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October 6, 2017

VIA ELECTRONIC FILING

M. Lynn Jarvis, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300

RE: Duke Energy Carolinas, LLC's Response to August 21, 2017 Order Requiring Smart Meter Plan Presentation
Docket No. E-100, Sub 147

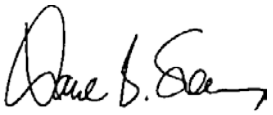
Dear Ms. Jarvis:

I enclose Duke Energy Carolinas, LLC's ("DEC" or the "Company") Response to the Commission's August 21, 2017 *Order Requiring Smart Meter Plan Presentation* (the "Response") for filing in connection with the referenced matter. DEC will provide additional information and address any questions during its October 10, 2017 presentation. DEC appreciates the Commission's willingness to reschedule this presentation until October 10, 2017, due to the Company's previous need to focus on Hurricane Irma response activities.

Certain information contained in the Response is confidential, and DEC requests that this information be treated confidentially pursuant to N.C. Gen. Stat. §132-1.2. Portions of Exhibits B and E to the Response contain costs for installations currently underway or planned in the near future. Disclosure of this proprietary, trade secret cost information would impair the Company's ability to procure equipment and services necessary to initiate future projects on advantageous terms for the benefit of DEC's customers.Four internal policy and procedure documents, which are part of the Response under Question 1, are proprietary to Duke Energy Corporation, and Duke Energy Corporation would be harmed if they were made available to the public. Parties to the docket may contact the Company to obtain copies pursuant to an appropriate confidentiality agreement.

Thank you for your attention to this matter. If you have any questions, please let me know.

Sincerely,



Lawrence B. Somers

Enclosures

cc: Parties of Record

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC's Response to the Commission's August 21, 2017 Order Requiring Smart Meter Plan Presentation, in Docket No. E-100, Sub 147, has been served by electronic mail, hand delivery or by depositing a copy in the United States mail, postage prepaid to the following parties of record:

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This is the 6th day of October, 2017.

By: _____

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Duke Energy Carolinas, LLC's Responses to Commission Questions
in August 21, 2017 *Order Requiring Smart Meter Plan Presentation*
by Duke Energy Carolinas, LLC
Docket No. E-100, Sub 147
October 6, 2017

1. Provide the information for the DEC AMI deployment required in Commission Rule R8-60.1(c)(3)(i), (iv), (v), (vii); and (7)(iii) and (iv). Please document your responses with all written policies, guidelines and workpapers that DEC has produced in support of its compliance with the requirements of the above rules. All workpapers should be filed in electronic format, with formulas intact.

Response:

The following documents are submitted pursuant to Commission Rule R8-60.1(c)(3)(i), (iv), (v), (vii); and (7)(iii) and (iv).

DEC AMI NPV Costs and Benefits - Exhibit A
CONFIDENTIAL DEC AMI Costs Summary - Exhibit B
DEC AMI Benefits Summary - Exhibit C
DEC AMI Cost Description Detail - Exhibit D
CONFIDENTIAL DEC AMI Deployment Class 3 - Exhibit E
DEC AMI Benefits Details - Exhibit F
DEC AMI Benefits Source - Exhibit G

Rule R8-60.1(c)(3)(i)
(i) A description of the technologies, including the goals and objectives of each technology, options for ensuring interoperability of the technology with the legacy system, and the expected life of the technology.

AMI is the foundational investment that will enable enhanced customer solutions - giving customers greater control, convenience and choice over their energy usage, while also giving customers the opportunity to budget, save time and save money. AMI technology allows a utility to gather more granular usage data and utilize new capabilities to offer new programs and services to customers that are not achievable through existing meters. The AMI technology will pave the way for programs that will allow customers to stay better informed during outages, control their due dates, avoid deposits, to be reconnected faster, and to better understand and take control of their energy usage, and ultimately, their bills. Over time, the Company also expects AMI meters to contribute to cost reductions from reduced truck rolls in the years after deployments.

Deployment of AMI meters allows customers to start, stop and move service without the need for a technician visit. The AMI meters also provide an interface for customers to see and understand their hourly energy usage, allowing them to better manage their consumption and, as a result, their bills. AMI meters will enable future customer programs such as outage notification

alerts, mid-billing cycle usage alerts, a real-time usage application for smart phones, and the ability for customers to select their payment due date. The technology can also enable future energy efficiency options and potential time-of-use rate offerings as well as pre-payment programs. Current meters cannot provide these capabilities.

These new meters are directly interoperable with the existing AMI meter systems and have a planned life of approximately 15 years.

Rule R8-60.1(c)(3)(iv)
(iv) A description of how the utility intends the technology to transfer information between it and the customer while maintaining the security of that information.

AMI meters capture energy usage and send it to grid routers directly, through range extenders, or through other meters to form a Radio Frequency (RF) mesh network. The grid routers transmit the collected usage data to the AMI headend system via cellular backhaul once each day. The headend system acts as the data collection point inbound from the metering infrastructure, as well as providing meter command and encryption key management outbound. The data is then sent to a Meter Data Management (MDM) system which provides billing determinants to the customer billing system for billing.

The data collected by the AMI meter utilizes a unique meter number (not displayed on the meter face) and thereby contains no personally identifiable customer information. All data is encrypted at the meter and decrypted at headend system. The unique meter number is then used as the linkage to other information within the customer billing systems. See additional information covered in Section 7(iv).

Rule R8-60.1(c)(3)(v)
(v) A description of how third parties will implement or utilize any portion of the technology, including transfers of customer-specific information from the utility to third parties, and how customers will authorize that information for release by the utility to third parties.

This section is not applicable as this project does not currently involve the transfer of customer information to any third parties.

Rule R8-60.1(c)(3)(vii)
(vii) Analyses relied upon by the utility for installations, including an explanation of the methodology and inputs used to perform the analyses.

The Cost-Benefit Analysis attached in Exhibit A is as presented to Company Management for consideration of the project. In evaluating the full scope of the AMI project, along with the approval of the DEC South Carolina portion of the AMI project, approval for the DEC North Carolina portion was not received until mid-November 2016. This Cost-Benefit Analysis represents total capital and operating expense deployment costs and operational benefits over a 20-year period, for the entire Duke Energy Carolinas service territory (North and South Carolina). The information presented in the high-level analysis in the 2016 SGTP was an estimated proportion of the total project costs and benefits allocated to North Carolina based on customer count.

Based on updated plans for the DEC North Carolina AMI project, cost estimates for the remaining meter deployment project and necessary system scaling upgrades are estimated at approximately $260 million. Additionally, part of the Company's strategy moving forward has been aligned with providing customers with more choice, convenience and control. Therefore, the ability to offer the enhanced basic services and programs as detailed in section R8-60.1 (c)(3)(i) above, along with improvements in customer satisfaction, are some of the non-quantifiable benefits further supporting the Company's decision to move forward with a full AMI deployment.

For the cost-benefit analysis see Exhibit A DEC AMI NPV Costs and Benefits. For a summary of the costs see Exhibit B CONFIDENTIAL DEC AMI Costs Summary. For a summary of the benefits see Exhibit C DEC AMI Benefits Summary.

For the additional cost details, see Exhibit D DEC AMI Cost Description Detail and Exhibit E CONFIDENTIAL DEC AMI Deployment Class 3. For additional benefit details, see Exhibit F DEC AMI Benefits Details and Exhibit G DEC AMI Benefits Source.

Rule R8-60.1(c)(7)(iii)
(iii) Any adjustment made by the utility to its capital accounting due to AMI, including the dollar amount of write-downs of its meter inventories.

In DEC North Carolina, the remaining book value of meters being retired through the AMI deployment is being deferred in a deferred debit account, pending Commission approval in Docket No. E-7, Sub 1146 for the Company's request to include the amount for retired meters in a regulatory asset.

Rule R8-60.1(c)(7)(iv)
(iv) A discussion of what AMI services or functions are currently being utilized, as well as any plans for implementing other AMI services or functions within the next two years.

DEC is currently utilizing the remote meter reading functionality of the AMI meters, eliminating walk-by and drive-by meter reading. Along with the usage reading, the AMI meters also provide enhanced detection of meter tampering. DEC is also utilizing the remote order fulfillment capabilities of the meters, allowing for remote off-cycle reads or re-reads, remote reconnections and disconnections, and read-in/read-out orders to stop or start service.

For customers with an AMI meter, DEC also provides the ability to access day prior electric usage information via the internet-based Customer Portal. The Portal displays usage information up to and including prior day usage. Customers can view daily and average energy usage by billing cycle or month. Customers can also view average energy usage by day-of-week, and hourly energy usage by day or week. Usage data is available for the previous 13 months, or as of the AMI meter certification date. Time-of-Use and Demand customers are able to view the information above, and can also see the date and hour when the peak usage or peak demand occurred, for the current or selected billing cycle. Customers also have the ability to download their hourly usage data from the Customer Portal in a .CSV format.

The Company is investigating the need to enable some meters' Zigbee radio to facilitate the Smart Meter Usage App pilot as outlined in the 2016 DEC Smart Grid Technology Plan.

Project Policies and Guidelines:
The Grid Solutions Department follows guidelines set-forth by the Project Management Center of Excellence (PMCoE) using project stage gate authorization points for major projects. A major project is not committed to moving forward until it passes the Commit gate and funds are authorized by the appropriate level of Company leadership. The following attachments outline project governance policies, standards and guidelines followed by the Company.

CONFIDENTIAL PJM-00001-POLICY
CONFIDENTIAL PJM-00001-GSSTD GS Portfolio Governance Standard
CONFIDENTIAL PJM-00003-ENTSTD

CONFIDENTIAL PJM-00003-GSSTD - GS Project Stage-Gate Authorization Standard

2. Exhibit C, page 2, item 9 of the May 5, 2017 supplemental filing is entitled "Reduce non-technical distribution losses." Explain fully the inputs and methodology for the calculation of the AMI "Total Savings" stated in item 9. Please provide all documents and workpapers supporting DEC's methodology and calculations.

Response:

Exhibit G DEC AMI Benefits Source, 'DEC Non-tech Loss Calc' tab includes the calculations and assumptions related to reduced non-technical distribution losses. This benefit item represents expected revenue capture during and after the AMI deployment as a result of the increased ability to identify cases of non-performing or under-performing ("slow/stuck") meters from registration erosion, power theft and pilferage by way of either direct tapping, manipulating, or bypassing the meter, non-reading of meters, and misconfigured equipment and installation errors such as mis-wiring, incorrect application of multiplying factors, and defects in current transformer (CT) & potential transformer (PT) circuitry.

According to a 2008 EPRI report, industry experts project that a reasonable percentage for non-technical losses is 2% of gross revenue. This assumption was utilized in calculating the DEC AMI benefits.

The total assumed amount of revenue subject to erosion from non-technical losses was thus calculated at 2% of gross Residential and Commercial revenue ("Revenue Leakage Percentage (2)" - Column D). Year 1 DEC Residential and Commercial FERC revenue was sourced from the 2014 DEC FERC Form 1. Revenues in subsequent years assumed 0.50% annual load growth ("2014 Total Revenues Residential & Commercial Portion (1)" - Column C). The EPRI report identifies AMI enabling the identification of 80% of this erosion ("AMI Recovery Gain (3)" - Column E), and Duke Energy assumed 60% of the erosion identified could be recovered through corrective action and back-billing ("Collection Percentage (4)" - Column F). DEC had already deployed over 600,000 AMI meters prior to the full-scale DEC AMI deployment starting. Since the 2% revenue loss is based on a full-scale implementation, the total amount to be collected was then multiplied by the percent of the DEC meter population that remained to be converted to AMI ("Applicable Meters (5)" - Column H). The rate of 76% was calculated by dividing the meters

remaining to be deployed (1,966,000) by the total DEC meter population (2,600,000).

To determine the annual benefits to include in the analysis during the deployment years; total potential revenue capture was multiplied by the benefit realization rate, which was based on the monthly deployment schedule and included a 6-month lag between installation of AMI meters and the ability to capture savings on the meters ("Phase-In/Out Percent (6)" - Column I).

In addition, the benefits align with the expected 15-year service life of the meters. In the same way that benefits were scaled up during the deployment years based on the deployment schedule, benefits were scaled down as meters reach the end of their service life ("Phase-In/Out Percent (6)" - Column I).

3. With regard to line 2 of Exhibit A, and item 9 of Exhibit C, how much of the $9 million in estimated benefits for 2017 has DEC achieved, and in what areas (theft prevention, non-performing/under-performing meters, etc.)?

Response:

Specific years were included in the analysis; however, due to the full funding approval for DEC North Carolina not occurring until late 2016, it is necessary to view 2017 as Year 1 of the project rather than as Year 2, in which the $9 million in estimated benefits could be realized.

Although the benefit realization schedule would place the estimated 'Year 2' $9 million benefit in 2018, the deployment of AMI in DEC has already begun to identify and capture significant benefits from the identification of theft, under-performing meters, non-reading of meters, and misconfigurations.

The table below shows increasing revenue capture due to analytics in DEC. Note this chart shows all revenue capture for DEC not just AMI meters, as the Company does not track by meter type (AMI vs. AMR).

Year	Total Revenue Capture in DEC Due to Analytics
2016	$4.9M
2017 YTD through July	$3.6M

4. In item 9 of Exhibit C, DEC cites the results from a 2008 EPRI study entitled "AMI Technology: Limiting Non-Technical Distribution Losses in the Future" as input to the cost-benefit analysis. Did DEC independently evaluate its own experience with AMI to determine the validity of this significant value input to the cost-benefit analysis? If so, provide all documents and workpapers that support DEC's independent evaluation.

Response:

No, DEC relied on the 2008 EPRI report, which was performed by industry experts, for its analysis. The Company "de-rated" the recommended 2% revenue erosion by assuming a 60% collection of the losses.

5. On page 2 of the supplemental filing, DEC states that the new AMI meters have a "planned life of approximately 15 years." Explain how the costs of replacing the meters after 15 years is reflected in the cost-benefit analysis.

Response:

The cost-benefit analysis reflects the costs and benefits associated with deploying 1.96 million meters in the DEC service territory. The analysis does not include the replacement of all meters after their expected 15-year service life. Benefits associated with the meters were scaled up during the deployment years based on the deployment schedule and scaled down as meters reach the end of their expected 15-year service life. In other words, after a meter reaches 15 years of life, no further benefits are associated with that meter within the analysis.

6. On Exhibit C, page 2, the cost-benefit analysis shows "Total Savings (20 years)." With a planned life of 15 years, why is 20 years used for calculating AMI savings?

Response:

The Company used 20 years to calculate both costs and benefits for the AMI deployment due to the expected 4-year deployment schedule. The costs and benefits reflect the full life of all meters in scope of the 4-year deployment. Specifically the meters deployed in year 4 would reach the end of their service life in year 20 of the analysis. Benefits were scaled up during the deployment years based on the deployment schedule and scaled down as meters reach the end of their expected 15-year service life.

7. On pages 1-2 of the supplemental filing, DEC discusses the possibility of additional customer services provided by AMI deployment. Explain fully whether and how all of the costs for developing and deploying those services are included in the cost-benefit analysis.

Response:

No costs or benefits for developing and deploying additional customer programs/services were included in the AMI cost-benefit analysis.

8. Do the costs stated in the cost-benefit analysis include the full costs of purchasing and maintaining the software and other technology required to fully capture and transfer all data needed to support the planned functions to be performed by DEC's AMI meters? Please provide all documents and workpapers supporting your response.

Response:

The DEC AMI program cost-benefit analysis includes the full costs to scale the hardware infrastructure and software required to support the data collection necessary for full deployment of AMI in DEC. In addition, the cost-benefit analysis includes the incremental on-going costs of supporting that infrastructure. As an example the OpenWay Scale and Meter Data Management System (MDM) scale project are Enterprise projects included in the analysis. These projects are included in the DEC AMI Cost-Benefit Analysis as the "OW Enterprise Allocation to DEC" and MDM Enterprise Allocation to DEC."

Other software projects related to AMI that are not essential to support the data collection, are not captured in the AMI cost-benefit analysis. Those efforts would require their own analysis.

9. During the AMI rollout what percentage of AMR meters is DEC finding that have been tampered with or bypassed? What actions is DEC taking in those instances?

Response:

The Company has found 0.014% instances of tampering/theft for the meters exchanged to date. All cases are turned over to the Company's revenue protection team, and severity will determine next actions. Possible actions include disconnections or back billing the customer.

10. Is DEC monitoring whether its AMI meters are being tampered with, hacked or bypassed in North Carolina or other states? If so, how is that monitoring being performed?

Response:

Yes. The monitoring is being performed through advanced analytic techniques on the data received from the AMI meters. The analytic models use the more robust data elements from AMI including the more granular interval usage data and tampering alarms. The data elements and techniques being used are continuously being developed and improved.

11. How many times each day and for what length of time for each occurrence is DEC gathering data from each AMI meter? Will this change over time? Explain fully

Response:

For billing purposes, all AMI meters are interrogated once a day pulling back 30-minute interval usage information. Currently, all AMI meters are read between 12AM – 4AM. If the nightly read is not successful, the meter may be interrogated again later during the day. It takes a few seconds for the meter to send the billing information each night.

On a case-by-case need, the Company may interrogate an AMI meter for alerts or interrogate the meter in the event a customer is reporting an issue.

The frequency of interrogation and interval length for gathering usage information could change in the future for AMI meters or sub-sets of AMI meters as business needs arise.

Exhibit A

Duke Energy Carolinas Advanced Metering Infrastructure Cost Benefit Analysis

		AMI Program Costs ($000s)				AMI Program Benefits ($000s)											Net Present Value		
		Total Capital Program Costs	Total Capital Recurring Costs	Total O&M Program Costs	Total O&M Recurring costs	Reduced meter reading costs	Reduced meter operations costs - consumer order workers for meter orders	Reduced meter operations costs - field metering labor	Reduced meter operations costs - testing, repairs, reading equipment	Reduced restoration costs - OK on arrival	Reduced restoration costs - major storms	Misc O&M savings	Reduced equipment failures	Misc capital savings	AMR meter salvage value	Non-technical line loss reduction - power theft, equipment failures and installation errors	**Net Benefits and (Costs)**	Loss on Net Book Value of AMR Meters	Net Benefits & (Costs)
1	2016	- 45,137	-	- 350	- 253	492	-	1,333	-	-	-	-	-	-	257	-	**- 43,658**	- 85,050	- 128,708
2	2017	- 151,520	- 443	- 2,750	- 1,364	792	2,004	3,232	-	122	291	436	571	145	580	9,034	**- 138,871**	-	- 138,871
3	2018	- 154,483	- 796	- 3,250	- 2,588	1,440	4,815	3,242	-	293	698	1,047	1,371	349	533	21,172	**- 126,158**	-	- 126,158
4	2019	- 34,911	- 886	-	- 2,873	2,250	7,800	3,242	-	475	1,130	1,696	2,221	565	1	33,470	**14,180**	-	14,180
5	2020	-	- 1,839	-	- 4,062	2,470	8,034	-	-	489	1,164	1,747	2,288	582	-	38,530	**49,404**	-	49,404
6	2021	-	- 1,840	-	- 4,170	2,542	9,479	-	-	577	1,374	2,061	2,700	687	-	38,723	**52,132**	-	52,132
7	2022	-	- 2,100	-	- 4,280	2,617	9,764	-	-	594	1,415	2,123	2,781	708	-	38,917	**52,537**	-	52,537
8	2023	-	- 2,101	-	- 4,392	2,694	10,056	-	-	612	1,457	2,186	2,864	729	-	39,111	**53,217**	-	53,217
9	2024	-	- 2,102	-	- 4,506	2,773	10,358	-	-	630	1,501	2,252	2,950	751	-	39,307	**53,915**	-	53,915
10	2025	-	- 2,103	-	- 4,621	2,855	10,669	-	-	649	1,546	2,319	3,038	773	-	39,503	**54,630**	-	54,630
11	2026	-	- 15,159	-	- 4,738	2,939	10,989	-	-	669	1,593	2,389	3,130	796	-	39,701	**42,308**	-	42,308
12	2027	-	- 1,846	-	- 4,857	3,026	11,319	-	-	689	1,640	2,461	3,223	820	-	39,899	**56,375**	-	56,375
13	2028	-	- 1,846	-	- 4,978	3,115	11,658	-	-	710	1,690	2,534	3,320	845	-	40,099	**57,147**	-	57,147
14	2029	-	- 1,847	-	- 5,100	3,207	12,008	-	-	731	1,740	2,610	3,420	870	-	40,299	**57,938**	-	57,938
15	2030	-	- 1,848	-	- 5,225	3,302	12,368	-	-	753	1,792	2,689	3,522	896	-	40,501	**58,750**	-	58,750
16	2031	-	- 1,849	-	- 5,352	3,399	12,739	-	-	775	1,846	2,769	3,628	923	-	40,703	**59,583**	-	59,583
17	2032	-	- 1,850	-	- 5,481	3,499	13,121	-	-	799	1,902	2,852	3,737	951	-	40,907	**60,437**	-	60,437
18	2033	-	- 1,851	-	- 5,612	2,745	10,299	-	-	627	1,493	2,239	2,933	746	-	31,327	**44,945**	-	44,945
19	2034	-	- 1,852	-	- 5,746	1,651	6,195	-	-	377	898	1,347	1,764	449	-	18,386	**23,468**	-	23,468
20	2035	-	- 1,853	-	- 5,882	485	1,821	-	-	111	264	396	519	132	-	5,273	**1,266**	-	1,266
		- 386,051	- 46,011	- 6,350	- 86,079	48,292	175,497	11,049	-	10,682	25,434	38,152	49,980	12,717	1,370	634,864	**483,547**	**- 85,050**	**398,497**
																Net Present Value of Benefits & Costs	**117,171**		**37,482**
																Duke Energy Carolinas Weighted Average Cost of Capital	6.7%		
																Internal Rate of Return	11.7%		8.0%

Early Retirement of AMR Meters	
Net Book Value of AMR Meters	- 135,000
Loss on Early Retirement of AMR Meters	- 85,050

Exhibit B

REDACTED

DUKE ENERGY

AMI / Smart Meter Cost Inputs - By Program and Initiative

Forward | Home

Capital - Program Costs Initial Capital

Asset	Technology	Initiative	Cost Type	Cost Subtype	Description	Total Cost	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	Year 10 2025	Year 11 2026	Year 12 2027	Year 13 2028	Year 14 2029	Year 15 2030	Year 16 2031	Year 17 2032	Year 18 2033	Year 19 2034	Year 20 2035	Total
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Equipment	Costs of Comm. Devices						$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 16,562,830
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Equipment	Costs Meters						$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 207,737,702
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Equipment	Stores Loading & Tax	$ 25,022,059	$ 2,713,408	$ 9,969,303	$ 9,972,938	$ 2,366,410	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,022,059
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Equipment	Miscellaneous (Optimization Equipment)	$ 4,286,225	$ 461,215	$ 1,704,800	$ 1,708,335	$ 411,875	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,286,225
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Contractor Labor	Installation Cost & Vendor Services						$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 44,664,082
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Internal Labor	Contingency (Estimated Uncertainty)	$ 16,248,576	$ 1,748,410	$ 6,462,898	$ 6,476,099	$ 1,561,369	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 16,248,576
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Internal Labor	Contingency (Risk)	$ 5,096,413	$ 548,394	$ 2,027,044	$ 2,031,247	$ 489,728	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,096,413
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Internal Labor	Network Optimization Costs	$ 14,255,389	$ 488,702	$ 4,565,268	$ 5,033,303	$ 4,168,118	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,255,389
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Eng. & Other Services	Internal Labor	Other Labor (Billing, Telecom, Escalation, Expenses)	$ 7,762,662	$ 364,330	$ 2,265,040	$ 3,086,710	$ 2,046,582	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,762,662
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Eng. & Other Services	Internal Labor	PMO Allocations	$ 3,308,559	$ 356,014	$ 1,315,944	$ 1,318,673	$ 317,928	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,308,559
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Eng. & Other Services	Internal Labor	Duke PM Costs	$ 10,543,894	$ 1,759,693	$ 3,040,528	$ 3,044,845	$ 2,698,828	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,543,894
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Back Office Systems	IT - Hardware	MDM Enterprise Allocation to DEC	$ 21,000,000	$ 1,000,000	$ 10,000,000	$ 10,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 21,000,000
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Back Office Systems	IT - Hardware	OW Enterprise Allocation to DEC	$ 2,112,500	$ -	$ 1,112,500	$ 1,000,000																		$ 2,112,500
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Back Office Systems	IT- Software	Advance Bridge Enablement	$ 1,650,000	$ 400,000	$ 1,250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,650,000
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Back Office Systems	IT- Software	Large C&I to AMI Conversion	$ 6,000,000	$ -	$ 2,000,000	$ 4,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,000,000
						$ 386,050,891	$ 45,136,562	$ 151,520,470	$ 154,483,272	$ 34,910,587	$ -																$ 386,050,891

