Commission reserve the right to determine the appropriate amount to recover in any future rate case or FRP filing that may include these retired meter and handheld meter reading device assets. *Id.* at 10-11.

In summary, Mr. Garner recommends that the Commission:

Approve a 6.67% straight-line depreciation rate for EAI's AMI project assets based on a 15-year expected life as requested by EAI;

- Require EAI to record the AMI capital components into appropriate FERC plant sub-accounts that contain only AMI related assets;
- Approve the continued use of the currently approved depreciation rate for Account 370 for the ancillary equipment that will remain in service;
- Require EAI to establish a regulatory asset account and transfer into that account the net book value of the existing meters and handheld meter reading devices as they are retired as well as any related salvage amounts;
- Require EAI to recommend the appropriate accounting treatment for the regulatory asset for further consideration in this docket;
- Approve a 15-year amortization period for the retired meter and handheld meter reading device regulatory asset;
- Allow EAI to earn a return on the retired meter and handheld meter reading device regulatory asset; and

- Reserve the right to determine the appropriate amount to recover in any rate case or FRP filing that includes these retired meter and handheld meter reading device assets.

Id. at 12-13.

In addition, Mr. Garner recommends that EAI be required to report to the Commission the following:

- Within 90 days after the first deployment of AMI assets, the balance prior to such deployment in Account 391.3 for handheld meter reading equipment, as well as the related accumulated depreciation balance;
- Within 90 days after the first deployment of AMI assets, the balances that existed prior to such deployment in Account 370 for meters and ancillary equipment, separately, as well as the related accumulated depreciation balances;
- Annually throughout the AMI deployment schedule, the remaining balances of meters and handheld meter reading equipment yet to be retired and their associated accumulated depreciation balances;
- Annually throughout the AMI deployment schedule, the retired meter and handheld meter reading device regulatory asset balances and any amortization balances; and
- After the final implementation of the AMI project, the balances in the retired meter and handheld meter reading device regulatory asset account and associated amortization balances. EAI should also report the expected annual amortization and date that the retired meter and handheld meter reading device regulatory assets will be fully amortized.

Id. at 13-14.

John G. Athas

Mr. Athas is a Principal Consultant with Daymark Energy Advisors. He has been hired by Staff to assist in the review of EAI's advance meter application. Mr. Athas testifies that he has reviewed EAI's cost-benefit data and has performed his own break-even analysis to test the parameters of EAI's assumptions. He states he has three initial concerns. His first concern is whether EAI has put too much reliance on the amount for customer consumption reduction. Second, is whether EAI estimated too much for marginal fuel and capacity cost savings. And third, Mr. Athas questions what impact the ramp-up time for behavioral benefits to be realized will have on the cost-benefit analysis. As part of his analysis, Mr. Athas reclassified the quantified benefits identified by EAI into three categories: hard benefits, intermediate benefits, and soft benefits. Athas Direct at 20.

Mr. Athas defines hard benefits as savings realized from reductions in O&M expenses due to the deployment of AMI. Hard benefits are objective, easy to quantify, and require no customer behavior change. He says an example is the savings EAI will realize from no longer paying contract labor to read meters. *Id.* He testifies that soft benefits require a high degree of customer behavioral changes and are less predictable. For example, he says customers cannot be forced to reduce consumption, but rather must be convinced to reduce usage. Therefore, reducing power consumption is a soft benefit of AMI. *Id.* at 20-21.

Mr. Athas describes intermediate benefits as requiring some degree of customer behavior change, but says they also have some savings that flow directly from the switch

to AMI. He notes that the savings from reducing UFE would fall into the category of intermediate benefits since only part of the savings rely on customer behavior changes. *Id.* at 21.

Mr. Athas states his belief that the hard benefits stand the highest likelihood of being realized. He points out that on a net present value basis, the hard and intermediate benefits totaling \$237 million, come very close to paying for the total cost of \$270 million that EAI has estimated. *Id.* at 21-22. Mr. Athas testifies that he has concerns regarding the assumptions underlying the soft and intermediate benefits estimated by EAI. *Id.* at 27. He notes that the two drivers for realizing soft and intermediate benefits are energy savings and capacity savings. *Id.* at 22.

Mr. Athas testifies that his main concern regarding soft benefits is that the prices for energy and capacity seem a little higher than expected. His biggest concern regarding intermediate benefits is whether eliminating the UFE will really reduce consumption. A general concern Mr. Athas has is whether EAI's communications plan and programs will be ready to implement during the first year or two. This leads him to believe that the full customer participation and consumption changes will not occur from day one of customers having an advanced meter. *Id.* at 27-28.

Mr. Athas testifies that he tested the sensitivity to the necessary level of soft benefits to achieve the break-even point. He conducted four break-even sensitivities which are summarized in Table 2 below. *Id.* at 29.

Table 2			
Breakeven Analysis			
<i>Case</i>	<i>Assumptions</i>	<i>Amount of Estimated Soft Benefits Necessary for Breakeven (PV\$ Million)</i>	<i>Percent of Estimated Soft Benefits Necessary for Breakeven</i>
A	All Hard and Intermediate Benefits are realized	\$33	12%
B	All Hard Benefits are realized and ZERO Intermediate benefits are realized	\$105	39%
C	No Benefits realized until after 100% of AMI Deployment	\$87	33%
D	All Hard and Soft Benefits are realized but only after 100% AMI Deployment and Intermediate Benefits are NEVER realized	\$154	58%

Scenario A shows the minimum level of soft benefits needed for the investment to break even. In scenario A, Mr. Athas assumed all other estimated benefits were fully realized. The results show that only 12% of the soft benefits need to occur to reach breakeven. *Id.* at 29-30. In scenario B, Mr. Athas assumed all the hard benefits were realized but zero of the intermediate benefits were realized. The results of scenario B show that breakeven occurs when 39% of the soft benefits are realized. Mr. Athas states that scenarios A and B show that there would have to be a very significant variance in the underlying fuels and capacity forecasts to result in negative cost-benefit outcomes. Therefore, he does not believe it is necessary to perform additional analysis using alternative price forecasts. *Id.* at 30. In scenarios C and D, Mr. Athas delayed realizing any benefits until full meter deployment was complete. Under scenario C only 33% of the soft benefits were needed to breakeven. In scenario D, hard benefits were realized after full deployment, but intermediate benefits were never realized. In this case it was necessary to realize 58% of the soft benefits to breakeven. *Id.* at 31.

In conclusion, Mr. Athas testifies that his testing indicates that EAI's benefit estimates are not sensitive to changing price forecasts or the timing of when benefits are realized. Therefore, he agrees that the AMI investment will produce more benefits than costs over time. Mr. Athas also recommends that EAI work with all the parties to this docket to develop a detailed customer education plan and dynamic pricing plans as also recommended by Staff witness Foley. *Id.* at 31-32.

4. EAI Rebuttal Testimony

Melanie L. Taylor

Ms. Taylor testifies that she is adopting the Direct Testimony of EAI witness Oscar Washington. She generally describes EAI's response to the recommendations by Staff witnesses Butler, Foley, Lindholm, and Garner. In addition, she responds to the recommendations of AG witness Alexander. She states that EAI believes many of Staff's recommendations substantively address AG witness Alexander's issues. She asserts that EAI's failure to address an issue is not indicative of its agreement or acceptance. Taylor Rebuttal at 5.

Ms. Taylor summarizes Staff's position, which concluded that EAI's AMI deployment is "consistent with the public interest, and that it is more likely than not to provide quantifiable net customer benefits over time." She states that Staff acknowledged many of the benefits of EAI's AMI deployment and provides examples. *Id.* at 6.

Ms. Taylor summarizes the AG's position, in which AG witness Alexander recommends that the Commission deny approval and cost recovery of EAI's AMI deployment because EAI has not established that the project is cost-effective. Ms.

Alexander concluded that many of the benefits will not materialize, and therefore the cost of the project will exceed any reasonable estimate of benefits. She notes that, in the alternative, if the Commission approves EAI's AMI deployment, Ms. Alexander recommends a number of conditions for the Commission to consider. Ms. Taylor notes that many of the AG's recommendations coincide with Staff's recommendations. Taylor Rebuttal at 6-7. She disagrees with Ms. Alexander's assertion and notes that Staff reaches a different conclusion – specifically that the Company's proposal to deploy AMI is more likely than not to be cost-effective and expected to provide millions of dollars of net benefits. She cites to the testimony of Mr. Lewis and Dr. Faruqui for further explanation of cost effectiveness and benefit and notes that both EAI witnesses respond to Ms. Alexander's remarks regarding the cost-benefit analysis. *Id.* at 6 – 7.

In response to Ms. Alexander's contention that EAI's AMI investment is “only a down payment on future costs and investments,” Ms. Taylor testifies that the AMI deployment is a stand-alone, cost effective project. Any additional technology deployed after the AMI network is implemented requires an assessment of the technology and potential benefits. Ms. Taylor testifies that any costs related to additional investment would be subject to review by the Commission through EAI's FRP or a rate case. She states that “a requirement to submit an overall grid modernization plan is premature at this time.” *Id.* at 8.

Ms. Taylor describes some of the potential grid modernization technologies that EAI may consider in the future. They could include:

- Grid monitors/sensors that use the communications network implemented with AMI. These could provide operational data such as voltage level and

power flow that could be used in near real-time application. Self-healing switching schemes could be implemented on distribution feeders.

- Asset management programs that base periodic maintenance schedules on the operational data from each grid device.
- Devices that allow interaction with distributed generation or smart appliances.

Ms. Taylor testifies that in approving EAI's AMI deployment, the Commission is not approving investments in any of these technologies. She testifies that the AMI investment is cost-effective on its own regardless of any proposed technologies in the future. *Id.* at 9 – 10.

Ms. Taylor remarks that the AG recommends that any future EE programs that are enabled by AMI should be submitted to the Commission as part of EAI's EE portfolio for review and approval by the Commission. She testifies that this recommendation is consistent with EAI's intent and that EAI accepts the AG's recommendation. *Id.* at 10.

In response to Ms. Alexander's contention that expansion of EAI's EE programs should be considered prior to deployment of AMI, Ms. Taylor notes that the AG does not identify any "alternative programs or alternative metering programs by which such usage information can be obtained in a cost-effective manner." Ms. Taylor testifies that no alternatives were identified that achieve the predicted benefits for EAI's customers. She notes that the capabilities that enable the AMI benefits presented by EAI all depend on two-way communication, interval usage data, and enhanced web portal and tools that are provided with AMI. She states that Ms. Alexander overlooks the non-quantified benefits AMI will deliver such as "improvements to customer outage restoration and

customer service.” She states that, as explained by EAI witness Lewis, the goal of EAI’s cost-benefit analysis was to determine a reasonable estimate of quantifiable benefits, adding that EAI witness Faruqui explains that EAI’s assumptions to estimate the Other Benefits “are reasonable and consistent with benefit assessments for other utilities.” Ms. Taylor notes that Staff also concluded that EAI’s proposed AMI deployment is cost-effective and expected to result in significant customer benefits. She argues that the weight of the evidence demonstrates that EAI’s AMI proposal is cost effective and that customers will recognize substantial benefits. *Id.* at 11 – 12.

With respect to AMI’s cost recovery proposal, Ms. Taylor testifies that Ms. Alexander recommends delaying cost recovery until post-deployment and raises various concerns with EAI’s benefits assessment, several of which are addressed by EAI witnesses Lewis and Faruqui. Ms. Alexander disagrees with concurrent cost recovery primarily due to her concerns associated with the quantified Other Benefits (consumption reduction, peak capacity reduction, and reduced unaccounted for energy). Because Ms. Alexander is not convinced these benefits will materialize, she recommends the AMI costs not be recovered until deployment is complete or that EAI be required to offset deployment costs with the level of Operational Benefits and the Other Benefits EAI assumed would occur. Ms. Taylor states that Ms. Alexander’s recommendations are contrary to EAI’s currently approved FRP ratemaking mechanism, which allows the inclusion in rates of both the costs and the benefits of AMI as they are projected to occur. She notes that the projections are subsequently trued up to actuals. *Id.* at 12 – 13.

Ms. Taylor testifies that she disagrees with the AG's cost recovery recommendations and asserts that Rider FRP is the appropriate mechanism for recovery of AMI costs. She states that Staff makes various recommendations as to cost recovery, which EAI believes should alleviate some of Ms. Alexander's concerns regarding substantiating the realization of benefits. In particular, EAI agrees to work with Staff and the AG "to develop a price response program, such as time-of-use rates, to further enhance the consumption reduction and peak capacity benefits." *Id.* at 12 – 14.

Ms. Taylor testifies that Staff agrees with EAI's proposal to recover the AMI deployment costs through Rider FRP. However, she notes that Staff witness Butler does not agree with EAI's proposal to include certain 2016 and 2017 O&M expenses for customer education and IT maintenance and support in a regulatory asset to be recovered in 2018. She observes that Staff witness Foley recommends that 2017 O&M costs be included in the Netting of Historical Year Differences Adjustment in the 2018 Rider FRP filing. In addition, Staff witness Garner proposes an alternative accounting treatment for the undepreciated plant balances for existing meters and handheld devices. Ms. Taylor testifies that EAI substantially accepts Staff's recommendations on cost recovery and other items, which are addressed by her and other EAI witnesses. She states that EAI witness Casey discusses Staff's cost recovery recommendations in more detail, including Staff witness Garner's recommended reporting requirements. *Id.* at 14 – 15.

