AUSTIN ENERGY 2016 RATE REVIEW

AUSTIN ENERGY'S TARIFF PACKAGE UPDATE OF THE 2009 COST OF SERVICE STUDY AND PROPOSAL TO CHANGE BASE ELECTRIC RATES	§ § § §	BEFORE THE CITY OF AUSTIN IMPARTIAL HEARING EXAMINER

CROSS REBUTTAL TESTIMONY OF

GARY L. GOBLE

ON BEHALF OF

NXP SEMICONDUCTOR, INC.

AND

SAMSUNG AUSTIN SEMICONDUCTOR, INC.

MAY 10, 2016

TABLE OF CONTENTS

I. SUMMARY OF CROSS REBUTTAL TESTIMONY

Q. PLEASE STATE YOUR NAME.

A. My name is Gary L. Goble.

Q. ARE YOU THE SAME GARY L. GOBLE WHO FILED DIRECT TESTIMONY IN THIS AUSTIN ENERGY ("AE") RATE REVIEW ON BEHALF OF NXP SEMICONDUCTOR, INC. ("NXP") AND SAMSUNG AUSTIN SEMICONDUCTOR, INC. ("SAMSUNG")?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR CROSS REBUTTAL TESTIMONY?

A. The purpose of my cross rebuttal testimony is to address and rebut certain statements and recommendations made by Mr. Clarence L. Johnson on behalf of the Independent Consumer Advocate ("ICA"), and to address and rebut certain statements and recommendations contained within Public Citizen's and Sierra Club's Position Statement/Presentation on the Issues.

Q. IS THE TESTIMONY IN YOUR CROSS REBUTTAL TESTIMONY TRUE AND ACCURATE TO THE BEST OF YOUR KNOWLEDGE AND BELIEF?

A. Yes, it is.

Q. HOW IS YOUR CROSS REBUTTAL TESTIMONY ORGANIZED?

A. My cross rebuttal testimony addresses seven issues or subjects raised by the ICA and Public Citizen and Sierra Club, and is arranged as follows:

Section I: introduction to the issues addressed

Section II: addresses the allocation of demand-related production costs and rebuts the Direct Testimony of Mr. Clarence Johnson on behalf of ICA, which is the issue with perhaps the greatest impact upon measuring the costs to serve AE's customer classes, once the overall revenue requirement has been established

Section III: rebuts recommendations made by Mr. Johnson relating to the classification and allocation of Administrative and General Expense Account 920

Section IV: rebuts Mr. Johnson's recommendation for allocating distribution stations and line transformers on the basis of summer energy rather than summer maximum diversified customer demands

Section V: rebuts Mr. Johnson's recommended approach to allocating meter investment to customer classes

Section VI: rebuts Mr. Johnson's recommendations concerning the allocation of meter reading expense

Section VII: generally discusses the recommendations of the other intervenors regarding how AE's overall rate reduction should be spread among customer classes

Section VIII: provides a response to *Public Citizen's and Sierra Clubs' Position Statement/Presentation on the Issues* with regard to their joint comments on a presentation provided to the Electric Utility Commission by Mr. Jim Lazar

Section IX: summarizes my Cross Rebuttal Testimony and provides my conclusions and recommendations to the Independent Hearing Examiner ("IHE") and the Austin City Council.

II. PRODUCTION COST ALLOCATION

Q. HOW HAVE OTHER PARTIES PROPOSED ALLOCATING PRODUCTION COSTS?

A. Mr. Johnson's recommendation, on behalf of the ICA, is to employ his interpretation of a Base-Intermediate-Peak ("BIP") allocation approach. Public Citizen and Sierra Club make similar recommendations in their Position Statement/Presentation on the Issues, on

pages 1-7.[1] My Cross Rebuttal Testimony will specifically address only Mr. Johnson's recommendations regarding this issue, but where applicable shall also serve as a rebuttal of the recommendations of Public Citizen and Sierra Club. Data Foundry/Austin Chamber of Commerce has recommended using the Average and Excess Four Coincident Peak ("A&E/4CP") method, which is the same method I recommend in my Direct Testimony and continue to support. As far as I can tell, none of the other parties to this rate review have offered any opinions or recommendations regarding any cost allocations in the class cost of service study.

Q. BRIEFLY SUMMARIZE THE RECOMMENDATIONS OF MR. JOHNSON ON BEHALF OF THE ICA.

A. Mr. Johnson recommends that the IHE approve the use of the BIP production allocation method to allocate AE's production plant to customer classes. According to Mr. Johnson, the BIP allocation method "explicitly recognizes the different types of generation technologies and fuel sources which were chosen by AE to serve the base, intermediate, and peak hours."[2] He continues by explaining that the BIP categorizes each of AE's power supply resources as one of these three types of power and allocates each plant or resource on the basis of a different metric that purportedly corresponds to that portion of AE's load curve that is met by that plant or resource. Mr. Johnson identifies the South Texas Project, the Fayette Power Plant, and renewable solar and wind power as base load

[1] *Austin Energy's Tariff Package 2015 Cost of Service Study and Proposal to Change Base Electric Rates*, Public Citizen's and Sierra Club's Position Statement / Presentation on the Issues at 1-7 (May 3, 2016) ("Public Citizen's and Sierra Club's Position Statement").