O&M - Program Costs Non-Recurring O&M

Asset	Technology	Initiative	Cost Type	Cost Subtype	Description	Total Cost	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	Year 10 2025	Year 11 2026	Year 12 2027	Year 13 2028	Year 14 2029	Year 15 2030	Year 16 2031	Year 17 2032	Year 18 2033	Year 19 2034	Year 20 2035	Total
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Back Office Systems	IT - Hardware	MDM Enterprise Allocation to DEC	$ 1,000,000	$ -	$ 500,000	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Equipment	OW Enterprise Allocation to DEC	$ 500,000	$ -	$ 250,000	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Back Office Systems	IT- Software	Advance Bridge Enablement	$ 850,000	$ 350,000	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 850,000
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Back Office Systems	IT- Software	Large C&I to AMI Conversion	$ 4,000,000	$ -	$ 1,500,000	$ 2,500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,000,000
						$ 6,350,000	$ 350,000	$ 2,750,000	$ 3,250,000	$ -	$ -																$ 6,350,000

Capital - Recurring Costs

Asset	Technology	Initiative	Cost Type	Cost Subtype	Description	Total Cost	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	Year 10 2025	Year 11 2026	Year 12 2027	Year 13 2028	Year 14 2029	Year 15 2030	Year 16 2031	Year 17 2032	Year 18 2033	Year 19 2034	Year 20 2035	Total
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Equipment	Comm. Device End of Life Replacement Costs (Ind. stores loading)	$ 13,451,590	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 13,451,590	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 13,451,590
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Equipment	Annual Costs assoc. with Comm Failures	$ 3,177,857	$ -	$ 9,802	$ 22,780	$ 32,629	$ 131,636	$ 132,534	$ 392,366	$ 393,264	$ 394,162	$ 395,060	$ -	$ 137,922	$ 138,820	$ 139,718	$ 140,616	$ 141,514	$ 142,412	$ 143,310	$ 144,208	$ 145,106	$ 3,177,857
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Equipment	Annual Costs assoc. with Meter Failures/Growth	$ 29,381,769	$ -	$ 433,051	$ 773,349	$ 853,799	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 1,707,598	$ 29,381,769
Customer Assets	AMI/Smart Meter					$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Customer Assets	AMI/Smart Meter					$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
						$ 46,011,217	$ -	$ 442,853	$ 796,129	$ 886,428	$ 1,839,234	$ 1,840,132	$ 2,099,964	$ 2,100,862	$ 2,101,760	$ 2,102,658	$ 15,159,189	$ 1,845,520	$ 1,846,418	$ 1,847,316	$ 1,848,214	$ 1,849,112	$ 1,850,010	$ 1,850,908	$ 1,851,806	$ 1,852,704	$ 46,011,217

O&M - Recurring Costs

Asset	Technology	Initiative	Cost Type	Cost Subtype	Description	Total Cost	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	Year 10 2025	Year 11 2026	Year 12 2027	Year 13 2028	Year 14 2029	Year 15 2030	Year 16 2031	Year 17 2032	Year 18 2033	Year 19 2034	Year 20 2035	Total
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Equipment	Vendor Annual Maintenance Costs (maintenance for comm. equip.)	$ 45,906,691	$ 252,849	$ 1,030,748	$ 1,916,784	$ 2,028,105	$ 2,079,948	$ 2,133,247	$ 2,188,247	$ 2,244,997	$ 2,303,547	$ 2,363,448	$ 2,425,351	$ 2,489,112	$ 2,554,785	$ 2,622,429	$ 2,692,101	$ 2,763,865	$ 2,837,780	$ 2,913,914	$ 2,992,321	$ 3,073,101	$ 45,906,691
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Eng. & Other Services	Internal Labor	Duke Operational Labor (Telecom)	$ 1,790,464	$ -	$ -	$ -	$ -	$ 93,184	$ 95,680	$ 98,176	$ 100,672	$ 103,168	$ 105,664	$ 108,160	$ 110,656	$ 113,152	$ 115,648	$ 118,144	$ 120,640	$ 123,136	$ 125,632	$ 128,128	$ 130,624	$ 1,790,464
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Eng. & Other Services	Internal Labor	Duke Operational Labor (HE System Op Costs)	$ 4,899,737	$ -	$ -	$ -	$ -	$ 255,005	$ 261,835	$ 268,666	$ 275,496	$ 282,327	$ 289,157	$ 295,988	$ 302,818	$ 309,649	$ 316,479	$ 323,310	$ 330,140	$ 336,971	$ 343,801	$ 350,632	$ 357,462	$ 4,899,737
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Field Technology	Other O&M	WAN Costs	$ 18,821,842	$ -	$ 333,057	$ 670,977	$ 845,249	$ 870,606	$ 895,964	$ 921,321	$ 946,679	$ 972,036	$ 997,394	$ 1,022,751	$ 1,048,109	$ 1,073,466	$ 1,098,824	$ 1,124,181	$ 1,149,539	$ 1,174,896	$ 1,200,254	$ 1,225,611	$ 1,250,968	$ 18,821,842
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Eng. & Other Services	Other O&M	Billing team labor to manage interval reads	$ 8,166,228	$ -	$ -	$ -	$ -	$ 425,008	$ 436,392	$ 447,776	$ 459,161	$ 470,545	$ 481,929	$ 493,313	$ 504,697	$ 516,081	$ 527,465	$ 538,850	$ 550,234	$ 561,618	$ 573,002	$ 584,386	$ 595,770	$ 8,166,228
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Eng. & Other Services	Other O&M	Analytics labor to support revenue protection	$ 6,494,488	$ -	$ -	$ -	$ -	$ 328,003	$ 347,057	$ 356,110	$ 365,164	$ 374,218	$ 383,271	$ 392,325	$ 401,379	$ 410,432	$ 419,486	$ 428,540	$ 437,593	$ 446,647	$ 455,701	$ 464,754	$ 473,808	$ 6,494,488
Customer Assets	AMI/Smart Meter					$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Customer Assets	AMI/Smart Meter					$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
						$ 86,079,489	$ 252,849	$ 1,363,805	$ 2,587,761	$ 2,873,354	$ 4,061,755	$ 4,170,275	$ 4,280,397	$ 4,392,169	$ 4,505,641	$ 4,620,863	$ 4,737,888	$ 4,856,771	$ 4,977,566	$ 5,100,331	$ 5,225,126	$ 5,352,010	$ 5,481,048	$ 5,612,303	$ 5,745,842	$ 5,881,734	$ 86,079,489

Total Cost	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	Year 10 2025	Year 11 2026	Year 12 2027	Year 13 2028	Year 14 2029	Year 15 2030	Year 16 2031	Year 17 2032	Year 18 2033	Year 19 2034	Year 20 2035	Total
Total Capital Program Costs	$ 45,136,562	$ 151,520,470	$ 154,483,272	$ 34,910,587	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 386,050,891
Total Capital Recurring Costs	$ -	$ 442,853	$ 796,129	$ 886,428	$ 1,839,234	$ 1,840,132	$ 2,099,964	$ 2,100,862	$ 2,101,760	$ 2,102,658	$ 15,159,189	$ 1,845,520	$ 1,846,418	$ 1,847,316	$ 1,848,214	$ 1,849,112	$ 1,850,010	$ 1,850,908	$ 1,851,806	$ 1,852,704	$ 46,011,217
Total O&M Program Costs	$ 350,000	$ 2,750,000	$ 3,250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,350,000
Total O&M Recurring costs	$ 252,849	$ 1,363,805	$ 2,587,761	$ 2,873,354	$ 4,061,755	$ 4,170,275	$ 4,280,397	$ 4,392,169	$ 4,505,641	$ 4,620,863	$ 4,737,888	$ 4,856,771	$ 4,977,566	$ 5,100,331	$ 5,225,126	$ 5,352,010	$ 5,481,048	$ 5,612,303	$ 5,745,842	$ 5,881,734	$ 86,079,489
Total Capital	**$45,136,562**	**$151,963,323**	**$155,279,401**	**$35,797,015**	**$1,839,234**	**$1,840,132**	**$2,099,964**	**$2,100,862**	**$2,101,760**	**$2,102,658**	**$15,159,189**	**$1,845,520**	**$1,846,418**	**$1,847,316**	**$1,848,214**	**$1,849,112**	**$1,850,010**	**$1,850,908**	**$1,851,806**	**$1,852,704**	**$432,062,108**
Total O&M	**$602,849**	**$4,113,805**	**$5,837,761**	**$2,873,354**	**$4,061,755**	**$4,170,275**	**$4,280,397**	**$4,392,169**	**$4,505,641**	**$4,620,863**	**$4,737,888**	**$4,856,771**	**$4,977,566**	**$5,100,331**	**$5,225,126**	**$5,352,010**	**$5,481,048**	**$5,612,303**	**$5,745,842**	**$5,881,734**	**$92,429,489**
Total Annual Costs	**$45,739,411**	**$156,077,128**	**$161,117,162**	**$38,670,369**	**$5,900,988**	**$6,010,407**	**$6,380,361**	**$6,493,031**	**$6,607,401**	**$6,723,521**	**$19,897,077**	**$6,702,291**	**$6,823,984**	**$6,947,647**	**$7,073,340**	**$7,201,123**	**$7,331,058**	**$7,463,212**	**$7,597,649**	**$7,734,438**	**$524,491,597**

Project Deployment and On-going Capital Costs

Project Deployment Capital Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	0
Field Technology	$ 41,256,525	$ 130,536,458	$ 132,033,044	$ 29,847,249	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 333,673,276
Communications	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Eng. & Other Services	$ 2,480,037	$ 6,621,512	$ 7,450,228	$ 5,063,338	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 21,615,115
Back Office Systems	$ 1,400,000	$ 14,362,500	$ 15,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,762,500
Indirect	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$45,136,562**	**$151,520,470**	**$154,483,272**	**$34,910,587**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$386,050,891**

Project Ongoing Capital Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	0
Field Technology	$ -	$ 442,853	$ 796,129	$ 886,428	$ 1,839,234	$ 1,840,132	$ 2,099,964	$ 2,100,862	$ 2,101,760	$ 2,102,658	$ 15,159,189	$ 1,845,520	$ 1,846,418	$ 1,847,316	$ 1,848,214	$ 1,849,112	$ 1,850,010	$ 1,850,908	$ 1,851,806	$ 1,852,704	$ 46,011,217
Communications	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Eng. & Other Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Back Office Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Indirect	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$0**	**$442,853**	**$796,129**	**$886,428**	**$1,839,234**	**$1,840,132**	**$2,099,964**	**$2,100,862**	**$2,101,760**	**$2,102,658**	**$15,159,189**	**$1,845,520**	**$1,846,418**	**$1,847,316**	**$1,848,214**	**$1,849,112**	**$1,850,010**	**$1,850,908**	**$1,851,806**	**$1,852,704**	**$46,011,217**

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Exhibit C

DUKE ENERGY®

AMI Program Benefit Inputs

Annual Benefits ($)					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Asset	**Technology**	**Initiative**	**Benefit Name**	**Duke Benefit Description**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Customer Assets	AMI/Smart Meter	AMI Deployment	Reduced Meter Reading Cost	***Reduced meter reading costs***	$ 491,592	$ 792,356	$ 1,439,895	$ 2,249,849	$ 2,469,678	$ 2,542,238
Customer Assets	AMI/Smart Meter	AMI Deployment	Reduced T&D Operations Cost	***Reduced meter operations costs - consumer order workers for meter orders***	$ -	$ 2,004,474	$ 4,814,527	$ 7,800,315	$ 8,034,324	$ 9,479,214
Customer Assets	AMI/Smart Meter	AMI Deployment	Reduced T&D Operations Cost	***Reduced meter operations costs - field metering labor***	$ 1,333,183	$ 3,231,635	$ 3,242,300	$ 3,242,300	$ -	$ -
Customer Assets	AMI/Smart Meter	AMI Deployment	Reduced Restoration Cost	***Reduced restoration costs - OK on arrival***	$ -	$ 122,011	$ 293,058	$ 474,802	$ 489,046	$ 576,996
Customer Assets	AMI/Smart Meter	AMI Deployment	Reduced Restoration Cost	***Reduced restoration costs - major storms***	$ -	$ 290,503	$ 697,758	$ 1,130,480	$ 1,164,395	$ 1,373,799
Customer Assets	AMI/Smart Meter	AMI Deployment	Reduced Equipment Failures	***Miscellaneous O&M savings***	$ -	$ 435,755	$ 1,046,636	$ 1,695,721	$ 1,746,592	$ 2,060,699
Customer Assets	AMI/Smart Meter	AMI Deployment	Avoided Equipment and Maintenance Costs	***Reduced equipment failures***	$ -	$ 570,861	$ 1,371,146	$ 2,221,478	$ 2,288,122	$ 2,699,618
Customer Assets	AMI/Smart Meter	AMI Deployment	Avoided Equipment and Maintenance Costs	***Miscellaneous capital savings***	$ -	$ 145,252	$ 348,879	$ 565,240	$ 582,197	$ 686,900
Customer Assets	AMI/Smart Meter	AMI Deployment	Increased Revenue	***AMR meter salvage value***	$ 256,550	$ 579,600	$ 533,050	$ 711	$ -	$ -
Customer Assets	AMI/Smart Meter	AMI Deployment	Increased Revenue	***Non-technical line loss reduction - power theft, equipment failures and installation errors***	$ -	$ 9,034,054	$ 21,172,140	$ 33,469,720	$ 38,530,433	$ 38,723,086
					$ 2,081,325	$ 17,206,500	$ 34,959,389	$ 52,850,616	$ 55,304,789	$ 58,142,549

Exhibit C

Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total 20 Year
$ 2,616,976	$ 2,693,955	$ 2,773,244	$ 2,854,911	$ 2,939,028	$ 3,025,669	$ 3,114,909	$ 3,206,826	$ 3,301,501	$ 3,399,016	$ 3,499,457	$ 2,745,418	$ 1,650,713	$ 485,041	$ 48,292,272
$ 9,763,591	$ 10,056,498	$ 10,358,193	$ 10,668,939	$ 10,989,007	$ 11,318,678	$ 11,658,238	$ 12,007,985	$ 12,368,225	$ 12,739,271	$ 13,121,450	$ 10,298,501	$ 6,194,643	$ 1,820,947	$ 175,497,020
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,049,418
$ 594,306	$ 612,135	$ 630,499	$ 649,414	$ 668,896	$ 688,963	$ 709,632	$ 730,921	$ 752,848	$ 775,434	$ 798,697	$ 626,865	$ 377,065	$ 110,840	$ 10,682,427
$ 1,415,013	$ 1,457,464	$ 1,501,187	$ 1,546,223	$ 1,592,610	$ 1,640,388	$ 1,689,600	$ 1,740,288	$ 1,792,496	$ 1,846,271	$ 1,901,659	$ 1,492,536	$ 897,774	$ 263,905	$ 25,434,351
$ 2,122,520	$ 2,186,195	$ 2,251,781	$ 2,319,335	$ 2,388,915	$ 2,460,582	$ 2,534,400	$ 2,610,432	$ 2,688,744	$ 2,769,407	$ 2,852,489	$ 2,238,805	$ 1,346,661	$ 395,858	$ 38,151,526
$ 2,780,606	$ 2,864,024	$ 2,949,945	$ 3,038,443	$ 3,129,597	$ 3,223,485	$ 3,320,189	$ 3,419,795	$ 3,522,389	$ 3,628,060	$ 3,736,902	$ 2,932,945	$ 1,764,193	$ 518,594	$ 49,980,391
$ 707,507	$ 728,732	$ 750,594	$ 773,112	$ 796,305	$ 820,194	$ 844,800	$ 870,144	$ 896,248	$ 923,136	$ 950,830	$ 746,268	$ 448,887	$ 131,953	$ 12,717,175
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,369,911
$ 38,916,701	$ 39,111,284	$ 39,306,841	$ 39,503,375	$ 39,700,892	$ 39,899,396	$ 40,098,893	$ 40,299,388	$ 40,500,885	$ 40,703,389	$ 40,906,906	$ 31,326,918	$ 18,386,064	$ 5,273,495	$ 634,863,861
														$ -
$ 58,917,218	$ 59,710,287	$ 60,522,284	$ 61,353,751	$ 62,205,250	$ 63,077,355	$ 63,970,660	$ 64,885,778	$ 65,823,337	$ 66,783,985	$ 67,768,389	$ 52,408,256	$ 31,066,002	$ 9,000,632	**$ 1,008,038,352**

Exhibit C

AMI Program Benefit Details

	Benefit	Benefit Type	Description	Input	Total Savings (20 Years)
1	Eliminate regular meter reads	Expense Reduction	Reduced Meter Reading needs. Benefit derived from current budget, however Metering expects costs/meter for existing contract service to increase by 25% as volume decreases. Decrease budget amount to $20M.		$ 48,292,272
2	Reduce off-cycle meter reads and field disconnects/reconnects (COW)	Expense Reduction	Reduced consumer order field visits for Disconnect/Reconnect and Succession reads as these tasks are automated. Reviewed with Fred Logan, Michael Volrich, financial folks. Does not factor in new non-AMI work or final 'geographical coverage' practicality review.	Utilize 9/15 previous 12 months costs for the following items • 42% of Cred On/DNP expenses and 100% of OT expense • 90% of Connect/Disconnect expenses • 90% of Succession read expenses	$ 175,497,020
3	Meter Operations Savings	Expense Reduction	Reduced meter operations costs - field metering labor		$ 11,049,418
4	Outage – reduce "OK on arrival"	Avoided Costs - O&M	Reduced truck rolls required to verify voltage to meter due to ability to remotely verify. Not currently vetted with business to actually reduce outage assessment budget	Utilize four year monthly average from DOMS of "Ok on arrival" trouble orders related to single calls and mid-level storms, calculation assumed 80% reduced and ¾ hour time	$ 10,682,427
5	Outage – reduce major storm restoration	Avoided Costs - O&M	Reduced truck rolls required to verify voltage to meter due to ability to remotely verify. Not currently vetted with business to actually reduce outage assessment budget	Utilize three year average of major storm related labor (internal and contract) to determine daily average for major storm restoration. Reduction = ½ day	$ 25,434,351
6	Miscellaneous O&M costs	Avoided Costs - O&M	Basis - Estimate	Includes nominal amounts to represent other enabling benefits such as : • Improve vegetation management (voltage sag data from meters) • Reduced customer calls • Reduced estimated bills	$ 38,151,526
7	Legacy meter failures	Avoided Costs - Capital	Full cost of new meter failures captured in project costs. This is full benefit of reduced meter faiures (old meters vs. new AMI meters).	Utilize internal annual failure rate of 1.83% and meter costs of $61.62 ($29.62 for material and $32 for installation)	$ 49,980,391
8	Miscellaneous capital costs	Avoided Costs - Capital	Basis - estimate	Includes nominal amounts to represent other enabling benefits such as: • Improve asset management (aggregate meter data to identify over/under loaded distribution transformers, and stress points in the grid) • Leverage meter Volt/Var data to improve placement of capacitor banks	$ 12,717,175
9	Reduce non-technical distribution losses	Increased Revenue	Assume this includes all revenue capture – including registration erosion, mis-wiring, etc.. Calculated at 2% of gross Res/Comm revenue, 80% enabled by AMI, 60% billable/recoverable	EPRI Study - December 2008 - "AMI Technology: Limiting Non-Technical Distribution Losses in the Future" • Non-performing/under-performing meters • Incorrect application of multiplying factors • Defects in CT & PT circuitry • Non-reading of meters • Pilferage by manipulating or bypassing of meters • Theft by direct tapping	$ 634,863,861

Exhibit D

AMI / Smart Meter Cost Description Definitions

Capital - Program Costs Initial Capital	
Description	**Definition**
Costs of Comm. Devices	Material costs of the AMI communication devices, including Cisco Connected Grid Routers (CGRs) and Itron Range Extenders (RE)
Costs Meters	Material costs of the OpenWay IPv6 mesh meters and 4G cellular (direct connect) meters
Stores Loading & Tax	All material adders, including warehousing, handling, installment consumables (nuts, bolts, etc.), and sales and use taxes
Miscellaneous (Optimization Equipment)	Miscellaneous tools, equipment, and supplies required for the AMI equipment installation and project support (e.g. power cords, brackets, office supplies)
Installation Cost & Vendor Services	Equipment installation costs, including Duke (internal) and contractor (external) labor
Contingency (Estimated Uncertainty)	Contingency representing uncertainty in estimate components (rates, hours, etc.)
Contingency (Risk)	Contingency representing Expected Monetary Value (EMV) of identified risks
Network Optimization Costs	Field labor to optimize AMI network throughout implementation
Other Labor (Billing, Telecom, Escalation, Expenses)	Project labor costs for Billing and Telecom resources, along with labor escalation and expenses
PMO Allocations	Overhead allocations based on Project Management Organization labor
Duke PM Costs	Internal Project Management labor costs to support AMI implementation
MDM Enterprise Allocation to DEC	Allocation for scaling the Meter Data Management (MDM) system hardware infrastructure and software to support full deployment of AMI meters
OW Enterprise Allocation to DEC	Allocation for scaling the OpenWay (OW) head-end system hardware infrastructure and software to support full deployment of AMI meters
Advanced Bridge Enablement	IT systems work to enable the customer billing system and MDM system to allow advanced bridge meter functionality
Large C&I to AMI Conversion	IT systems work to enable the customer billing system and MDM system to bill the complex large commercial and industrial customer accounts using AMI meters

O&M - Program Costs Non-Recurring O&M	
Description	**Definition**
MDM Enterprise Allocation to DEC	Allocation based on jurisdictional customer count for the Enterprise effort to scale the Meter Data Management (MDM) system hardware infrastructure and software to support full deployment of AMI
OW Enterprise Allocation to DEC	Allocation based on jurisdictional customer count for the Enterprise effort to scale the OpenWay (OW) head-end system hardware infrastructure and software to support full deployment of AMI
Advanced Bridge Enablement	IT systems work to enable the customer billing system and MDM system to allow advanced bridge meter functionality
Large C&I to AMI Conversion	IT systems work to enable the customer billing system and MDM system to bill the complex large commercial and industrial customer accounts using AMI

Capital - Recurring Costs	
Description	**Definition**
Comm. Device End of Life Replacement Costs (incl. stores loading)	Replacement of AMI communication devices at the assets' end of life. Includes cost of communication equipment, material adders, installation labor, and labor escalation (inflation)
Annual Costs assoc. with Comm Failures	Labor and materials costs associated with communication device failures based on expected failure rates. Includes cost of communication equipment, material adders, installation labor, and labor escalation
Annual Costs assoc. with Meter Failures/Growth	Labor and materials costs associated with meter failures and new customer meter growth based on expected failure rate and meter population growth. Includes cost of meter equipment, material adders, installation labor and labor escalation

O&M - Recurring Costs	
Description	**Definition**
Vendor Annual Maintenance Costs (maintenance for comm. equip.)	Vendor hardware and software maintenance paid annually on a per endpoint basis for AMI communication devices (CGRs)
Duke Operational Labor (Telecom)	Additional full-time employee (FTE) required to manage AMI telecommunications
Duke Operational Labor (HE System Op Costs)	Additional FTEs required to operate the AMI network and Head-End (HE) system, ensuring optimal communications and remote data collection for billing
WAN Costs	Monthly cellular costs paid to Verizon for cellular backhaul on CGRs and 4G cellular (direct connect) meters
Billing team labor to manage interval reads	Additional FTEs required for data management in the billing department
Analytics labor to support revenue protection	Additional FTEs required to perform analytics on AMI data and identify non-technical line loss