Regarding customer data privacy and cyber-security, Ms. Taylor testifies that Staff witness Butler concluded that EAI has "reasonable policies in place to address the protection of customer data." Because many of the physical controls necessary to

implement EAI's policies will be implemented during the build, test, and deployment phases, she states that Ms. Butler recommends EAI work with Staff and the AG to develop documentation confirming that the cyber-security controls are in place prior to deployment and that EAI file this documentation within 180 days of the Commission's Order in this proceeding. *Id.* at 15.

In response to Ms. Alexander's contention that EAI's policies do not contemplate all potential data access issues, specifically by third parties, and has concerns that EAI stated no revisions to the policies are necessary at this time, Ms. Taylor testifies that EAI witness Washington discussed EAI's exhaustive review of its policies in his Direct Testimony. Mr. Washington explained that the review is an ongoing effort and any policy revisions or new policies will be addressed as part of EAI's obligation to protect customer information. Ms. Taylor states that the AG's concerns about the lack of a new policy and a new cyber-security plan seem misplaced. *Id.* at 16.

Ms. Taylor testifies that EAI accepts Staff's recommendation to work with Staff and the AG to develop appropriate documentation confirming that the cyber-security controls are in place prior to AMI deployment and file this documentation within 180 days of the Commission's Order in this proceeding. She notes that because of the timing of the documentation, some of the actual physical controls may still be under development. She testifies that EAI commits to work with Staff and the AG to create the documentation that will ensure the controls are being implemented and that the controls will be in place prior to deployment. She states that EAI believes the acceptance of Staff's recommendation should alleviate the AG's concerns. Ms. Taylor

testifies that if the AG continues to have specific concerns over the policies, EAI does not oppose the AG raising those issues through this process. *Id.* at 17.

Ms. Taylor states that, as described in EAI witness Washington's Direct Testimony, EAI proposes to implement a comprehensive customer education plan as part of its AMI deployment. She notes that Staff witness Foley testified that EAI's plan addresses many of the necessary initiatives related to customer awareness and understanding. However, Staff recommends EAI coordinate with Staff and the AG to further develop a comprehensive education plan, not to exceed EAI's budgeted amount, and submit it to the Commission for review and approval within 180 days following the Commission's Order in this proceeding. Ms. Taylor testifies that AG witness Alexander also recommends a detailed education plan and budget that includes performance metrics to document that the expenditures have achieved their intended purpose. Ms. Alexander also states that EAI should be required to include all of its proposed AMI customer education costs in its cost-benefit analysis. *Id.* at 17-18. Ms. Taylor testifies that EAI will work with Staff and the AG to refine the proposed customer education plan and submit an updated plan for review by the parties within 180 days following the Commission's Order. In addition, she says, EAI will work with the parties to submit a comprehensive plan to the Commission for review and approval within a reasonable timeframe prior to deployment. Ms. Taylor testifies that Staff's recommended reporting requirement, which includes customer communication and education metrics, should address some of the AG's additional concerns. Ms. Taylor discusses Staff's reporting requirements later in her testimony. *Id.* at 19.

Ms. Taylor comments on Staff witness Foley's testimony that offering price response initiatives would allow customers to experience greater savings with AMI. Ms. Foley recommends EAI work with Staff and the AG to develop price response programs, such as TOU rates, and file the programs with the Commission for review and approval within 180 days following the Commission's Order in this proceeding. She observes that the AG noted other companies' reliance on TOU programs and stated that EAI did not propose any varying rate or incentive program. *Id.* at 19 – 20. In response, Ms. Taylor testifies that EAI is generally in agreement with Staff's recommendation, with some consideration on the timing. She testifies that EAI will work with Staff and the AG to explore an appropriate TOU program for review and approval by the Commission. She states that EAI has some concern with the 180-day timeframe. Some components can be developed in advance of deployment, she notes, but others such as "integration of time-differentiated energy usage data with the existing billing processes, cannot be finalized until meters are deployed and the systems are in place." Ms. Taylor testifies that other programs referenced by Ms. Foley would involve a different level of complexity to implement. EAI is currently focused on a residential TOU program, she states, adding that EAI "understands and accepts that a voluntary TOU rate would be worthwhile to pursue concurrent with deployment of AMI." She testifies that while EAI will work with Staff and the AG, the actual TOU program is unlikely to be finalized within 180 days of the Commission's Order. She proposes that EAI file a status report on the TOU program development and at that time propose a timeline for submission of a final program to the Commission. *Id.* at 20 – 22.

Ms. Taylor testifies that Staff supports the proposition that pre-pay programs can be a tool for customers to manage their bills as part of an overall household budget. Because EAI's program is not yet developed, Staff witness Foley recommends that EAI finalize the program and file it for Commission review and approval within 180 days of the Commission's Order in this proceeding. *Id.* at 22. Ms. Taylor observes that AG witness Alexander recommends the Commission require EAI to withdraw the pre-pay program, but she disagrees with the AG's concerns regarding degradation of service and loss of consumer protections. The primary reason for her disagreement is that EAI has already committed that this would be a voluntary program. Ms. Taylor testifies that EAI is not proposing to implement or recover the costs of a pre-pay program at this time. She states that EAI will work with Staff and the AG to develop a program. Once the program is finalized, EAI will file it for Commission review and approval. *Id.* at 22 – 23.

In response to Staff's recommendation, EAI has the same concerns with the 180-day timeframe as it does with Staff's recommendation for developing a price response program. She states that EAI commits to developing a pre-pay program and filing it for Commission review and approval. However, the program may not be finalized within the 180-day timeframe proposed by Staff. Ms. Taylor testifies that if the program is not finalized within that timeframe or, for example, if the parties conclude it should be effective when all customers can participate, EAI will file a status report on the program's development and suggest a timeline for final presentation to the Commission. *Id.* at 23 – 24.

Ms. Taylor testifies that EAI does not believe it is appropriate at this time to accept Staff's recommendation to provide a monthly Home Energy Report to customers

who do not have internet access and provide all customers a report periodically. EAI proposes to include this as a discussion item for the Customer Education Plan collaboration with Staff and the AG. While direct-mailing may be one solution, other more feasible or cost-effective options may be identified through EAI's planned outreach efforts or through the collaboration with Staff and the AG. *Id.* at 24 – 25.

Ms. Taylor testifies that Staff and the AG are in agreement with EAI's proposal to provide an opt-out option for residential customers that do not want an advanced meter. EAI accepts Staff's recommendation that EAI work with Staff and the AG to develop a tariff for implementing the associated charges and file the tariff within 180 days of the Commission's Order in this proceeding. *Id.* at 25 – 26.

With respect to EAI's proposed reconnect fees and remote disconnection, Ms. Taylor testifies that Staff witness Lindholm recommends the reconnect fee be adjusted during AMI deployment. She testifies that EAI is in agreement with Staff's recommendations and will provide updated calculations with the annual reporting requirements. She also notes that Staff's recommendations should alleviate some of the AG's concerns. *Id.* at 27.

Ms. Taylor testifies that AG witness Alexander does not believe "involuntary disconnects" (disconnects due to a past due balance) should be performed remotely and that the associated cost savings should be removed from EAI's cost/benefit analysis. Ms. Taylor responds that Ms. Alexander misinterprets the Commission's GSRs as requiring a premises visit and states incorrectly that utilities are required today to accept funds from the customer to avoid disconnection. Ms. Taylor testifies that Ms.

Alexander also misrepresents that EAI defers disconnects that do not exceed a certain dollar threshold. *Id.* at 27 – 28.

Ms. Taylor testifies that GSR 6.09.B. describes the process for disconnecting service for non-payment when the disconnection is performed at the premises. However, she states that the Rule on its face does not require a premises visit. She notes that this Rule does not describe a remote disconnect. However, the Rule has been in effect for decades, prior to any such technology being available. She states that Ms. Alexander's interpretation is unreasonable and not consistent with the language of the Rule itself. Ms. Taylor also notes that this issue was raised in OG&E's Docket No. 10-109-U, and Staff supported the current interpretation of the Rule now advanced by EAI: that the Rule does not require a premises visit.⁴ In that Docket, OG&E proposed remote disconnects through its AMI deployment, but ultimately agreed to continue premises visits to leave door hangers if the customer could not be reached by telephone prior to disconnection. In its most recent rate case, OG&E explained that this process substantially increased premises visits with little effect on the rate of disconnection. Ms. Taylor testifies that based on the recommendation of Staff, it appears that OG&E has discontinued these additional notifications. She states that no exemption from GSR 6.09.B. was requested or recommended in that docket. *Id.* at 28 – 29.

Ms. Taylor testifies that she has no basis on which to agree with Ms. Alexander that the number of disconnects will increase once premises visits are discontinued. However, assuming disconnects do increase, Ms. Taylor testifies she is confused as to why Ms. Alexander views this as a detriment. She states that Ms. Alexander testifies

⁴ Docket No. 10-109-U, Direct Testimony of Diana K. Brenske at 15 (May 20, 2011).

that a functionality of AMI is eliminating barriers to disconnecting service and that, in other words, AMI streamlines the disconnection process. Ms. Taylor responds that the current process, which requires truck rolls and employees to navigate the many obstacles of performing on-site disconnects for non-payment, should not be perceived as a benefit to customers that are being disconnected because it is not as efficient as remote disconnections. Furthermore, Ms. Taylor states, EAI does not target disconnects at accounts that have exceeded a certain dollar threshold. Regardless of the amount past due, the disconnection activity is driven by the age of the work order. If the work volume on a particular day prevents EAI from disconnecting all past due accounts or if other barriers are present, the accounts subject to disconnect are rolled to the next day. *Id.* at 29 – 31.

Ms. Taylor testifies that she disagrees with Ms. Alexander's contention that remote disconnection subjects customers to potential health hazards. The AG describes several extreme risks to customers due to the loss of electricity by involuntary disconnection or some other unplanned outage. Ms. Taylor states that Ms. Alexander seems to imply that these outcomes for a past due customer could be avoided with a premises visit, which is not the case. Ms. Taylor testifies that the GSRs prohibit disconnection of an elderly customer or an individual with disabilities when the weather is forecast to be 32 degrees Fahrenheit or lower or when the temperature is forecast to be 95 degrees Fahrenheit or higher. In addition, the GSRs require utilities to honor a physician's certificate that the customer or permanent resident of the household has a serious medical condition and provide a suspension delay of up to 30 days. The GSRs also provide several requirements for identification and payment assistance for elderly

customers and individuals with disabilities. Ms. Taylor testifies that AMI does not change any of these protections and EAI is not seeking a waiver of any of these rules. *Id.* at 31 – 32.

Ms. Taylor testifies that remote disconnection and reconnection can potentially be a benefit to low-income customers. She states that the premises visit process is cumbersome and requires the disconnected customer to pay for the costs caused by disconnecting and reconnecting service. Because of remote disconnection and reconnection, the customers that can pay their bills will pay significantly less for reconnecting service than they currently pay. In addition, customers will generally experience quicker service restoration times. She states that except for unforeseen technical issues or payment processing delays, EAI expects the majority of accounts to be reconnected within five minutes of sufficient payment being posted to an account. *Id.* at 32 – 33.

Ms. Taylor adds that remote disconnection is a more cost-effective means of managing accounts. This process provides benefits to all customers through reduced write-offs, lower reconnection fees, and faster service restoration. She states that the GSRs provide ample customer protections and payment arrangements. In addition, she testifies that the premises visits performed by OG&E appear to have cost OG&E customers more money and did not produce any meaningful results. The processes imposed on OG&E have been discontinued and should not be imposed on EAI. *Id.* at 33 – 34.

Ms. Taylor testifies that Staff recommends an expansive set of reporting requirements to be filed by EAI prior to deployment and annually thereafter. Staff's

recommendations include metrics for costs and benefits, project delivery milestones, operational changes, and customer communications and education. In addition, Staff witness Foley recommends that EAI establish a baseline SAIDI prior to deployment and file an annual report comparing the current SAIDI to this baseline. Ms. Taylor testifies that EAI substantially accepts Staff's reporting requirements, which are more fully described in EAI's rebuttal testimonies and EAI Rebuttal Exhibit MLT-2. She states that EAI will work with Staff and the AG to clarify the specific methodologies to be used to report on the metrics and to confirm that all of the proposed metrics are consistent with EAI's AMI deployment. EAI proposes to provide the initial reports before the end of April 2019, which would provide Staff's baselines and accounting information prior to meter deployment beginning in 2019. EAI proposes to provide the subsequent annual reporting after release of its FERC Form 1 filings around the end of April each year. EAI also proposes to work with Staff and the AG regarding the timing for concluding the annual reporting obligations. *Id.* at 34 – 35.

Barbara Casey

Ms. Casey states that EAI no longer requests to recover AMI deployment costs through a regulatory asset. Rather, EAI agrees that, as part of the Company's 2018 Rider FRP Filing, the 2017 AMI deployment costs previously requested as part of the deferral will be subject to the Netting Adjustment as will all other actual 2017 costs. Casey Rebuttal at 4.