[2] *Austin Energy's Tariff Package 2015 Cost of Service Study and Proposal to Change Base Electric Rates*, Direct Testimony of Clarence Johnson at 39 (May 3, 2016) ("Johnson Direct").

generation and allocates the "so-called costs" of these resources on the basis of annual kilowatt-hour ("kWh") sales. He identifies the steam-fired and combined cycle gas units at the Decker Power Plant and the Sand Hill Energy Center as intermediate generation and he allocates the "so-called costs" of these plants using a mixture of energy and 12CP allocation factors. He categorizes the combustion turbines at Decker and Sand Hill as peaking units and allocates the "so-called costs" of these plants on the basis of the Electric Reliability Council of Texas ("ERCOT") four summer peak demands.

Q. WHY DO YOU REFER TO THE ALLOCATED COSTS OF THESE PLANTS AS DETERMINED BY MR. JOHNSON AS "SO-CALLED COSTS"?

A. These are "so-called costs" because Mr. Johnson has not used the actual costs of AE's generation plants to develop his plant allocations. Instead, Mr. Johnson has prepared what he refers to as "replacement costs" of the plants using U.S. Department of Energy ("DOE") generation cost estimates for the current costs of nuclear, coal, combined cycle, and combustion turbine technologies, to replace AE's actual costs of generation. Mr. Johnson justifies using these *hypothetical costs*, rather than the costs recorded on AE's books, on the grounds that the *actual costs of the plants may be distorted* due to the timing of the plant installation dates.

Q. DO YOU AGREE WITH MR. JOHNSON'S RECOMMENDED USE TO HIS MODIFIED BIP METHOD?

A. No, I do not agree.

Q. PLEASE EXPLAIN WHY YOU DO NOT AGREE WITH MR. JOHNSON'S MODIFIED BIP ALLOCATION METHOD.

A. There are numerous reasons why I do not agree with Mr. Johnson's recommendations. These reasons include the following:

- The power supply planning and operation of individual power supply resources within a centrally dispatched power pool like ERCOT cannot be attributed to the specific customer classes of load serving entities within that power pool.
- The use of a mixture of energy and 12CP allocations for intermediate generation units is *arbitrary and has no correlation to the types of loads served* by intermediate generation.
- Mr. Johnson's application of the BIP method fails to recognize that all generation units, whether baseload, intermediate, or peaking, *also serve the purpose of meeting peak demand.*
- The replacement costs employed by Mr. Johnson do not reflect the actual costs of the units being dispatched. Additionally, it is seriously flawed to use the costs of current technology substitutes to capture the actual planning, operating, and cost characteristics of AE's existing generation.
- The use and dispatch of generation facilities often changes over time as more efficient generation resources come on line or fuel costs change markedly, and a single snapshot in time of how units operate is unlikely to accurately reflect the operation of the generation units over time.

- Mr. Johnson's application of the BIP method fails to allocate fuel costs on a consistent basis even though it is this fuel savings that forms the underlying basis for his recommended allocation.
- The BIP method has never been approved for use by any electric utility in Texas of which I am aware.

Q. WHY DO YOU BELIEVE THAT POWER SUPPLY PLANNING AND OPERATION OF INDIVIDUAL POWER SUPPLY RESOURCES WITHIN A CENTRALLY DISPATCHED POWER POOL LIKE ERCOT CANNOT BE ATTRIBUTED TO THE SPECIFIC CUSTOMER CLASSES OF LOAD SERVING ENTITIES WITHIN THE POWER POOL?

A. When a utility system is able to plan, build and operate generation resources to meet its own load curve, then it may be reasonable to attribute specific load characteristics to a given power plant or types of generation. However, in the absence of such centralized planning and operation, such as in the ERCOT power pool, this is not the case. Prior to the advent of the nodal market, utilities for the most part did build a mix of power plants for various reasons, including building more capital intensive generation in order to minimize system fuel expense. This concept of trading off capital costs and fuel costs is referred to as "Capital Substitution." In a vertically integrated, bundled market environment, a utility planned and operated its generation resources to match its load requirements.

The transition to a nodal market changed the manner by which generation planning and operation occurs. In the nodal market, the ERCOT power pool establishes

the amount of generation capacity that is required to meet estimates of peak demands. It is up to individual load serving entities to determine what type of plant they are willing to build based upon their individual estimates of load levels, hours of use, estimated future fuel costs, environmental factors, water availability, capital costs, construction cost estimates and other such information. AE does not serve its load by matching load against resources; it buys power based on the ever-changing cost of that power in the ERCOT market. In other words, generation is utilized based upon power supply prices, not individual utility system load. Thus, an electric utility buying power in ERCOT, such as AE should no longer plan and build its own power plants to match a particular segment of its own load duration curve, as Mr. Johnson suggests. The cost to AE of meeting its power supply requirements through generation plant construction by AE was decoupled with the operation of the ERCOT nodal market. This separation of identifying peak demand capacity needs and selection of the type of generation plant to build renders obsolete the production allocation methods such as the BIP and the Probability of Dispatch,[3] which match loads and plant types.

Q. WHY DO YOU BELIEVE THAT THE USE OF A MIXTURE OF ENERGY AND 12CP ALLOCATIONS FOR INTERMEDIATE GENERATION UNITS IS ARBITRARY AND HAS NO CORRELATION TO THE TYPES OF LOADS SERVED BY INTERMEDIATE GENERATION?