Exhibit E

Owner:	Duke Energy Grid Solutions
Location and Program Area of Project:	North & South Carolina
Project Title - line 1:	DEC
Project Title - line 2 (blank if N/A):	AMI Deployment
Description of Effort:	Deploy AMI technologies in DEC territory where AMR meters are present
Estimate Purpose:	Initiate / Commit Gate
Preparation Date (planned approval date):	29-Feb-16
Revision Number:	0
Project Number (from Project person):	Proj #
Estimate Number (from Cost Est Log):	Est # 318
Approving Organization:	GIDT / PMT
Total Project Estimate	$355,570,163
Summary Sheets title blocks - Line 1:	Class 3 - (10% to 20%)
Summary Sheets title blocks - Line 2:	COST ESTIMATE SUMMARY
Detail Sheets title blocks - Line 1:	Class 3 - (10% to 20%)
Detail Sheet title blocks - Line 2:	COST ESTIMATE DETAIL
Wage1 (e.g. Internal, Staff Aug, Contractor):	85.00
Wage2:	0.00
Wage3:	0.00
Wage4:	0.00
Wage5:	0.00
Wage rates are weighted average for project	
Commit Date of Project (anticipated):	01-Feb-16
Start Date of Project (assumed):	01-Dec-15
Build Date of Project (anticipated):	01-May-16
End Date of Project (assumed):	31-Dec-19
Actual Cost Through:	
(Acuals costs typically shown for reference only)	

Exhibit E

DUKE ENERGY®

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Duke Energy Grid Solutions
North & South Carolina
DEC
AMI Deployment

Class 3 - (10% to 20%)
COST ESTIMATE DETAIL

Issue Date: 02/29/16
Revision No:
Project No: Proj #
Estimate No: Est # 318

Work Flow Phase WBS # / ID Task # / ID	Line Item Revision Number	DESCRIPTION	Capital/ O&M	IT&T/All Other Departments	UoM	UNIT QTY	WH UNIT	RATE	MATL UNIT	EQUIP UNIT	SUB UNIT	TOTAL WORK HOURS	LABOR $	MATERIAL $	EQUIPMENT $	SUBCONT. $	TOTAL	Spent to Date - For Reference Only	Contingency Percentage	Contingency Amount
Materials		**Materials**												**252,283,647**	**1,325,168**		**253,608,815**		**5.05%**	**12,811,309**
		Itron AMI Meters				1,957,015														
		1S	Capital	All Other Departments	EA	1,392													5.00%	
		2S 200A	Capital	All Other Departments	EA	1,898,386													5.00%	
		2S 320A	Capital	All Other Departments	EA	8,155													5.00%	
		3S	Capital	All Other Departments	EA	27,169													5.00%	
		5S	Capital	All Other Departments	EA	2,326													5.00%	
		9S	Capital	All Other Departments	EA	1,887													5.00%	
		12SNW	Capital	All Other Departments	EA	12,573													5.00%	
		12SP	Capital	All Other Departments	EA														5.00%	
		16S	Capital	All Other Departments	EA	5,127													5.00%	
		Direct Connect Adder																		
% Assumption	10.00%	1S	Capital	All Other Departments	EA	139													10.00%	
	10.00%	2S 200A	Capital	All Other Departments	EA	189,839													10.00%	
	10.00%	2S 320A	Capital	All Other Departments	EA	816													10.00%	
	10.00%	3S	Capital	All Other Departments	EA	2,717													10.00%	
	10.00%	5S	Capital	All Other Departments	EA	233													10.00%	
	10.00%	9S	Capital	All Other Departments	EA	189													10.00%	
	10.00%	12SNW	Capital	All Other Departments	EA	1,257													10.00%	
	10.00%	12SP	Capital	All Other Departments	EA														10.00%	
	10.00%	16S	Capital	All Other Departments	EA	513													10.00%	
		Meter Installation																		
	Staffing Plan	Field Metering	Capital	All Other Departments	EA	31,382													5.00%	
	Staffing Plan	Contractors	Capital	All Other Departments	EA	1,925,633													5.00%	
	Staffing Plan	Contractors (second installs)	Capital	All Other Departments	EA	50,000														
		2.55%																		
		Electric Accessories	Capital	All Other Departments	LOT	0.6%				220861410					1,325,168		1,325,168		5.00%	66,258
		Connected Grid Router (CGR)	Capital	All Other Departments	EA	3,400													10.00%	
		Connected Grid Router (CGR) spare CGR:s (5%) for leaving the business	Capital	All Other Departments	EA	170													5.00%	
	Staffing Plan	Install (including second installs)	Capital	All Other Departments	EA	3,600														
		Range Extender (RE)	Capital	All Other Departments	EA	16,000													5.00%	
	Staffing Plan	Install (including second installs)	Capital	All Other Departments	EA	17,000														
	Staffing Plan	Mitigate	Capital	All Other Departments	EA															
		Communication Accessories																		
		Power Cords	Capital	All Other Departments	EA	17,000													5.00%	
		Brackets	Capital	All Other Departments	EA	20,600													5.00%	
		Other	Capital	All Other Departments	EA	2.80%			15964600					447,009			447,009		5.00%	22,350
		In addition to power cords and brackets, other communications accessories were approximately 2% of the range extender and CGR costs																		
		Tools and Equipment				750,000														
		Misc. field issue (meter boxes, anchor sockets, etc.)	Capital	All Other Departments	70.00%	1			525000					525,000			525,000		5.00%	26,250
		Mitigation / Installation Tools	Capital	All Other Departments	20.00%	1			150000					150,000			150,000		5.00%	7,500
		Other	Capital	All Other Departments	10.00%	1			75000					75,000			75,000		5.00%	3,750
		Miscellaneous				1,957,015														
		Printing	Capital	All Other Departments	40.00%	1			782806					782,806			782,806		5.00%	39,140
		Communications	Capital	All Other Departments	21.10%	1			412930					412,930			412,930		5.00%	20,647
		Training Expenses	Capital	All Other Departments	21.00%	1			410973					410,973			410,973		5.00%	20,549
		Office Supplies	Capital	All Other Departments	9.20%	1			180045					180,045			180,045		5.00%	9,002
		Personal Vehicles	Capital	All Other Departments	4.60%	1			90023					90,023			90,023		5.00%	4,501
		Postage	Capital	All Other Departments	3.50%	1			68496					68,496			68,496		5.00%	3,425
		Other	Capital	All Other Departments	0.60%	1			11742					11,742			11,742		5.00%	587
		Materials adders (CGR & RE with misc)																		
		Tax	Capital	All Other Departments	LOT	4.75%			19467207					924,692			924,692			
		Stores Loading	Capital	All Other Departments	LOT	11.50%			21411494					2,462,322			2,462,322			
Trending at 6%		Working Stock	Capital	All Other Departments	LOT	5.00%			20391899					1,019,595			1,019,595			

Duke Energy Grid Solutions
North & South Carolina
DEC
AMI Deployment

Class 3 - (10% to 20%)
COST ESTIMATE DETAIL

Issue Date: 02/29/16
Revision No:
Project No: Proj #
Estimate No: Est # 318

Work Flow Phase WBS # / ID Task # / ID	Line Item Revision Number	DESCRIPTION	Capital/ O&M	IT&T/All Other Departments	UoM	UNIT QTY	WH UNIT	RATE	MATL UNIT	EQUIP UNIT	SUB UNIT	TOTAL WORK HOURS	LABOR $	MATERIAL $	EQUIPMENT $	SUBCONT. $	TOTAL	*Spent to Date - For Reference Only*	*Contingency Percentage*	*Contingency Amount*
		Materials adders (AMI Meters only)																		
		Tax	Capital	All Other Departments	LOT	4.75%			206412533					9,804,595			9,804,595			
Pilot Warehouse		Stores Loading	Capital	All Other Departments	LOT	11.50%														
Trending at 6%		Working Stock	Capital	All Other Departments	LOT	5.00%			216217128					10,810,856			10,810,856			
		NOTE:																		
		Apply Working Stock to materials that require it (see 'Material Loader Rates' for guidance)																		
		For Material / Equipment $ - Estimated 'Stores Loading', 'Sales/Use Tax', 'Freight', and 'Escalation' should be included in Columns K-L also.																		
		For Subcontract / Services $ - Estimated 'Escalation' should be included in Columns M also.																		
		For Labor $ - Fully burdened Labor $ (with Fringe, Incentive, Payroll Tax, Loader, and Escalation) should be included in Column J also.																		
		For Labor $ - Estimated 'Meals & Travel' dollars should summed into Column J as well.																		
		Estimating Contingency percentage should be entered in Column U.																		

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Class 3 - (10% to 20%)
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Work Flow Phase WBS # / ID Task # / ID	Line Item Revision Number	DESCRIPTION	Capital/ O&M	IT&T/All Other Departments	UoM	UNIT QTY	WH UNIT	RATE	MATL UNIT	EQUIP UNIT	SUB UNIT	TOTAL WORK HOURS	LABOR $	MATERIAL $	EQUIPMENT $	SUBCONT. $	TOTAL	*Spent to Date - For Reference Only*	*Contingency Percentage*	*Contingency Amount*
Proj Support		**Project Support Labor**										**419,068**	**27,247,565**		**87,305**	**1,951,982**	**29,286,852**		**9.24%**	**2,705,310**
		Project Planning (Capital)	Capital	All Other Departments	HRS	2,412	1.00	85.00				2,412	205,020				205,020			
		Project Planning (O&M)	O&M	All Other Departments	HRS	583	1.00	85.00				583	49,555				49,555			
		Project Planning (IT - O&M)	O&M	IT&T	HRS	320	1.00	85.00				320	27,200				27,200			
		Project Management	Capital	All Other Departments	HRS	136,759	1.00	77.10				136,759	10,543,894				10,543,894		*10.00%*	*1,054,389*
		Field Services	Capital	All Other Departments	HRS	227,642	1.00	62.62				227,642	14,255,388				14,255,388		*10.00%*	*1,425,539*
		Telecommunications	Capital	IT&T	HRS	3,352	1.00	80.00				3,352	268,160				268,160		*10.00%*	*26,816*
		Billing	Capital	All Other Departments	HRS	48,000	1.00	39.55				48,000	1,898,348				1,898,348		*10.00%*	*189,835*
		Expenses	Capital	All Other Departments	LOT	1				80105.19					80,105		80,105		*10.00%*	*8,011*
		Expenses	Capital	IT&T	LOT	1				7200.00					7,200		7,200		*10.00%*	*720*
		ESCALATION																		
		Project Management	Capital	All Other Departments	LOT	1					701952.69					701,953	701,953			
		Field Services	Capital	All Other Departments	LOT	1					1103981.43					1,103,981	1,103,981			
		Telecommunications	Capital	IT&T	LOT	1					16883.84					16,884	16,884			
		Billing	Capital	All Other Departments	LOT	1					129163.60					129,164	129,164			
		NOTE:																		
		Apply Working Stock to materials that require it (see 'Material Loader Rates' for guidance)																		
		For Material / Equipment $ - Estimated 'Stores Loading', 'Sales/Use Tax', 'Freight', and 'Escalation' should be included in Columns K-L also.																		
		For Subcontract / Services $ - Estimated 'Escalation' should be included in Columns M also.																		
		For Labor $ - Fully burdened Labor $ (with Fringe, Incentive, Payroll Tax, Loader, and Escalation) should be included in Column J also.																		
		For Labor $ - Estimated 'Meals & Travel' dollars should summed into Column J as well.																		
		Estimating Contingency percentage should be entered in Column U.																		

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AMI Deployment

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Class 3 - (10% to 20%)
COST ESTIMATE DETAIL

Issue Date: 02/29/16
Revision No:
Project No: Proj #
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Work Flow Phase WBS # / ID Task # / ID	Line Item Revision Number	DESCRIPTION	Capital/ O&M	IT&T/All Other Departments	UoM	UNIT QTY	WH UNIT	RATE	MATL UNIT	EQUIP UNIT	SUB UNIT	TOTAL WORK HOURS	LABOR $	MATERIAL $	EQUIPMENT $	SUBCONT. $	TOTAL	*Spent to Date - For Reference Only*	*Contingency Percentage*	*Contingency Amount*
SUBSERV		**Subcontractor Support, Professional Services, etc.**										**2,022,593**	**43,309,082**			**4,711,866**	**48,020,948**		**0.84%**	**401,101**
		Itron Professional Services																		
		Account Manager	Capital	All Other Departments	HRS	3,800	1.00					3,800							*5.00%*	
		Head End Specialist	Capital	All Other Departments	HRS	7,520	1.00					7,520							*5.00%*	
		Head End Specialist	Capital	All Other Departments	HRS	7,520	1.00					7,520							*5.00%*	
		Head End Specialist	Capital	All Other Departments	HRS	7,520	1.00					7,520							*5.00%*	
		Itron Travel																		
		Account Manager	Capital	All Other Departments	EA	60					1750.00					105,000	105,000		*5.00%*	*5,250*
		Head End Specialist	Capital	All Other Departments	EA	200					1750.00					350,000	350,000		*5.00%*	*17,500*
		Head End Specialist	Capital	All Other Departments	EA	200					1750.00					350,000	350,000		*5.00%*	*17,500*
		Head End Specialist	Capital	All Other Departments	EA	200					1750.00					350,000	350,000		*5.00%*	*17,500*
		Contract Services																		
		Flaggers, Vegetation Management, Police protection	Capital	All Other Departments	HRS	20,600	1.00					20,600							*5.00%*	
		Meter Installation																		
Install	15.35	Contractors	Capital	All Other Departments	HRS	1,925,633	1.00					1,925,633								
Recycle	1.50	Contractors (second installs)	Capital	All Other Departments	HRS	50,000	1.00					50,000								
Warehouse	2.00	* Rate includes meter recycling & warehouse																		
	18.85																			
		AccuRead (contracted for 27 months - April 2017 through June 2019)			27	282,198														
		4G Direct Connect meters	Capital	All Other Departments	EA	195,702													*5.00%*	
		Mesh Meters (5% of total to be read at least once)	Capital	All Other Departments	EA	86,497													*5.00%*	
		ESCALATION	Capital	All Other Departments	LOT	1					2758246.21					2,758,246	2,758,246			

NOTE
Apply Working Stock to materials that require it (see 'Material Loader Rates' for guidance)
For Material / Equipment $ - Estimated 'Stores Loading', 'Sales/Use Tax', 'Freight', and 'Escalation' should be included in Columns K-L also
For Subcontract / Services $ - Estimated 'Escalation' should be included in Columns M also
For Labor $ - Fully burdened Labor $ (with Fringe, Incentive, Payroll Tax, Loader, and Escalation) should be included in Column J also
For Labor $ - Estimated 'Meals & Travel' dollars should summed into Column J as well
Estimating Contingency percentage should be entered in Column U

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North & South Carolina
DEC
AMI Deployment

Class 3 - (10% to 20%)
COST ESTIMATE DETAIL

Issue Date: 02/29/16
Revision No:
Project No: Proj #
Estimate No: Est # 318

Work Flow Phase WBS # / ID Task # / ID	Line Item Revision Number	DESCRIPTION	Capital/ O&M	IT&T/All Other Departments	UoM	UNIT QTY	WH UNIT	RATE	MATL UNIT	EQUIP UNIT	SUB UNIT	TOTAL WORK HOURS	LABOR $	MATERIAL $	EQUIPMENT $	SUBCONT. $	TOTAL	*Spent to Date - For Reference Only*	*Contingency Percentage*	*Contingency Amount*
OH ALLOC		**Grid Solutions Overhead Allocated Costs**														**3,308,559**	**3,308,559**		**10.00%**	**330,856**
		Grid Solutions Overhead Allocation																		
		2016	Capital	All Other Departments	PCT	1.00%					41304744					413,047	413,047		*10.00%*	*41,305*
		2017	Capital	All Other Departments	LOT	1.00%					127352283					1,273,523	1,273,523		*10.00%*	*127,352*
		2018	Capital	All Other Departments	LOT	1.00%					129657251					1,296,573	1,296,573		*10.00%*	*129,657*
		2019	Capital	All Other Departments	LOT	1.00%					32541562					325,416	325,416		*10.00%*	*32,542*
		NOTE:																		
		Confirm proper Grid Solutions and IT Overhead allocations with GM PMO Cost Analyst per the GM Allocation Estimating Tool.																		
		When reflected on the 'Cash Flow - by Month Year' sheet, spread monthly amounts based on GM Allocation Estimating Tool.																		
		(this will help align the eventual 'Budget' with anticipated future cost incurrence based on assessment of jurisdictional mix)																		
		OH Allocation should be entered as Labor to ensure it is properly reflected on the Summaries.																		

DUKE ENERGY®

Duke Energy Grid Solutions
North & South Carolina
DEC
AMI Deployment

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Approved By: GIDT / PMT

Work Flow Phase WBS # / ID Task # / ID	Line Item Revision Number	DESCRIPTION	Capital/ O&M	IT&T/All Other Departments	UoM	UNIT QTY	WH UNIT	RATE	MATL UNIT	EQUIP UNIT	SUB UNIT	TOTAL WORK HOURS	LABOR $	MATERIAL $	EQUIPMENT $	SUBCONT. $	TOTAL	*Spent to Date - For Reference Only*	*Contingency Percentage*	*Contingency Amount*
RISK EMV		**Risk EMV Contingency**														**5,096,413**	**5,096,413**			
Risk ID																				
16	1	Installation Vendor Underbid	Capital	All Other Departments	LOT	1					953188.00					953,188	953,188			
18	2	Communications Equipment Requirements Exceed Plan	Capital	All Other Departments	LOT	1					921170.00					921,170	921,170			
12	3	Installation Vendor Pricing Bid is not similar to Indiana RFQ	Capital	All Other Departments	LOT	1					423639.00					423,639	423,639			
26	4	Customer Meter Data Inaccurate	Capital	All Other Departments	LOT	1					410523.00					410,523	410,523			
6	5	Resource Constraint (Availability of Skilled Mitigation Resources)	Capital	All Other Departments	LOT	1					256163.00					256,163	256,163			
23	6	Delay in MDM Certification	Capital	All Other Departments	LOT	1					256163.00					256,163	256,163			
34	7	Customer Opt-Out Strategy	Capital	All Other Departments	LOT	1					220000.00					220,000	220,000			
1	8	Resource Constraint	Capital	All Other Departments	LOT	1					211820.00					211,820	211,820			
13	9	Non-scalable Range Extender for Pads (Processes & Permissions)	Capital	All Other Departments	LOT	1					196416.00					196,416	196,416			
20	10	Can't Locate Duke Owned Pole for Communications Devices	Capital	All Other Departments	LOT	1					196416.00					196,416	196,416			
7		Adequate Warehouse Space Not Acquired On-Time	Capital	All Other Departments	LOT	1					136620.00					136,620	136,620			
8		Material Delivery or Shortage	Capital	All Other Departments	LOT	1					113850.00					113,850	113,850			
10		Material Shrinkage	Capital	All Other Departments	LOT	1					112605.00					112,605	112,605			
22		Material Failure	Capital	All Other Departments	LOT	1					75100.00					75,100	75,100			
30		Unexpected System Changes	Capital	All Other Departments	LOT	1					51750.00					51,750	51,750			
4		Resource Constraint (Installation Vendor Exits)	Capital	All Other Departments	LOT	1					48141.00					48,141	48,141			
15		Overheads Not Charged As Forecasted	Capital	All Other Departments	LOT	1					38395.00					38,395	38,395			
25		Storm Impact - Storm Damage (Rebuild of Mesh, Meter or Communi	Capital	All Other Departments	LOT	1					38341.00					38,341	38,341			
21		Mitigation Turnover to Operations	Capital	All Other Departments	LOT	1					27770.00					27,770	27,770			
32		Miscellaneous Cost Overruns	Capital	All Other Departments	LOT	1					14678.00					14,678	14,678			
33		4G CGR Availability	Capital	All Other Departments	LOT	1					12705.00					12,705	12,705			
11		Customer Resistance	Capital	All Other Departments	LOT	1					3480.00					3,480	3,480			
2		Resource Constraint (Skilled Back-office Labor)																		
3		Resource Constraint (Access to Duke Field Metering Resources for Transformer Rated Installations)																		
5		Resource Constraint (Union Labor Dispute)																		
9		Bridge Meter Enablement Project Dependency																		
31		Internal Resource Availability																		
14		Reliable Technology(Cell Coverage)																		
17		Training																		
24		Storm Impact - Service Restoration																		
27		Significant OSHA Recordable Injury on DEC AMI Project																		
28		Significant Public Safety Issue on Another AMI Project																		
29		Significant Public Safety Issue on DEC AMI Project																		
35		MDM/OpenWay Scale Dependency																		
36		Bridge Meter Enablement Project Dependency																		
37		IPv6 Implementation Project Dependency																		
		EMV for all Open Risks ($)	Capital	All Other Departments	LOT	1					377480.00					377,480	377,480			
		5,096,413																		

Exhibit E

REDACTED

User Notes:
1. This worksheet is linked to the date information which comes from the **Title Block** worksheet and to the Labor Loader Rates tab.
2. All data fields that are "blue" font, must be keyed in manually. All other fields are formulas.
3. In Column H, input "Unburdened" hourly rates, and ensure Column I properly calculates "Fully Burdened" rates for "Internal" resources based on applicable Labor burdens (see cells starting in G50, H50 & I50 on tab Labor Loader Rates for specific resources). For Overtime situations, add rows and adjust rates accordingly
4. In Columns P - BW, enter only whole hours **(fractions of hours not permitted)**. FTE work hours calculations in Row 7 automatically adjust for company holidays through 2020 **(update Holiday list sheet if your project extends beyond 2020)**.