Ms. Casey testifies that EAI agrees with the following recommendations made by Staff witness Garner regarding the accounting treatment of the AMI assets:

- EAI agrees to use a 15-year expected life and a straight-line depreciation rate of 6.67 percent for the AMI assets.
- EAI agrees to record the capital components of the AMI project in appropriate FERC plant sub-accounts, which will contain only AMI related assets.
- EAI agrees to continue recording the cost of ancillary equipment in FERC Account 370 and continue depreciating those assets at the currently approved depreciation rate.
- EAI agrees to retire the existing meters and handheld devices and transfer the remaining book value to a regulatory asset account. However EAI proposes to transfer the remaining net book value on the first day of deployment to regulatory asset in its entirety, which EAI would then begin to immediately amortize in a straight-line method over a 15-year period.

Id. at 5 – 7.

Ms. Casey discusses the five reporting requirements recommended by Staff. She says EAI agrees to the following three requirements:

- EAI agrees to report to the Commission within 90 days of the first deployment, the balances that existed prior to such deployment in Account 370 for meters and ancillary equipment, as well as the related accumulated depreciation balances.
- EAI agrees to report to the Commission within 90 days of the first deployment, the balance prior to such deployment that existed in Account 391.3 for handheld meter reading equipment, as well as the related accumulated depreciation balance.

- EAI agrees to report to the Commission annually throughout the AMI deployment schedule, the balances in the retired meter and handheld meter reading device regulatory asset account and associated amortization balances. EAI will also report the expected annual amortization expense and date that the retired meter and handheld meter reading device assets will be fully amortized.

Ms. Casey states that the remaining two reporting requirements recommended by Staff are not applicable if the Commission approves EAI's request to retire these assets and transfer them to the regulatory asset account in their entirety prior to the smart meter deployment. *Id.* at 7 – 9.

Jay Lewis

Mr. Lewis responds to AG witness Alexander's assertion that EAI's customer write-offs benefit is merely a timing issue and therefore should not be included as a benefit. He avers that Ms. Alexander misunderstands the calculation of the benefit. He says the calculation only includes the customer accounts that are ultimately closed and written off to bad debt expense and not accounts that are later reconnected. Mr. Lewis says that by using AMI, it will take the Company fewer days to disconnect a non-paying customer versus the existing method of disconnecting a customer. Using this reduced number of days, EAI then estimates how much electricity would have been used by the non-paying customer to arrive at the benefit or bad debt savings amount. Lewis Rebuttal at 3 – 4.

In response to Ms. Alexander's assertions regarding comparisons of AMI to non-AMI alternative program designs such as considering EAI's current EE programs for expansion prior to relying on consumption reduction and peak capacity programs, Mr.

Lewis states that she overlooks the fact that only 4 percent of those benefits on a nominal basis need actually be realized before approaching a break-even point where the AMI costs might exceed the benefits. *Id.* at 4 – 5.

Mr. Lewis addresses the AG's concern over Entergy Mississippi Inc.'s (EMI) treatment of the quantified Other Benefits and the AG's concern that the other Entergy jurisdictions will not approve the AMI applications, resulting in higher shared costs for Arkansas ratepayers. Mr. Lewis states that EMI's calculation of the Other Benefits is substantively similar to EAI's proposed treatment of those benefits, given the differences in the two Companies' regulatory recovery of energy costs. Mr. Lewis explains that EMI calculates its fuel costs using projected costs and sales while EAI uses historic costs and sales. He points out that both companies utilize a true-up adjustment in their calculations to reflect actual fuel costs for the prior year. The only difference between the two is the timing in which those benefits will be reflected in customer rates, and that timing is a result of the difference in the Energy Cost Recovery (ECR) rate determination methodologies between the two jurisdictions. Mr. Lewis says Entergy New Orleans and Entergy Louisiana have both suspended proceedings to allow for settlement negotiations. Entergy Texas anticipates filing its AMI application in the third quarter of 2017; therefore, he contends there is little risk that Arkansas will be allocated higher shared costs. *Id.* at 5 – 7

Mr. Lewis testifies that the Company recently discovered that there was an issue with the AURORA model's logic used to calculate the annual average Locational Marginal Prices (LMPs) that were used in calculating the energy-related benefits in the AMI cost-benefit analysis. He says the issue does not involve the fuel or capacity price

forecasts but rather the algorithm that models the transfer limits that have been agreed to between the Southwest Power Pool (SPP) and the Mid-Continent Independent System Operator (MISO). Mr. Lewis states that the problem has been fixed and the LMPs re-calculated. The updated analysis produced a 6 percent decline in benefits or \$25 million reduction in total expected benefits on a nominal basis. He testifies that the Company still expects nominal net benefits of \$406 million. *Id.* at 7 – 10.

Ahmad Faruqui

Dr. Faruqui divides Ms. Alexander's Direct Testimony into five main conceptual issues, to which he responds:

- Ms. Alexander mischaracterizes EAI's methodology for calculating benefits arising from reductions in overall energy consumption and peak load. Faruqui Rebuttal at 5, 9 - 10;
- She misinterprets the basis for EAI's estimate of the energy conservation that would result from the introduction of new informational tools. *Id.* at 6;
- She disregards the connection between hourly data and a customer's monthly electricity bill. *Id.* at 7 – 8, 10 - 11;
- She overstates the necessity of tailoring load impact estimates to EAI's customer base. *Id.* at 8 – 9; and
- She makes a misguided suggestion that the proposed AMI-based customer programs should be compared to non-AMI customer programs. *Id.* at 11 – 12.

Dr. Faruqui testifies that EAI is pursuing AMI for its operational benefits, which are a substantial portion of the quantified benefits, "*in addition to*" its conservation benefits. The proposed AMI rollout also includes other important benefits, he notes, like

improved outage response and restoration, employee and contractor safety, and laying the foundation for future grid modernization. Thus, he states, the customer programs proposed by EAI are part of a “package” that includes these other advantages. Conservation is just one component of the package, he explains, and forgoing AMI-enabled customer programs for other non-AMI-based programs would simply be leaving benefits of the AMI deployment on the table. *Id.* at 12.

Dr. Faruqui summarizes and responds to Ms. Alexander’s portrayal of the studies he cited in his Direct Testimony, noting his disagreement with the three primary reasons why she believes the cited studies are irrelevant:

- The utilities in the studies have different underlying rate designs than EAI. *Id.* at 13;
- States regulatory commissions have not adopted the cited estimates of benefits. *Id.* at 14; and
- Some cited utility web portals convey additional information beyond electricity consumption data. *Id.* at 15.

Dr. Faruqui identifies and responds to three other important issues in Ms. Alexander’s Testimony:

- She discounts the “option value” of AMI and its potential for long-term benefits and new service offerings. Dr. Faruqui states that the option value of AMI that Ms. Alexander discounts includes future service and pricing programs that would not be possible with the legacy metering system (*e.g.*, grid modernization, TOU rates, etc.). *Id.* at 17;

- She dismisses or does not acknowledge the potential value of additional benefits that were not quantified in EAI's proposal. For example, Dr. Faruqui states, she overlooked or did not address non-quantified benefits of AMI deployment such as improved outage management, billing accuracy, reduced call volumes, and safer field operations. Because these benefits are not included in the Company's aggregate net benefits analysis, he asserts that EAI's net benefits can be considered conservative, rather than overstated as suggested by Ms. Alexander. *Id.* at 18; and
- She overstates the "dire consequences" associated with remote disconnection. Dr. Faruqui responds that he has not seen any evidence that utilities with AMI-enabled disconnection capabilities have significantly increased their disconnections. He points out that Ms. Alexander provided no data to support her claims. *Id.*

Dr. Faruqui concludes by holding to the view that the aspects of EAI's AMI proposal that he has reviewed are reasonable, consistent with current industry practices, and will provide significant benefits to its customers. *Id.* at 20.

III. Summary of Parties' Settlement Agreement and Settlement Positions

In their August 11, 2017 *Joint Motion to Approve Settlement Agreement, Excuse Witnesses, and Waive Hearing*, EAI, the AG, and Staff (the Settling Parties) filed their Settlement Agreement as Joint Motion Exhibit 1, including Appendix 1 (Reporting Requirements), seeking an Order finding deployment of AMI to be in the public interest and exemption from certain applicable Commission Rules. Previously, through its rebuttal testimony, the Company had responded to the other Settling Parties' key concerns and substantially accepted all of Staff's proposed reporting and other requirements. Joint Motion at 7. EAI witness Taylor testifies in rebuttal that EAI substantially accepts Staff's recommendations on cost recovery and other items as more specifically addressed by her and other EAI witnesses. She also notes that EAI believes that many of the recommendations made by Staff also substantively address many of the concerns raised by AG witness Alexander. Taylor Rebuttal at 5. Using EAI's rebuttal testimony as the starting point, Appendix 1, a modified version of EAI Rebuttal Exhibit MLT-2, more fully explains EAI's acceptance of Staff's proposed reporting requirements, as modified to include the estimated deployment-related completion dates. Agreement at 7.

In Settlement Testimony, Staff witness Butler recommends approval of EAI's AMI deployment as being in the public interest and testified that through the annual Rider FRP filings, Staff will be able to monitor the expenditures related to the deployment, both capital and expense, and will be able to recommend adjustments if any of the expenditures appear imprudent, unreasonable, or inconsistent with the AMI deployment as approved. Butler Settlement at 6. She testifies that the Agreement is

based on Staff's recommendations as modified in the Rebuttal Testimonies of EAI's witnesses. Ms. Butler also states that the Agreement incorporates additional requirements and clarifications of the positions of Staff and EAI which were recommended by the AG. *Id.* at 7.

AG Settlement Witness Tacker also supports the Agreement as being in the public interest and acceptable as a compromise that is within the range of reasonable litigation outcomes. She also recommends approval of the Agreement without modification. Tacker Settlement at 8.

In summary⁵, the Settlement Agreement's terms and conditions address the following issues:

- A. Cost Recovery – Provides for costs of AMI deployment to be recovered through Rate Schedule No. 44, Rider FRP.
- B. Accounting Treatment – Provides for a 15-year expected life and straight-line depreciation rate of 6.67 percent, with retirement of existing meters and handheld devices and transfer of the remaining book value to a regulatory asset to be amortized over a 15-year period.
- C. Customer Education Plan – Provides for the Settling Parties to cooperatively develop a multi-phased, comprehensive CEP, with metrics, to be submitted to the Commission for review and approval within a reasonable time prior to meter deployment.
- D. Pre-Pay Program – Provides for a plan to cooperatively develop a Pre-Pay service tariff for Commission review and approval.

⁵ The Commission notes that this summary is an abbreviated version of the Agreement and that the actual language of the Agreement and Appendix 1 is what governs the Settling Parties in the Commission's findings and rulings in this docket.

- E. Price-Response Program – Provides for an immediate focus on development of a voluntary residential TOU program for Commission review and approval.
- F. Home Energy Reports – Sets as a collaborative discussion item for the CEP a direct-mail option for customers that do not have internet access, which discussion may identify other more feasible or cost-effective options for contacting these customers.
- G. Energy Efficiency & Demand Response Programs – Provides that EE and DR programs enabled by AMI will be submitted for Commission review and approval as part of EAI's EE program portfolio along with all other EE programs.
- H. Reconnect Fees for AMI Customers – Provides for EAI to develop a remote reconnect fee for customers who receive an AMI meter, for Commission review and approval prior to initial AMI meter deployment.
- I. Evaluation of Peak Load Reduction and Consumption Reduction – Provides that the Settling Parties will work cooperatively to develop a method to evaluate peak load reduction and consumption reduction attributed to AMI.
- J. Opt-Out – Provides for EAI to develop a cost-based opt-out option, with fees and a tariff to implement the opt-out charges, and an initial reconnection fee and tariff applicable to customers who opt out of receiving an advanced meter.
- K. Cyber-Security Controls – EAI will work with the Settling Parties to create the documentation that will ensure these controls are being implemented and will be in place prior to deployment.

- L. Reporting Requirements – EAI will work with the Settling Parties to clarify the specific methodologies the Company will use to report on the metrics proposed by Staff and/or the AG and to confirm that all of the proposed metrics are consistent with EAI’s AMI deployment. Specific details of the Reporting Requirements, including timelines, are found in Appendix 1.
- M. Deadlines to be Developed – As additional reporting requirements are developed, the Settling Parties will work collaboratively to identify and assign reasonable deadlines to appropriate items.
- N. Commission Review and Approval – Unless otherwise specified, plans and reporting requirements will be submitted to the Commission for review and approval, and the Settling Parties will also work toward developing for Commission review and approval a report setting forth all customer behavior tools or programs to be in place at the time of AMI deployment that are designed to result in reduced consumption and reduced peak load.

1. EAI Settlement Testimony

Melanie Taylor

Ms. Taylor states that the Company proposes and the Settling Parties have agreed that it is reasonable to use Rate Schedule No. 44, Rider FRP, for cost recovery of the AMI deployment. She testifies that the Agreement addresses and resolves all of EAI’s requests and sets a path forward for certain other items requested by Staff and the AG. She states that EAI, in rebuttal, substantially accepted Staff’s proposed conditions, with some modifications primarily related to the timing of certain filings with the Commission, citing to her EAI Rebuttal Exhibit MLT-2 (incorporated by reference into

the Agreement), which is responsive to Staff's proposed reporting and additional terms and commitments discussed by the Settling Parties since the time that EAI filed its rebuttal testimony. Taylor Settlement at 2 - 5.