A. Mr. Johnson's allocation factor for intermediate generation units is based upon a factor that weights annual energy by 34% and 12CP demands by 66%. The 34% energy

[3] Public Citizen's and Sierra Club's Position Statement at 3&4 (Public Citizen and Sierra Club have endorsed the use of the Probability of Dispatch production method).

weighting is based upon the average weighted capacity factor for AE's intermediate units. Mr. Johnson provides no explanation as to why he used the 12CP demand allocation factor for the remaining 66% of the combined allocation factor. Based upon Mr. Johnson's theory linking portions of AE's load curve to specific power plants, he should have calculated the intermediate allocation factor as being equal to the peak demands (4CP) minus average demand.[4] Such a calculation would effectively reflect that portion of the load curves that is neither base load related, nor peak demand related. Instead, Mr. Johnson has, with little or no explanation, developed an allocation factor that inappropriately shifts costs from low load factor customers to high load factor customers.

Q. WHY DO YOU BELIEVE THAT MR. JOHNSON'S VERSION OF THE BIP METHOD FAILS TO RECOGNIZE THAT ALL GENERATION UNITS, WHETHER BASE LOAD, INTERMEDIATE, OR PEAKING, ALSO SERVE PEAK DEMAND?

A. It is a simple fact that each and every plant that is running during system peak is contributing to meeting peak demand. This includes the South Texas Project and the Fayette Power Plant. Because these plants function as peaking resources during AE's peak periods, some portion of these plants should be allocated on the basis of summer peak demands. However, Mr. Johnson's recommendation does not assign costs based on peak summer demands (i.e., 4CP) for base load or intermediate generation, even though these plants serve a peak load function by meeting peak demand just like peaking units. Mr. Johnson ignores this fact by allocating these units on the basis of average demand,

[4] Average demand is another way to state energy sales in terms of demand. Average annual demand is equal to annual energy divided by 8,760 hours in a year.

which is effectively an energy allocation factor. The result is to allocate a disproportionate share of the cost of base load generation to high load factor customers. Once again, Mr. Johnson's recommended BIP method systematically overstates the costs of high load factor customers in favor of low load factor customers.

Q. WHY DO YOU BELIEVE THAT THE REPLACEMENT COSTS EMPLOYED BY MR. JOHNSON DO NOT REFLECT THE COSTS OF THE UNITS BEING DISPATCHED?

A. Mr. Johnson replaced the actual costs of AE's generation resources with current "proxy" costs in order to adjust the costs of older, more fully depreciated generation with 2014 costs. However, current technology types are likely to vary significantly from past technologies. Power plant construction has changed as a consequence of a host of advancements, such as better control systems, improved instrumentation, advances in metallurgy, and other such factors. Mr. Johnson's technology and cost replacement approach assumes that AE would have reached exactly the same decisions as to the type, size, and nature of generation to build using today's technology as would have been reached decades ago had those technologies been available at that time. This is almost certainly not true because AE would likely have made different choices in the past if different power production technology had been available at that time. Furthermore, Mr. Johnson's proxy costs do not appear to include land and land rights or consider other specific factors that may be unique to AE's generation units.

While the use of current replacement costs is fraught with problems as to the appropriate costs to use, when those problems are compounded by unreasonable

assumptions regarding power plant technology, the results of such an allocation approach cannot be relied upon with any level of confidence. The use of the costs of current technology proxies to capture the actual planning, operating, and cost characteristics of AE's existing generation is flawed. For this reason, Mr. Johnson's BIP proxy production cost allocation method should be rejected by the IHE and the A&E/4CP allocation method approved.

Q. PLEASE EXPLAIN WHY MR. JOHNSON'S CHARACTERIZATION OF HOW AE'S GENERATING UNITS OPERATED DURING THE TEST YEAR IS UNLIKELY TO REFLECT THE OPERATION OF THE GENERATION UNITS OVER TIME, AND FURTHER EXPLAIN HOW THAT AFFECTS THE UNDERLYING BASIS OF THE BIP ALLOCATION METHOD.

A. Like virtually all electric utility systems, AE's load curve constantly changes. This constant change is the result of changing influences such as customer growth, building construction, appliance saturation and efficiency, conservation and demand-side management efforts, weather, and so forth. However, the mix of generation plants that serve a bundled utility load are unchanged once placed in service, until the next unit is added. Because older plants tend to be less efficient than newer generation plants, the use of a given generation unit may change over time. A plant previously used as a base load resource may, over time, be used as an intermediate generation unit. Or, over time, an intermediate generator may be relegated to the role of a peaking unit as more efficient units replace it in the utility's dispatch sequence. The BIP method inherently and erroneously assumes that the test year use of each generator reflects the manner in which

the plant will be used over its entire operating life. Therefore, the IHE should reject Mr. Johnson's proposed BIP allocation method.

Q. WHY DO YOU BELIEVE THAT THE BIP METHOD FAILS TO ALLOCATE FUEL COSTS ON A CONSISTENT BASIS EVEN THOUGH FUEL SAVINGS FORM THE UNDERLYING BASIS FOR THE ALLOCATION SCHEME?

A. Mr. Johnson's capital substitution based BIP recommendation relies upon the logic of trading off higher capital costs for lower fuel costs and visa-versa. Mr. Johnson postulates that lower fuel costs are the benefit of incurring higher capital costs. However, Mr. Johnson's allocation only assigns the higher capital costs to customer classes using this approach. The associated fuel cost savings are ignored by Mr. Johnson in his allocation approach. The issue of matching generation plant allocation consistently with the allocation of the associated fuel costs is generally referred to as "fuel symmetry."