Labor Classification	Labor Class (Internal, Staff Aug, Contract)	Organization	Capital / O&M	IT&T/Telecom/All Other Departments	Unburdened Wage Rate	Fully Burdened Wage Rate	Estimated Hours	Estimated Labor $	Estimated Expenses	Financial View Adder	Total Estimated Labor & Expenses
Project Planning (Capital)						$ 85.00	2,412	205,020	-	-	205,020
Dir Tech Solutions Support	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	180	15,300			15,300
Lead Bus & Tech Consultant	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	292	24,820			24,820
MDM Headend LMS & Int Services	Staff Augmentation Labor	Project Planning (Capital)	Capital	All Other Departments	[redacted]		360	[redacted]			[redacted]
Sr Project Mgr	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	200	17,000	-		17,000
Dir PMO & Project Controls	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	50	4,250	-		4,250
Lead Bus & Tech Consultant	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	308	26,180	-		26,180
Dir Grid Investments	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	50	4,250			4,250
Sr Proj Controls Spec	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	339	28,815			28,815
Principal Engineer	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	150	12,750			12,750
Mgr Eng Stand Proj Plan&Design	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	50	4,250	-		4,250
Supv Data Reporting&Mapping	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	200	17,000	-	-	17,000
Bus & Tech Consultant Data Reporting and Mapping	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	188	15,980			15,980
Principal Proj Controls Spec	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$ 50.99	$ 85.00	45	3,825			3,825
TBD	Internal Labor	Project Planning (Capital)	Capital	All Other Departments	$	$	-	-			-
Project Planning (O&M)						$ 85.00	583	49,555	-	-	49,555
Dir Tech Solutions Support	Internal Labor	Project Planning (O&M)	O&M	All Other Departments	$ 50.99	$ 85.00	20	1,700			1,700
Lead Bus & Tech Consultant	Internal Labor	Project Planning (O&M)	O&M	All Other Departments	$ 50.99	$ 85.00	32	2,720			2,720
MDM Headend LMS & Int Services	Staff Augmentation Labor	Project Planning (O&M)	O&M	All Other Departments	[redacted]		40	[redacted]			[redacted]
Lead Bus & Tech Consultant	Internal Labor	Project Planning (O&M)	O&M	All Other Departments	$ 50.99	$ 85.00	16	1,360			1,360
Sr Proj Controls Spec	Internal Labor	Project Planning (O&M)	O&M	All Other Departments	$ 50.99	$ 85.00	85	7,225	-	-	7,225
Lead Bus & Tech Consultant	Internal Labor	Project Planning (O&M)	O&M	All Other Departments	$ 50.99	$ 85.00	110	9,350	-	-	9,350
Proj Controls Spec	Staff Augmentation Labor	Project Planning (O&M)	O&M	All Other Departments	[redacted]		100	[redacted]	-		[redacted]
Project Director	Internal Labor	Project Planning (O&M)	O&M	All Other Departments	$ 50.99	$ 85.00	80	6,800			6,800
Sr Proj Controls Spec	Internal Labor	Project Planning (O&M)	O&M	All Other Departments	$ 50.99	$ 85.00	100	8,500	-		8,500
TBD	Internal Labor	Project Planning (O&M)	O&M	All Other Departments	$ -	$	-	-	-		-
TBD	Internal Labor	Project Planning (O&M)	O&M	All Other Departments	$ -	$	-	-	-		-
Project Planning (IT - O&M)						$ 85.00	320	27,200	-	-	27,200
Customer & Metering Proj Mgmt	Staff Augmentation Labor	Project Planning (IT - O&M)	O&M	IT	[redacted]		80	[redacted]			[redacted]
IT Manager II, Enterprise Archit/Analy/Meter	Internal Labor	Project Planning (IT - O&M)	O&M	IT	$ 50.99	$ 85.00	80	6,800	-		6,800
IT Manager II, Enterprise Archit/Analy/Meter	Internal Labor	Project Planning (IT - O&M)	O&M	IT	$ 50.99	$ 85.00	80	6,800	-		6,800
Sr IT Architect, Grid Solutions Architecture	Internal Labor	Project Planning (IT - O&M)	O&M	IT	$ 50.99	$ 85.00	80	6,800	-		6,800
TBD	Internal Labor	Project Planning (IT - O&M)	Capital	All Other Departments	$	$	-	-			-
TBD	Internal Labor	Project Planning (IT - O&M)	Capital	All Other Departments	$	$	-	-			-
Project Management						$ 77.10	136,759	10,543,894	51,539	-	10,595,434
AMI Data	Internal Labor	Project Management	Capital	All Other Departments	$ 44.00	$ 73.35	7,384	541,602	-		541,602
AMI Data	Staff Augmentation Labor	Project Management	Capital	All Other Departments	[redacted]		7,384	[redacted]			[redacted]
Lead Business Analyst	Staff Augmentation Labor	Project Management	Capital	All Other Departments	[redacted]		7,304	[redacted]			[redacted]
AMI Data Supervisor	Internal Labor	Project Management	Capital	All Other Departments	$ 45.00	$ 75.02	2,595	194,664			194,664
AMI Deployment Planning	Staff Augmentation Labor	Project Management	Capital	All Other Departments	[redacted]		6,680	[redacted]	-	-	[redacted]
Business Process Analyst	Staff Augmentation Labor	Project Management	Capital	All Other Departments	[redacted]		1,756	[redacted]	-	-	[redacted]
Business Process Mgmt	Staff Augmentation Labor	Project Management	Capital	All Other Departments	[redacted]		2,225	[redacted]			[redacted]
Business Process Mgmt	Internal Labor	Project Management	Capital	All Other Departments	$ 50.00	$ 83.35	6,960	580,116			580,116
Change Management	Internal Labor	Project Management	Capital	All Other Departments	$ 50.00	$ 83.35	3,660	305,061			305,061
Change Management	Internal Labor	Project Management	Capital	All Other Departments	$ 50.00	$ 83.35	1,854	154,531	-	-	154,531
Cost Analyst	Internal Labor	Project Management	Capital	All Other Departments	$ 55.00	$ 91.69	736	67,480	-	-	67,480
Customer Engagement	Staff Augmentation Labor	Project Management	Capital	All Other Departments	$ 50.00	$ 50.00	6,960	348,000	-	-	348,000
Customer Engagement	Staff Augmentation Labor	Project Management	Capital	All Other Departments	$ 50.00	$ 50.00	5,600	280,000			280,000
Customer Engagement	Internal Labor	Project Management	Capital	All Other Departments	$ 45.00	$ 75.02	6,960	522,104			522,104
Customer Engagement	Internal Labor	Project Management	Capital	All Other Departments	$ 45.00	$ 75.02	5,600	420,084			420,084
Deployment Manager	Internal Labor	Project Management	Capital	All Other Departments	$ 55.00	$ 91.69	6,600	605,121	-	-	605,121
AMI Operator (Engineering Tech II)	Internal Labor	Project Management	Capital	All Other Departments	$ 45.00	$ 75.02	1,680	126,025	-	-	126,025
AMI Operator (Engineering Tech II)	Internal Labor	Project Management	Capital	All Other Departments	$ 45.00	$ 75.02	1,680	126,025	-		126,025
EGIS Posting	Internal Labor	Project Management	Capital	All Other Departments	$ 45.00	$ 75.02	1,680	126,025			126,025
Estimator	Internal Labor	Project Management	Capital	All Other Departments	$ 55.00	$ 91.69	400	36,674			36,674
Field Metering Support	Internal Labor	Project Management	Capital	All Other Departments	$ 30.00	$ 50.01	656	32,807	-	-	32,807
Field Metering Support	Internal Labor	Project Management	Capital	All Other Departments	$ 30.00	$ 50.01	656	32,807	-	-	32,807
Maximo Support	Staff Augmentation Labor	Project Management	Capital	All Other Departments	[redacted]		344	[redacted]	-		[redacted]
Meter Lab	Internal Labor	Project Management	Capital	All Other Departments	$ 45.00	$ 75.02	656	49,210			49,210
Meter Route Analyst	Internal Labor	Project Management	Capital	All Other Departments	$ 35.00	$ 58.35	1,792	104,554			104,554
Meter Route Supervisor	Internal Labor	Project Management	Capital	All Other Departments	$ 35.00	$ 58.35	901	52,569			52,569
Meter Services Support DEC	Internal Labor	Project Management	Capital	All Other Departments	$ 35.00	$ 58.35	696	40,608	-	-	40,608
Mitigation Manager	Internal Labor	Project Management	Capital	All Other Departments	$ 55.00	$ 91.69	7,024	643,995	19,320	-	663,315
Project Director	Internal Labor	Project Management	Capital	All Other Departments	$ 72.00	$ 120.02	7,536	904,501	27,135	-	931,636
Project Execution Office	Internal Labor	Project Management	Capital	All Other Departments	$ 71.00	$ 118.36	1,432	169,487	5,085		174,572
Scheduler	Internal Labor	Project Management	Capital	All Other Departments	$ 88.00	$ 146.70	1,432	210,069			210,069
Technology Support Services	Internal Labor	Project Management	Capital	All Other Departments	$ 45.00	$ 75.02	1,344	100,820	-	-	100,820
Technology Support Services	Internal Labor	Project Management	Capital	All Other Departments	$ 45.00	$ 75.02	1,344	100,820	-		100,820
Bridge Meter Conversion Support	Internal Labor	Project Management	Capital	All Other Departments	$ 45.00	$ 75.02	6,240	468,094	-		468,094
Bridge Meter Conversion Support	Internal Labor	Project Management	Capital	All Other Departments	$ 45.00	$ 75.02	6,240	468,094			468,094
Field Safety Inspectors	Internal Labor	Project Management	Capital	All Other Departments	$ 30.00	$ 50.01	6,384	319,264			319,264
Field Safety Inspectors	Internal Labor	Project Management	Capital	All Other Departments	$ 30.00	$ 50.01	6,384	319,264			319,264
TBD	Internal Labor	Project Management	Capital	All Other Departments	$	$	-	-			-
Field Services						$ 62.62	227,642	14,255,388	28,566	-	14,283,954
Communications Network	Staff Augmentation Labor	Field Services	Capital	All Other Departments	$ 50.00	$ 50.00	6,430	321,500			321,500
Communications Network	Staff Augmentation Labor	Field Services	Capital	All Other Departments	$ 50.00	$ 50.00	6,761	338,050			338,050
Communications Network	Staff Augmentation Labor	Field Services	Capital	All Other Departments	$ 50.00	$ 50.00	6,040	302,000	-	-	302,000
Communications Network	Staff Augmentation Labor	Field Services	Capital	All Other Departments	$ 50.00	$ 50.00	6,040	302,000	-		302,000
Communications Network	Staff Augmentation Labor	Field Services	Capital	All Other Departments	$ 50.00	$ 50.00	6,560	328,000			328,000
Communications Network	Internal Labor	Field Services	Capital	All Other Departments	$ 35.00	$ 58.35	6,040	352,404			352,404
Communications Network	Internal Labor	Field Services	Capital	All Other Departments	$ 35.00	$ 58.35	6,040	352,404			352,404
Communications Network	Internal Labor	Field Services	Capital	All Other Departments	$ 35.00	$ 58.35	6,040	352,404	-		352,404
Communications Network	Internal Labor	Field Services	Capital	All Other Departments	$ 35.00	$ 58.35	6,040	352,404	-	-	352,404
Communications Network	Internal Labor	Field Services	Capital	All Other Departments	$ 35.00	$ 58.35	6,040	352,404	-		352,404
Communications Network	Staff Augmentation Labor	Field Services	Capital	All Other Departments	$ 50.00	$ 50.00	5,712	285,600			285,600
Communications Network	Staff Augmentation Labor	Field Services	Capital	All Other Departments	$ 50.00	$ 50.00	5,712	285,600			285,600
Communications Network	Staff Augmentation Labor	Field Services	Capital	All Other Departments	$ 50.00	$ 50.00	5,712	285,600			285,600
Communications Network	Staff Augmentation Labor	Field Services	Capital	All Other Departments	$ 50.00	$ 50.00	5,712	285,600	-	-	285,600
Communications Network	Staff Augmentation Labor	Field Services	Capital	All Other Departments	$ 50.00	$ 50.00	5,712	285,600			285,600
Communications Network	Internal Labor	Field Services	Capital	All Other Departments	$ 35.00	$ 58.35	5,712	333,267			333,267
Communications Network	Internal Labor	Field Services	Capital	All Other Departments	$ 35.00	$ 58.35	5,712	333,267			333,267
Communications Network	Internal Labor	Field Services	Capital	All Other Departments	$ 35.00	$ 58.35	5,712	333,267			333,267
Communications Network	Internal Labor	Field Services	Capital	All Other Departments	$ 35.00	$ 58.35	5,712	333,267			333,267
Communications Network	Internal Labor	Field Services	Capital	All Other Departments	$ 35.00	$ 58.35	5,712	333,267	-	-	333,267
Field Services Installation	Internal Labor	Field Services	Capital	All Other Departments	$ 30.00	$ 50.01	6,923	346,219	-		346,219
Field Services Installation	Internal Labor	Field Services	Capital	All Other Departments	$ 30.00	$ 50.01	6,040	302,060			302,060
Field Services Installation	Internal Labor	Field Services	Capital	All Other Departments	$ 30.00	$ 50.01	6,712	335,667			335,667
Field Services Installation	Internal Labor	Field Services	Capital	All Other Departments	$ 30.00	$ 50.01	5,712	285,657			285,657
Lab Services Testing	Internal Labor	Field Services	Capital	All Other Departments	$ 30.00	$ 50.01	5,712	285,657	28,566		314,223
Field Services Installation	Internal Labor	Field Services	Capital	All Other Departments	$ 30.00	$ 50.01	6,978	348,970	-		348,970
Field Metering - AMI installation	Internal Labor	Field Services	Capital	All Other Departments	$ 53.99	$ 90.00	30,502	2,745,221			2,745,221
Field CGR Installation	Internal Labor	Field Services	Capital	All Other Departments	$ 57.74	$ 96.25	6,974	671,265			671,265
Field RE Installation	Internal Labor	Field Services	Capital	All Other Departments	$ 45.29	$ 75.50	32,938	2,486,767			2,486,767
TBD	Internal Labor	Field Services	Capital	All Other Departments	$	$	-	-			-
TBD	Internal Labor	Field Services	Capital	All Other Departments	$ -	$ -	-	-			-
Subcontractor Support, Professional Services, etc.						$ 21.41	2,022,583	43,309,082	1,155,000	-	44,464,083
Account Manager	Contractor Labor	Subcontractor Support, Professional Services, etc.	Capital	All Other Departments	[redacted]		3,800	[redacted]	105,000		[redacted]
Head End Specialist	Contractor Labor	Subcontractor Support, Professional Services, etc.	Capital	All Other Departments	[redacted]		7,520	[redacted]	350,000		[redacted]
Head End Specialist	Contractor Labor	Subcontractor Support, Professional Services, etc.	Capital	All Other Departments	[redacted]		7,520	[redacted]	350,000		[redacted]
Head End Specialist	Contractor Labor	Subcontractor Support, Professional Services, etc.	Capital	All Other Departments	[redacted]		7,520	[redacted]	350,000		[redacted]
Flaggers, Vegetation Management, Police protection	Contractor Labor	Subcontractor Support, Professional Services, etc.	Capital	All Other Departments	[redacted]		20,600	[redacted]			[redacted]
Field Metering - AMI installation	Contractor Labor	Subcontractor Support, Professional Services, etc.	Capital	All Other Departments	[redacted]		481,421	[redacted]			[redacted]
Field Metering - AMI installation	Contractor Labor	Subcontractor Support, Professional Services, etc.	Capital	All Other Departments	[redacted]		481,421	[redacted]			[redacted]
Field Metering - AMI installation	Contractor Labor	Subcontractor Support, Professional Services, etc.	Capital	All Other Departments	[redacted]		481,421	[redacted]	-		[redacted]
Field Metering - AMI installation	Contractor Labor	Subcontractor Support, Professional Services, etc.	Capital	All Other Departments	[redacted]		481,362	[redacted]	-		[redacted]
Field Metering - AMI Installation - Second installs	Contractor Labor	Subcontractor Support, Professional Services, etc.	Capital	All Other Departments	[redacted]		50,008	[redacted]			[redacted]
TBD	Contractor Labor	Subcontractor Support, Professional Services, etc.	Capital	IT	$	$	-	-			-
Telecommunications						$ 80.00	3,352	268,160	7,200	-	275,360
Radio Engineering - CGR Provisioning	Internal Labor	Telecommunications	Capital	Telecom	$ 47.99	$ 80.00	640	51,200	-		51,200
Radio Engineering - EDX Modeling	Internal Labor	Telecommunications	Capital	Telecom	$ 47.99	$ 80.00	676	54,080	-		54,080

[5 x 8] FTE Work Hours in Month (adjusted for company holidays) (for Reference)

Labor Classification	168 / 2015 / Dec-15	160 / 2016 / Jan-16	168 / 2016 / Feb-16	176 / 2016 / Mar-16	168 / 2016 / Apr-16	160 / 2016 / May-16	176 / 2016 / Jun-16	160 / 2016 / Jul-16	184 / 2016 / Aug-16	168 / 2016 / Sep-16	168 / 2016 / Oct-16	160 / 2016 / Nov-16	160 / 2016 / Dec-16	168 / 2017 / Jan-17	160 / 2017 / Feb-17
Project Planning (Capital)	520	946	946	-	-	-	-	-	-	-	-	-	-	-	-
Dir Tech Solutions Support	36	72	72												
Lead Bus & Tech Consultant	76	103	103												
MDM Headend LMS & Int Services	72	144	144												
Sr Project Mgr	40	30	30												
Dir PMO & Project Controls	10	20	20												
Lead Bus & Tech Consultant	80	114	114												
Dir Grid Investments	10	20	20												
Sr Proj Controls Spec	83	128	128												
Principal Engineer	30	60	60												
Mgr Eng Stand Proj Plan&Design	10	20	20												
Supv Data Reporting&Mapping	40	80	80												
Bus & Tech Consultant Data Reporting and Mapping	28	80	80												
Principal Proj Controls Spec	5	20	20												
TBD															
Project Planning (O&M)	131	226	226	-	-	-	-	-	-	-	-	-	-	-	-
Dir Tech Solutions Support	4	8	8												
Lead Bus & Tech Consultant	8	12	12												
MDM Headend LMS & Int Services	8	16	16												
Lead Bus & Tech Consultant	4	6	6												
Sr Proj Controls Spec	21	32	32												
Lead Bus & Tech Consultant	30	40	40												
Proj Controls Spec	20	40	40												
Project Director	16	32	32												
Sr Proj Controls Spec	20	40	40												
TBD															
TBD															
Project Planning (IT - O&M)	64	128	128	-	-	-	-	-	-	-	-	-	-	-	-
Customer & Metering Proj Mgmt	16	32	32												
IT Manager II, Enterprise Archit/Analy/Meter	16	32	32												
IT Manager II, Enterprise Archit/Analy/Meter	16	32	32												
Sr IT Architect, Grid Solutions Architecture	16	32	32												
TBD															
TBD															
Project Management	-	-	-	372	644	2,311	2,517	2,610	2,806	2,700	2,987	2,944	2,933	3,289	3,237
AMI Data						168	176	160	184	168	168	160	160	168	160
AMI Data						168	176	160	184	168	168	160	160	168	160
Lead Business Analyst						168	176	160	184	168	168	160	160	168	160
AMI Data Supervisor						60	60	59	60	60	53	59	56	59	62
AMI Deployment Planning						168	176	160	184	168	168	160	160	168	160
Business Process Analyst				8	8	40	40	40	40	40	40	40	40	40	40
Business Process Mgmt						53	53	53	50	53	46	50	48	50	53
Business Process Mgmt						160	160	160	160	160	160	160	160	160	160
Change Management						88	88	84	84	88	76	84	80	84	88
Change Management						44	44	42	42	44	38	42	40	42	44
Cost Analyst				16	16	16	16	16	16	16	16	16	16	16	16
Customer Engagement						160	160	160	160	160	160	160	160	160	160
Customer Engagement														160	160
Customer Engagement						160	160	160	160	160	160	160	160	160	160
Customer Engagement														160	160
Deployment Manager					160	160	160	160	160	160	160	160	160	160	160
AMI Operator (Engineering Tech II)					40	40	40	40	40	40	40	40	40	40	40
AMI Operator (Engineering Tech II)					40	40	40	40	40	40	40	40	40	40	40
EGIS Posting					40	40	40	40	40	40	40	40	40	40	40
Estimator				40	40	40	40	40	40	40	40	40	40		
Field Metering Support						16	16	16	16	16	16	16	16	16	16
Field Metering Support						16	16	16	16	16	16	16	16	16	16
Maximo Support				8	8	8	8	8	8	8	8	8	8	8	8
Meter Lab						16	16	16	16	16	16	16	16	16	16
Meter Route Analyst						42	44	40	40	42	42	40	40	42	40
Meter Route Supervisor						132	120			17	16	17	17	16	18
Meter Services Support DEC						16	16	16	16	16	16	16	16	16	16
Mitigation Manager						-	176	160	184	168	168	160	160	168	160
Project Director				176	168	168	176	160	184	168	168	160	160	168	160
Project Execution Office				32	32	32	32	32	32	32	32	32	32	32	32
Scheduler				32	32	32	32	32	32	32	32	32	32	32	32
Technology Support Services				30	30	30	30	30	30	30	30	30	30	30	30
Technology Support Services				30	30	30	30	30	30	30	30	30	30	30	30
Bridge Meter Conversion Support											160	160	160	160	160
Bridge Meter Conversion Support											160	160	160	160	160
Field Safety Inspectors								160	184	168	168	160	160	168	160
Field Safety Inspectors								160	184	168	168	160	160	168	160
TBD															
Field Services	-	-	-	-	-	780	792	1,085	967	1,100	929	978	1,163	3,840	3,980
Communications Network						132	132	126						168	160
Communications Network						132	132	126	69	70	61	67	64	168	160
Communications Network														168	160
Communications Network														168	160
Communications Network						176	176	168						168	160
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Communications Network															
Field Services Installation						130	132	126	101	106	91	101	96	168	160
Field Services Installation														168	160
Field Services Installation						88	88	84	84	88	76	84	80	168	160
Field Services Installation															
Lab Services Testing															
Field Services Installation						132	132	126	126	132	114	126	120	126	132
Field Metering - AMI installation								329	587	704	587	528	675	1,042	1,042
Field CGR Installation												72	128	152	128
Field RE Installation														336	598
TBD															
TBD															
Subcontractor Support, Professional Services, etc.	-	-	-	-	490	670	670	21,507	37,906	45,370	37,906	34,176	43,504	66,891	66,892
Account Manager					100	160	160	100	80	80	80	80	80	80	80
Head End Specialist					130	170	170	170	170	170	170	170	170	170	170
Head End Specialist					130	170	170	170	170	170	170	170	170	170	170
Head End Specialist					130	170	170	170	170	170	170	170	170	170	170
Flaggers, Vegetation Management, Police protection								214	381	459	381	344	439	680	681
Field Metering - AMI installation								5,040	9,000	10,800	9,000	8,100	10,350	15,990	15,990
Field Metering - AMI installation								5,040	9,000	10,800	9,000	8,100	10,350	15,990	15,990
Field Metering - AMI installation								5,040	9,000	10,800	9,000	8,100	10,350	15,990	15,990
Field Metering - AMI installation								5,040	9,000	10,800	9,000	8,100	10,350	15,990	15,990
Field Metering - AMI Installation - Second installs								523	935	1,122	935	841	1,075	1,661	1,661
TBD															
Telecommunications	-	-	-	-	-	84	84	132	132	52	52	52	52	140	140
Radio Engineering - CGR Provisioning								16	16	16	16	16	16	16	16
Radio Engineering - EDX Modeling						40	40	40	40					40	40

Exhibit E

184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	176	160
2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2020	2020
Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
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3,420	**3,159**	**3,369**	**3,344**	**3,247**	**3,421**	**3,225**	**3,344**	**3,223**	**3,159**	**3,344**	**3,246**	**3,268**	**3,303**	**3,368**	**3,279**	**3,313**	**3,409**	**3,171**	**3,410**	**3,211**	**3,171**	**3,344**	**3,224**	**3,224**	**3,369**	**3,259**	**3,145**	**3,203**	**3,157**	**2,767**	**2,641**	**2,229**	**1,443**	**-**	**-**
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	80	-	-
59	59	62	56	64	59	59	56	59	59	56	64	53	62	62	56	64	56	62	56	56	62	56	59	59	62	59	59	64	53	64	56	53	62	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	80	80	80	80	80	80	80	80	-	-
40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	20	-	-
50	50	53	48	55	50	50	48	50	50	48	55	46	53	53	48	55	48	53	48	48	53	48	50	50	53	50	50	55	46	55	48	46	53	-	-
160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	80	-	-
84	84	88	80	92	84	84	80	84	84	80	92	76	88	88	80	92	80	88	80	80	88	80	84	84	88	84	84	92	76	92	80	76	40	-	-
42	42	44	40	46	42	42	40	42	42	40	46	38	44	44	40	46	40	44	40	40	44	40	42	42	44	42	42	46	38	46	40	38	44	-	-
16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	-	-
160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	80	-	-
160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	-	-	-
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40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	-	-	-	-	-
40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	-	-	-	-	-
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16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	-	-	-	-	-
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8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	-	-	-	-	-
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46	38	44	44	40	46	40	44	40	38	44	40	42	42	44	42	42	46	38	46	40	38	44	40	40	44	44	40	44	44	40	46	16	8	-	-
15	18	18	16	18	16	18	16	16	18	16	17	17	18	17	17	18	15	18	16	15	18	16	17	17	18	16	18	18	16	18	15	8	-	-	-
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184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	80	40	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	80	40	-	-
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160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	-	-
160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	-	-	-	-	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6,658	**5,738**	**6,382**	**6,532**	**6,490**	**7,114**	**6,490**	**6,906**	**6,490**	**6,282**	**6,906**	**6,490**	**6,698**	**6,698**	**6,906**	**6,698**	**6,698**	**7,114**	**6,282**	**7,114**	**6,490**	**6,282**	**6,906**	**6,490**	**5,448**	**5,864**	**5,864**	**5,622**	**5,822**	**6,576**	**5,072**	**4,784**	**3,952**	**4,160**	**-**	**-**
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
184	152	176	176	160	184	160	176	160	152	176	160	168	168	176	168	168	184	152	184	160	152	176	160	160	176	176	160	176	176	160	184	152	160	-	-
1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	-	-	-	-	-	-	-	-	-	-	-	-
114	146	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226	400	184	-	-	-	-	-	-	-
718	598	538	688	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	2,000	912	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
66,893	**66,892**	**66,892**	**66,893**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,895**	**66,836**	**66,895**	**56,119**	**597**	**597**	**597**	**596**	**596**	**595**	**594**	**590**	**320**	**-**	**-**
80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	-	-
170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	80	-	-
170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	80	-	-
170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	80	-	-
682	681	681	682	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	574	7	7	7	6	6	5	4	-	-	-	-
15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	13,391	-	-	-	-	-	-	-	-	-	-	-
15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	13,391	-	-	-	-	-	-	-	-	-	-	-
15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	13,391	-	-	-	-	-	-	-	-	-	-	-
15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,990	15,931	15,990	13,391	-	-	-	-	-	-	-	-	-	-	-
1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,391	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
140	**140**	**64**	**64**	**64**	**64**	**64**	**64**	**64**	**64**	**64**	**64**	**64**	**64**	**64**	**64**	**64**	**64**	**64**	**100**	**100**	**100**	**100**	**100**	**100**	**68**	**68**	**68**	**68**	**68**	**64**	**56**	**2**	**2**	**-**	**-**
16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	-	-	-	-
40	40	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	40	40	40	40	40	40	8	8	8	8	8	8	-	-	-	-	-