Ms. Taylor summarizes twelve Staff-recommended terms and conditions that EAI agreed to in the Agreement, with some modifications Staff agreed were reasonable. She notes that additionally, although not necessarily responsive to a Staff recommendation, in rebuttal testimony EAI committed that should it seek to implement future AMI-enabled EE programs, the Company will submit such programs for review and approval by the Commission as part of EAI's EE program portfolio, along with all other EE programs. *Id.* at 6 - 8.

Ms. Taylor also summarizes eight commitments made by EAI that are incorporated into the Agreement as a result of further discussions with the Settling Parties since the time that EAI filed its Rebuttal Testimony. These commitments are spelled out in detail in the Agreement and include requirements for certain filings with the Commission for its review and approval prior to deployment of AMI meters to customers' premises. *Id.* at 9 - 11.

Ms. Taylor testifies that EAI accepts the Agreement as a reasonable compromise among the Settling parties and that EAI's commitments made in rebuttal, including those as further modified and reflected on Appendix 1 to the Agreement, represent resolution of all of Staff's issues in this proceeding, and EAI believes these terms are in the public interest. *Id.* at 14 - 15.

2. AG Settlement Testimony

Sarah Page Tacker

Ms. Tacker testifies in support of the Agreement as being in the public interest. She briefly summarizes the elements of the Agreement and states that it addresses the AG's concerns in the following ways:

1. One of the AG's chief concerns was the amorphous nature of the claimed "other quantified benefits" of peak load and consumption reduction that would result from AMI deployment. One of the key aspects in the Agreement is a commitment by EAI to evaluate and measure the peak load reduction and consumption reduction resulting from AMI deployment. The Agreement contains an extensive list of reporting requirements to this end.
2. The AG, similar to Staff, was concerned about ongoing data collection and reporting requirements. Section 2.L. of the Agreement addresses those concerns fully.
3. The AG was concerned about the disproportionate impact that remote disconnect would have on fixed- and lower-income customers. The Agreement addresses this concern by significantly lowering the Reconnect Fee that such customers would be assessed should they seek to reconnect to the system.
4. The AG, along with Staff, sought a more robust and collaborative customer education plan. EAI agreed in its Rebuttal Testimony, and the Agreement sets forth a plan to achieve that robust and collaborative CEP.

5. The AG was concerned that AMI would not interface appropriately with EE and DR programs. The Agreement resolves that concern by requiring EAI to commit to submit such AMI-enabled programs to the Commission for approval.
6. The AG was concerned that fixed- and lower-income customers would be economically disadvantaged by EAI's pre-pay program. EAI has made commitments in this regard that address the AG's concerns and the Agreement memorializes those commitments.
7. The AG's Direct Testimony recommended the development of an opt-out policy and a cyber-security plan. The Agreement contains both items and satisfies the AG's concerns.

Id. at 6 - 7.

Ms. Tacker testifies that the Agreement is in the public interest and that all Settling Parties are willing to accept it as a compromise. She adds that the Agreement is within the range of reasonable litigation outcomes and represents a reasonable result that is in the public interest. She recommends that the Commission approve the Agreement without modification. *Id.* at 8.

3. Staff Settlement Testimony

Regina Butler

Ms. Butler filed testimony in support of the Agreement, summarizing the Direct Testimony and recommendations made by herself and other Staff witnesses Athas, Foley, Lindholm, and Garner. Butler Settlement at 2 – 5. She describes Staff's approach to analysis and consideration of EAI's requested AMI deployment, and states that according to the Commission, recovery of the cost of capital investments like AMI

through rates is allowed if the Commission determines that the costs are reasonable and the investment decision is consistent with the public interest. She testifies that the deployment of AMI is in the public interest and should be approved, as it will enable EAI to serve its customers more efficiently and will enable the Company to offer additional products and services. She states that Staff considered all of EAI's proposed initial capital expenditures as well as one-time expenses and ongoing O&M expenses and all of the anticipated benefits of the proposed deployment. *Id.* at 6.

Ms. Butler testifies that through the annual Rider FRP filings, Staff will be able to monitor the expenditures related to the AMI deployment, both capital and expense, and will be able to recommend adjustments if any of the expenditures appear imprudent, unreasonable, or inconsistent with the AMI deployment if approved in this docket. She states that this approach is consistent with how Staff examined and monitored other major capital expenditures of EAI and other jurisdictional utilities, including OG&E's deployment of AMI in Docket No. 10-109-U. *Id.*

Ms. Butler testifies that in the Rebuttal Testimonies of its witnesses Taylor, Casey, Lewis, and Faruqui, EAI accepted Staff's recommendations with a few relatively minor modifications, which are all acceptable to Staff. She states that the Agreement is based on Staff's recommendations as modified in the Rebuttal Testimonies of EAI's witnesses, adding that the modifications to Staff's Direct Testimony recommendations as presented in EAI's Rebuttal Testimonies resolve the outstanding issues between Staff and the Company in a manner satisfactory to Staff. She adds that the Agreement also incorporates additional requirements and clarifications of the positions of Staff and EAI which were recommended by the AG. She notes that the AG's additional

recommendations, which are acceptable to Staff and EAI, address the customer education plan, pre-pay service, customer payment issues, reconnection fees, deadlines for deployment, development of voluntary TOU rates, and additional reporting requirements. *Id.* at 7. Ms. Butler discusses each of the additional provisions of the Agreement, noting the steps that the Settling Parties will take to work collaboratively and develop metrics to evaluate and report on those issues and present them to the Commission for review and approval within specified timeframes. *Id.* at 8 – 12. She testifies that the additional provisions in the Agreement regarding deadlines are reasonable. *Id.* at 13 – 15.

Ms. Butler testifies that the Agreement establishes a reasonable structure to enable the deployment of AMI cost effectively; inform customers about the specific activities and interactions with the utility that will be enabled by the implementation of AMI meters; educate customers about the options they will have to obtain additional information and acquire additional services that are enabled by the deployment of AMI meters; and provide meaningful metrics to assess the effectiveness of the customer education efforts and the operation of AMI and related programs. *Id.* at 16. She states that at the time of deployment, the Agreement ensures that the parties and the Commission will have a defined list of performance metrics in place that will be used to assess the performance of AMI and the related education programs and tariff offerings. She adds that the Agreement ensures that the Commission, the parties, and customers have adequate information to take full advantage of AMI. She recommends that the Commission approve the Agreement as filed. *Id.* at 17 - 18.

IV. Summary of Parties' Supplemental Direct Testimony

1. EAI Supplemental Direct Testimony

Raiford L. Smith

By Order No. 5 issued on August 16, 2017, the Commission posed three questions regarding access by non-utility third parties to data that will be collected by AMI and requested the parties to file Supplemental Direct Testimony in response. Mr. Smith testifies for EAI that, generally speaking, as other EAI witnesses have described in their testimony, the accessibility of AMI data once deployment begins in full in 2019 will present a multitude of opportunities for the Company and its customers, including allowing customers to better manage their usage and take various steps to reduce their monthly bills. He states that Entergy recognizes that, similarly, access to such AMI data also may present opportunities for third parties. However, he notes, providing access to such data to third parties also presents a host of complex issues, such as privacy protection, data security, managing the costs of providing such data, and recovery of any associated costs of providing data to third parties. Smith Supplemental Direct at 4.

Mr. Smith states that a few other states appear to have practices and policies that EAI believes could be helpful for the Commission to consider in evaluating a framework appropriate for Arkansas, but EAI believes establishing such policies and rules requires more time, study, and input. Thus, he says, consideration of the specific issues identified in Order No. 5 and related issues may be more appropriately evaluated further in the context of a general proceeding that may include other utilities in the state that have already deployed AMI, as well as other interested stakeholders to the extent they would seek to participate. He notes that in addition to responding to the three

questions, he identified various tangential issues that the Commission may wish to consider within the broader context of providing AMI to third parties. *Id.* at 4 – 5.

The Commission's first question is set forth below:

1. To what extent should data produced by Automated Metering Infrastructure (AMI) that does not contain personal information be made available to business entities, academic institutions, and non-profit entities for research, development of policy, and identification of business opportunities?

Mr. Smith responds that the Company is still exploring potential best practices associated with balancing the release of such data, with the potential value to stakeholders, and with a key focus on minimizing the risks to customers of compromising customer privacy and confidentiality. At the very minimum, he testifies, any such data released to third parties should be aggregated and anonymized so as to protect individual customer identity and any possibility for abuse or harm. *Id.* at 5.

Mr. Smith states that if EAI were to provide this data to third parties, such as business entities, academic institutions, and non-profit entities for research, development of policy, and identification of business opportunities, the Company proposes it should do so in a standardized format, through a defined process, and at set intervals (*e.g.*, once a year). Regardless of the nature of any request made by a third party to EAI for data, he notes, the Company believes that assembling and providing data to third parties is a non-trivial exercise and that such production of data should be at the requester's sole expense. He adds that EAI recognizes that appropriate measures will need to be put in place to facilitate providing data at cost to a third party but notes

that charging a party for such a service occurs today and is analogous to the Company requiring an applicant seeking to interconnect a new generator to put up a deposit in order to cover the costs for studies such as a System Impact Study. *Id.* at 5 – 6.

With respect to measures that can be taken to prevent re-identification of data provided in an anonymized and aggregated format, Mr. Smith states that such data might be supplied only for a particular number of customers (*e.g.*, 10,000, 15,000, or perhaps by groups of zip codes). He adds that re-identification can also be minimized by limiting the number of data fields that are made available, the synthesis of which might be used to link a particular usage pattern with a specific customer. He says an additional concern would be providing granular usage data (or other types of data) for larger commercial or industrial accounts where release of such data might include commercially-sensitive information such as operational history, duration of facility maintenance, outages, etc. *Id.* at 6.

Mr. Smith testifies that there are other issues implicated by Question 1. For example, the Commission may wish to consider whether there are certain purposes for which such data may not be requested or used or whether there are certain types of entities that it may wish to restrict from having such access. Rather than opine at this time on who such entities might be or their motivation(s), Mr. Smith suggests that a reasonable safeguard might involve utilities and interested parties collaborating on some type of standard, written data release agreement that clearly defines the entity receiving the data, the purpose(s) for which the data is to be used, terms for payment of any costs associated with producing the data, and whatever requirements are appropriate. *Id.* at 7.

Further, Mr. Smith proposes that the Commission may wish to consider that providing data to third parties in various formats may require investment in software and systems that the Company may not necessarily own today. Similarly to the issue regarding how costs would be treated by a third party (or parties) requesting data, the Commission may need to address how recovery of any costs associated with deploying any of the software and systems needed to facilitate providing data to third parties, direct assignment of any expenses associated with assimilating and transmitting such data, and whether third parties should directly bear responsibility for such costs. *Id.* at 7 – 8.

Question 2 asks:

2. To what extent should data produced by AMI that does contain personal information be made available, subject to reasonable privacy protection, to persons and business entities who want to engage customers in order to provide AMI benefits?

Mr. Smith testifies that the Company offers that personal AMI information may be made available to business entities that have contracted to provide services to the Company (1) as needed, and (2) under conditions (such as confidentiality and data-security) required by EAI for its purpose of providing services. He states that other use should be made at the customer's or the Commission's directive (or otherwise to comply with applicable law, as in the case of a subpoena). However, Mr. Smith clarifies that third-party direct access to AMI data is not currently contemplated as a functionality that would be implemented with EAI's initial AMI deployment. *Id.* at 8 – 9.

Mr. Smith discusses other issues implicated by Question 2, noting that the Company's AMI deployment will provide functionality that enables its customers to control the distribution of their AMI data to any third party. Specifically, EAI will provide a tool that enables customers to download and save standardized usage reports from an EAI web portal designed to provide such data securely. At that point, he notes, the customer may then distribute such report(s) to businesses (or any other entity for that matter) with whom he or she may purchase energy-related services. *Id.* at 9.

Mr. Smith briefly describes the "Green Button" concept, which provides that customers should be able to download their energy usage information easily and in a simple standardized format, noting that "Green Button" refers to a green icon on a utility web portal that customers can click on to start the process of downloading such a report, use the data they download (*e.g.*, in Excel) to make better-informed energy decisions, and supply it themselves directly to third parties with whom they may engage. He testifies that the Company is considering utilizing this basic Green Button technology to provide the functionality described above, but regardless of whether the specific Green Button technology is implemented, EAI has committed to implementing a tool to allow customers to download such a report. *Id.* at 10.

Question 3 asks:

3. The Settlement contains education and reporting metrics designed to monitor Entergy's AMI implementation that appear to be based on the assumption that Entergy will be the sole entity authorized to use data from AMI to engage customers in order to provide AMI benefits. If other entities are permitted to use AMI data to engage customers to provide AMI

benefits, should the education and reporting metrics be changed, and if so, how should they be changed?