Fuel symmetry is a fundamental requirement of allocation methods that assign individual generation units based upon various loads. To assign only the higher base load capital costs associated with the BIP on the basis of energy sales, while ignoring the attendant and associated fuel cost savings, severely biases the results of the allocation by only looking at half of the methodology. In order to match fuel costs to each power plant, AE would need to individually tailor its fuel expense allocation and recovery such that each class to which base load units were allocated receive that class' portion of the output of the generation. This would lower the fuel costs to those customers who are assigned greater portions of capital costs, and would match plant output to plant capital cost assignment. Mr. Johnson does not address this issue resulting in his allocation

method shifting costs from low load factor customers, who contribute most to peak demand, to high load factor customers. This lack of fuel symmetry is further compounded by the piecemeal ratemaking resulting from AE's refusal to consider fuel cost recovery in this rate review. As a result of the omission of fuel symmetry Mr. Johnson's proposed use of the BIP method is so flawed that it should not even be considered, much less approved by the IHE or the Austin City Council.

Q. HAS THE BIP METHOD EVER BEEN APPROVED FOR USE BY ANY ELECTRIC UTILITY IN TEXAS?

A. No, not to my knowledge, and I recommend that it not be approved in this rate review. I recommend that the IHE approve the use of the A&E/4CP allocation method to allocate demand-related production plant consistent with other utilities of ERCOT.

III. CLASSIFICATION AND ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSE ACCOUNT 920

Q. BRIEFLY SUMMARIZE MR. JOHNSON'S RECOMMENDATIONS REGARDING ASSIGNMENT OF ADMINISTRATIVE AND GENERAL EXPENSE ACCOUNT 920 TO CUSTOMER CLASSES.

A. Mr. Johnson disagrees with AE's functionalization, classification, and allocation of Account 920, Administrative and General ("A&G") Expense on the basis of how wages and salaries are distributed within each functional category of costs (i.e., using Labor excluding A&G expense). Though Mr. Johnson recognizes that such an allocation is not unusual and that many utilities employ labor excluding A&G expense to allocate Account

920, he does not recommend this approach be approved here.[5] Instead he asserts that the distribution of AE wages and salaries is not strongly related in a causal sense to the costs booked in Account 920 and, thus, the costs need to be "recovered broadly across functions."[6]

Mr. Johnson also states that since the labor costs that form the basis for assigning A&G expense do not include the labor costs of the South Texas Project or Fayette Coal Plant, the labor allocation AE has used will understate the costs of the production function. This supposed understatement forms the basis for his recommendation, which is contrary to standard industry practices in allocating A&G expense. As his alternate allocation method Mr. Johnson recommends allocating A&G expense on the basis non-fuel O&M expense, excluding A&G expense.[7]

Q. DO YOU AGREE WITH MR. JOHNSON'S RECOMMENDATION REGARDING THE ALLOCATION OF ACCOUNT 920, A&G EXPENSE?

A. No, I do not agree.

Q. PLEASE EXPLAIN WHY YOU DO NOT AGREE WITH MR. JOHNSON'S RECOMMENDATION REGARDING THE ALLOCATION OF ACCOUNT 920, A&G EXPENSE.

A. First, AE's recommended allocation method for A&G expense is the standard industry practice in Texas and, based upon my experience, is used widely across the nation. It is

[5] This is not surprising insofar as the National Association of Regulatory Utility Commissioners' ("NARUC'") Electric Utility Cost Allocation Manual also employs labor as the appropriate allocation factor for Account 920 at 106-107.

[6] Johnson Direct at 52.

[7] *Id.* at 53.

the method recognized in the National Association of Regulatory Utility Commissioners ("NARUC") Electric Utility Cost Allocation Manual ("NARUC Manual") as appropriate for allocating A&G expense. Note that Mr. Johnson relies upon the NARUC Manual a number of times in his Direct Testimony to support other cost allocation recommendations,[8] but inconsistently does not do so with regard to allocating A&G expense. For these reasons, the other reasons presented below, and because Mr. Johnson's non-standard method is neither recognized nor employed by other electric utilities, it should be rejected by the IHE.

Second, although Mr. Johnson states that "none of the potential allocators are strongly related in a causal sense to A920[,]"[9] he offers no support for this statement. As a result he concludes that A&G expense should be spread "broadly and equitably across utility functions[.]"[10] By "broadly and equitably" Mr. Johnson means to assign the energy function disproportionately to the high load factor customers so that they bear a disproportionate share of costs. In direct contrast to Mr. Johnson, I believe that the activities carried on by administrative and general personnel **are** indeed causally related to the administration, support, and management of other employees. In fact, that is the very reason that a labor allocator is the most commonly employed basis among electric utilities for functionalizing, classifying, and allocating Account 920.

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[8] For example, in his Direct Testimony, Mr. Johnson relies upon the NARUC Electric Cost Allocation Manual as support for his production allocation method on pages 35-38, his non-fuel O&M expense allocation recommendations on pages 49-50, his recommended allocation of distribution costs on page 50, his recommended allocation of Services on page 65, and his recommended allocation of customer accounts expense on page 68. *See* Johnson Direct.

[9] *Id.* at 52.

[10] *Id.*

Third, I disagree with Mr. Johnson's argument against the use of a labor allocator since AE's labor costs include only minor amounts of labor costs associated with the South Texas Project and Fayette Coal Plant. Generally, the labor costs of jointly owned generation units are governed by a participation agreement among the unit's participants and the labor costs incurred at the generation site will not appear as labor costs on the books and records of any one operating partner, such as AE (although such costs may be recorded on the managing partner's books and records). Furthermore, AE's administrative and general personnel do not directly oversee or support the activities of personnel located at, or working directly on, the jointly owned generation unit; that is the function of the plant's operators, not AE. Finally, AE is not unique in participating with other utilities in jointly owned and operated generation resources. Numerous electric utilities participate in jointly owned generation units. These utilities are among the same utilities referred to above that employ the labor allocation factor to assign the costs of A&G expenses to classes. If the mere fact that a generating unit is jointly owned disqualifies the joint owners from using a labor allocator for A&G expenses one must question why the approach is a standard practice among utilities – even those that share in jointly owned generation. The fact that a labor allocation factor remains the standard practice suggests that Mr. Johnson's justification for recommending his alternative (and uncommon) allocation method is without merit.