REDACTED

Exhibit E

Telecom PM	Internal Labor	Telecommunications	Capital	Telecom	$ 47.99	$ 80.00	300	24,000	7,200		31,200
Wireless Architecture	Internal Labor	Telecommunications	Capital	Telecom	$ 47.99	$ 80.00	320	25,600	-		25,600
Meter Provisioning	Staff Augmentation Labor	Telecommunications	Capital	Telecom	[redacted]		640	[redacted]	-	-	[redacted]
Meter Provisioning	Internal Labor	Telecommunications	Capital	Telecom	$ 47.99	$ 80.00	640	51,200	-	-	51,200
Cellular Activation	Internal Labor	Telecommunications	Capital	Telecom	$ 47.99	$ 80.00	136	10,880	-	-	10,880
TBD	Internal Labor	Telecommunications	Capital	Telecom	$	$	-	-			-
TBD	Internal Labor	Telecommunications	Capital	Telecom	$	$	-	-			-
TBD	Internal Labor	Telecommunications	Capital	Telecom	$	$	-	-			-
Billing						$ 38.55	48,000	1,898,348	-	-	1,898,348
Billing Analyst	Staff Augmentation Labor	Billing	Capital	All Other Departments	$ 40.00	$ 40.00	7,040	281,600			281,600
Billing Analyst	Staff Augmentation Labor	Billing	Capital	All Other Departments	$ 40.00	$ 40.00	6,880	275,200			275,200
Billing Analyst	Staff Augmentation Labor	Billing	Capital	All Other Departments	$ 40.00	$ 40.00	6,880	275,200			275,200
Billing Analyst	Internal Labor	Billing	Capital	All Other Departments	$ 23.00	$ 38.34	6,720	257,652	-	-	257,652
Billing Analyst	Internal Labor	Billing	Capital	All Other Departments	$ 23.00	$ 38.34	6,720	257,652			257,652
Billing Analyst	Internal Labor	Billing	Capital	All Other Departments	$ 23.00	$ 38.34	6,720	257,652			257,652
Billing Analyst - Lead	Internal Labor	Billing	Capital	All Other Departments	$ 25.00	$ 41.68	7,040	293,392			293,392
TBD	Internal Labor	Billing	Capital	All Other Departments	$	$	-	-			-
TBD	Internal Labor	Billing	Capital	All Other Departments	$ -	$ -	-	-	-	-	-
TBD	Internal Labor	Billing	Capital	All Other Departments	$ -	$ -	-	-	-	-	-
TBD	Internal Labor	Billing	Capital	All Other Departments	$ -	$	-	-	-		-
TBD	Internal Labor	Billing	Capital	All Other Departments	$ -	$	-	-			-
Grand Total - All Labor Classifications						28.9	2,441,661	70,556,647	1,242,305	-	71,798,954
FTE's Per Month (Rounded Up)											FTE's Per Month (Rounded Up)

	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17
Telecom PM						4	4	4	4	4	4	4	4	8	8
Wireless Architecture						40	40	40	40					40	40
Meter Provisioning	-	-	-					16	16	16	16	16	16	16	16
Meter Provisioning	-	-	-					16	16	16	16	16	16	16	16
Cellular Activation	-	-	-											4	4
TBD															
TBD															
TBD															
Billing	-	-	-	-	-	320	640	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120
Billing Analyst						160	160	160	160	160	160	160	160	160	160
Billing Analyst							160	160	160	160	160	160	160	160	160
Billing Analyst							160	160	160	160	160	160	160	160	160
Billing Analyst	-	-		-	-	-	-	160	160	160	160	160	160	160	160
Billing Analyst	-							160	160	160	160	160	160	160	160
Billing Analyst								160	160	160	160	160	160	160	160
Billing Analyst - Lead						160	160	160	160	160	160	160	160	160	160
TBD															
TBD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TBD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TBD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TBD															
Grand Total - All Labor Classifications	715	1,300	1,300	372	1,134	4,175	4,703	26,454	42,931	50,342	42,994	39,269	48,772	75,280	75,369
FTE's Per Month (Rounded Up)	5	9	8	3	7	25	27	166	234	300	256	246	305	449	472

Labor Classification	Labor Class (Internal, Staff Aug., Contract)		Capital / O&M	IT&T ("IT&T) and Business ("All Other Departments")		Average Fully Burdened Wage Rate	Estimated Hours	Estimated Labor $	Estimated Expenses	Financial View Adder	Total Estimated Labor & Expenses
Internal Labor	Internal Labor		Capital	IT&T		80	2,712	216,960	7,200	-	224,160
Internal Labor	Internal Labor		Capital	All Other Departments		68.81	295,009	20,299,081	80,105	-	20,379,186
Internal Labor	Internal Labor		O&M	IT&T		85	240	20,400	-	-	20,400
Internal Labor	Internal Labor		O&M	All Other Departments		85	443	37,655	-	-	37,655
Staff Augmentation Labor	Staff Augmentation Labor		Capital	IT&T		80	640	51,200	-	-	51,200
Staff Augmentation Labor	Staff Augmentation Labor		Capital	All Other Departments		55.12	119,804	6,603,569	-	-	6,603,569
Staff Augmentation Labor	Staff Augmentation Labor		O&M	IT&T		85	80	6,800	-	-	6,800
Staff Augmentation Labor	Staff Augmentation Labor		O&M	All Other Departments		85	140	11,900	-	-	11,900
Contractor Labor	Contractor Labor		Capital	IT&T		0	-	-	-	-	-
Contractor Labor	Contractor Labor		Capital	All Other Departments		21.41	2,022,593	43,309,082	1,155,000	-	44,464,082
Contractor Labor	Contractor Labor		O&M	IT&T		0	-	-	-	-	-
Contractor Labor	Contractor Labor		O&M	All Other Departments		0	-	-	-	-	-
Grand Total - All Labor Classifications						28.9	2,441,661	70,556,647	1,242,305	-	71,798,952

Labor Classification	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17
Internal Labor	-	-	-	-	-	84	84	116	116	36	36	36	36	124	124
Internal Labor	448	802	802	356	628	2,056	2,240	3,174	3,534	3,605	3,737	3,757	3,936	6,007	6,156
Internal Labor	48	96	96	-	-	-	-	-	-	-	-	-	-	-	-
Internal Labor	103	170	170	-	-	-	-	-	-	-	-	-	-	-	-
Staff Augmentation Labor	-	-	-	-	-	-	-	16	16	16	16	16	16	16	16
Staff Augmentation Labor	72	144	144	16	16	1,365	1,709	1,641	1,359	1,315	1,299	1,285	1,280	2,242	2,181
Staff Augmentation Labor	16	32	32	-	-	-	-	-	-	-	-	-	-	-	-
Staff Augmentation Labor	28	56	56	-	-	-	-	-	-	-	-	-	-	-	-
Contractor Labor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contractor Labor	-	-	-	-	490	670	670	21,507	37,906	45,370	37,906	34,175	43,504	66,891	66,892
Contractor Labor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contractor Labor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total - All Labor Classifications	715	1,300	1,300	372	1,134	4,175	4,703	26,454	42,931	50,342	42,994	39,269	48,772	75,280	75,369

Labor $ - Cash Flow by Month, by Organization						28.9	2,441,661	70,556,647	1,242,305	-	71,798,952
Project Planning (Capital)						85	2,412	205,020	-	-	205,020
Project Planning (O&M)						85	583	49,555	-	-	49,555
Project Planning (IT - O&M)						85	320	27,200	-	-	27,200
Project Management						77.1	136,759	10,543,894	51,539	-	10,595,433
Field Services						62.62	227,642	14,255,388	28,566	-	14,283,954
Subcontractor Support, Professional Services, etc.						21.41	2,022,593	43,309,082	1,155,000	-	44,464,082
Telecommunications						80	3,352	268,160	7,200	-	275,360
Billing						39.55	48,000	1,898,348	-	-	1,898,348

Labor $ - Cash Flow by Month, by Organization	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17
Total	60,775	110,500	110,500	40,801	160,112	378,557	410,565	846,240	1,175,551	1,314,438	1,180,033	1,108,680	1,303,901	1,945,626	1,953,709
Project Planning (Capital)	44,200	80,410	80,410	-	-	-	-	-	-	-	-	-	-	-	-
Project Planning (O&M)	11,135	19,210	19,210	-	-	-	-	-	-	-	-	-	-	-	-
Project Planning (IT - O&M)	5,440	10,880	10,880	-	-	-	-	-	-	-	-	-	-	-	-
Project Management	-	-	-	40,801	63,512	186,365	205,474	205,090	220,616	211,862	233,398	229,922	229,086	251,404	247,205
Field Services	-	-	-	-	-	39,504	39,604	67,414	71,834	83,164	69,934	73,354	91,074	256,295	268,532
Subcontractor Support, Professional Services, etc.	-	-	-	-	96,600	132,900	132,900	518,905	828,270	970,980	828,270	756,973	935,309	1,382,456	1,382,501
Telecommunications	-	-	-	-	-	6,720	6,720	10,560	10,560	4,160	4,160	4,160	4,160	11,200	11,200
Billing	-	-	-	-	-	13,068	25,868	44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272

Summary of Labor $ Cash Flow "by Year"	Total	1-Jan-15 31-Dec-15	1-Jan-16 31-Dec-16	1-Jan-17 31-Dec-17	1-Jan-18 31-Dec-18	1-Jan-19 31-Dec-19	1-Jan-20 31-Dec-20	1-Jan-21 31-Dec-21	1-Jan-22 31-Dec-22	1-Jan-23 31-Dec-23	1-Jan-24 31-Dec-24	1-Jan-25 31-Dec-25	1-Jan-26 31-Dec-26
Project Planning (Capital)	205,021	44,200	160,821	-	-	-	-	-	-	-	-	-	-
Project Planning (O&M)	49,555	11,135	38,420	-	-	-	-	-	-	-	-	-	-
Project Planning (IT - O&M)	27,200	5,440	21,760	-	-	-	-	-	-	-	-	-	-
Project Management	10,543,893	-	1,826,127	3,014,040	3,018,441	2,685,285	-	-	-	-	-	-	-
Field Services	14,255,386	-	535,881	4,658,981	5,137,722	3,922,803	-	-	-	-	-	-	-
Subcontractor Support, Professional Services, etc.	43,309,082	-	5,201,105	16,590,865	16,591,630	4,925,481	-	-	-	-	-	-	-
Telecommunications	268,158	-	51,200	85,759	70,080	61,120	-	-	-	-	-	-	-
Billing	1,898,347	-	304,566	531,260	531,260	531,260	-	-	-	-	-	-	-
Grand Total - All Labor Classifications	70,556,642	60,775	8,138,879	24,880,906	25,349,133	12,125,949	-	-	-	-	-	-	-

Labor Burden Rates and Factors Assumptions

[illegible] **Internal Hourly Rate Factor**			*(see 'Labor Loader Rates' tab to assess project for proper burdens)*
Internal Labor Loaders Factor (Unburdened)	1.00		**Basis of Estimated Rates Used**
Fringe	0.24	*23.73%*	Type basis of rate choice here (defaulted to 'Service Company' rate - may need to be higher/lower based on project jurisdiction and/or actuals guidance from Finance)
Incentive	0.10	*10.00%*	Type basis of rate choice here (defaulted to standard assumption from Finance in Jan 2014 - may need to be higher/lower based on actuals guidance from Finance)
Payroll Tax	0.10	*7.65%*	Type basis of rate choice here (defaulted to standard assumption from Finance in Jan 2014 - may need to be higher/lower based on actuals guidance from Finance)
Serv. Co. Loader	0.25	*25.32%*	Type basis of rate choice here (defaulted to 'Service Company' actuals rate - may need to be higher/lower based on new guidance from Finance)
Internal Labor Loaders Factor (Burdened)	[illegible]		

T&D/EATS Internal Hourly Rate Factor			*(see 'Labor Loader Rates' tab to assess project for proper burdens)*
Internal Labor Loaders Factor (Unburdened)	1.00		**Basis of Estimated Rates Used**
Fringe	0.23	*22.65%*	Type basis of rate choice here (defaulted to 'DE Florida' rate - may need to be higher/lower based on project jurisdiction, and/or actuals guidance from Finance)
Incentive	0.10	*10.00%*	Type basis of rate choice here (defaulted to standard assumption from Finance in Jan 2014 - may need to be higher/lower based on actuals guidance from Finance)
Payroll Tax	0.10	*7.65%*	Type basis of rate choice here (defaulted to standard assumption from Finance in Jan 2014 - may need to be higher/lower based on actuals guidance from Finance)
Utility Loader	0.45	*45.00%*	Type basis of rate choice here (defaulted to flat planning rate for 'Jurisdictional Utility' resource - may need to be higher/lower based on new guidance from Finance)
Internal Labor Loaders Factor (Burdened)	[illegible]		

[illegible] **Internal Hourly Rate Factor**			*(see 'Labor Loader Rates' tab to assess project for proper burdens)*
Internal Labor Loaders Factor (Unburdened)	1.00		**Basis of Estimated Rates Used**
Fringe	0.23	*22.65%*	Type basis of rate choice here (defaulted to 'DE Florida' rate - may need to be higher/lower based on project jurisdiction, and/or actuals guidance from Finance)
Incentive	0.10	*10.00%*	Type basis of rate choice here (defaulted to standard assumption from Finance in Jan 2014 - may need to be higher/lower based on actuals guidance from Finance)
Payroll Tax	0.10	*7.65%*	Type basis of rate choice here (defaulted to standard assumption from Finance in Jan 2014 - may need to be higher/lower based on actuals guidance from Finance)
Affiliate Loader	0.55	*55.00%*	Type basis of rate choice here (defaulted to 'Affiliate Loader' rate - may need to be higher/lower based on actuals or guidance from Finance)
Internal Labor Loaders Factor (Burdened)	[illegible]		

8	8	8	8	8	8	8	8	8	8	8	8
40	40	-	-	-	-	-	-	-	-	-	-
16	16	16	16	16	16	16	16	16	16	16	16
16	16	16	16	16	16	16	16	16	16	16	16
4	4	4	4	4	4	4	4	4	4	4	4
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
78,231	**77,049**	**77,827**	**77,953**	**77,816**	**78,614**	**77,794**	**78,329**	**77,792**	**77,520**	**78,329**	**77,815**
426	**507**	**443**	**443**	**487**	**428**	**487**	**446**	**487**	**510**	**446**	**487**
Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18
124	124	48	48	48	48	48	48	48	48	48	48
7,908	7,143	7,682	7,812	7,874	8,365	7,857	8,186	7,855	7,687	8,186	7,873
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
16	16	16	16	16	16	16	16	16	16	16	16
3,290	2,874	3,189	3,184	2,983	3,290	2,978	3,184	2,978	2,874	3,184	2,983
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
66,893	66,892	66,892	66,893	66,895	66,895	66,895	66,895	66,895	66,895	66,895	66,895
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
78,231	**77,049**	**77,827**	**77,953**	**77,816**	**78,614**	**77,794**	**78,329**	**77,792**	**77,520**	**78,329**	**77,815**
2,113,301	**2,042,358**	**2,089,159**	**2,098,686**	**2,097,068**	**2,144,121**	**2,095,418**	**2,127,013**	**2,095,301**	**2,079,144**	**2,127,013**	**2,097,010**
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
261,756	241,110	257,616	255,774	247,965	261,814	246,315	255,774	246,198	241,110	255,774	247,907
413,528	363,276	399,650	410,975	417,075	450,280	417,075	439,212	417,075	406,007	439,212	417,075
1,382,546	1,382,501	1,382,501	1,382,546	1,382,636	1,382,636	1,382,636	1,382,636	1,382,636	1,382,636	1,382,636	1,382,636
11,200	11,200	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120
44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272

8	8	8	8	8	8	8	8	8	8	8	8
-	-	-	-	-	-	-	-	-	-	-	-
16	16	16	16	16	16	16	16	16	16	16	16
16	16	16	16	16	16	16	16	16	16	16	16
4	4	4	4	4	4	4	4	4	4	4	4
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
160	160	160	160	160	160	160	160	160	160	160	160
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
78,045	**78,080**	**78,353**	**78,056**	**78,090**	**78,602**	**77,532**	**78,639**	**77,816**	**77,568**	**78,306**	**77,829**
465	**465**	**446**	**465**	**465**	**428**	**511**	**428**	**487**	**511**	**445**	**487**
Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19
48	48	48	48	48	48	48	84	84	84	84	84
8,008	8,036	8,205	8,017	8,044	8,355	7,696	8,356	7,845	7,696	8,186	7,856
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
16	16	16	16	16	16	16	16	16	16	16	16
3,078	3,085	3,189	3,080	3,087	3,288	2,877	3,288	2,976	2,877	3,184	2,978
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
66,895	66,895	66,895	66,895	66,895	66,895	66,895	66,895	66,895	66,895	66,836	66,895
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
78,045	**78,080**	**78,353**	**78,056**	**78,090**	**78,602**	**77,532**	**78,639**	**77,816**	**77,568**	**78,306**	**77,829**
2,109,963	**2,112,581**	**2,128,796**	**2,110,798**	**2,113,342**	**2,143,228**	**2,080,035**	**2,146,166**	**2,097,288**	**2,082,915**	**2,128,781**	**2,098,239**
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
249,792	252,410	257,557	250,627	253,171	260,921	242,000	260,979	245,305	242,000	255,774	246,257
428,143	428,143	439,212	428,143	428,143	450,280	406,007	450,280	417,075	406,007	439,212	417,075
1,382,636	1,382,636	1,382,636	1,382,636	1,382,636	1,382,636	1,382,636	1,382,636	1,382,636	1,382,636	1,381,524	1,382,636
5,120	5,120	5,120	5,120	5,120	5,120	5,120	8,000	8,000	8,000	8,000	8,000
44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272

8	8	8	8	8	8	4	4	2	2	-	-
-	-	-	-	-	-	-	-	-	-	-	-
16	16	16	16	16	16	16	16	-	-	-	-
16	16	16	16	16	16	16	16	-	-	-	-
4	4	4	4	4	4	4	4	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	-	-
160	160	160	160	160	160	160	160	160	160	-	-
160	160	160	160	160	160	160	160	160	160	-	-
160	160	160	160	160	160	160	160	160	160	-	-
160	160	160	160	160	160	160	160	160	160	-	-
160	160	160	160	160	160	160	160	160	160	-	-
160	160	160	160	160	160	160	160	160	160	-	-
160	160	160	160	160	160	160	160	160	160	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
66,011	**11,018**	**10,908**	**10,552**	**10,809**	**11,517**	**9,618**	**9,195**	**7,893**	**7,045**	**-**	**-**
413	**63**	**62**	**66**	**62**	**66**	**61**	**50**	**52**	**45**	**-**	**-**
Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
84	52	52	52	52	52	48	40	2	2	-	-
6,814	7,164	7,153	6,989	7,050	7,767	6,056	5,369	4,511	4,170	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
16	16	16	16	16	16	16	16	-	-	-	-
2,978	3,189	3,090	2,898	3,095	3,086	2,903	3,176	2,790	2,553	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
56,119	597	597	597	596	596	595	594	590	320	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
66,011	**11,018**	**10,908**	**10,552**	**10,809**	**11,517**	**9,618**	**9,195**	**7,893**	**7,045**	**-**	**-**
1,798,454	**767,973**	**758,806**	**744,484**	**749,150**	**798,820**	**672,560**	**628,390**	**540,606**	**439,687**	**-**	**-**
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
246,257	257,616	248,449	239,515	242,881	239,444	217,827	209,992	170,980	110,294	-	-
323,294	345,430	345,430	340,042	341,388	394,495	290,216	254,566	210,294	221,362	-	-
1,176,632	115,215	115,215	115,215	115,170	115,170	115,125	115,080	114,900	63,600	-	-
8,000	5,440	5,440	5,440	5,440	5,440	5,120	4,480	160	160	-	-
44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272	44,272	-	-

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Exhibit E

REDACTED

User Notes:

1. This worksheet is not linked to any other worksheet, except for the date information which comes from the **Title Block** worksheet.
2. All data fields that are "blue" font, must be keyed in manually. All other fields are formulas.
3. Please determine your Cash Flow Categories in such a way as you would like to report out for your project. These are user defined fields.
4. Formulas in cells H26:M36 are "Array" formulas. Please do not edit unless you have a good understanding of Array formulas.

