ComEd Ex. 3.0

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY	:	
	:	No. 13-____
Tariff filing to present the Illinois Commerce Commission with an opportunity to consider revenue neutral tariff changes related to rate design authorized by subsection 16-108.5(e) of the Public Utilities Act	:	

Direct Testimony of

BRADLEY L. BJERNING

Principal Regulatory Specialist
Regulatory Strategies and Solutions
Commonwealth Edison Company

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I. INTRODUCTION

A. Witness Identification

Q. **What is your name and what is your business address?**

A. My name is Bradley L. Bjerning. My business address is 440 South LaSalle Street, Chicago, Illinois 60605.

Q. **By whom and in what position are you employed?**

A. I am employed by Commonwealth Edison Company ("ComEd") as a Principal Regulatory Specialist in the Regulatory Strategies and Solutions group.

B. Summary of Direct Testimony

Q. **What are the purposes of your direct testimony?**

A. Under my direction, a fully allocated cost of service study, commonly referred to before the Illinois Commerce Commission ("ICC" or "Commission") as an embedded cost of service study, or ECOSS, was prepared. That ECOSS is presented in ComEd Exhibit ("Ex.") 3.01, with supporting information provided in ComEd Exs. 3.02 and 3.03. I refer to that study throughout this direct testimony as the rate design investigation ECOSS, or RDI ECOSS. The results of the RDI ECOSS are utilized as cost data inputs in the determination of delivery service charges ("RDI delivery service charges") presented in ComEd Ex. 2.0, the direct testimony of Mr. Charles S. Tenorio. The RDI ECOSS incorporates updated information pertaining to the costs associated with meter-related facilities in accordance with information addressed in ComEd Ex. 2.0 by Mr. Tenorio. The RDI ECOSS is based on the ECOSS ComEd recently submitted to the ICC with its petition to initiate the 2013 formula rate update proceeding ("2013 FRU ECOSS" or "FRU ECOSS"). The 2013 FRU ECOSS is provided in ComEd Ex. 3.04, with

supporting information provided in ComEd Exs. 3.03 and 3.05. The 2013 FRU ECOSS and the RDI ECOSS incorporate updated information pertaining to distribution losses in accordance with information presented in ComEd Ex. 4.0, the direct testimony of Mr. Michael F. Born, P.E.

In addition, I present the results of six other cost of service studies, which I refer to as illustrative ECOSSs. The results of these illustrative ECOSSs are utilized as cost data inputs in the determination of various corresponding illustrative delivery service charges addressed in ComEd Ex. 2.0 by Mr. Tenorio. I also address ComEd's response to certain Commission directives and present three studies that were prepared and submitted to the Commission in response to those directives.

Q. **Can you summarize the conclusions in this direct testimony?**

A. Yes. The RDI ECOSS does not incorporate any substantive changes to the cost functionalization and allocation methodologies that are utilized in the 2013 FRU ECOSS. While, as a matter of general principle that cost functionalization and allocation should reflect cost causation, ComEd takes no position at this time as to the relative merits of the methodologies applied in the 2013 FRU ECOSS and the RDI ECOSS. Both studies reflect cost functionalization and allocation methodologies employed in a manner consistent with the Order in Docket No. 10-0467 ("2010 Rate Case"). Moreover, in order to provide the Commission and the parties with information they may find useful in evaluating alternative delivery service cost functionalizations and allocations, ComEd is providing the results of the six illustrative ECOSSs. Similarly, ComEd takes no position at this time as to the relative merits of the methodologies applied in any of the illustrative ECOSSs.

C. Background and Qualifications

Q. **What are your duties and responsibilities at ComEd?**

A. As a Principal Regulatory Specialist, my duties include analyzing, developing, and recommending business and regulatory strategies impacted by various legislative and regulatory activities in Illinois. My duties also include the preparation of ComEd's cost-of-service studies to determine the allocation of Illinois jurisdictional delivery service-related costs to support ComEd's formula rate filings.

Q. **What is your business experience prior to your current position?**

A. Prior to assuming my duties in Regulatory Strategies and Solutions in 2009, I held positions as a Senior Rate Administrator, a Senior Contract Administrator, and a Senior Marketing Planner since joining ComEd in 1998. Prior to my employment with ComEd, I was self-employed as a consultant working with a consulting firm in the railroad industry, employed for ten years with Florida Power and Light ("FPL") as a Major Accounts Manager and Construction Services Engineer, and employed with the National Aeronautics and Space Administration ("NASA") as a student engineer-trainee at the Kennedy Space Center in Florida.