The consequence of Mr. Johnson's recommended allocation of A&G Expense is to unfairly shift an excessive amount of these costs from low load factor customers to high load factor customers. For these reasons, I recommend that the IHE reject Mr.

Johnson's recommended allocation of Account 920, A&G expense, and accept AE's proposed allocation method.

IV. CLASSIFICATION AND ALLOCATION OF DISTRIBUTION SUBSTATIONS AND LINE TRANSFORMERS

Q. ON PAGES 55-60 OF MR. JOHNSON'S DIRECT TESTIMONY, MR. JOHNSON RECOMMENDS THAT ACCOUNT 362, STATION EQUIPMENT, AND ACCOUNT 368, LINE TRANSFORMERS, BE ALLOCATED ON THE BASIS OF SUMMER ENERGY USAGE BY CLASS. BRIEFLY SUMMARIZE MR. JOHNSON'S RATIONALE FOR THIS RECOMMENDATION.

A. Mr. Johnson bases his recommendation upon two factors. First, Mr. Johnson emphasizes the importance of summertime loads upon investment in distribution substations and line transformers, with which I agree. Summer loads are the determining factor influencing transformer capacity requirements and costs. As I indicated on page 26 of my Direct Testimony,

> [e]ffectively, customer demands placed upon this distribution equipment during the high temperature, summer peak periods, impact the capacity requirement of the substations, transformers and conductors more than during cooler months. Therefore, customers' NCP demands during other periods do not drive the costs of this distribution equipment and should not be employed for purposes of cost allocation.[11]

Where Mr. Johnson and I disagree is whether transformer investment is determined by demand requirements or energy loss savings. Mr. Johnson's approach assumes that 100% of the cost of AE's transformers is incurred solely to reduce transformer energy

[11] *Austin Energy's Tariff Package 2015 Cost of Service Study and Proposal to Change Base Electric Rates*, Direct Testimony and Exhibits of Gary L. Goble at 26 (May 3, 2016) ("Goble Direct").

losses.[12] While there may be some costs attributable to reducing transformer energy losses, I believe that the impact of these incremental costs does not drive the process of procuring and installing transformers and, thus, total transformer costs.

Q. WHAT FACTORS OTHER THAN REDUCING TRANSFORMER LOSSES DRIVE A UTILITY'S INVESTMENT IN SUBSTATIONS AND TRANSFORMERS?

A. The factor that first and foremost drives a utility's investment in transformers is the non-coincident demand of customers at the customers' locations; the size of the transformer is determined by the anticipated kVa load of individual customer premises. AE's response to NXP/Samsungs' 1st RFI, No. 1-76, provided excerpts from AE's design manuals or other engineering specifications regarding the calculation of loads and the diversity among loads assumed for installation and sizing of transformers, which states

> [f]or the purpose of sizing AE facilities, AE Design shall determine the maximum expected Customer demand load amps that will be seen by AE facilities from the Customer's total connected undiversified load information and business type as documented on the ESPA form.[13]

Additionally, in this RFI response, AE included procedures for estimating customer maximum demands for purposes of determining transformer needs for customers. One such procedure was as follows:

> IMPORTANT: Each part of the secondary side service (the service, the secondary, and the transformer) should be sized separately for the specific maximum demand that it will see, i.e.,

[12] *See* Johnson Direct at 55-60.

[13] *See Austin Energy's Tariff Package 2015 Cost of Service Study and Proposal to Change Base Electric Rates*, Austin Energy's Response to the First Request for Information from NXP Semiconductors and Samsung Austin Semiconductor, LLC at 1-76 (Bates 390) (Feb. 18, 2016).

> maximum demand for the service for one residence will be different from the maximum demand for the secondary serving two residences, and these will differ still from the maximum demand for the transformer serving eight residences because of load diversification.[14]

Nowhere in AE's guidelines is any mention made of selecting transformers based upon minimizing energy losses. Instead, summer maximum demands are AE's primary determinant for sizing transformers and, thus determining the transformer costs. This is one of the reasons why I have recommended using summer maximum customer demands as the basis for allocating substation costs. Note that I have made no recommendations regarding allocating Account 368, Line Transformers, in my Direct Testimony, however, the same reasons exist for allocating line transformers on the basis of summer NCPs as exist for allocating Substations, Poles, and Conductors on the basis of summer NCP demands, and such an allocation is reasonable. Interestingly, the NARUC Electric Utility Cost Allocation Manuel recommends allocating substation costs on the basis of demands and transformer costs on the basis of demands and customers, but not on the basis of energy, [15] as Mr. Johnson has recommended.

Other factors affecting the cost of transformers have to do with cost savings associated with purchase order quantity and the need for standardization of transformer sizes and types; whether the transformer is pole-mounted or pad-mounted; capitalized costs of installation; environmental requirements, etc. However, considerations of energy cost savings appear to have little or no impact upon AE's cost of substation and transformer equipment. Therefore, Mr. Johnson's recommendation that 100% of the

[14] *Id.* (Bates 398).