Mr. Smith testifies that the metrics were not intended to preclude the third-party data sharing issues identified in Order No. 5. Rather, he notes, the focus of EAI's Application is the accessibility and benefits of AMI data to the Company and its customers, most notably the ability of EAI's customers to use AMI data to better manage their usage and to help them find ways to better control their monthly bills. Thus, the gathering and reporting of metrics reflected in the Settlement Agreement only contemplated consideration of operational characteristics and EAI's customers' engagement with and overall response to the Company's AMI deployment. Accordingly, Mr. Smith states, EAI has not identified any specific metrics in the Agreement that may need to be revised in order to accommodate the separate issues related to third-party access to AMI data. Instead, EAI proposes that it would be more appropriate to consider such additional customer education efforts and metrics that address these third-party data sharing issues in conjunction with further evaluation of a general framework for data-sharing in a general proceeding involving all utilities and interested stakeholders, particularly given that a number of other utilities in Arkansas already have deployed AMI. *Id.* at 11.

2. AG Supplemental Direct Testimony

Sarah Page Tacker

Ms. Tacker testifies for the AG, responding to the Commission's questions, identifying additional questions or issues that should be addressed regarding the sharing of customer data, and providing an overall recommendation regarding the

questions, and providing a recommendation for EAI's AMI implementation in light of the questions. Tacker Supplemental at 3.

Responding to Question 1, Ms. Tacker cites to Ark. Code Ann. § 23-2-304(a)(10)(A), which states:

The Arkansas Public Service Commission shall have the power to . . . [a]ssure that electric bills, usages, and payment records should be treated as confidential unless the retail customer consents to their release or the information is provided only in the aggregate.⁶

She testifies that Question 1 seems to contemplate the provision of de-identified data to certain third party entities, and notes that the statute makes it clear that even de-identified information is shielded with confidentiality obligations. She contends that the statute is an immediate bar to the provision of such information to third parties without an enforceable obligation that the third party maintain the confidentiality of the information received. She states that the statute could be modified or changed to allow for the sharing of information, but that leads to additional questions. *Id.* at 4.

Even if the statutory bar is removed, Ms. Tacker sets forth five additional issues that the AG has not had time to fully assess:

1. At present, the only way to access confidential information of this nature is to (a) be a party to a proceeding before the Commission and (b) agree to comply with a valid protective order by signing an affidavit of non-disclosure. The parties should consider whether changes to the Commission's *Rules of Practice and Procedure* would be necessary to effectuate the provision of confidential information from an electric utility to a third party.

⁶ The Commission notes that subdivision (B) of this section provides: "Notwithstanding subdivision (a)(10)(A) of this section, release of such information may be made pursuant to subpoena, court order, or other applicable statute, rule, or regulation."

2. Some states (*e.g.*, California and Illinois) have developed protocols and policies to govern this type of information, but the AG has not had an opportunity to fully evaluate these schemes and is not yet in a place to provide feedback to the Commission on how other states are handling these issues.
3. A decision to share data should include an assessment of how to keep information truly confidential. For example, if the information is provided to a university for academic purposes, can the Commission or EAI ensure that the raw data is not provided to others within that organization or to entities that want to test the conclusions of the original study?
4. Even de-identified data, depending upon the amount of information provided per customer, could have the potential to lead a third party to identify said customer. Developing a protocol to share data, while shielding customers from such an occurrence, is an inquiry that the AG would need additional time to assess.

The AG also recommends that the parties consider what types of data would be provided to third parties, what types would be kept confidential, and what types should not be provided at all. For example, the AG believes that only usage data would be appropriate to share on a confidential basis and that billing or payment data should not be provided under any circumstances without the express consent of the retail customer. *Id.* at. 4 – 6.

Responding to Question 2, which contemplates the provision of identified customer data being provided to third parties, Ms. Tacker testifies that without further study and reflection, the AG has serious concerns about the release of personal data by an electric utility to third parties, especially if the purpose of the release would be for

marketing purposes. She states that with allocated service territories and consumer information available from other sources, withholding identifying personal information from third parties does not prevent the marketing of AMI-complementary new products and services to consumers. She notes:

1. The Arkansas General Assembly has enacted legislation which opines on the state's position regarding the protection of a person's sensitive information and that position leans toward the protection of such information rather than the disclosure. Ms. Tacker cites several statutory provisions enacted in 2005 that provide for providing reasonable security for personal information that is acquired by Arkansans.
2. While some consumers may want to be made aware of additional products or services, as a general rule, most consumers do not want to be subjected to additional unwanted advertising or marketing. Consumers do not have the opportunity to choose their electricity provider because Arkansas provides jurisdictional utility service for electricity and natural gas. As such, EAI's customers are a "captured customer base," meaning that they don't have the consumer choices that one would have if purchasing a new vacuum cleaner. When a consumer is part of a captured customer base, even greater attention should be directed toward how such customers are treated. They should not be unilaterally subjected to additional marketing or advertising when they don't have any other choices for the provision of electric service.
3. Some proponents may suggest that an opt-in to receive advertising would address the AG's concerns expressed above, but it does not. Consumers rarely

understand the full implications of opt-ins because they do not read or fully comprehend the fine print.

Id. at 6 - 8.

Responding to Question 3, Ms. Tacker testifies that the AG believes that appropriate reporting and customer education metrics could be developed after the Commission has determined appropriate policy positions on Questions 1 and 2.

Ms. Tacker states the AG's primary and overall recommendation regarding these new issues, agreeing with the Commission that the questions posed are important issues which must be addressed. However, she says, the AG recommends that such policy issues should be addressed in a larger forum, which would allow all interested parties to provide feedback to the Commission. Further, the AG would like to consult with experts on these issues prior to making final recommendations to the Commission, and the timeframe in this docket does not provide for such an opportunity. She notes that this issue is not unique to EAI, citing OG&E and electric cooperatives as utilities that offer AMI to their customers. She adds that there are non-utility entities that could be interested in participating in such policy formulation, which should apply statewide to all entities under the Commission's jurisdiction and not just to EAI. She states that the AG recommends that the Commission initiate a generic proceeding to address these issues, provide notice to all interested parties, and pursue an inquiry that will yield a statewide policy. She concludes by restating the AG's position that the Settlement Agreement is in the public interest and continues to recommend its approval by the Commission. Should the Commission choose to approve the Settlement, the AG requests that it include in its final order a prohibition on EAI's sharing of AMI-gathered

customer information with any third-party entities until the larger policy questions raised in Order No. 5 can be fully resolved. *Id.* at 9 – 10.

3. Staff Supplemental Direct Testimony

Regina Butler

Ms. Butler responds for Staff to the Commission's questions, explaining that Staff researched policies in other jurisdictions related to the sharing of available AMI data with third parties. She cites as an example of an approved program for third-party data an Anonymous Data Service product approved by the Illinois Commerce Commission for Commonwealth Edison Company (ComEd), which claims to be one of the first utilities to offer such a program.⁷ She notes that Illinois has retail choice, and thus the interests third parties have in using AMI data through ComEd's new program may be different from interests of third parties in Arkansas, where EAI and other electric utilities operate as regulated monopoly providers of electric utility service. Butler Supplemental at 2 – 3.

Ms. Butler testifies that Staff and the other Settling Parties continue to recommend approval of EAI's request to deploy AMI pursuant to the provisions of the Settlement Agreement. As recommended by EAI and the AG, she states that Staff believes the Commission's questions touch on matters that may affect other utilities and customer groups and third parties that may have an interest in accessing the data in question, the questions could be considered in a separate, generic proceeding that would allow all interested parties to present positions on the provision of AMI data to third parties. *Id.* at 3.

⁷ Ms. Butler includes a ComEd news release and the Company's Anonymous Data Agreement as Supplemental Direct Exhibit RLB-1.

Ms. Butler states that her testimony presents Staff's initial observations on the provision of AMI data to third parties and that Staff would be open to working with the Settling Parties to develop comprehensive recommendations regarding the provision of EAI's AMI data to third parties or to work with other interested parties in a separate, generic proceeding to address the issues for the broader group of affected utilities. She states that a significant, underlying assumption in Staff's responses to the questions is Staff's position that data collected through AMI will be owned by EAI. Like AG witness Tacker, she cites Ark. Code Ann. § 23-2-304(a)(10)(A) as requiring the Commission to assure that electric utility bills, usage, and payment records be treated as confidential unless the retail customer consents to their release or the information is provided in the aggregate. She notes that in prior proceedings electric utilities have provided customer data in the aggregate, including customer data that does not contain personal information and does not provide the means to identify any individual customer. *Id.* at 4 – 5.

Ms. Butler also cites the Regulation of Electric Demand Response Act (codified at Ark. Code Ann. §§ 23-18-1001 *et seq.*) which provides that “The marketing, selling, or marketing and selling of demand response into wholesale electricity markets by an aggregator of retail customers or by a retail customer is prohibited unless the Arkansas Public Service Commission. . . determines that the marketing, selling, or marketing and selling of demand response into wholesale electricity markets by aggregators of retail customers or by retail customers is in the public interest.” *Id.* at 5.

In response to Commission Question 1, Ms. Butler testifies that EAI could make its AMI data that does not contain personal information and does not provide the means

to identify any individual customer available to third parties to the extent it can be helpful to improve policies and offer new products and services. She states that EAI should make such data available to third parties only to aid in the development of policies and products and services that maximize the value of AMI to its customers. She adds that appropriate policies must be in place to ensure that customers' identities are protected, including policies that identify the types of data that can be provided and requirements for removing any personal information or means to identify individual customers or aggregating customer data into groupings that would prevent a third party from identifying specific customers. *Id.* at 6.

Ms. Butler testifies that the Commission would also need to determine the types of entities that would be eligible to receive AMI data and develop and file for Commission consideration and approval rate schedules or tariffs to set the appropriate rates for providing AMI data. Although utility rates are generally set based upon the cost of providing the service, she states that the nature of providing AMI data to third parties may warrant developing a rate for that service on a basis other than the cost of service. However, she notes, the rates are ultimately established by the Commission, and any revenues collected under those approved rate schedules should be used to offset the utility's revenue requirement. *Id.*

Ms. Butler cites the ComEd Anonymous Data Service product as including a 15/15 requirement that each data set must contain at least 15 customers and not one of the 15 customers can have 15% or more of the usage within that data set, which she cites as ensuring another level of anonymity in addition to removing all personal customer information from the data set. *Id.* at 7.

In response to Commission Question 2, Ms. Butler recommends that, if data is provided to third parties, EAI should only make available AMI data that does not contain personal information and does not provide the means to identify any individual customer. *Id.* at 8.

Regarding Commission Question 3, Ms. Butler testifies that if other entities are permitted to use AMI data to engage customers to provide AMI benefits, it is likely that additional reporting requirements will be necessary, and the EAI customer education plan will need to address the provision of AMI data to third parties. She states that consistent with Sections 3.C. and 3.L. of the Settlement Agreement, it is Staff's expectation that the Settling Parties would work cooperatively to develop the components of the reporting metrics and customer education plan relating to the provision of data to third parties. She states that Staff anticipates that additional reporting metrics would be appropriate to track statistical data for such items as the number of requests EAI receives from third parties for customer data and the revenues and costs associated with providing the data services. Additionally, Staff recommends that the customer education plan include provisions for educating customers on how and why the AMI data will be made available to third parties. She concludes by stating that the Settling Parties would include the details in the comprehensive education plan they will submit to the Commission for review and approval. *Id.* at 9 – 10.

**V. Summary of Oral Testimony at Public Hearing
on August 31, 2017**

**1. Examination on Issues Raised by Direct, Rebuttal, and
Settlement Testimony**

EAI Panel Witnesses Taylor, Griffith, and Lewis

In response to questioning regarding items that will be the subject of further development by the parties working together, such as the customer education plan and dynamic pricing, panelists were asked whether some or all of these issues will come back to the Commission for approval. Mr. Lewis responded that yes, they will be brought back to the Commission at least from the perspective of a status report. He noted that in most cases there is a timeframe set forth in the Agreement – 180 days after the adoption of AMI – that the parties will come back with at least the status of the TOU rate, for example, or the customer education plan. T. 614 – 615.

Ms. Taylor acknowledged that with respect to the AMI opt-out and the reconnect fees for those who opt-out, the parties will endeavor to have that finalized within 180 days, although it could be that they might not have those ready within that period. She said the parties will work to have pre-pay and TOU finalized within 180 days, but with the pre-pay program they may determine that it's better to have that deployed or rolled out once all deployment is finalized and thus to wait until all meters are active. Likewise, there may be a reason that the parties don't make the 180-day deadline for TOU and thus would file a status report with all the details and the timeline. Asked whether the Commission would get the information itself -- not just the parties working collaboratively – in a timely enough fashion to have time to deliberate and issue an order before implementation, Ms. Taylor responded, “absolutely.” T. 615 – 617.

Mr. Lewis testified that EAI prefers to have the public interest finding by the hearing date in EAI FRP Docket No. 16-036-FR (November 8-9, 2017) because the Company wants to begin the development of the plans and be ready to meet the timeline laid out for deployment of AMI and to have adequate time to meet that implementation roll-out date. He acknowledged, however, that it is a Commission decision as to whether it is comfortable with that timeframe and that if the Commission gives EAI a public interest finding by that date, it must eventually have to be satisfied with the consumer education plan, TOU rates, and other items. He stated his understanding that alternatively, the Commission might decide to reserve that finding until it sees and is satisfied with the resolution of those items. T. 617 – 619.