*Move AMI purchase flow back one month from install

Cash Flow Categories	Cost Category	Capital / O&M	IT/Telecom/All Other Departments	Total	2015 Dec-15	2016 Jan-16	2016 Feb-16	2016 Mar-16	2016 Apr-16	2016 May-16	2016 Jun-16	2016 Jul-16	2016 Aug-16	2016 Sep-16	2016 Oct-16	2016 Nov-16
Itron AMI Meters	Materials & Mat Burdens	Capital	All Other Departments	[redacted]	-	-	-	-	-	-	[redacted]					
Connected Grid Router (CGR)	Materials & Mat Burdens	Capital	All Other Departments		-	-	-	-	-	-						
Range Extender (RE)	Materials & Mat Burdens	Capital	All Other Departments		-	-	-	-	-	-						
Miscellaneous	Materials & Mat Burdens	Capital	All Other Departments	4,288,224	-	-	-	-	-	-	-	44,434	79,345	95,214	79,345	71,480
Materials adders (CGR & RE with misc.)	Materials & Mat Burdens	Capital	All Other Departments	4,406,609	-	-	-	-	-	-	-	45,682	81,574	97,888	81,574	73,496
Materials adders (AMI Meters only)	Materials & Mat Burdens	Capital	All Other Departments	20,615,451	-	-	-	-	-	-	-	215,834	385,412	462,490	385,412	346,868
Project Planning (Capital)	Internal Labor	Capital	All Other Departments	174,420	38,080	68,170	68,170	-	-	-	-	-	-	-	-	-
Project Planning (Capital)	Staff Augmentation Labor	Capital	All Other Departments	30,600	6,120	12,240	12,240	-	-	-	-	-	-	-	-	-
Project Planning (O&M)	Internal Labor	O&M	All Other Departments	37,655	8,755	14,450	14,450	-	-	-	-	-	-	-	-	-
Project Planning (O&M)	Staff Augmentation Labor	O&M	All Other Departments	11,900	2,380	4,760	4,760	-	-	-	-	-	-	-	-	-
Project Planning (IT - O&M)	Internal Labor	O&M	IT	20,400	4,080	8,160	8,160	-	-	-	-	-	-	-	-	-
Project Planning (IT - O&M)	Staff Augmentation Labor	O&M	IT	6,800	1,360	2,720	2,720	-	-	-	-	-	-	-	-	-
Spare CGR's	Materials & Mat Burdens	Capital	All Other Departments	598,230	-	-	-	-	-	-	-	598,230				
Project Management	Internal Labor	Capital	All Other Departments	10,543,894	-	-	-	28,681	49,651	178,174	194,057	201,227	216,338	208,166	200,293	226,978
Field Services	Internal Labor	Capital	All Other Departments	14,255,388	-	-	-	-	-	49,471	49,597	67,945	60,555	68,884	58,176	61,244
Subcontractor Support, Professional Services, etc	Contractor Labor	Capital	All Other Departments	43,309,082	-	-	-	-	10,492	14,346	14,346	460,522	811,668	971,492	811,668	731,777
Itron Travel	Meals/Travel/Lodging/Fleet	Capital	All Other Departments	1,155,000	-	-	-	-	-	-	-	11,974	21,381	25,657	21,381	19,264
Telecommunications	Internal Labor	Capital	Telecom	268,160	-	-	-	-	-	6,720	6,720	10,560	10,560	4,160	4,160	4,160
Billing	Internal Labor	Capital	All Other Departments	1,898,348	-	-	-	-	-	12,656	25,311	44,295	44,295	44,295	44,295	44,295
Expenses	Internal Labor	Capital	All Other Departments	80,105	-	-	-	-	-			830	1,483	1,779	1,483	1,336
Expenses	Internal Labor	Capital	Telecom	7,200	-	-	-	-	-			75	133	160	133	120
ESCALATION	Internal Labor	Capital	All Other Departments	1,935,098	-	-	-	-	-					-		
ESCALATION	Internal Labor	Capital	Telecom	16,884	-	-	-									
ESCALATION	Contractor Labor	Capital	All Other Departments	2,758,246	-	-	-									
AccuRead (contracted for 27 months - April 2017 through June 2019)	Contractor Labor	Capital	All Other Departments	[redacted]	-	-	-					-				
TBD-26	Contingency	Capital	All Other Departments	-	-	-	-					-				
TBD-27	Contingency	Capital	IT	-	-	-	-									
TBD-28	Contingency	Capital	All Other Departments	-	-	-	-									
TBD-29	PMO (Allocation)	Capital	All Other Departments	-	-	-	-	-	-	-	-	-				
Contingency - Estimate Uncertainty	Contingency	Capital	All Other Departments	16,248,576	-	-	-	-	-	-	-	168,445	300,790	360,945	300,790	271,005
Contingency - Risk Register	Contingency	Capital	All Other Departments	5,096,413	-	-	-	-	-	-	-	52,833	94,344	113,212	94,344	85,001
Grid Solutions Overhead Allocation	PMO (Allocation)	Capital	All Other Departments	3,308,559	-	-	-	-	-	-	-	34,299	61,247	73,496	61,247	55,182
	AFUDC	Capital	All Other Departments	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total - All Cash Flow Categories				355,570,163	60,775	110,500	110,500	28,681	60,144	261,368	2,464,944	5,840,905	6,829,549	6,411,559	5,669,619	6,585,173

Exhibit E

REDACTED

2016	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2018	2018	2018	2018	2019	2018	2018	2018	2018	2018	2018	2018	2019
Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
91,386	141,494	141,752	141,867	141,771	141,793	141,956	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361	142,361
93,953	145,468	145,733	145,851	145,753	145,776	145,943	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360	146,360
443,224	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718	684,718
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226,129	253,576	249,567	263,676	243,554	259,744	257,817	250,338	263,753	248,642	257,817	248,488	243,554	257,817	250,261	251,957	254,656	259,667	252,806	255,427	262,828	244,479	262,905	247,563	244,479	257,817
72,829	240,468	249,235	416,937	359,325	399,653	409,047	406,417	445,493	406,417	432,467	406,417	393,391	432,467	406,417	419,442	419,442	432,467	419,442	419,442	445,493	393,391	445,493	406,417	393,391	432,467
931,536	1,432,314	1,432,335	1,432,357	1,432,335	1,432,335	1,432,357	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,432,399	1,431,136
24,626	38,128	38,198	38,229	38,203	38,209	38,253	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362	38,362
4,160	11,200	11,200	11,200	11,200	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	5,120	8,000	8,000	8,000	8,000
44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295
1,708	2,644	2,649	2,651	2,650	2,650	2,653	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661
154	238	238	238	238	238	238	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239
-	431,279	-	-	-	-	-	-	-	-	-	-	-	697,385	-	-	-	-	-	-	-	-	-	-	-	806,435
-	4,545	-	-	-	-	-	-	-	-	-	-	-	5,676	-	-	-	-	-	-	-	-	-	-	-	6,662
-	910,987	-	-	-	-	-	-	-	-	-	-	-	1,392,292	-	-	-	-	-	-	-	-	-	-	-	454,967
-	-	-	-	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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346,435	536,386	537,365	537,800	537,439	537,521	538,138	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675	539,675
108,660	168,239	168,546	168,683	168,569	168,595	168,788	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271	169,271
70,542	109,220	109,419	109,508	109,434	109,451	109,576	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889	109,889
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9,584,621	12,364,412	11,014,985	11,188,112	11,180,468	11,364,342	11,391,892	11,431,849	11,484,340	11,430,153	11,465,378	11,429,999	11,412,039	13,560,731	11,431,772	11,446,493	11,449,192	11,467,229	11,447,341	11,449,963	11,483,415	11,412,964	#########	#########	#########	#########

Exhibit E

REDACTED

2019 Feb-19	2019 Mar-19	2019 Apr-19	2019 May-19	2019 Jun-19	2019 Jul-19	2019 Aug-19	2019 Sep-19	2019 Oct-19	2019 Nov-19	2019 Dec-19	2020 Jan-20	2020 Feb-20
[redacted]								-			-	-
								-			-	-
								-		-	-	-
142,361	119,471	1,397	1,397	1,397	1,351	1,152	989	-	-		-	-
146,360	122,826	1,436	1,436	1,436	1,389	1,184	1,017	-	-	-	-	-
684,718	573,531	-	-	-		-	-	-		-	-	-
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248,565	248,565	259,744	251,264	242,474	246,946	243,400	213,331	203,617	171,852	111,253	-	-
406,417	341,164	367,215	367,215	352,061	364,585	411,802	317,619	299,583	247,482	260,507	-	-
1,432,399	1,201,657	12,783	12,783	12,783	12,762	12,762	12,741	12,719	12,633	6,852	-	-
38,362	32,194	376	376	376	364	310	266	-	-	-	-	-
8,000	8,000	5,440	5,440	5,440	5,440	5,440	5,120	4,480	160	160	-	-
44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	44,295	-	-
2,661	2,233	26	26	26	25	22	18	-	-	-	-	-
239	201	2	2	2	2	2	2	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
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[redacted]					-	-	-	-	-	-	-	-
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539,675	452,900	5,294	5,294	5,294	5,122	4,365	3,749		-	-	-	-
169,271	142,053	1,661	1,661	1,661	1,606	1,369	1,176		-	-	-	-
109,889	92,220	1,078	1,078	1,078	1,043	889	763	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-
#########	3,941,284	1,260,724	1,252,243	1,228,299	1,141,429	859,741	715,085	564,694	476,422	423,067	-	-

Yearly Totals for Escalation Calculations

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
0	[redacted]				0	0	0	0	0	0	0
0					0	0	0	0	0	0	0
0					0	0	0	0	0	0	0
0	461214.501	1704799.91	1708334.868	411874.7206	0	0	0	0	0	0	0
0	474168.3989	1752681.761	1756316.004	423442.837	0	0	0	0	0	0	0
0	2239240.077	8216621.63	8216621.63	1942967.662	0	0	0	0	0	0	0
38080	136340	0	0	0	0	0	0	0	0	0	0
6120	24480	0	0	0	0	0	0	0	0	0	0
8755	28900	0	0	0	0	0	0	0	0	0	0
2380	9520	0	0	0	0	0	0	0	0	0	0
4080	16320	0	0	0	0	0	0	0	0	0	0
1360	5440	0	0	0	0	0	0	0	0	0	0
0	598230	0	0	0	0	0	0	0	0	0	0
0	1759692.866	3040527.846	3044845.354	2698827.934	0	0	0	0	0	0	0
0	488701.7684	4565266.058	5033302.58	4168117.594	0	0	0	0	0	0	0
0	4757848.669	17188429.05	17188793.06	4174011.273	0	0	0	0	0	0	0
0	124282.5267	459388.9391	460341.4971	110987.0371	0	0	0	0	0	0	0
0	51200	85760	70080	61120	0	0	0	0	0	0	0
0	303735.68	531537.44	531537.44	531537.44	0	0	0	0	0	0	0
0	8619.611949	31860.90993	31926.97457	7697.503558	0	0	0	0	0	0	0
0	774.7482184	2863.723257	2869.661281	691.8672445	0	0	0	0	0	0	0
0	0	431278.5612	697384.5153	806434.6435	0	0	0	0	0	0	0
0	0	4545.28	5676.48	6662.08	0	0	0	0	0	0	0
0	0	910986.7395	1392292.238	454967.2287	0	0	0	0	0	0	0
0	0	[redacted]			0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	1748410.459	6462697.913	6476098.53	1561369.098	0	0	0	0	0	0	0
0	548394.0128	2027043.949	2031247.091	489727.9471	0	0	0	0	0	0	0
0	356013.9154	1315944.077	1318672.73	317928.2776	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
60,775	43,957,562	137,157,969	139,483,270	34,910,587	-	-	-	-	-	-	-

User Notes:

1. This worksheet is linked to the Title Block Worksheet for project date information used in Columns J - AF. It looks up Escalation Index information from the [DOE Escalation Rates] tab for Columns R - X. However, you can manually enter in Escalation % information in Columns R - X if you chose to utilize Escalation data from an alternate source.
2. All data fields that are "blue" font, must be keyed in manually. All other fields are formulas. All items to be Escalated must be keyed manually due to the fact that no two projects will escalate costs in a like manner.
3. This sheet is "Optional". It can be used in lieu of keying the Escalation %'s by Work Phase/WBS/Task ID on the Detail Summary Sheet.

Project Name: DEC - AMI Deployment

Display	Item	Escalation Category	Item Description	Total $'s being Escalated	Apply Escalation	Total Escalation	% of Total	ENTER PLANNED CASH FLOW IN THIS SECTION (per Commodity being Escalated)									
								Year 1 2014	Year 2 2015	Year 3 2016	Year 4 2017	Year 5 2018	Year 6 2019	Year 7 2020	Year 8 2021	Year 9 2022	Year 10 2023
Yes	001.	**Grand Total - All Work Phases / WBS / Tasks**		**62,913,693**		**4,710,228**	**7.49%**	**-**	**-**	**-**	**25,411,520**	**25,868,558**	**11,633,614**	**-**	**-**	**-**	**-**
Yes	002.	**Materials - Materials**		**-**		**-**	**0.00%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Yes	003.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	004.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	005.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	006.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	007.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	008.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	009.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	010.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	011.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	012.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	013.	**Labor**		**62,913,693**		**4,710,228**	**7.49%**	**-**	**-**	**-**	**25,411,520**	**25,868,558**	**11,633,614**	**-**	**-**	**-**	**-**
Yes	014.	Scientific & Laboratory	Project Management	8,784,201	Yes	701,953	7.99%	-	-	-	3,040,528	3,044,845	2,698,828	-	-	-	-
Yes	015.	Scientific & Laboratory	Field Services	13,766,686	Yes	1,103,981	8.02%	-	-	-	4,565,266	5,033,303	4,168,118	-	-	-	-
Yes	016.	Scientific & Laboratory	Subcontractor Support, Professional Services, etc.	38,551,233	Yes	2,758,246	7.15%	-	-	-	17,188,429	17,188,793	4,174,011	-	-	-	-
Yes	017.	Scientific & Laboratory	Telecommunications	216,960	Yes	16,884	7.78%	-	-	-	85,760	70,080	61,120	-	-	-	-
Yes	018.	Scientific & Laboratory	Billing	1,594,612	Yes	129,164	8.10%	-	-	-	531,537	531,537	531,537	-	-	-	-
Yes	019.	Scientific & Laboratory	TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	020.	Scientific & Laboratory	TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	021.	Scientific & Laboratory	TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	022.	Scientific & Laboratory	TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	023.	Scientific & Laboratory	TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	024.	**#REF!**		**-**		**-**	**0.00%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Yes	025.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	026.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	027.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	028.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	029.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	030.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	031.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	032.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	033.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-
Yes	034.		TBD	-	Yes	-	0.00%	-	-	-	-	-	-	-	-	-	-

Exhibit E

Year 11 2024	Year 12 2025
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Escalation Index per Year - Based on Published Data from the DOE											
Year 1 2014	Year 2 2015	Year 3 2016	Year 4 2017	Year 5 2018	Year 6 2019	Year 7 2020	Year 8 2021	Year 9 2022	Year 10 2023	Year 11 2024	Year 12 2025
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-
1.000	1.000	1.026	1.053	1.081	1.109	1.138	1.167	1.196	1.225	1.254	1.283
1.000	1.000	1.026	1.053	1.081	1.109	1.138	1.167	1.196	1.225	1.254	1.283
1.000	1.000	1.026	1.053	1.081	1.109	1.138	1.167	1.196	1.225	1.254	1.283
1.000	1.000	1.026	1.053	1.081	1.109	1.138	1.167	1.196	1.225	1.254	1.283
1.000	1.000	1.026	1.053	1.081	1.109	1.138	1.167	1.196	1.225	1.254	1.283
1.000	1.000	1.026	1.053	1.081	1.109	1.138	1.167	1.196	1.225	1.254	1.283
1.000	1.000	1.026	1.053	1.081	1.109	1.138	1.167	1.196	1.225	1.254	1.283
1.000	1.000	1.026	1.053	1.081	1.109	1.138	1.167	1.196	1.225	1.254	1.283
1.000	1.000	1.026	1.053	1.081	1.109	1.138	1.167	1.196	1.225	1.254	1.283
1.000	1.000	1.026	1.053	1.081	1.109	1.138	1.167	1.196	1.225	1.254	1.283
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

Escalation Calculations											
Year 1 2014	Year 2 2015	Year 3 2016	Year 4 2017	Year 5 2018	Year 6 2019	Year 7 2020	Year 8 2021	Year 9 2022	Year 10 2023	Year 11 2024	Year 12 2025
-	-	-	1,346,811	2,095,353	1,268,064	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	1,346,811	2,095,353	1,268,064	-	-	-	-	-	-
-	-	-	161,148	246,632	294,172	-	-	-	-	-	-
-	-	-	241,959	407,698	454,325	-	-	-	-	-	-
-	-	-	910,987	1,392,292	454,967	-	-	-	-	-	-
-	-	-	4,545	5,676	6,662	-	-	-	-	-	-
-	-	-	28,171	43,055	57,938	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

REDACTED

Exhibit E

REDACTED

	Total	1/31/2016	2/29/2016	3/31/2016	4/30/2016	5/31/2016	6/30/2016	7/31/2016	8/31/2016	9/30/2016	10/31/2016	11/30/2016	12/31/2016	1/31/2017	2/28/2017	3/31/2017	4/30/2017	5/31/2017	6/30/2017	7/31/2017	8/31/2017	9/30/2017	10/31/2017	11/30/2017	12/31/2017	1/31/2018	2/28/2018	3/31/2018
AMI Meters	1,957,015	0	0	0	0	0	0	20,489	36,587	43,904	36,587	32,928	42,075	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000
Duke Install		0	0	0	0	0	0	329	587	704	587	528	675	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042
Contractor Install		0	0	0	0	0	0	20,160	36,000	43,200	36,000	32,400	41,400	63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958
Connected Grid Routers	3,400	0	0	0	0	0	0	0	0	0	0	36	64	76	64	57	73	113	113	113	113	113	113	113	113	113	113	113
Range Extenders	16,000	0	0	0	0	0	0	0	0	0	0	0	0	168	299	359	299	269	344	531	531	531	531	531	531	531	531	531
CGR Mitigate				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RE Mitigate	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AMI Meters	1,957,015	0	0	0	0	0	0	20489	57076	100980	137567	170495	212570	277570	342570	407570	472570	537570	602570	667570	732570	797570	862570	927570	992570	1057570	1122570	1187570
		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	2.9%	5.2%	7.0%	8.7%	10.9%	14.2%	17.5%	20.8%	24.1%	27.5%	30.8%	34.1%	37.4%	40.8%	44.1%	47.4%	50.7%	54.0%	57.4%	60.7%
						0.0%	0.0%	1.0%	1.9%	2.2%	1.9%	1.7%	2.1%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%
Second Installs						0	0	523	935	1122	935	841	1075	1661	1661	1661	1661	1661	1661	1661	1661	1661	1661	1661	1661	1661	1661	1661	1661
Connected Grid Routers	3,400	0	0	0	0	0	0	0	0	0	0	36	100	176	240	297	370	483	596	709	822	935	1048	1161	1274	1387	1500	1613
		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	2.9%	5.2%	7.1%	8.7%	10.9%	14.2%	17.5%	20.9%	24.2%	27.5%	30.8%	34.1%	37.5%	40.8%	44.1%	47.4%
Range Extenders	16,000	0	0	0	0	0	0	0	0	0	0	0	0	168	467	826	1125	1394	1738	2269	2800	3331	3862	4393	4924	5455	5986	6517
		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	2.9%	5.2%	7.0%	8.7%	10.9%	14.2%	17.5%	20.8%	24.1%	27.5%	30.8%	34.1%	37.4%	40.7%
	1,976,415	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.04%	1.85%	2.22%	1.85%	1.67%	2.13%	3.30%	3.31%	3.31%	3.31%	3.31%	3.31%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%
		0.174%	0.818%	1.604%																								

Month	CGR	Range Extenders	Meters (Duke, Polyphase / Transformer)	Meters (Contractor)			
Total	3,400	16,000	31,382	1,925,633	Year	1,957,015	
Jun-15	0	0	0	0	2015		
Jul-15	0	0	0	0	2015		
Aug-15	0	0	0	0	2015		
Sep-15	0	0	0	0	2015		
Oct-15	0	0	0	0	2015		
Nov-15	0	0	0	0	2015		
Dec-15	0	0	0	0	2015		
Jan-16	0	0	0	0	2016		
Feb-16	0	0	0	0	2016		
Mar-16	0	0	0	0	2016		
Apr-16	0	0	0	0	2016		
May-16	0	0	0	0	2016	0	
Jun-16	0	0	0	0	2016	0	
Jul-16	0	0	329	20,160	2016	20,489	
Aug-16	0	0	587	36,000	2016	36,587	
Sep-16	0	0	704	43,200	2016	43,904	
Oct-16	0	0	587	36,000	2016	36,587	
Nov-16	36	0	528	32,400	2016	32,928	
Dec-16	64	0	675	41,400	2016	42,075	
Jan-17	76	168	1,042	63,958	2017	65,000	
Feb-17	64	299	1,042	63,958	2017	65,000	
Mar-17	57	359	1,042	63,958	2017	65,000	
Apr-17	73	299	1,042	63,958	2017	65,000	
May-17	113	269	1,042	63,958	2017	65,000	
Jun-17	113	344	1,042	63,958	2017	65,000	Bridge jump (mitigation begins)
Jul-17	113	531	1,042	63,958	2017	65,000	
Aug-17	113	531	1,042	63,958	2017	65,000	
Sep-17	113	531	1,042	63,958	2017	65,000	
Oct-17	113	531	1,042	63,958	2017	65,000	
Nov-17	113	531	1,042	63,958	2017	65,000	
Dec-17	113	531	1,042	63,958	2017	65,000	
Jan-18	113	531	1,042	63,958	2018	65,000	
Feb-18	113	531	1,042	63,958	2018	65,000	
Mar-18	113	531	1,042	63,958	2018	65,000	
Apr-18	113	531	1,042	63,958	2018	65,000	
May-18	113	531	1,042	63,958	2018	65,000	
Jun-18	113	531	1,042	63,958	2018	65,000	
Jul-18	113	531	1,042	63,958	2018	65,000	
Aug-18	113	531	1,042	63,958	2018	65,000	
Sep-18	113	531	1,042	63,958	2018	65,000	
Oct-18	113	531	1,042	63,958	2018	65,000	
Nov-18	113	531	1,042	63,958	2018	65,000	
Dec-18	113	531	1,042	63,958	2018	65,000	
Jan-19	113	531	1,042	63,958	2019	65,000	
Feb-19	113	531	1,042	63,958	2019	65,000	
Mar-19	113	531	880	53,565	2019	54,445	
Apr-19	113	531	0	0	2019		
May-19	113	531	0	0	2019		
Jun-19	113	531	0	0	2019		Manually adjusted
Jul-19	92	531	0	0	2019		
Aug-19	0	531	0	0	2019		
Sep-19	0	456	0	0	2019		
Oct-19	0	0	0	0	2019		
Nov-19	0	0	0	0	2019		
Dec-19	0	0	0	0	2019		
Jan-20	0	0	0	0	2020		
Feb-20	0	0	0	0	2020		
Mar-20	0	0	0	0	2020		
Apr-20	0	0	0	0	2020		
May-20	0	0	0	0	2020		
Jun-20	0	0	0	0	2020		
Jul-20	0	0	0	0	2020		
Aug-20	0	0	0	0	2020		
Sep-20	0	0	0	0	2020		
Oct-20	0	0	0	0	2020		
Nov-20	0	0	0	0	2020		
Dec-20	0	0	0	0	2020		

Year	CGR	REs	Meters	
2015	0	0	0	
2016	100	0	212,570	220k
2017	1,174	4,924	780,000	780k
2018	1,356	6,372	780,000	780k
2019	770	4,704	184,445	
2020	0	0	0	
	3,400	16,000	1,957,015	

1S	1,392	[redacted]
2S 200A	1,898,386	
2S 320A	8,155	
4S	27,169	
5S	2,326	
9S	1,887	
12SNW	12,573	
12SP	0	
16S	5,127	
Electric Accessories		$ 1,325,168.00
	1,957,015	$ 207,737,700.80
		AMI Unit Cost [redacted]

Exhibit E

4/30/2018	5/31/2018	6/30/2018	7/31/2018	8/31/2018	9/30/2018	10/31/2018	11/30/2018	12/31/2018	1/31/2019	2/28/2019	3/31/2019	4/30/2019	5/31/2019	6/30/2019	7/31/2019	8/31/2019	9/30/2019	10/31/2019	11/30/2019	12/31/2019
65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	54,445	0	0	0	0	0	0	0	0	0
1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	880	0	0	0	0	0	0	0	0	0
63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958	63,958	53,565	0	0	0	0	0	0	0	0	0
113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	92	0	0	0	0	0
531	531	531	531	531	531	531	531	531	531	531	531	531	531	531	531	531	456	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1252570	1317570	1382570	1447570	1512570	1577570	1642570	1707570	1772570	1837570	1902570	1957015	1957015	1957015	1957015	1957015	1957015	1957015	1957015	1957015	1957015
64.0%	67.3%	70.6%	74.0%	77.3%	80.6%	83.9%	87.3%	90.6%	93.9%	97.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1661	1661	1661	1661	1661	1661	1661	1661	1661	1661	1661	1391	0	0	0	0	0	0	0	0	0
1726	1839	1952	2065	2178	2291	2404	2517	2630	2743	2856	2969	3082	3195	3308	3400	3400	3400	3400	3400	3400
50.8%	54.1%	57.4%	60.7%	64.1%	67.4%	70.7%	74.0%	77.4%	80.7%	84.0%	87.3%	90.6%	94.0%	97.3%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
7048	7579	8110	8641	9172	9703	10234	10765	11296	11827	12358	12889	13420	13951	14482	15013	15544	16000	16000	16000	16000
44.1%	47.4%	50.7%	54.0%	57.3%	60.6%	64.0%	67.3%	70.6%	73.9%	77.2%	80.6%	83.9%	87.2%	90.5%	93.8%	97.2%	100.0%	100.0%	100.0%	100.0%
3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	2.79%	0.03%	0.03%	0.03%	0.03%	0.03%	0.02%	0.00%	0.00%	0.00%