[15] NARUC Electric Utility Cost Allocation Manual at 86-99.

costs of substations and transformers be allocated on the basis of summer energy by class should be rejected. Because transformer investment is directly driven by summer maximum customer demands, my recommended allocation factor using precisely that information should instead be approved by the IHE, as it is the reasonable method.

V. ALLOCATION OF METERS

Q. ON PAGES 63-65 OF HIS DIRECT TESTIMONY MR. JOHNSON RECOMMENDS ALLOCATING METER INVESTMENT ON THE BASIS OF 60% WEIGHTED NUMBER OF CUSTOMERS AND 40% PRODUCTION DEMAND. DO YOU AGREE WITH THIS RECOMMENDATION?

A. No, I do not agree.

Q. PLEASE EXPLAIN WHY YOU DO NOT AGREE WITH MR. JOHNSON'S RECOMMENDATION.

A. Stated simply, meter investment is a function of the number of customers. Meter investment does not increase as production demand costs increase, but it does increase as the number of customers increases. Smart meters provide AE with customer specific information, which may be useful for a multitude of reasons including implementation of demand side management activities, application of time varying rates, customer connect/disconnect processes, two-way communication, and potentially other uses. However, regardless of smart meter functionality, the inescapable fact is that meter investment is directly correlated to changes in the number of customers by class, and in no way correlated to production demand costs. Since meter costs vary in proportion to

the number of customers, meters should be allocated based upon the weighted number of meters, as AE has proposed.

Mr. Johnson himself recognized on pages 63 and 64 of his Direct Testimony that "[t]his method [weighted meter allocation] is appropriate and standard, as far as it pertains to the traditional meter function[.]"[16] Continuing on page 64 of his Direct Testimony, he then draws a distinction between AE's implementation of smart meters and the statewide process of allocating meters, stating

> [h]owever, AE has been aggressive in the sophistication of the meters it deploys, and the implication of these advancements is that substantial meter investment cost has been expended to access meter functions which transcend the standard billing and collection measurement role. The allocation method for meter investment should take into account the incremental cost of enabling other functions.[17]

Mr. Johnson's testimony appears to suggest that AE's smart meter deployment is unique in Texas and, thus, deserves to be treated differently than other Texas electric utilities when the costs of meters are being allocated. However, smart meter deployment has occurred statewide, and AE's deployment is neither unique nor deserving of special treatment.

In addition, Mr. Johnson's recommendation to create a "blended" allocation factor of customer and demand classification would unfairly and unreasonably shift costs from those customers for whom smart meters are being deployed on to those customers who already have and are currently paying for meters or data recorders with similar or greater functionality. The sophisticated metering capabilities of large consumers such as

[16] Johnson Direct at 63 & 64.

[17] *Id.* at 64.

customers with loads in excess of 20 MW already possess most, if not all, of the additional functions provided by smart meters. These large customers should not be required to pay again for smart meter functionality, particularly when the meter costs are being incurred to serve other customer classes, such as residential and small commercial.

The potential for such cross-subsidization among classes has been addressed in the Public Utility Commission's ("PUC") Substantive Rules. Substantive Rule §25.130(k) states in part "[c]osts of providing AMS [Advanced Meter Services] for a particular customer class shall be surcharged only to customers in that customer class."[18] Mr. Johnson's recommendation would violate this PUC requirement by unfairly and unreasonably shifting costs from the classes receiving the smart meters to other customer classes. For the reasons stated above, Mr. Johnson's recommendation that meters be allocated using a mixed allocation factor of weighted number of customers and production demand costs should be rejected by the IHE and AE's meter allocation should be approved because it is the equitable method.

VI. ALLOCATION OF METER READING EXPENSE

Q. ON PAGE 66 OF HIS DIRECT TESTIMONY MR. JOHNSON RECOMMENDED THAT METER READING EXPENSE BE ALLOCATED ON THE BASIS OF METER INVESTMENT. DO YOU AGREE WITH MR. JOHNSON'S RECOMMENDED ALLOCATION OF METER READING EXPENSE?

A. No, I do not agree.

[18] Also found at 16 Tex. Admin. Code § 25.130(k).

Q. PLEASE EXPLAIN WHY YOU DISAGREE WITH MR. JOHNSON'S RECOMMENDATION.

A. AE has proposed to allocate meter reading expense based upon the unweighted number of customers. Mr. Johnson argues against using the unweighted number of customers by class to allocate meter reading expense because "the utility should take greater care in verifying the accuracy of higher revenue accounts."[19] He further attempts to support his recommendation by asserting "[i]f a problem arises in the automated reading of a large customer's bill, additional time is incurred by meter readers to re-set the demand meter when they manually re-read the meter."[20] However, Mr. Johnson's justification fails to note that hand held and remote meter reading technologies require no more effort to read a sophisticated large power meter than to read a residential meter. Granted, more information may be read from the larger, more sophisticated interval data recorders that serve large power customers, but this additional information comes at essentially little, if any, additional cost since the meter reading device is simply electronically populating more data fields in an electronic database. There is effectively no difference in the costs of electronically reading most meters. Mr. Johnson's recommendation unfairly and unreasonably shifts meter reading costs away from small consumers and onto larger consumers, when there is no cost differential to warrant such a shift. I recommend that Mr. Johnson's recommended allocation of meter reading costs be rejected and that the IHE approve the method proposed by AE.

[19] Johnson Direct at 66.