When asked about the ratepayer impact of the AMI plan, Mr. Lewis referred to his cost-benefit analysis as being analogous to a ratepayer impact showing a net benefit to customers as a whole. He acknowledged that the plan doesn't show a traditional ratepayer impact and pointed to the revenue requirement testified to by EAI witness Casey as showing the rates that will come as a result of the costs and the direct or "hard" benefits of AMI. T. 619 – 623.

Ms. Taylor responded to a question about premises visits and remote disconnects, stating that the Agreement is based on Staff's recommendation as modified by EAI's rebuttal, noting that to realize the benefits of AMI, EAI would not require a premises visit to conduct or complete disconnects, which is essentially EAI's position on rebuttal. T. 623 – 624.

On the subject of the retirement of existing meters, Mr. Lewis testified that meters typically have depreciation rates that imply lives of 25 to 30 years, but that 18

years is the average since some meters have been installed fairly recently and others many years before. T. 627 – 628.

Mr. Griffith testified that the average cost of a residential meter is about \$25 today for a new one, whereas the new digital meters cost \$65 to \$85, with an expected life of 15 years owing to the fact that the meters have computers and may become technically obsolete earlier than existing meters. He acknowledged that it may be possible to upgrade software for the meters remotely, although it is not possible to know on the front-end whether the Company can get software for the installed computer chips. He said it is possible that the meters will last longer than 15 years. T. 629 – 631.

Mr. Griffith testified that the Entergy system conducted three smart meter pilots: one in New Orleans using point-to-point communications, one in Baton Rouge using the mesh communications technology, and one small pilot for hard-to-reach meters that communicate on the wireless public cell phone network. He stated that one of the lessons learned is that the mesh network is probably better performing and meets EAI's needs better than the point-to-point technology. Mr. Griffith stated that the salvage value for the old meters is very small, but pursuant to their contract the meter deployment contractor will credit EAI for salvage to the extent the contractors are able to get paid for the old meters. T. 631 – 634.

Regarding the three-year schedule for meter deployment, Mr. Griffith testified that the basic approach is to first build the communications network in a geographic region and then deploy the meters in that region. The choice of where to start will be discussed with EAI's operations group, he added, noting that there are several schools of

thought on whether to start in urban areas or rural areas, or some mix of both. T. 634 – 635.

In response to a Commission question about tables in the testimonies of Mr. Lewis and Mr. Griffith regarding AMI costs, the witnesses were able to reconcile the apparent difference by explaining that Mr. Lewis's cost is more of a lifetime cost (the run costs) and Mr. Griffith's is more about implementation costs when they are incurred (e.g., the project costs or build costs). T. 637 – 639.

In response to a question about AG witness Alexander's concern over potential cost overruns in other utilities' AMI implementations, Mr. Lewis stated that the Agreement includes provisions around periodic reporting of the status of the project, so that if, for whatever reason, a significant variance in the expected cost of the project occurs, it would be incumbent upon EAI to bring that to the Commission. Mr. Griffith added that from a project management perspective, EAI has resources dedicated just to cost schedule control, which the Company does through routine monthly reports on spending. He stated that EAI also has a very robust risk management process. He agreed that any type of outsized costs would be reported in the metrics that are in the Agreement, so that Staff and the Commission could see that and take action if necessary, but that EAI would be "on it first." T. 639 – 640.

Mr. Lewis responded to a question regarding the possible aggregation of demand response by EAI for sale into the MISO market, stating that should that occur, it would be on an Entergy company-by-company basis rather than on a system-wide sharing of the DR. All three EAI witnesses agreed with this response, although Mr. Griffith noted

that the AMI system is flexible enough that Entergy could support either option. T. 641 – 643.

On the subject of whether the benefits of AMI are front- or back-end loaded, Mr. Lewis testified that he does not really see it as a back-end loaded issue, although he acknowledged that, in ratemaking, in the beginning rate base is higher than it is at the end and thus there's always the natural effect of revenue requirement being higher in the early life of an asset. He agreed with the Commission that much of this will depend on how long it takes for customers to start engaging with the benefits that AMI affords them. T. 644 – 645.

Mr. Lewis testified as to how the benefits will flow through to customers via the Rider FRP and the ECR Rider, stating that the hard or operational benefits (such as avoided costs of meter reading that go away with the adoption of AMI technology) are built into the revenue requirement that will be collected through the FRP and will be netted out of that revenue requirement in the projected FRP amounts. Other benefits, he stated, such as consumption and capacity reduction, which occur on the customer side of the meter and operate to reduce the bills of individual customers responding, result in customers using less energy. Those benefits result in fewer dollars flowing through the FRP or the ECR, depending on the particular costs in question. Mr. Lewis also explained how non-fuel benefits, such as unaccounted for energy or reduced customer write-offs, will be addressed by AMI and how customers will benefit, noting that some of those benefits will flow through the next time rates are reset through the FRP. He opined that the FRP actually accelerates the base rate effect of things that occur because it is being done annually, whereas a base rate case occurs only every so

many years and acknowledged that costs or benefits being flowed through may not have a big enough impact to implicate the FRP cap. T. 645 – 651.

According to Mr. Lewis, EAI uses its MISO LMP forecasts of its expected supply costs for this AMI docket and for other dockets. T. 652 – 653. Asked whether the Commission needs to require an independent monitor for the AMI project to ensure that ratepayers are benefiting, as it has done with energy efficiency programs, Mr. Lewis noted that the incentive-based EE programs target individual customers, whereas the AMI program will look at the entire population of EAI customers and assess the demand and consumption responses of customers in response to the new technology. Thus, the kind of measurement would be different with AMI. But he acknowledged that the Commission might wish to get an outside view of it and that he would understand the Commission's concerns. Mr. Lewis stated that, for the same reasons, he did not believe there is any potential for overlap of things that are done through AMI and the EE programs, or for double counting of those benefits. He noted that if the Commission decides it wishes to have an outside party look at the reports regarding the benefits, it would be within the Commission's discretion. T. 653 – 657.

Mr. Lewis clarified the difference in effect of the correction of the mistake in the AURORA pricing model on the benefits of EAI's membership in MISO (a 65% reduction in LMP benefits as compared to not being in MISO), as testified to by an EAI witness in Docket No. 10-011-U, and the effect of the same correction to AURORA on the benefits of the AMI (a small reduction of 6% in the benefits of estimated kWh reductions by customers taking action). T. 658 – 659.

Questioned whether, given the more intensive information that will be collected through AMI, there will be a cyber-security policy for the AMI project as a result of the settlement discussions that is different from EAI's privacy policies that are already in the record, Ms. Taylor testified that the Agreement provides that EAI will file documentation and work with the parties prior to deployment on what the cyber controls will look like. She stated that the current policies are now considered adequate, but will be reviewed for possible changes. T. 660 – 661.

Mr. Griffith testified that in most cases, the AMI vendors are compliant with national cyber-security standards and guidelines set by the National Institute of Standards and Technology and other nationwide entities. He noted that all the vendors who are building the system fit into the plan so that Entergy has a comprehensive set of cyber-security controls, all the way from the meter into the computer systems at the data center. He stated his interpretation of the Agreement as providing that the cyber-security plan the parties will work together on is to be absolutely certain that all those controls are implemented by the time the system goes live in 2019. T. 662 – 663.

Asked whether it is possible for EAI to determine the actual dollar amount that will affect the bills for each class of customers under the AMI proposal, Mr. Lewis testified that that could be done, based upon assumptions one must make about how the FRP rate affects that class of customers and what is an average usage for that customer. He stated that he did not believe that computation is in the AMI docket but might be included in the customer bill impact in the FRP docket and could be provided. T. 664 – 665.

Mr. Griffith testified that the interval consumption data that will be collected every four hours from meters reflecting five-minute interval periods for commercial and industrial customers and fifteen-minute intervals for residential customers will be available to customers following its processing just after midnight, validating, and cleansing. It will not be real-time but “neural time”, he noted, and will be available to customers the next day, not every four hours. He stated that the difference in time intervals reflects the fact that commercial and industrial customers are typically billed on demand as well as energy. T. 666 – 667.

Mr. Lewis summarized the status of the applications for AMI approval in the other Entergy operating company jurisdictions, stating that Louisiana and Mississippi have approved, New Orleans has been filed and settlement discussions are under way, and Texas has been filed and is awaiting a procedural schedule that would have the case dealt with this year, with hearings perhaps in October. He opined that it’s a very unlikely outcome that one of the operating companies would not adopt AMI technology. He noted that there appears to be broad support for the program in New Orleans and that most of Texas already has AMI. He testified that the work that has already been done on AMI has been billed out to operating companies on the assumption that everyone participates and that Entergy would not go back and revisit those allocations if one or more companies did not participate. He noted that the shared asset being discussed is the IT infrastructure and that all of the meters and the things that are customer-faced will be EAI specific and would not be affected in any way. T. 668 – 670.

Mr. Griffith testified that the base set of AMI functionalities will be the same across all operating companies and that these functions were selected based on

benchmarking and talking with other utilities. He noted the potential for differences between operating companies, citing as an example EAI's desire to employ TOU rates, whereas other companies don't see the need. He stated that the majority of the meters installed in 2019-2021 will be the same, but there may be security patches or upgrades that the vendor recommends be implemented as time goes by. The upgrades would be made to all meters that have the same software. T. 670– 672.

Asked whether a customer whose total usage doesn't change and their time of use doesn't change has an estimated attributed "soft" benefit of zero, Mr. Lewis responded yes, but added that the "hard" benefits are shared by all customers since they are part of the revenue requirement. Likewise, he said, there are other benefits such as elimination of meter-reading equipment and UFE that would benefit all customers because it is essentially a rate adjustment. It is the consumption and peak benefits that are customer action driven, he added, so if the customers don't take those actions, they won't see those benefits, which is why they are not built into the revenue requirement. He agreed with the Commission that the consumption and peak benefits are what make customer engagement a very important metric. He acknowledged that the savings (billing reductions) per individual customer would be pretty modest, depending on the action the customer takes. He added that if customers haven't previously been active in conserving energy or motivated by the current EE programs, it could be that they would see significant effects. He also acknowledged that a "killer app" that automates demand response so that customers don't have to pay attention, but could still be engaged, would be helpful. T. 672 – 674.

Ms. Taylor responded that a key function of the customer education plan is to make sure that it is comprehensive, multi-phased, and robust and that it outlines specific actions customers can take and the correlating benefits of AMI. She too acknowledged that building customer engagement is critical to receiving the benefits of AMI. T. 674 – 675.

In response to a question whether EAI would be able to identify a circuit by number, acquire data from that circuit, and shed load for that circuit or make a determination of available capacity for the installation of a DER facility, Mr. Griffith testified that in the standard AMI data set it would be possible to identify a specific circuit and make a load-shed decision for that circuit only. He added that while the data may exist to enable a solar developer to know which circuit would have a lot of upgrade costs and which might not have any, EAI has not contemplated making that type of data available. He also testified that the division between hardware and software is probably already fixed until the meter is retired, but noted that since software is more flexible and can be upgraded, that should extend the life of the meter. He added that for the most part the division between what capabilities will be set in hardware and what will be done in software has already been determined, but noted that Entergy is still in the middle of designing what functions are done in the meter versus the MDMS and that the design should be complete in mid-2018. He acknowledged the additional benefits of gaining flexibility in software, as opposed to being locked-in in hardware. T. 675 – 678.

Mr. Griffith testified that EAI would need a public interest finding before deployment can begin because it needs assurance of cost recovery before it can begin ordering the equipment and supplies, in particular the meters and communications

network, which are critical components. He further testified that the public interest finding that is being sought is that the Settlement Agreement itself is in the public interest, but that the components that are enabled by the Agreement could be determined later to be in the public interest, as they are resolved. T. 679 – 680.

In response to a Commission observation of the dilemma presented by EAI and the Settling Parties in proposing that the Commission say that just the Settlement Agreement is in the public interest, which requires the parties working collaboratively to work out all the other pieces and present them to the Commission, which it may or may not approve, Mr. Lewis suggested that the public interest finding be that AMI in Arkansas is in the interest of Arkansas ratepayers. That is not saying, he added, that the Commission agrees with a TOU rate or a pre-pay program until it sees those items before EAI begins putting meters in. He acknowledged the trust and leap of faith that the requested finding of public interest calls upon the Commission to take, as well as the need of the Commission to do its due diligence and make sure it does what is right for ratepayers. T. 680 – 686.

AG Witness Tacker

In response to Commission questioning regarding the testimony of AG witness Alexander expressing concern that Arkansas ratepayers would bear one hundred percent of the risks that the quantified other benefits estimated by EAI would actually appear in future rates and prices and that those benefits make up about 68 percent of the projected benefits, Ms. Tacker stated that the AG entered into the Agreement in view of the commitments made by the other parties but also reviewing its estimation of litigation risk. She expressed the opinion that the middle ground plowed with the

Agreement is reasonable and in the public interest. More specifically, she said, the AG's greatest concern is that of that 68 percent, 53 percent of the NPV benefits were attributed to peak load reduction and consumption reduction. The AG was very concerned that the Company piled estimate upon estimate in order to justify that number, she added, but stated that one of the ways that the AG has become comfortable with the settlement is the commitment that there will be some reporting to measure the peak load and consumption reduction, citing to pages 18-19 of the Agreement. Ms. Tacker stated that the AG would be involved in perhaps suggesting new programs that benefit customers, looking to other jurisdictions that have implemented AMI to see what reductions have occurred, and possibly consulting an expert in this area. T. 805 – 807.