Q. **What is your educational background?**

A. I graduated from the Georgia Institute of Technology in Atlanta, Georgia, with a Bachelors degree in Electrical Engineering. I received my Masters of Business Administration degree with a concentration in Finance from DePaul University's Kellstadt Graduate School of Business in Chicago, Illinois.

Q. **Have you previously submitted testimony to the Commission?**

A. Yes. I recently submitted direct testimony pertaining to the 2013 FRU ECOSS and the associated determination of delivery service charges in ComEd's 2013 formula rate update filing.

D. Attachments to Direct Testimony

Q. **What exhibits are attached to your direct testimony?**

A. The following exhibits are attached to this direct testimony:

- ComEd Ex. 3.01 is the RDI ECOSS and the basis for the six illustrative ECOSSs attached to this direct testimony;
- ComEd Ex. 3.02 shows the determination of the revised allocation factors for the RDI ECOSS;
- ComEd Ex. 3.03 provides the primary/secondary analysis used in the RDI ECOSS and the 2013 FRU ECOSS;
- ComEd Ex. 3.04 is the 2013 FRU ECOSS;
- ComEd Ex. 3.05 shows how allocation factors used in the 2013 FRU ECOSS were determined;
- ComEd Ex. 3.06 provides information pertaining to the determination and use of allocation factors that pertain to the RDI ECOSS;
- ComEd Ex. 3.07 is the study, *Meeting Commonwealth Edison's Distribution Allocation Requirements from Illinois Commerce Commission Order 10-0467*, updated March 14, 2013 ("CA Distribution Study") ;

- ComEd Ex. 3.08 is the study, *Indirect Uncollectible Cost Study* ("Indirect Uncollectible Cost Study");
- ComEd Ex. 3.09 is the study, *Survey of Approaches to Distribution Cost Allocation by Voltage* ("CA Cost Allocation Survey");
- ComEd Ex. 3.10 is an illustrative ECOSS that is the same as the RDI ECOSS except that it employs all the findings and recommendations presented in the CA Distribution Study;
- ComEd Ex. 3.11 provides the illustrative primary/secondary study used in the illustrative ECOSS presented in ComEd Ex. 3.10;
- ComEd Ex. 3.12 is an illustrative ECOSS that is the same as the RDI ECOSS except that it employs the findings pertaining to the allocation of costs associated with 4 kilovolt ("kV") facilities presented in the CA Distribution Study;
- ComEd Ex. 3.13 provides the illustrative primary/secondary study used in the illustrative ECOSS presented in ComEd Ex. 3.12;
- ComEd Ex. 3.14 is an illustrative ECOSS that is the same as the RDI ECOSS except that it employs all the findings and recommendations presented in the CA Distribution Study other than those pertaining to the allocation of costs associated with 4 kV facilities;
- ComEd Ex. 3.15 provides the illustrative primary/secondary study used in the illustrative ECOSS presented in ComEd Ex. 3.14;

- ComEd Ex. 3.16 is an illustrative ECOSS that is the same as the RDI ECOSS except that it employs indirect uncollectible cost allocation factors in accordance with the Indirect Uncollectible Cost Study;
- ComEd Ex. 3.17 is an illustrative ECOSS that is the same as the RDI ECOSS except that it allocates certain distribution facilities costs by a single non-coincidental peak demand ("NCP") allocation factor for the entire group of residential customers (the "residential sector");
- ComEd Ex. 3.18 is an illustrative ECOSS that is the same as the RDI ECOSS except that it allocates certain distribution facilities costs by a single NCP allocation factor for the residential sector, a single NCP allocation factor for the entire group of nonresidential customers (the "nonresidential sector"), and a single NCP allocation factor for the entire group of lighting customers (the "lighting sector");
- ComEd Ex. 3.19 shows how the illustrative NCP allocation factors used in the illustrative ECOSSs in ComEd Exs. 3.17 and 3.18 were determined.