[20] *Id.*

VII. REVENUE REQUIREMENT DISTRIBUTION AMONG CUSTOMER CLASSES

Q. THE ONLY PARTIES OTHER THAN AE MAKING RECOMMENDATIONS REGARDING THE DISTRIBUTION OF REVENUE REQUIREMENT AMONG CUSTOMER CLASSES ARE NXP/SAMSUNG, ICA, AND DATA FOUNDRY/AUSTIN CHAMBER OF COMMERCE. WHAT DO THESE PARTIES RECOMMEND?

A. On behalf of NXP/Samsung I have recommended setting each customer class's revenue recovery equal to the costs of service for that class. Whether one employs the class cost of service study I have proposed or the cost of service study AE has proposed, there are significant cost under-recoveries under present rates for the Residential, Secondary Voltage < 10 kW, and certain Lighting customer classes, and significant cost over-charges being imposed upon virtually all other classes, which consists of larger customers. Data Foundry/Austin Chamber of Commerce has recommended a revenue distribution based upon AE's proposed revenue requirement and cost of service study, even though they disagree with AE's revenue requirement and allocation of demand related production costs. Data Foundry and Austin Chamber of Commerce specifically recommends giving all classes whose rates are below their respective allocated costs of service a 2% increase while spreading the remaining rate decrease to classes in proportion to the degree by which their current rates exceed those classes allocated costs of service.

In stark contrast, Mr. Johnson's testimony, on behalf of the ICA, recommends abandoning the cost of service study results, upon which he spent 42 pages of Direct

Testimony arguing for specific detailed allocations, and instead allocated the rate decrease among customers on the basis of kWh sales. He suggests that this approach is a "compromise allocation" that benefits high load factor customers like NXP/Samsung more than would an across-the-board decrease to all classes based upon present revenues. It is noteworthy that no party has proposed an across-the-board decrease to all class revenues. Mr. Johnson's recommended revenue distribution completely ignores the results of the class cost of service study and arbitrarily and unfairly continues the substantial subsidy that NXP/Samsung and AE have demonstrated exists.

Mr. Johnson's recommendation unfairly shifts the burden of electric costs from Residential and Small Commercial customers onto the backs of larger customers. Mr. Johnson's recommended scheme for distributing the rate decrease among classes suffers from extreme over-reach; it unfairly discriminates against large consumers and is unfairly preferential to residential and small commercial customers. I recommend that Mr. Johnson's recommendations be rejected by the IHE and the Austin City Council not only because they are grossly unfair, but because they will continue to push the city of Austin out of competition for new businesses, will force existing large customers to pursue other options in the competitive market, and will increasingly make it harder for AE to meet the City's Affordability Goal. Therefore, I continue to recommend moving each class to its respective class cost of service in this rate review.

VIII. RESPONSE TO LAZAR OBSERVATIONS

Q. PAGES 5-6 OF PUBLIC CITIZEN'S AND SIERRA CLUB'S POSITION STATEMENT/PRESENTATION ON THE ISSUES QUOTES EXTENSIVELY

FROM A PRESENTATION MADE BY MR. JIM LAZAR TO THE AUSTIN ELECTRIC UTILITY COMMISSION ON FEBRUARY 2, 2016.[21] DO YOU AGREE WITH THESE OBSERVATIONS?

A. No, I do not agree.

Q. PLEASE EXPLAIN WHY YOU DO NOT AGREE WITH THIS REPORT.

A. On page 4 of his report, Mr. Lazar states that the practice of dividing power supply costs in fixed and variable components was a "common practice many decades ago, but evolution in the industry makes this no longer a logical or appropriate approach." He further states that within ERCOT "all power supply costs are ultimately manifest as time-varying energy charges."[22] Based upon these statements, Mr. Lazar opines that apportioning "all power supply costs to the classes based on the usage by each class in each hour." From these opinions, Mr. Lazar concludes that an hour-by-hour allocation based upon "ERCOT market clearing prices" "would be a significant improvement on the current … demand and energy classification scheme."[23]

There are numerous problems with Mr. Lazar's recommendation. First, restating AE's power supply costs as the sum of the "nodal time-varying energy costs," as he has recommended, will not produce an amount equal to AE's power supply costs. The two amounts reflect two totally different types of costs (i.e., marginal vs. embedded). Setting retail prices equal to marginal costs (i.e., nodal time-varying energy costs) will produce an amount that may be widely divergent from AE's actual power supply costs, thus

[21] Jim Lazar, *Observations on Austin Energy Cost of Service and Rate Design Report* (Feb. 2, 2016).

[22] *Id.* at 4.

[23] *Id.*

necessitating an arbitrary scaling of costs up or down to match the allowed production revenue requirement. Any scaling of costs introduces an array of questions, often pitting customers against one another. For example, should the costs in all hours be scaled by the same proportion or should the differences between on-peak and off-peak price elasticities be taken into account? On-peak usage is known to be relatively price inelastic and economic efficiency would thus argue that on-peak prices should be set at full marginal costs (which can be quite high), with the off-peak prices being scaled downward. With no true measures of price elasticity, any such adjustments would be arbitrary and unsupported.

Of course, one approach to addressing the issue could be to employ Mr. Lazar's approach to quantify AE's total power supply costs, base rate, and fuel amounts, and require that amount to become the basis for unbundling the power supply charges. Under such an arrangement, AE's generation and fuel costs would be limited to the lower of (a) the allocated unbundled costs per the revenue requirement found to be appropriate in the rate review, where AE's generation revenue requirement, including fuel expenses, would be determined, and (b) the cost of power purchases on the ERCOT nodal market.