Ms. Tacker testified that the AG would not object if the Commission felt that an independent monitor was needed, but believes that all of the bases can be covered with the collaborative process as currently set out in the Agreement and the different viewpoints of the parties involved in the process. T. 807 – 808.

With respect to the dispute about remote disconnections and premises visits, Ms. Tacker testified that after great discussion in settlement conversations, the commitments made by the Company have resolved most of the AG's concerns, which were primarily focused on fixed and lower-income customers who could have benefited from a premises visit. She noted that EAI's premises visit is voluntary and not provided to everyone: if the customer is not home, then EAI does not conduct a second visit; what the premises visit allowed the customer to do is to go ahead and pay immediately. The bad impact of a disconnect without that communication, she added, was the cost of the

reconnect fee, because in order to get back on the system, the customer had to pay the reconnect fee. That is what disproportionately affects the consumer under the current process. If the ratepayer is an AMI customer, the reconnect fee, or the cost to the Company to reconnect, is substantially reduced. Ms. Tacker stated that the parties have a formula that will calculate exactly what the reconnect fee is, but it is believed to be less than three dollars. She agreed that as long as customers can get back on without a huge reconnect fee, the AG's concerns are mitigated, based upon the commitment to immediately lower the reconnect fee as soon as AMI goes live. T. 808 – 810.

In response to other questions regarding AG witness Alexander's testimony, Ms. Tacker testified that the AG was satisfied with the Commission's existing rules on health issues for some people who might be disconnected and with Mr. Lewis's explanation that the only difference in the way the benefits would flow through the ECR of EAI versus that of EMI is that of timing. Notwithstanding Ms. Alexander's concerns, she said the AG is now comfortable with the way the benefits will flow through both the FRP and the ECR under the Agreement. T. 810 – 812.

Regarding EAI's cyber-security, Ms. Tacker testified that this will be an issue of discussion by the parties and that the AG is not at this point comfortable accepting EAI's existing policy. She cited California and Maryland as states whose cyber policies may offer something extra to be added to address those issues. She said she is confident that EAI will take all reasonable measures with its vendors but cannot make the commitment that the existing scheme is going to be sufficient. T. 812 – 813.

On the subject of the requested public interest finding, Ms. Tacker testified that the AG's position is to say that a finding that the Agreement is in the public interest is

“the initial foundation for a brick wall that we’re going to build.” She added that because there are binding commitments from the parties to develop these programs, the AG is comfortable that those additional bricks in the wall will flesh out the details. She stated her belief that what will be presented in a secondary request for a public interest finding will be well rounded and that there will be timelines by which the additional elements must be completed. She stated that the AG is committed to vigorously seeing those later issues through. T. 813 – 815.

Ms. Tacker testified that she believes it is possible that a pre-pay plan has the potential benefit of increasing the customer’s engagement with respect to demand response and energy efficiency. She reiterated the AG’s concern with the potential disproportional impact of AMI on lower and fixed income customers, which the Agreement resolved, but stated that the pre-pay program could be used to develop or inform other uses or enhanced uses down the road. She acknowledged new statutory flexibility granted to the Commission to target low-income customers, essentially reversing a contrary Supreme Court decision. She said the AG is looking at the benefit of the new statute in the context of both EE and now AMI. She stated that assisting lower income customers can benefit the system as a whole, perhaps not in a monetized way but certainly a benefit. She opined that if the peak load and consumption reduction estimated by EAI is demonstrated after deployment, there will be benefits across all of the classes of customers. T. 815 – 816.

Staff Witness Athas

Mr. Athas responded to Commission questioning concerning the probability of EAI’s AMI investment “being more likely than not” to lead to quantifiable benefits over

the 15-year life of the meters. Asked whether that could mean that it is 51 percent likely to lead to one dollar in benefits over 15 years, he responded that looking at the cases that he modeled and some other things, he would put the likelihood at closer than 80 to 90 percent probability, if not higher. T. 1069 – 1070. He acknowledged that despite his concern expressed in testimony that some of EAI's cost-benefit framework places too much reliance on the amount assumed for consumption reduction and the amount assumed for marginal fuel and capacity cost savings – including the LMP used and consumption changes assumed – he did use those assumptions in his analysis. He also agreed that he had concerns about the assumptions underlying the “soft” and “intermediate” benefits of the investment but included those under various scenarios to calculate his break-even analysis, as shown in Table 5 of his Direct Testimony at page 29, which indicates that only 12 percent of the soft benefits would need to occur in order to break even. T. 1070.

With respect to his expressed concerns about EAI's price forecasting using the AURORA model, using “MISO's future prices, Mr. Athas testified that MISO is just an adjective as opposed to ownership, meaning that EAI doesn't get those prices from MISO but is just predicting – using the estimation model – what prices they will get from MISO in the future. In short, he stated that since MISO doesn't “touch” EAI's analysis, there's no circularity in the information. T. 1071 – 1072.

Mr. Athas testified that EAI's natural gas prices in the analysis were “a little bit higher” than he would have independently estimated because analysts keep waiting for gas prices to finally bottom out and they haven't done so. He stated that the higher prices were not at a level that he would “give it a criticism.” He provided further

explanation of the reasoning underlying his analysis of gas prices and EAI's analysis. T. 1072 – 1073 and T. 1075 - 1080.

Regarding the AURORA error discussed by EAI witness Lewis, Mr. Athas explained why the same number of a price change, being 6 percent, if it was exactly the same change, could still be a very big percentage of the benefits (65 percent) in the separate 10-011-U docket because it is based on the differential of two prices and not an absolute price. He expressed comfort that the AURORA mistake doesn't change his conclusion at all, perhaps raising his 12 percent breakeven to 14 percent. T. 1074 – 1076 and 1081.

Mr. Athas testified that he did not attempt to include a metric in terms of what percentage of customers would have to be engaged to hit any of the benefit levels. He stated that he looked at EAI's sources for its behavioral participation estimates and felt they were conservative. He agreed that if gas prices go down, it makes the benefits less because one is multiplying quantity times price. Mr. Athas testified that what an analyst worries about is doing things that get worse on the cost side, such that if prices go up externally, it doubles up the benefit. But if you have an investment trying to minimize exposure to fuel prices, like any other energy efficiency investment, and fuel prices end up too low, you will go back and wish that you didn't make that investment. But you'll actually be in a much better place anyway. He acknowledged that the reverse is true as well: the higher the price, the more incentive for customers to engage in behavior to save money and the happier they are that they made that investment. T. 1084 – 1085.

Staff Witness Butler

Ms. Butler testified that at this time Staff expects to draw on its own experience with OG&E's AMI roll-out and would rely on internal expertise to develop reporting metrics. She noted that Staff has an existing firm of consultants under contract that they could call on for additional expertise, if needed. She stated that Staff would be open to an independent monitor if the Commission chose to do that. T. 1144 – 1145.

Ms. Butler acknowledged in testimony that if the reporting and metrics indicate that benefits seem not to be measuring up as well as Staff would like to see, then Staff would recommend a check and adjustment, such as a change to the customer education plan, the engagement of customers, or a change in tariff offerings to make them more robust. She agreed that Staff would be in a position to take an active stance in saying something isn't working and "we're going to do something else" – something beyond an accounting check. T. 1145 – 1147.

Ms. Butler pointed out that the difference in the accounting treatment of OG&E's AMI investment and that proposed in the Agreement for EAI is that EAI has a formula rate plan and its costs will be looked at on an annual basis. She noted that Staff witness Garner requested EAI's recommendation for accounting treatment, knowing that Staff wanted to take the AMI items out of plant in service, and that EAI recommended the 15-year amortization for the meters to be placed into a regulatory asset upon deployment. She added that Mr. Garner's recommendation regarding any salvage value being included in the regulatory asset still stands and is expected through this accounting treatment. T. 1148 – 1149.

Ms. Butler testified that Staff proposes approval of EAI's plan to deploy AMI at this phase of the project and that the other items be brought to the Commission for approval after development with input from all the parties. In short, she stated that Staff expects incremental steps within the approval process, with multiple approvals. Ms. Butler emphasized that in the FRP process there will be opportunities for the Commission to look at the costs and benefits annually and evaluate how the AMI plan is progressing. T. 1150 – 1151.

EAI introduced a protected HSPI Hearing Exhibit 1, an EAI response to AG Data Request 1-20 in this Docket, which provides non-HSPI information showing the estimated bill impact as AMI deployment ramps up and recovery occurs through the FRP. The estimated impact for the typical 1,000 kWh residential customer is 45 cents per month in 2018 (0.45% of the total bill), 90 cents for 2019 (0.90%), \$1.08 for 2020 and 2021 (1.08%), and 93 cents for 2022 (0.93%). EAI's response caveats that these estimates are subject to variability due to the inherent nature of the FRP rate calculations. T. 1152-1167.

2. Examination on Issues Raised by Supplemental Direct Testimony

Panel Witnesses Owens (EAI), Tacker (AG), and Butler (Staff)

Concerning the issues addressed in the Supplemental Direct Testimony, EAI witness D. Andrew Owens⁸ responded to a Commission question whether the parties differ in their positions providing third-party access, with EAI focusing on the potential costs that may be incurred by EAI in responding to third-party requests for data and Staff focusing on the potential revenue-producing aspects of providing data. He

⁸ EAI witness D. Andrew Owens adopted the Supplemental Testimony of Raiford L. Smith, who was unable to attend the hearing.

testified that the question highlights some of the complexity and uncertainty brought to the Commission's queries regarding data access. He noted that there are some examples where EAI would today provide data to third parties at no cost, although that is generally a one-time send-a-copy-of-my-bill or something that is very easily manageable. Mr. Owens added that EAI also provides data to third parties that are the Company's agents and contractors, who are vetted through a lengthy process before they are provided with customer data, such as for energy efficiency purposes. T. 1183 – 1186.

The pending questions contemplate something different and new, he stated, namely the notion that EAI would be collecting voluminous AMI data that would be interesting to some unknown party, without certainty as to what the Company would be producing, how voluminous it would be, whether it is sendable on a CD, or is something for which that EAI would have to write software code. He testified to being "intrigued" by the Commonwealth Edison process described by Staff witness Butler and noted it as the only example EAI could review and expressed uncertainty regarding the nature of such a request, the process for responding, the cost of providing the data, and what the rules of engagement would be. He stated his interpretation of the ComEd agreement as providing that the utility would make available interval usage data – 15 minute or one hour – for every meter. He cited an example of Entergy's provision of aggregated consumption data to the U.S. Department of Energy as an instance in which no specific customers could be identified from the data. He agreed that aggregate data is different from de-identified data. T. 1183 – 1189.

Mr. Owens expressed uncertainty over what EAI might be asked to produce, and noted three scenarios that might be contemplated in the ComEd process: (1) data sorted

by five- or nine-digit ZIP code; (2) individual interval usage data streams for a particular month for a location; and (3) open-ended queries that might be charged for by the hour. While the first two are fairly straightforward, he noted, the third he stated presents unknowns such as whether the Company has the software systems and tools, or whether AMI will automatically provide the data off the shelf. He thus asserted that EAI is trying to hedge its bets by reserving the right to say that it can't be done off the shelf and costs money and raises the question who pays for it. He stated that EAI would have a better sense over time through a process of discussion and stakeholder input, where there may be third parties participating. T. 1189 – 1192.

Responding for the AG, Ms. Tacker agreed with Entergy that if there is someone requesting the data and extra work or purchases are required, the requester would need to bear those costs. She noted that the AG gleans from the Commission's questions that there are two separate kinds of entities that might seek such data: first, an entity that would seek to develop policy or to understand usage data in a way that would benefit society in general; and second, a group that would look to develop products and services that would then be available to customers who had AMI. T. 1193 – 1194. For her experience in the AG's office over 10 years, she observed that individuals that seek to purchase data from entities such as Acxiom are usually for-profit companies that are attempting to market items to customers. She stated that both cost and potential revenue need to be looked at and opined that more costs are likely because one doesn't necessarily need Entergy's data to successfully market AMI-compatible products and services. She also noted that Mr. Smith had observed in his pre-filed testimony that a

customer will be able to provide their AMI data to a third party company in a standard format. T. 1194 – 1195.

Ms. Butler responded to the line of questions, stating that Staff is open to the sharing of data with both entities that are trying to further public policy goals and those that want to receive it in order to market products to EAI's customers, so long as it offers some value to ratepayers and maximizes the benefit of AMI. T. 1196 – 1197.

Mr. Owens responded to a Commission question about the Green Button program that allows consumers to download their energy usage information easily and in a standardized format which they can then, themselves, supply to third parties with whom they might want to engage. He noted that EAI's response to the question is to give the Company some flexibility to use that trademarked icon logo or simply to have the same capability as Green Button. Entergy is still in the process of designing some of the web portal systems and functionalities. He stated that Mr. Smith meant that once that capability exists, customers will have the ability to send it to whomever they want. It becomes their data at the point at which they have downloaded it and saved it to their computer. He stated that Entergy will decide fairly soon (sooner than when the consumer education plan is approved by the Commission or meters are deployed) whether to use Green Button or develop the capability in some way. T. 1198 – 1201.