			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual Costs assoc. with CGR Failures																	
Failure Rate			2.00%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Install				1,274	2,630	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400
Repair count				25	53	68	68	68	68	68	68	68	3,400	68	68	68	68
Equipment cost	5 yr warranty								$ 239,292	$ 239,292	$ 239,292	$ 239,292	$ 11,964,600				
Labor cost	10 year life			$ 2,479	$ 5,407	$ 7,134	$ 7,331	$ 7,527	$ 7,723	$ 7,920	$ 8,116	$ 8,312	$ 425,436	$ 8,705	$ 8,901	$ 9,098	$ 9,294
Inflation				3%	6%	9%	12%	15%	18%	21%	24%	27%	30%	33%	36%	39%	42%
Annual Costs assoc. with RE Failures																	
Failure Rate			2.00%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Install				4,924	11,296	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000
Repair count				98	226	320	320	320	320	320	320	320	320	320	320	320	320
Equipment cost	3 yr warranty						$ 80,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000
Labor cost	15 year life			$ 7,621	$ 18,086	$ 26,334	$ 27,059	$ 27,783	$ 28,508	$ 29,233	$ 29,958	$ 30,683	$ 31,407	$ 32,132	$ 32,857	$ 33,582	$ 34,306
Inflation				3%	6%	9%	12%	15%	18%	21%	24%	27%	30%	33%	36%	39%	42%
Annual Costs assoc. with Meter Failures & Growth																	
Failure (0.50%) & Growth Rate (0.50%)			1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Install				992,570	1,772,570	1,957,015	1,957,015	1,957,015	1,957,015	1,957,015	1,957,015	1,957,015	1,957,015	1,957,015	1,957,015	1,957,015	1,957,015
Repair count				9926	17726	19570	19570	19570	19570	19570	19570	19570	19570	19570	19570	19570	19570
Equipment cost	3 yr warranty			$ 353,119	$ 630,605	$ 696,206	$ 1,392,411	$ 1,392,411	$ 1,392,411	$ 1,392,411	$ 1,392,411	$ 1,392,411	$ 1,392,411	$ 1,392,411	$ 1,392,411	$ 1,392,411	$ 1,392,411
Labor cost	15 year life			$ 920,154	$ 1,691,085	$ 1,919,845	$ 1,972,685	$ 2,025,525	$ 2,078,365	$ 2,131,204	$ 2,184,044	$ 2,236,884	$ 2,289,724	$ 2,342,564	$ 2,395,403	$ 2,448,243	$ 2,501,083
Inflation				3%	6%	9%	12%	15%	18%	21%	24%	27%	30%	33%	36%	39%	42%
* less $35 per AMR that would have been budgeted		$	35.00														
Stores Loading Costs																	
Materials				$ 353,119	$ 630,605	$ 696,206	$ 1,472,411	$ 1,472,411	$ 1,711,703	$ 1,711,703	$ 1,711,703	$ 1,711,703	$ 13,437,011	$ 1,472,411	$ 1,472,411	$ 1,472,411	$ 1,472,411
Tax @ 4.75%			4.75%	$ 16,773	$ 29,954	$ 33,070	$ 69,940	$ 69,940	$ 81,306	$ 81,306	$ 81,306	$ 81,306	$ 638,258	$ 69,940	$ 69,940	$ 69,940	$ 69,940
				$ 369,892	$ 660,559	$ 729,275	$ 1,542,351	$ 1,542,351	$ 1,793,009	$ 1,793,009	$ 1,793,009	$ 1,793,009	$ 14,075,269	$ 1,542,351	$ 1,542,351	$ 1,542,351	$ 1,542,351
Material Loader @ 5.00%			5.00%	$ 18,495	$ 33,028	$ 36,464	$ 77,118	$ 77,118	$ 89,650	$ 89,650	$ 89,650	$ 89,650	$ 703,763	$ 77,118	$ 77,118	$ 77,118	$ 77,118
				$ 388,387	$ 693,587	$ 765,739	$ 1,619,468	$ 1,619,468	$ 1,882,659	$ 1,882,659	$ 1,882,659	$ 1,882,659	$ 14,779,033	$ 1,619,468	$ 1,619,468	$ 1,619,468	$ 1,619,468
Stores Loading @ 11.50%			11.50%	$ 44,664	$ 79,762	$ 88,060	$ 186,239	$ 186,239	$ 216,506	$ 216,506	$ 216,506	$ 216,506	$ 1,699,589	$ 186,239	$ 186,239	$ 186,239	$ 186,239
Material total				$ 433,051	$ 773,349	$ 853,799	$ 1,805,707	$ 1,805,707	$ 2,099,165	$ 2,099,165	$ 2,099,165	$ 2,099,165	$ 16,478,621	$ 1,805,707	$ 1,805,707	$ 1,805,707	$ 1,805,707
Labor total				$ 930,253	$ 1,714,579	$ 1,953,313	$ 2,007,074	$ 2,060,835	$ 2,114,596	$ 2,168,357	$ 2,222,118	$ 2,275,879	$ 2,746,568	$ 2,383,401	$ 2,437,162	$ 2,490,923	$ 2,544,684
Duke Operational Labor																	
Data Analytics	Ben Zhang																
FTE			2														
Hours			1920														
Rate		$	78.59														
Inflation				3%	6%	9%	12%	15%	18%	21%	24%	27%	30%	33%	36%	39%	42%
Labor total							$ 338,003	$ 347,057	$ 356,110	$ 365,164	$ 374,218	$ 383,271	$ 392,325	$ 401,379	$ 410,432	$ 419,486	$ 428,540
AMI Operators	Joseph Thomas																
FTE			3														
Hours			1920														
Rate		$	39.53														
Inflation				3%	6%	9%	12%	15%	18%	21%	24%	27%	30%	33%	36%	39%	42%
Labor total							$ 255,005	$ 261,835	$ 268,666	$ 275,496	$ 282,327	$ 289,157	$ 295,988	$ 302,818	$ 309,649	$ 316,479	$ 323,310
Billing	Beth White																
FTE			5														
Hours			1920														
Rate		$	39.53														
Inflation				3%	6%	9%	12%	15%	18%	21%	24%	27%	30%	33%	36%	39%	42%
Labor total							$ 425,008	$ 436,392	$ 447,776	$ 459,161	$ 470,545	$ 481,929	$ 493,313	$ 504,697	$ 516,081	$ 527,465	$ 538,850
Total Duke Operational				$ -	$ -	$ -	$ 1,018,016	$ 1,045,284	$ 1,072,553	$ 1,099,821	$ 1,127,089	$ 1,154,358	$ 1,181,626	$ 1,208,894	$ 1,236,162	$ 1,263,431	$ 1,290,699
Telecom																	
Cellular Service																	
CGR's deployed				1,274	2,630	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400
*Inflation							3%	6%	9%	12%	15%	18%	21%	24%	27%	30%	33%
Monthly cost per CGR		$	20.00	$ 305,760	$ 631,200	$ 816,000	$ 840,480	$ 864,960	$ 889,440	$ 913,920	$ 938,400	$ 962,880	$ 987,360	$ 1,011,840	$ 1,036,320	$ 1,060,800	$ 1,085,280
Direct Connect AMI deployed			195,702	50.53%	90.39%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
*Inflation							3%	6%	9%	12%	15%	18%	21%	24%	27%	30%	33%
Monthly cost per DC AMI		$	0.64	$ 63,294	$ 113,213	$ 125,249	$ 129,006	$ 132,764	$ 136,521	$ 140,279	$ 144,036	$ 147,794	$ 151,551	$ 155,309	$ 159,066	$ 162,824	$ 166,581
Add Inflation starting in 2020 with 3%																	
Grid Telecom Post Project Support																	
Total hours per year			2080														
FTE per year			0.5														
Hourly rate		$	80.00														
Inflation				3%	6%	9%	12%	15%	18%	21%	24%	27%	30%	33%	36%	39%	42%
Labor total							$ 93,184	$ 95,680	$ 98,176	$ 100,672	$ 103,168	$ 105,664	$ 108,160	$ 110,656	$ 113,152	$ 115,648	$ 118,144
Total Telecom				$ 369,054	$ 744,413	$ 941,249	$ 1,062,670	$ 1,093,404	$ 1,124,137	$ 1,154,871	$ 1,185,604	$ 1,216,338	$ 1,247,071	$ 1,277,805	$ 1,308,538	$ 1,339,272	$ 1,370,005

Labor Loaders for Year 2015		
(Planning Rates confirmed per Finance email dated 10/01/14)		
Fringe Benefits	**Planning Rates (for 2015)**	**Planning Rates (for 2016 and beyond)**
DE Carolinas	21.28%	(confirm with Finance)
DE Florida	22.65%	(confirm with Finance)
DEBS (Shared Serv. Co.)	23.73%	(confirm with Finance)
Incentive	**Planning Rates (for 2015)**	**Planning Rates (for 2015 and beyond)**
Average	10.00%	(confirm with Finance)
Payroll Tax	**Planning Rates (for 2015)**	**Planning Rates (for 2015 and beyond)**
Average	7.65%	(confirm with Finance)
Labor Loaders	**Planning Rates (for 2015)**	**Planning Rates (for 2015 and beyond)**
Shared Serv. Co.	25.32%	(confirm with Finance)
DE Carolinas (T&D/E&TS)	45.00%	(confirm with Finance)
DE Florida (T&D/E&TC)	45.00%	(confirm with Finance)
Affiliate	55.00%	(confirm with Finance)

Fleet Loader	**Planning Rates (for 2015)**	**Planning Rates (for 2015 and beyond)**
All Jurisdictions	3.00%	(confirm with Finance)

Labor Loaders for Year 2015*			
Jurisdiction	**Shared Service Co Factor**	**T&D / E&TS Factor****	**Affiliate Factor**
DE Carolinas	1.67	1.84	1.94

** Includes Fringe, Incentive, Payroll & Loaders*

*** Field Operations Employees / Engineering & Supervision*

Fleet Loader for Year 2015*			
All Jurisdictions		#VALUE!	

Shared Service Co.	T&D / E&TC	Affiliate
0.67	0.84	0.94

Fleet Loader		
	(confirm with Finance)	

Material Loaders for Year 2015 (rates per Finance email dated 12/08/14)		
Sales / Use Tax* (by State of Use)	**Planning Rates (for 2015)**	**Planning Rates (for 2016 and beyond)**
North Carlolina	4.75%	(confirm with Finance)
South Carolina	6.00%	(confirm with Finance)
Stores Loading (by Jurisdiction)**	**Planning Rates (for 2015)**	**Planning Rates (for 2015 and beyond)**
DE - Carolinas (SetID 20017)	11.50%	As per M. Murphy

Working Stock***	Planning Rates	Planning Rates
All Jurisdictions	5.00%	(confirm with Finance)

Florida and Progress stores rates updated per Aug 25, 2015 - Mark Murphy email

DOE Escalation Rates - Base Year 2014

	Nuclear		Scientific & Laboratory		Administration Building & Warehouse		Remediation, Decontamination, and Demolition	
FY	Rate	Index	Rate	Index	Rate	Index	Rate	Index
2011	2.000	1.000	2.300	1.000	2.600	1.000	2.900	1.000
2012	1.900	1.000	2.200	1.000	2.400	1.000	2.400	1.000
2013	1.900	1.000	2.400	1.000	2.800	1.000	2.900	1.000
2014	2.000	1.000	2.500	1.000	3.000	1.000	3.000	1.000
2015	2.000	1.020	2.600	1.000	3.000	1.030	3.000	1.030
2016	2.100	1.041	2.600	1.026	3.100	1.061	3.100	1.061
2017	2.000	1.061	2.700	1.053	3.200	1.093	3.200	1.093
2018	2.200	1.083	2.800	1.081	3.300	1.126	3.300	1.126
2019	2.100	1.104	2.800	1.109	3.400	1.160	3.400	1.160
2020	2.200	1.126	2.900	1.138	3.500	1.195	3.500	1.195
2021	2.200	1.148	2.900	1.167	3.500	1.230	3.500	1.230
2022	2.200	1.170	2.900	1.196	3.500	1.265	3.500	1.265
2023	2.200	1.192	2.900	1.225	3.500	1.300	3.500	1.300
2024	2.200	1.214	2.900	1.254	3.500	1.335	3.500	1.335
2025	2.200	1.236	2.900	1.283	3.500	1.370	3.500	1.370

2021 - 2025 Rates need to be updated

Note: Lookups for the Escalation Tab are done from the table below (which is linked to the table above)

Industry	FY	Rate	Index
Nuclear	2011	2.000	1.000
Nuclear	2012	1.900	1.000
Nuclear	2013	1.900	1.000
Nuclear	2014	2.000	1.000
Nuclear	2015	2.000	1.020
Nuclear	2016	2.100	1.041
Nuclear	2017	2.000	1.061
Nuclear	2018	2.200	1.083
Nuclear	2019	2.100	1.104
Nuclear	2020	2.200	1.126
Nuclear	2021	2.200	1.148
Nuclear	2022	2.200	1.170
Nuclear	2023	2.200	1.192
Nuclear	2024	2.200	1.214
Nuclear	2025	2.200	1.236
Scientific & Labo	2011	2.300	1.000
Scientific & Labo	2012	2.200	1.000
Scientific & Labo	2013	2.400	1.000
Scientific & Labo	2014	2.500	1.000
Scientific & Labo	2015	2.600	1.000
Scientific & Labo	2016	2.600	1.026
Scientific & Labo	2017	2.700	1.053
Scientific & Labo	2018	2.800	1.081
Scientific & Labo	2019	2.800	1.109
Scientific & Labo	2020	2.900	1.138
Scientific & Labo	2021	2.900	1.167
Scientific & Labo	2022	2.900	1.196
Scientific & Labo	2023	2.900	1.225
Scientific & Labo	2024	2.900	1.254
Scientific & Labo	2025	2.900	1.283
Administration Bu	2011	2.600	1.000
Administration Bu	2012	2.400	1.000
Administration Bu	2013	2.800	1.000
Administration Bu	2014	3.000	1.000
Administration Bu	2015	3.000	1.030
Administration Bu	2016	3.100	1.061
Administration Bu	2017	3.200	1.093
Administration Bu	2018	3.300	1.126
Administration Bu	2019	3.400	1.160
Administration Bu	2020	3.500	1.195
Administration Bu	2021	3.500	1.230
Administration Bu	2022	3.500	1.265
Administration Bu	2023	3.500	1.300
Administration Bu	2024	3.500	1.335
Administration Bu	2025	3.500	1.370
Remediation, De	2011	2.900	1.000
Remediation, De	2012	2.400	1.000
Remediation, De	2013	2.900	1.000
Remediation, De	2014	3.000	1.000
Remediation, De	2015	3.000	1.030
Remediation, De	2016	3.100	1.061
Remediation, De	2017	3.200	1.093
Remediation, De	2018	3.300	1.126
Remediation, De	2019	3.400	1.160
Remediation, De	2020	3.500	1.195
Remediation, De	2021	3.500	1.230
Remediation, De	2022	3.500	1.265
Remediation, De	2023	3.500	1.300
Remediation, De	2024	3.500	1.335
Remediation, De	2025	3.500	1.370

Exhibit F

DEC AMI Benefit Details

All benefits were scaled from an AMI project model based on previous AMI deployments except the reduced meter reading costs, AMR salvage value and non-technical line loss reduction. The scaled benefits were allocated on a per meter basis, then multiplied by the number of AMI meters planned for DEC. All benefits reflect the AMI meter deployment schedule at the time of the initial cost-to-complete analysis and savings were adjusted for inflation.

Refer to assumptions in the benefits details tab, Exhibit C page 2, for more information on the quantifiable benefits.

Reduced Meter Reading Costs

The calculated Meter Reading savings were derived from the DEC Meter Reading budget and reflect that the quantity of reads per meter reader will decrease as AMI is deployed. Thus contract meter read costs are expected to increase per unit by approximately 25% as meter read volumes decrease and geographic dispersion increases.

Reduced Meter Operations Costs (Meter orders)

- Reduced customer order field visits for disconnect/reconnect and succession reads as these tasks are automated
- Drivers:
    - Off-cycle read orders performed remotely
    - Disconnects/reconnects performed remotely
- % reduction based on spend totals for work activities, not # of orders
- Variables:
    - DNP work by Service Delivery reduction
        - 42% overall work activity reduction (75% of DNPs result in credit-on request)
    - DNP work performed by third party vendor
        - 42% overall work activity reduction (75% of DNPs result in credit-on request)
    - Almost all overtime for credit-on work reduction
        - 100% reduction in overtime credit-on request
    - Succession read reduction
        - 90% of succession reads should be automated after full AMI deployment
    - Customer requested on/off reduction
        - 90% of customer requested on/off work should be automated after full AMI deployment

Reduced Meter Operations Costs (Field Metering Labor)

- Reduce testing/repairs & eliminate costs of manual metering reading equipment (handheld maintenance, etc.)
- Comprised of 3 components:
    - Reduction in Meter Testing
    - Reduction in Meter Repair Work
    - Reductions in Meter Reading Equipment costs
- Meter Testing
    - Average annual periodic meter tests
    - Cost per test: $50
- Meter Repair
    - $ of annual reduction
    - % escalation value: 3%
- Meter Reading Equipment
    - Equipment cost $
    - Reduction %: 25% for 5 years

Reduced Restoration Costs – OK on Arrival:

- Trouble orders resulting in "ok on arrival" were queried from DOMS (4 year monthly average)
- $ Savings = Average yearly orders per year X % reduction X ($/hr. labor savings + $/hr. fleet) X hours per order X inflation % X benefit realization %
- Assumed: 80% reduction, $90/hour for labor & fleet, 45 minutes per order

Reduced Restoration Costs – Major Storms:

- Reduced truck rolls required to verify voltage to meter due to ability to remotely verify.
- Trouble orders resulting in "ok on arrival" was queried from DOMS
- $ Savings = ((Labor Cost + Outside Labor Costs) / Number Days Storm Lasted) X Days reduced by AMI X Benefit Realization %
- Assumed: ½ day reduction, 3 year average actual labor costs

Reduced Equipment Failures:

- Full cost of new meter failures captured in project costs. This is full benefit of reduced meter failures (old meters vs. new AMI meters)
- Cost of 2013 meter = $61.62 ($29.62 for material and $32 for installation)

- Inflated to 2015 meter price = $64.77 (2% materials inflation rate and 3% labor inflation rate)
- $ Savings = (Cost of meter + cost of installation) X annual failure rate X Benefit Realization %

AMR Meter Salvage Value:

Estimated at $0.70 per meter and was multiplied by number of meters in the deployment plan each year. These estimates were based on past experience with AMI projects and the vendors involved at the time.

Non-technical Line Loss Reduction:

- Non-performing / under-performing meters, incorrect application of multiplying factors, defects in CT & PT circuitry, non-reading of meters, pilferage by manipulating or bypassing meters, theft by direct tapping
- Identification of meter or usage irregularities through data analytics and field investigations within operations and during deployment
- Variables:
    - DEC Revenue
    - Revenue Leakage Percentage: 2% (From EPRI 1016049: Advanced Metering Infrastructure Technology, Limiting Non-Technical Distribution Losses in the Future)
    - AMI Recovery Gain: 80% (From EPRI 1016049: Advanced Metering Infrastructure Technology, Limiting Non-Technical Distribution Losses in the Future)
    - Collection Percentage (Amount to be collected from identified revenue erosion): 60%
    - Applicable Meters: Meters yet to convert (1,966,000) / Total meters (2,600,000)
    - Benefit Realization (based on the deployment rate)
- $ Savings = Annual Revenue X Non-Technical Line Loss % X AMI Recovery Gain X Collection % X Benefit Realization %

Exhibit G

			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			2016	2017	2018	2019	2020	2021
Number of meters to be installed		829,000						
Meter Deployment Percentage (Cost Recognition)			8.40%	40.10%	71.90%	99.50%	100.00%	100.00%
Meters Deployed			69,636	332,429	596,051	824,855	829,000	829,000
Meter Benefit Recognition Percentage (6 month lag)			0%	23.80%	55.50%	87.30%	87.30%	100.00%
Meter failure rate savings (per meter) (2013 $ inflated to 2015 $)	Use material and labor inflation rates	64.77						
Meter failure rate percentage		1.83%						
Materials Inflation Percentage		2.0%	0.0%	2.00%	4.04%	6.12%	8.24%	10.41%
Labor Inflation Percentage		3.0%	0.0%	3.00%	6.09%	9.27%	12.55%	15.93%
Meter COW savings initial amount (2015 $)	Use labor inflation rate	3,450,000	-	845,733	2,031,358	3,291,130	3,389,864	3,999,496
Outage Assessment - single calls (non-storm)	Use labor inflation rate	210,000	-	51,479	123,648	200,330	206,340	243,448
Outage Assessment - major storm reduction	Use labor inflation rate	500,000	-	122,570	294,400	476,975	491,285	579,637
Legacy meter failure savings	Use labor inflation rate		-	240,859	578,517	937,292	965,411	1,139,030
Miscellaneous - O&M Savings	Use labor inflation rate	750,000	-	183,855	441,600	715,463	736,927	869,456
Miscellaneous - Capital Savings	Use labor inflation rate	250,000	-	61,285	147,200	238,488	245,642	289,819

			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Benefit Type	**Benefit Name**	**Duke Benefit Description**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Expense Reduction	Reduced T&D Operations Cost	***Reduced meter operations costs - consumer order workers for meter orders***	$ -	$ 845,733	$ 2,031,358	$ 3,291,130	$ 3,389,864	$ 3,999,496
Expense Reduction	Reduced T&D Operations Cost	***Reduced meter operations costs - field metering labor***	$ 562,500	$ 1,363,500	$ 1,368,000	$ 1,368,000	$ -	$ -
Avoided Costs	Reduced Restoration Cost	***Reduced restoration costs - OK on arrival***	$ -	$ 51,479	$ 123,648	$ 200,330	$ 206,340	$ 243,448
Avoided Costs	Reduced Restoration Cost	***Reduced restoration costs - major storms***	$ -	$ 122,570	$ 294,400	$ 476,975	$ 491,285	$ 579,637
Avoided Costs	Reduced Equipment Failures	***Reduced equipment failures***	$ -	$ 240,859	$ 578,517	$ 937,292	$ 965,411	$ 1,139,030
Expense Reduction	Reduced T&D Operations Cost	***Miscellaneous O&M savings***	$ -	$ 183,855	$ 441,600	$ 715,463	$ 736,927	$ 869,456
Expense Reduction	Reduced T&D Operations Cost	***Miscellaneous capital savings***	$ -	$ 61,285	$ 147,200	$ 238,488	$ 245,642	$ 289,819
		Total	**$ 562,500**	**$ 2,869,282**	**$ 4,984,723**	**$ 7,227,677**	**$ 6,035,468**	**$ 7,120,884**

Exhibit G

Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	91.60%	59.90%	28.10%	0.50%
829,000	829,000	829,000	829,000	829,000	829,000	829,000	829,000	829,000	829,000	759,364	496,571	232,949	4,145
100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	76.20%	44.50%	12.70%
12.62%	14.87%	17.17%	19.51%	21.90%	24.34%	26.82%	29.36%	31.95%	34.59%	37.28%	40.02%	42.82%	45.68%
19.41%	22.99%	26.68%	30.48%	34.39%	38.42%	42.58%	46.85%	51.26%	55.80%	60.47%	65.28%	70.24%	75.35%
4,119,480	4,243,065	4,370,357	4,501,467	4,636,512	4,775,607	4,918,875	5,066,441	5,218,435	5,374,988	5,536,237	4,345,171	2,613,660	768,299
250,751	258,274	266,022	274,002	282,222	290,689	299,410	308,392	317,644	327,173	336,988	264,489	159,092	46,766
597,026	614,937	633,385	652,387	671,958	692,117	712,880	734,267	756,295	778,984	802,353	629,735	378,791	111,348
1,173,201	1,208,397	1,244,649	1,281,988	1,320,448	1,360,061	1,400,863	1,442,889	1,486,176	1,530,761	1,576,684	1,237,476	744,353	218,806
895,539	922,405	950,078	978,580	1,007,937	1,038,175	1,069,321	1,101,400	1,134,442	1,168,476	1,203,530	944,602	568,187	167,021
298,513	307,468	316,693	326,193	335,979	346,058	356,440	367,133	378,147	389,492	401,177	314,867	189,396	55,674

Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
$ 4,119,480	$ 4,243,065	$ 4,370,357	$ 4,501,467	$ 4,636,512	$ 4,775,607	$ 4,918,875	$ 5,066,441	$ 5,218,435	$ 5,374,988	$ 5,536,237	$ 4,345,171	$ 2,613,660	$ 768,299	$ 74,046,174
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,662,000
$ 250,751	$ 258,274	$ 266,022	$ 274,002	$ 282,222	$ 290,689	$ 299,410	$ 308,392	$ 317,644	$ 327,173	$ 336,988	$ 264,489	$ 159,092	$ 46,766	$ 4,507,158
$ 597,026	$ 614,937	$ 633,385	$ 652,387	$ 671,958	$ 692,117	$ 712,880	$ 734,267	$ 756,295	$ 778,984	$ 802,353	$ 629,735	$ 378,791	$ 111,348	$ 10,731,330
$ 1,173,201	$ 1,208,397	$ 1,244,649	$ 1,281,988	$ 1,320,448	$ 1,360,061	$ 1,400,863	$ 1,442,889	$ 1,486,176	$ 1,530,761	$ 1,576,684	$ 1,237,476	$ 744,353	$ 218,806	$ 21,087,861
$ 895,539	$ 922,405	$ 950,078	$ 978,580	$ 1,007,937	$ 1,038,175	$ 1,069,321	$ 1,101,400	$ 1,134,442	$ 1,168,476	$ 1,203,530	$ 944,602	$ 568,187	$ 167,021	$ 16,096,994
$ 298,513	$ 307,468	$ 316,693	$ 326,193	$ 335,979	$ 346,058	$ 356,440	$ 367,133	$ 378,147	$ 389,492	$ 401,177	$ 314,867	$ 189,396	$ 55,674	$ 5,365,665
$ 7,334,511	**$ 7,554,546**	**$ 7,781,182**	**$ 8,014,618**	**$ 8,255,056**	**$ 8,502,708**	**$ 8,757,789**	**$ 9,020,523**	**$ 9,291,139**	**$ 9,569,873**	**$ 9,856,969**	**$ 7,736,341**	**$ 4,653,480**	**$ 1,367,914**	**$ 136,497,182**

DUKE ENERGY®

Program Benefit Inputs - DOE Model Framework

	Initiative Name
Initiative 1	AMI/ Smart Meter
# of AMI Meters	829,500

Asset	Technology	Initiative	Category -	Benefit Sub-Category	Benefit Type	Benefit Name	Duke Benefit Description	2016	2017	2018	2019
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Economic	T&D O&M Savings	Expense Reduction	Reduced T&D Operations Cost	***Reduced meter operations costs - consumer order workers for meter orders***	$ -	$ 845,733	$ 2,031,358	$ 3,291,130
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Economic	T&D O&M Savings	Expense Reduction	Reduced T&D Operations Cost	***Reduced meter operations costs - field metering labor***	$ 562,500	$ 1,363,500	$ 1,368,000	$ 1,368,000
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Reliability	Power Interruptions	Avoided Costs	Reduced Restoration Cost	***Reduced restoration costs - OK on arrival***	$ -	$ 51,479	$ 123,648	$ 200,330
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Reliability	Power Interruptions	Avoided Costs	Reduced Restoration Cost	***Reduced restoration costs - major storms***	$ -	$ 122,570	$ 294,400	$ 476,975
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Economic	T&D Savings	Avoided Costs - Capital	Avoided Equipment and Maintenance Costs	***Reduced equipment failures***	$ -	$ 240,859	$ 578,517	$ 937,292
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Economic	T&D Capital Savings	Avoided Costs	Reduced Equipment Failures	***Miscellaneous O&M savings***	$ -	$ 183,855	$ 441,600	$ 715,463
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Economic	T&D Savings	Avoided Costs - Capital	Avoided Equipment and Maintenance Costs	***Miscellaneous capital savings***	$ -	$ 61,285	$ 147,200	$ 238,488
Customer Assets	AMI/Smart Meter										
								$ 562,500	$ 2,869,282	$ 4,984,723	$ 7,227,677

2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total 20 Year
$ 3,389,864	$ 3,999,496	$ 4,119,480	$ 4,243,065	$ 4,370,357	$ 4,501,467	$ 4,636,512	$ 4,775,607	$ 4,918,875	$ 5,066,441	$ 5,218,435	$ 5,374,988	$ 5,536,237	$ 4,345,171	$ 2,613,660	$ 768,299	$ 74,046,174
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,662,000
$ 206,340	$ 243,448	$ 250,751	$ 258,274	$ 266,022	$ 274,002	$ 282,222	$ 290,689	$ 299,410	$ 308,392	$ 317,644	$ 327,173	$ 336,988	$ 264,489	$ 159,092	$ 46,766	$ 4,507,158
$ 491,285	$ 579,637	$ 597,026	$ 614,937	$ 633,385	$ 652,387	$ 671,958	$ 692,117	$ 712,880	$ 734,267	$ 756,295	$ 778,984	$ 802,353	$ 629,735	$ 378,791	$ 111,348	$ 10,731,330
$ 965,411	$ 1,139,030	$ 1,173,201	$ 1,208,397	$ 1,244,649	$ 1,281,988	$ 1,320,448	$ 1,360,061	$ 1,400,863	$ 1,442,889	$ 1,486,176	$ 1,530,761	$ 1,576,684	$ 1,237,476	$ 744,353	$ 218,806	$ 21,087,861
$ 736,927	$ 869,456	$ 895,539	$ 922,405	$ 950,078	$ 978,580	$ 1,007,937	$ 1,038,175	$ 1,069,321	$ 1,101,400	$ 1,134,442	$ 1,168,476	$ 1,203,530	$ 944,602	$ 568,187	$ 167,021	$ 16,096,994
$ 245,642	$ 289,819	$ 298,513	$ 307,468	$ 316,693	$ 326,193	$ 335,979	$ 346,058	$ 356,440	$ 367,133	$ 378,147	$ 389,492	$ 401,177	$ 314,867	$ 189,396	$ 55,674	$ 5,365,665
																$ -
$ 6,035,468	$ 7,120,884	$ 7,334,511	$ 7,554,546	$ 7,781,182	$ 8,014,618	$ 8,255,056	$ 8,502,708	$ 8,757,789	$ 9,020,523	$ 9,291,139	$ 9,569,873	$ 9,856,969	$ 7,736,341	$ 4,653,480	$ 1,367,914	**$ 136,497,182**

DUKE ENERGY®

Program Benefit Inputs - DOE Model Framework

	Initiative Name
Initiative 1	AMI/ Smart Meter
DEC AMI Meters	1,966,000

Asset	Technology	Initiative	- DOE	Benefit Sub-Category	Benefit Type	Benefit Name	Duke Benefit Description	2016	2017	2018	2019
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Economic	T&D O&M Savings	Expense Reduction	Reduced T&D Operations Cost	***Reduced meter operations costs - consumer order workers for meter orders***	$ -	$ 2,004,474	$ 4,814,527	$ 7,800,315
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Economic	T&D O&M Savings	Expense Reduction	Reduced T&D Operations Cost	***Reduced meter operations costs - field metering labor***	$ 1,333,183	$ 3,231,635	$ 3,242,300	$ 3,242,300
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Reliability	Power Interruptions	Avoided Costs	Reduced Restoration Cost	***Reduced restoration costs - OK on arrival***	$ -	$ 122,011	$ 293,058	$ 474,802
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Reliability	Power Interruptions	Avoided Costs	Reduced Restoration Cost	***Reduced restoration costs - major storms***	$ -	$ 290,503	$ 697,758	$ 1,130,480
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Economic	T&D Savings	Avoided Costs - Capital	Avoided Equipment and Maintenance Costs	***Reduced equipment failures***	$ -	$ 570,861	$ 1,371,146	$ 2,221,478
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Economic	T&D Capital Savings	Avoided Costs	Reduced Equipment Failures	***Miscellaneous O&M savings***	$ -	$ 435,755	$ 1,046,636	$ 1,695,721
Customer Assets	AMI/Smart Meter	AMI/ Smart Meter	Economic	T&D Savings	Avoided Costs - Capital	Avoided Equipment and Maintenance Costs	***Miscellaneous capital savings***	$ -	$ 145,252	$ 348,879	$ 565,240
								$ 1,333,183	$ 6,800,491	$ 11,814,304	$ 17,130,336

2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total 20 Year
$ 8,034,324	$ 9,479,214	$ 9,763,591	$ 10,056,498	$ 10,358,193	$ 10,668,939	$ 10,989,007	$ 11,318,678	$ 11,658,238	$ 12,007,985	$ 12,368,225	$ 12,739,271	$ 13,121,450	$ 10,298,501	$ 6,194,643	$ 1,820,947	$ 175,497,020
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,049,418
$ 489,046	$ 576,996	$ 594,306	$ 612,135	$ 630,499	$ 649,414	$ 668,896	$ 688,963	$ 709,632	$ 730,921	$ 752,848	$ 775,434	$ 798,697	$ 626,865	$ 377,065	$ 110,840	$ 10,682,427
$ 1,164,395	$ 1,373,799	$ 1,415,013	$ 1,457,464	$ 1,501,187	$ 1,546,223	$ 1,592,610	$ 1,640,388	$ 1,689,600	$ 1,740,288	$ 1,792,496	$ 1,846,271	$ 1,901,659	$ 1,492,536	$ 897,774	$ 263,905	$ 25,434,351
$ 2,288,122	$ 2,699,618	$ 2,780,606	$ 2,864,024	$ 2,949,945	$ 3,038,443	$ 3,129,597	$ 3,223,485	$ 3,320,189	$ 3,419,795	$ 3,522,389	$ 3,628,060	$ 3,736,902	$ 2,932,945	$ 1,764,193	$ 518,594	$ 49,980,391
$ 1,746,592	$ 2,060,699	$ 2,122,520	$ 2,186,195	$ 2,251,781	$ 2,319,335	$ 2,388,915	$ 2,460,582	$ 2,534,400	$ 2,610,432	$ 2,688,744	$ 2,769,407	$ 2,852,489	$ 2,238,805	$ 1,346,661	$ 395,858	$ 38,151,526
$ 582,197	$ 686,900	$ 707,507	$ 728,732	$ 750,594	$ 773,112	$ 796,305	$ 820,194	$ 844,800	$ 870,144	$ 896,248	$ 923,136	$ 950,830	$ 746,268	$ 448,887	$ 131,953	$ 12,717,175
$ 14,304,677	$ 16,877,225	$ 17,383,542	$ 17,905,048	$ 18,442,199	$ 18,995,465	$ 19,565,329	$ 20,152,289	$ 20,756,858	$ 21,379,564	$ 22,020,951	$ 22,681,579	$ 23,362,027	$ 18,335,920	$ 11,029,224	$ 3,242,096	**$ 323,512,308**

DUKE ENERGY

AMI Program Benefit Inputs

	Initiative Name
Initiative 1	AMI/ Smart Meter

Annual Benefits ($)								Year 1	Year 2	Year 3	Year 4
Asset	Technology	Initiative	- DOE	Benefit Sub-Category	Benefit Type	Benefit Name	Duke Benefit Description	2016	2017	2018	2019
Customer Assets	AMI/Smart Meter	AMI Deployment	Economic	T&D O&M Savings	Expense Reduction	Reduced Meter Reading Cost	***Reduced meter reading costs***	$ 491,592	$ 792,356	$ 1,439,895	$ 2,249,849
Customer Assets	AMI/Smart Meter	AMI Deployment	Economic	T&D O&M Savings	Expense Reduction	Reduced T&D Operations Cost	***Reduced meter operations costs - consumer order workers for meter orders***	$ -	$ 2,004,474	$ 4,814,527	$ 7,800,315
Customer Assets	AMI/Smart Meter	AMI Deployment	Economic	T&D O&M Savings	Expense Reduction	Reduced T&D Operations Cost	***Reduced meter operations costs - field metering labor***	$ 1,333,183	$ 3,231,635	$ 3,242,300	$ 3,242,300
Customer Assets	AMI/Smart Meter	AMI Deployment	Reliability	Power Interruptions	Avoided Costs - O&M	Reduced Restoration Cost	***Reduced restoration costs - OK on arrival***	$ -	$ 122,011	$ 293,058	$ 474,802
Customer Assets	AMI/Smart Meter	AMI Deployment	Reliability	Power Interruptions	Avoided Costs - O&M	Reduced Restoration Cost	***Reduced restoration costs - major storms***	$ -	$ 290,503	$ 697,758	$ 1,130,480
Customer Assets	AMI/Smart Meter	AMI Deployment	Economic	T&D Savings	Avoided Costs - Capital	Avoided Equipment and Maintenance Costs	***Reduced equipment failures***	$ -	$ 570,861	$ 1,371,146	$ 2,221,478
Customer Assets	AMI/Smart Meter	AMI Deployment	Economic	T&D Capital Savings	Avoided Costs - O&M	Reduced Equipment Failures	***Miscellaneous O&M savings***	$ -	$ 435,755	$ 1,046,636	$ 1,695,721
Customer Assets	AMI/Smart Meter	AMI Deployment	Economic	T&D Savings	Avoided Costs - Capital	Avoided Equipment and Maintenance Costs	***Miscellaneous capital savings***	$ -	$ 145,252	$ 348,879	$ 565,240
Customer Assets	AMI/Smart Meter	AMI Deployment	Economic	Improved Revenue	Increased Revenue	Increased Revenue	***AMR meter salvage value***	$ 256,550	$ 579,600	$ 533,050	$ 711
Customer Assets	AMI/Smart Meter	AMI Deployment	Economic	Improved Revenue	Increased Revenue	Increased Revenue	**Non-technical line loss reduction - power theft, equipment failures and installation errors**	$ -	$ 9,034,054	$ 21,172,140	$ 33,469,720
								$ 2,081,325	$ 17,206,500	$ 34,959,389	$ 52,850,616

Amounts calculated specifically with DEC inputs/data
Amounts ratioed from DEI business case
Amounts from supporting tab calculated from DEC revenue amounts

Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total 20 Year
$ 2,469,678	$ 2,542,238	$ 2,616,976	$ 2,693,955	$ 2,773,244	$ 2,854,911	$ 2,939,028	$ 3,025,669	$ 3,114,909	$ 3,206,826	$ 3,301,501	$ 3,399,016	$ 3,499,457	$ 2,745,418	$ 1,650,713	$ 485,041	$ 48,292,272
$ 8,034,324	$ 9,479,214	$ 9,763,591	$ 10,056,498	$ 10,358,193	$ 10,668,939	$ 10,989,007	$ 11,318,678	$ 11,658,238	$ 12,007,985	$ 12,368,225	$ 12,739,271	$ 13,121,450	$ 10,298,501	$ 6,194,643	$ 1,820,947	$ 175,497,020
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,049,418
$ 489,046	$ 576,996	$ 594,306	$ 612,135	$ 630,499	$ 649,414	$ 668,896	$ 688,963	$ 709,632	$ 730,921	$ 752,848	$ 775,434	$ 798,697	$ 626,865	$ 377,065	$ 110,840	$ 10,682,427
$ 1,164,395	$ 1,373,799	$ 1,415,013	$ 1,457,464	$ 1,501,187	$ 1,546,223	$ 1,592,610	$ 1,640,388	$ 1,689,600	$ 1,740,288	$ 1,792,496	$ 1,846,271	$ 1,901,659	$ 1,492,536	$ 897,774	$ 263,905	$ 25,434,351
$ 2,288,122	$ 2,699,618	$ 2,780,606	$ 2,864,024	$ 2,949,945	$ 3,038,443	$ 3,129,597	$ 3,223,485	$ 3,320,189	$ 3,419,795	$ 3,522,389	$ 3,628,060	$ 3,736,902	$ 2,932,945	$ 1,764,193	$ 518,594	$ 49,980,391
$ 1,746,592	$ 2,060,699	$ 2,122,520	$ 2,186,195	$ 2,251,781	$ 2,319,335	$ 2,388,915	$ 2,460,582	$ 2,534,400	$ 2,610,432	$ 2,688,744	$ 2,769,407	$ 2,852,489	$ 2,238,805	$ 1,346,661	$ 395,858	$ 38,151,526
$ 582,197	$ 686,900	$ 707,507	$ 728,732	$ 750,594	$ 773,112	$ 796,305	$ 820,194	$ 844,800	$ 870,144	$ 896,248	$ 923,136	$ 950,830	$ 746,268	$ 448,887	$ 131,953	$ 12,717,175
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,369,911
$ 38,530,433	$ 38,723,086	$ 38,916,701	$ 39,111,284	$ 39,306,841	$ 39,503,375	$ 39,700,892	$ 39,899,396	$ 40,098,893	$ 40,299,388	$ 40,500,885	$ 40,703,389	$ 40,906,906	$ 31,326,918	$ 18,386,064	$ 5,273,495	$ 634,863,861
																$ -
$ 55,304,789	$ 58,142,549	$ 58,917,218	$ 59,710,287	$ 60,522,284	$ 61,353,751	$ 62,205,250	$ 63,077,355	$ 63,970,660	$ 64,885,778	$ 65,823,337	$ 66,783,985	$ 67,768,389	$ 52,408,256	$ 31,066,002	$ 9,000,632	**$ 1,008,038,352**

Exhibit G

AMI Program Benefit Details

	Benefit	Benefit Type	Description	Input	Total Savings (20 Years)
1	Eliminate regular meter reads	Expense Reduction	Reduced Meter Reading needs. Benefit derived from current budget, however Metering expects costs/meter for existing contract service to increase by 25% as volume decreases. Decrease budget amount to $20M.		$ 48,292,272
2	Reduce off-cycle meter reads and field disconnects/reconnects (COW)	Expense Reduction	Reduced consumer order field visits for Disconnect/Reconnect and Succession reads as these tasks are automated. Reviewed with Fred Logan, Michael Volrich, financial folks. Does not factor in new non-AMI work or final 'geographical coverage' practicality review.	Utilize 9/15 previous 12 months costs for the following items • 42% of Cred On/DNP expenses and 100% of OT expense • 90% of Connect/Disconnect expenses • 90% of Succession read expenses	$ 175,497,020
3	Meter Operations Savings	Expense Reduction	Reduced meter operations costs - field metering labor		$ 11,049,418
4	Outage – reduce "OK on arrival"	Avoided Costs - O&M	Reduced truck rolls required to verify voltage to meter due to ability to remotely verify. Not currently vetted with business to actually reduce outage assessment budget	Utilize four year monthly average from DOMS of "Ok on arrival" trouble orders related to single calls and mid-level storms, calculation assumed 80% reduced and ¾ hour time	$ 10,682,427
5	Outage – reduce major storm restoration	Avoided Costs - O&M	Reduced truck rolls required to verify voltage to meter due to ability to remotely verify. Not currently vetted with business to actually reduce outage assessment budget	Utilize three year average of major storm related labor (internal and contract) to determine daily average for major storm restoration. Reduction = ½ day	$ 25,434,351
7	Legacy meter failures	Avoided Costs - Capital	Full cost of new meter failures captured in project costs. This is full benefit of reduced meter faiures (old meters vs. new AMI meters).	Utilize internal annual failure rate of 1.83% and meter costs of $61.62 ($29.62 for material and $32 for installation)	$ 49,980,391
6	Miscellaneous O&M costs	Avoided Costs - O&M	Basis - Estimate	Includes nominal amounts to represent other enabling benefits such as : • Improve vegetation management (voltage sag data from meters) • Reduced customer calls • Reduced estimated bills	$ 38,151,526
8	Miscellaneous capital costs	Avoided Costs - Capital	Basis - estimate	Includes nominal amounts to represent other enabling benefits such as: • Improve asset management (aggregate meter data to identify over/under loaded distribution transformers, and stress points in the grid) • Leverage meter Volt/Var data to improve placement of capacitor banks	$ 12,717,175
9	Reduce non-technical distribution losses	Increased Revenue	Assume this includes all revenue capture – including registration erosion, mis-wiring, etc.. Calculated at 2% of gross Res/Comm revenue, 80% enabled by AMI, 60% billable/recoverable	EPRI Study - December 2008 - "AMI Technology: Limiting Non-Technical Distribution Losses in the Future" • Non-performing/under-performing meters • Incorrect application of multiplying factors • Defects in CT & PT circuitry • Non-reading of meters • Pilferage by manipulating or bypassing of meters • Theft by direct tapping	$ 634,863,861

Duke Energy Carolinas

Analysis of Revenue Capture Utilizing the EPRI paper - AMI Technology: Limiting Non-Technical Distribution Losses in the Future (1016049)
- Represents Cumulative Non-Technical Line Losses

Year	2014 Total Revenues Residential & Commercal Portion (1)	Revenue Leakage Percentage (2)	AMI Recovery Gain (3)	Collection Percentage (4)	Gross Increased Revenue Capture	Applicable Meters (5)	Phase-In/Out Percent (6)	Net Increased Revenue Capture
1	5,203,052,984	2.0%	80.0%	60.0%	49,949,309	76%	0.0%	$ -
2	5,229,068,249	2.0%	80.0%	60.0%	50,199,055	76%	23.8%	$ 9,034,054
3	5,255,213,590	2.0%	80.0%	60.0%	50,450,050	76%	55.5%	$ 21,172,140
4	5,281,489,658	2.0%	80.0%	60.0%	50,702,301	76%	87.3%	$ 33,469,720
5	5,307,897,106	2.0%	80.0%	60.0%	50,955,812	76%	100.0%	$ 38,530,433
6	5,334,436,592	2.0%	80.0%	60.0%	51,210,591	76%	100.0%	$ 38,723,086
7	5,361,108,775	2.0%	80.0%	60.0%	51,466,644	76%	100.0%	$ 38,916,701
8	5,387,914,319	2.0%	80.0%	60.0%	51,723,977	76%	100.0%	$ 39,111,284
9	5,414,853,891	2.0%	80.0%	60.0%	51,982,597	76%	100.0%	$ 39,306,841
10	5,441,928,160	2.0%	80.0%	60.0%	52,242,510	76%	100.0%	$ 39,503,375
11	5,469,137,801	2.0%	80.0%	60.0%	52,503,723	76%	100.0%	$ 39,700,892
12	5,496,483,490	2.0%	80.0%	60.0%	52,766,242	76%	100.0%	$ 39,899,396
13	5,523,965,907	2.0%	80.0%	60.0%	53,030,073	76%	100.0%	$ 40,098,893
14	5,551,585,737	2.0%	80.0%	60.0%	53,295,223	76%	100.0%	$ 40,299,388
15	5,579,343,666	2.0%	80.0%	60.0%	53,561,699	76%	100.0%	$ 40,500,885
16	5,607,240,384	2.0%	80.0%	60.0%	53,829,508	76%	100.0%	$ 40,703,389
17	5,635,276,586	2.0%	80.0%	60.0%	54,098,655	76%	100.0%	$ 40,906,906
18	5,663,452,969	2.0%	80.0%	60.0%	54,369,149	76%	76.2%	$ 31,326,918
19	5,691,770,234	2.0%	80.0%	60.0%	54,640,994	76%	44.5%	$ 18,386,064
20	5,720,229,085	2.0%	80.0%	60.0%	54,914,199	76%	12.7%	$ 5,273,495
20 Year Total					$ 1,047,892,312			$ 634,863,861

Annual load growth percent =	0.50%
Discount Rate	7.00%

NPV	**$318,420,282**

NOTES:
(1) 2014 DEC Residential/Commercial revenue in DEC FERC Form 1
(2) Amount of revenue subject to erosion from non-technical losses
(3) Amount of revenue erosion identifiable through use of AMI
(4) Amount to be collected from identified revenue erosion
(5) Alignment of benefits to proposed 15 year meter book asset life; includes 6 months lag from the installation schedule of the AMI meters

Applicable meters = Meters yet to convert (1,966,000) / Total meters (2,600,000)

PROJECT POLICIES

FILED UNDER SEAL

- **PJM-00001-POLICY**
- **PJM-00001-GSSTD – GS Portfolio Governance Standard**
- **PJM-00003-ENTSTD – Project Stage-Gate Authorization Standard**
- **PJM-00003-GSSTD – GS Project Stage-Gate Authorization Standard**