Second, Mr. Lazar's hourly allocation of costs would be cumbersome and complex, requiring at least 8,760 separate power supply allocations to customer classes rather than the single allocation proposed by AE. The existing allocation issues are already fairly complicated, requiring expert witnesses and specialist attorneys to understand the existing allocations. To move to a more complex allocation of power supply costs would be overly burdensome, rely upon information that is not readily

available, would require the use of data that AE has deemed confidential, provide little useful information for rate design, and be subject to further disagreement among customer classes.

On page 5 of his paper, Mr. Lazar lists four examples that he claims render the AE staff's cost of service study to be inappropriate. The first two examples (nuclear and coal generation) relate to the notion of capital substitution, an argument that has been addressed many times in years past in Texas and elsewhere. An electric utility will trade off higher capital costs (for coal and nuclear plants) with the expectation of fuel costs that will be lower than the displaced generation's fuel costs. Assuming the coal and nuclear units run continuously for most hours, the fuel savings from the plants will, over the lives of the units, should theoretically exceed the incremental capital costs of the generation. The notion of capital substitution, when properly undertaken, did indeed make sense when each electric utility built power plants to serve their native loads. That has been the foundation of such allocation methods as the Probability of Dispatch and the BIP allocation methods. However, this is not the landscape created by the ERCOT market today.

The movement of power supply from a single utility "island" to a nodal market has rendered the notion of capital substitution null and void for individual ERCOT utilities. ERCOT requires utilities to provide sufficient capacity to meet their peak load requirements. For example, Texas Utilities Code, §39.905(a)(3)(B) sets goals for energy efficiency programs in terms of a percentage of residential and commercial summer peak demands with no mention of fuel type. ERCOT's March 2015 *Annual Report of Demand*

Response in the ERCOT Region addresses summer capacity requirements, but not energy needs or fuel types, as the justification for demand response programs. Finally, with regard to coal-fired generation, the costs of pollution control equipment are determined almost exclusively by the capacity of the plant in terms of megawatts, not the energy output of the plant.

Mr. Lazar's third example regarding why he believes the AE staff cost of service study is not appropriate recognizes that AE's programs are geared toward clipping peak demands. This appears to support the notion that it is peak demands, not annual energy needs that give rise to power supply costs (other than fuel expense). His final example of classifying transmission lines as energy-related is contrary to the PUC and ERCOT transmission settlement methodology and cannot be implemented insofar as PUC rules control the treatment of transmission cost of service as being caused by peak ERCOT demands during the months of June through September. Furthermore, no utilities in Texas and few, if any, utilities in the U.S. classify transmission plant as being energy-related. For these reasons, I recommend that the IHE and the Austin City Council not implement the recommendations of Public Citizen and Sierra Club with respect to the allocation of production plant.

IX. CONCLUSIONS

Q. PLEASE SUMMARIZE YOUR CROSS REBUTTAL TESTIMONY AND YOUR RECOMMENDATIONS IN THIS PROCEEDING.

A. My cross rebuttal testimony addresses and rebuts the testimony of Mr. Clarence Johnson regarding the allocation of demand related Production costs, the classification and

allocation of Administrative and General expense Account 920, the classification and allocation of distribution stations and transformers, the allocation of meters and meter reading expense, and revenue distribution. Each of Mr. Johnson's recommendations unfairly and unreasonably shift costs away from small, low load factor customers onto large, high load factor customers. Some of Mr. Johnson's recommendations, like his proposed allocations of A&G expense, classification and allocation of distribution stations and transformers, and allocation of meters and meter reading expense, employ novel, non-standard allocation methods that neither comport with industry standards nor reflect the cost drivers that give rise to the costs being allocated.

Mr. Johnson's most egregious recommendation is his recommendation to employ the BIP allocation method to allocate AE's demand related production assets. As explained in my Cross Rebuttal Testimony above, the BIP allocation method relies upon utility practices that no longer apply in today's ERCOT nodal market. The fundamental basis for his BIP recommendation is that AE's power system is a self-contained island in which AE plans, builds, and operates power plants that match the hour-by-hour demands of the utility's native load. That market structure no longer exists for AE. The ERCOT nodal market began operation on December 1, 2010.[24] At that time the fundamental basis of Mr. Johnson's BIP theory became obsolete and inapplicable to generation portfolios. In contrast, the allocation method I recommend, the A&E/4CP allocation, is the industry standard in Texas and accurately reflects the manner in which generation capacity is

[24] ERCOT Press Release at http://www.ercot.com/news/press_releases/show/349 (Dec 1, 2010).

utilized. Mr. Johnson's recommendations should be rejected by the IHE and the recommendations contained in my Testimony approved by the IHE.

My cross rebuttal testimony also discusses a report presented to the Austin Electric Utility Commission which has been relied upon in *Public Citizen's and Sierra Club's Position Statement/Presentation on the Issues*. Similar to the recommendations made by Mr. Johnson, Public Citizen and Sierra Clubs' recommendations for the allocation of generation plant simply do not reflect the realities of today's ERCOT market and should be rejected by the IHE and the Austin City Council. The recommendations of these parties unfairly and unreasonably shift costs to AE's larger customers like NXP and Samsung. The extreme bias of these recommendations do not reflect cost of service standards, seriously violate notions of fairness and reasonableness, are unreasonably discriminatory in favor of small, low load factor customers. The recommendations of these parties should be rejected and the recommendations set forth in my Testimony approved as being fair and reasonable.

Q. DOES THIS CONCLUDE YOUR CROSS REBUTTAL TESTIMONY?

A. Yes, it does.