In response to Commission questioning regarding certain Arkansas statutes requiring confidentiality for some customer information, Ms. Tacker testified for the AG that Ark. Code Ann. § 23-2-304 contemplates the provision of aggregated data without the customer's consent, but it does not speak to individualized but de-identified data. In short, she agreed, the statute contemplates a confidential production of individualized

data or aggregate production of the data, but appears to have a gap for a third category of individualized but de-identified data. T. 1202 – 1203.

With regard to who owns the data collected through AMI, Ms. Tacker differed with Staff's assumption that the data will be owned by EAI, stating that the AG would want to flesh out that issue through additional conversations. But, she said, once the customer pulls their individual information, it's their information. She noted that billing usage data already exists (even before AMI) and that the customer has the right to put that data into their own possession and then it becomes their data. T. 1203 – 1204.

Mr. Owens testified that he agreed with Staff's position that EAI owns the data, which are business records and which are far more extensive than just customer interval usage data used for billing – *e.g.*, analytical data related to theft detection, operational performance of circuits, and granular data on duration and frequency of outages. He stressed that EAI has very clear and extensive privacy policies in place already and noted that these policies are very different from the Company's cyber-security policies. Mr. Owens stated that EAI is not contemplating any changes to privacy policy from what exists today. T. 1205 – 1206.

As an example of existing privacy policy, Mr. Owens cited the lengthy process called GUARD (Governance for Understanding an Assessment for Risk for Data) that third-party implementers of energy efficiency programs like CLEAResult or ICF must go through, which he described as an in-person review of the Company's protocols, hardware, and firewalls. He added that with AMI and new vendors like IBM, the processes that exist today under GUARD, for example, are what need to be in place for

purposes of AMI and all of its data. As part of the Settlement, the Company will work with the parties and make changes to this as necessary. T. 1207 – 1208.

Mr. Owens acknowledged that if customers download data from EAI's site, they would have the right to sell, provide, or share that information with a third party, adding that there would be title transfer of the intangible data, such as an Excel file with usage data. As personal information, he added, who is EAI to say you can't sell it to somebody else? T. 1208 – 1209.

Ms. Butler responded for Staff, not disagreeing with Mr. Owens, but noted that the Commission would have to approve anyone giving their data for an aggregation of energy resources to sell into a market or to offer aggregated demand response.⁹ T. 1210.

Asked whether an individual customer who doesn't take any action in response to AMI will see a benefit, Mr. Owens responded that yes, they would still participate societally in benefits, like a reduction in theft and other forms of non-technical losses. Likewise, to the extent there is a peak load reduction or usage reduction that in the aggregate lowers fuel costs or lowers rates for all customers, the customer who takes no action will indirectly benefit. He cited the spectrum of customers taking action as being a bit like energy efficiency: some customers actively pay attention to that and want to understand what rebates are available and might choose a different refrigerator or other appliance in response to the rebate. Other customers aren't aware of the EE programs and buy a less efficient refrigerator, when they could have directly benefited from the rebate that covered the differential cost. But although they didn't take action, they benefited indirectly and societally by virtue of the customer that did get the rebate and

⁹ The Commission notes that Ms. Butler is referencing provisions of Ark. Code Ann. § 23-18-1001 *et seq.*, the "Regulation of Electric Demand Response Act" of 2013.

bought the more efficient refrigerator. That, he said, is why all customers are asked to pay for those types of programs. He stated that the active customers will do better, and reap more benefits, proportional to what they do individually to take action. Mr. Owens added that Entergy has made assumptions based on what the Company thinks an aggregate of customers will do, knowing that some actors will do nothing. He stated that the ones that don't take action will not see the price signal benefits of AMI on their bill, but they can benefit from the overall adoption of AMI by the system. T. 1211 – 1213.

Ms. Butler agreed with Ms. Tacker and Mr. Owens that the most active customer who may take advantage of a TOU program and shift their usage to respond to price signals will have a greater benefit, but there is still a benefit to everyone as a whole with the AMI program as presented. T. 1214.

In response to the question whether the regulated monopoly model that delivers value because it is used to secure long-term investment for long-life assets at a reasonable price is applicable when one is talking about technology that is related to customer engagement, Mr. Owens responded that he didn't know whether there is a differential between a regulated vertically integrated market and a competitive market. He opined that consumers have the same motivation to lower their costs wherever they are. T. 1214 – 1215.

When asked to comment on a scenario in which a program is established that costs money and somewhere else in the world – unlimited except by ingenuity and entrepreneurship – someone comes up with a “killer app” that could impose stranded investment risks on ratepayers through implementation of that app, but if that risk was taken by a private entity, that entity would incur the risk of having expended that

money, Mr. Owens acknowledged that to be a challenging, thought-provoking question. When asked whether we can have our cake and eat it too with an ERCOT energy-only style system for customer engagement and retain our regulated monopoly to get the long-term, low-cost investment dollars for that type of investment, Mr. Owens stated that what Entergy is contemplating with deployment of AMI is trying to learn from what others have done to maximize the benefits for participants. He added that Entergy believes it is going to bring a lot of apps, capability, and function to its customers but do it in a way that is going to be beneficial to all. T. 1215 – 1219.

The Commission posited a situation in which, with all of the AMI data, one could figure out which 10,000 residential customers had the biggest difference between baseload usage and peak usage. Mr. Owens was asked whether one could analyze the aggregate data to pull those 10,000 customers out and engage in a consent process for them because the utility told them how much money they could save. In particular, he was asked what is an alternative way for people to use that information to get AMI benefits that doesn't involve the data question? Mr. Owens responded that in a time-of-use program it's not just designing the rate and making it available – it's how customers become aware of it and the potential benefits of it. He said yes, he could contemplate mining the data to find individual consumers that might be better candidates and then communicate with them, perhaps through My Account Online or sending them a text message. T. 1219 – 1221.

When he was asked about taking the example one step further and imagining finding the 10,000 households where the in-home temperature moved the most (data the utility has) in correlation with the out-of-home temperature (data the utility doesn't

have but can get), measuring the leakiness of the home and targeting them for efficiency programs, Mr. Owens responded he would have to think about the question, in particular where a third party might come in. But he said if there's a clear weather correlation, one could infer that either the customer's HVAC equipment is less efficient and might be replaced, upgraded, or in need of maintenance, and maybe they are a good candidate for insulation. In short, he noted, these are programs that EAI could offer through an EE suite that's Commission approved and is an example of the ancillary ways that AMI data could be beneficial. T. 1221 – 1222.

VI. Findings and Rulings

Based upon the totality of the evidence presented in this Docket, and subject to the conditions set forth below, the Commission finds that EAI's deployment of AMI in compliance with the terms contained in the Settlement Agreement filed as Joint Motion Exhibit 1 on August 11, 2017, is in the public interest. The Commission notes that the terms and commitments contained in the Agreement incorporate Appendix 1, which sets forth EAI's acceptance of Staff's proposed reporting requirements, as modified to include estimated deployment-related completion dates.

The Commission notes, however, that the successful deployment of AMI is subject to the resolution of the issues identified in the Agreement which are the subject of future filings by the Settling Parties of reports, recommendations, actions, or tariffs. The Commission emphasizes that the various commitments of the Settling Parties to work cooperatively over a period of 180 days, or more if necessary in some instances, and in accordance with the reporting metrics and requirements in Appendix 1, do not at this time lend themselves to a determination as to whether the ensuing reports,

recommendations, actions, or tariffs that may be proposed by the Settling Parties are in the public interest. The Commission expects and directs the Settling Parties to adhere to the timetables to which they have committed for completing their cooperative work and to submit to the Commission for review and approval the matters that currently remain unresolved with respect to EAI's AMI deployment as set forth in the Agreement.

The Commission notes that the base set of AMI functionalities and operational applications are the same across all Entergy operating companies and will be delivered immediately upon deployment. These include provision of detailed usage information via web portal; remote meter reading; remote service connect, disconnect and reconnect; more efficient and cost effective meter reading; and improved outage and distribution system management. EAI witness Lewis acknowledged that although EAI has committed to develop an optional TOU rate, the other Entergy operating companies do not currently see the need to do so. Similarly, based upon ten years of implementation of EE programs pursuant to Arkansas's *Rules for Conservation and Energy Efficiency*, the Commission notes the disparity in the relatively small commitments in programs and dollars to EE programs of the other Entergy companies as compared to those of EAI. These differences indicate that the levels of commitment to capturing maximum benefits of AMI may vary considerably across the Entergy system.

The Commission commends the Settling Parties for their expressions of commitment to collaboratively explore and develop opportunities to enhance the functionalities, features, and benefits of EAI's AMI deployment through enhanced customer engagement, as reflected in items C through K of Section 2 of the Agreement.

Given that the benefits the Settling Parties contend will “more likely than not” exceed the costs of AMI are to a significant degree dependent on both AMI cost control and customer engagement to take behavioral steps such as reducing energy consumption and reducing peak demand, the Commission emphasizes the following expectations regarding AMI cost incurrence, tracking, and reporting:

1. Any decisions yet to be made about potential future upgrades to AMI hardware (meters) and software, or what functions can be accomplished with the new advanced meter versus the MDMS, or issues related to salvage of legacy equipment, for example, should be made with the costs and benefits to ratepayers in mind, so as to minimize the costs and maximize the benefits to customers from the AMI investment made in their behalf.
2. As noted by AG witness Alexander, impacts on low- and fixed-income customers who may not be as able to take advantage of these programs must be taken into account when designing customer engagement features such as TOU rates or EE and DR programs necessitating central heating and air conditioning or an internet connection. The Settling Parties’ collaborative activities should consider and take into account the Commission’s intention, in the near future, to take steps to open a new docket to consider EE programs to alleviate disproportionate impacts on such customers, pursuant to the new statutory authority granted by Act 1102 of 2017 (Ark. Code Ann. § 23-2-304(a)(11)).
3. As part of the reporting metrics of the AMI deployment, the Commission expects the Settling Parties to strictly adhere to the reporting requirements on

costs and benefits that are set forth in Appendix 1 and seek all future approvals from the Commission. In addition, the Commission also expects to receive information on actual ratepayer bill impacts as deployment proceeds.

With respect to the supplemental questions posed by the Commission and addressed during the public hearing, the Commission notes its intention to, by separate Order, expand Docket No. 16-028-U as recommended by the AG and EAI in that docket¹⁰ to explore DERs and data access issues and questions that touch on matters that may affect other utilities, customer groups, and third parties that may have an interest in accessing customer data and integrating DER into the grid.¹¹

EAI's AMI docket is still open and pending, however, and there are a number of remaining plans and tariffs yet to be collaboratively discussed and ruled upon by the Commission pursuant to the Settlement Agreement. Some of these remaining issues may involve issues relevant to the supplemental questions posed by the Commission concerning access to AMI data. As a consequence, it is appropriate for the future actions of the Settling Parties in this docket to include consideration of those issues concurrently¹² with the proceedings in expanded generic Docket No. 16-028-U. The Commission views the collaborative work of the Settling Parties in this docket as a launchpad for the discussions in the generic docket, given the Settling Parties' clear commitment to finding ways of maximizing the benefits of AMI as deployment begins on the EAI system. The reports and recommendations of the Settling Parties in this docket over the next half-year will be used to inform the generic proceeding, which will

¹⁰ Direct Testimony of AG witness Curt Volkmann at 20-21 in Docket No. 16-028-U, and EAI Initial Comments and Responses to Commission's Questions at 21-22 in Docket No. 16-028-U.

¹¹ Because of the expansion of the issues in Docket No. 16-028-U, the Commission will set a new deadline to consider additional petitions for intervention.

¹² Concurrent consideration may entail parallel filings in both this Docket and Docket No. 16-028-U.

collaboratively develop comprehensive recommendations regarding the provision of customer data to third parties, integration of DERs into the grid, and demand aggregation by third parties.

Accordingly, the Settlement Agreement filed as Joint Motion Exhibit 1 on August 11, 2017, including Appendix 1, is approved as modified by the Commission in this Order finding that it is appropriate for the future actions of the Settling Parties to include collaborative consideration of the data access issues posed in Order No. 5 in this docket and discussed in the public hearing. The Settling Parties shall inform the Commission by a filing no later than noon on November 3, 2017, whether they accept the Commission's proposed modification of the Settlement Agreement or request a full hearing on these issues.

BY ORDER OF THE COMMISSION.

This 30th day of October, 2017.

I hereby certify that this order, issued by the Arkansas Public Service Commission, has been served on all parties of record on this date by the following method:

☐ U.S. mail with postage prepaid using the mailing address of each party as indicated in the official docket file, or

☒ Electronic mail using the email address of each party as indicated in the official docket file.



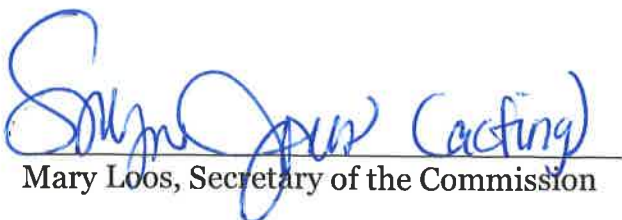
Ted J. Thomas, Chairman



Elana C. Wills, Commissioner



Kimberly A. O'Guinn, Commissioner



Mary Loos, Secretary of the Commission