II. THE EMBEDDED COST OF SERVICE STUDIES

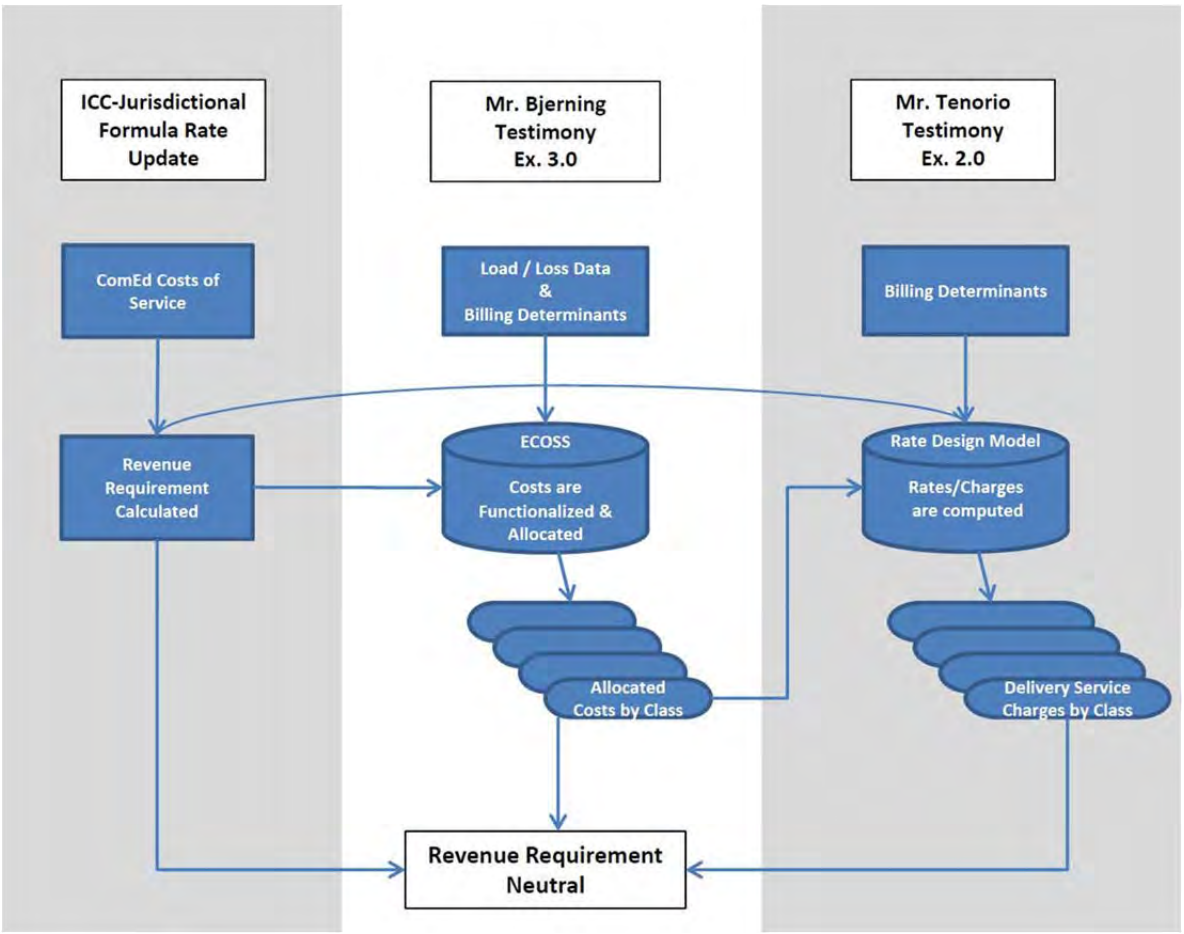
A. Overview

Q. **What is an ECOSS?**

A. Generally, an electric utility's ECOSS functionalizes and classifies the utility's costs to each of four functions: the Production ("P") function, which pertains to facilities, personnel, and activities that are involved in the generation of electric power and energy; the Transmission ("T") function, which pertains to facilities, personnel, and activities that

are involved in the movement of electric power and energy from the generation facilities over high voltage electric conductors; the Distribution ("D") function, which pertains to facilities, personnel, and activities that are involved in the transfer of electric power and energy from the high voltage transmission conductors to customers; and the Customer ("C") function, which pertains to facilities, personnel, and activities that are involved in interactions with customers. An ECOSS also allocates these costs to specified customer groups. The utility's costs are the costs identified in the utility's records for a specific time period, such as a recent calendar year. Some of these costs are modified or adjusted, as appropriate, in the determination of the jurisdictional revenue requirement. An ECOSS utilizes relationships among costs and the associated quantities of services provided by the utility. Operationally, an ECOSS is usually presented as an electronic spreadsheet model.

The embedded cost data resulting from the ECOSS are inputs in the rate design model, as discussed by Mr. Tenorio (ComEd Ex. 2.0), which develops the delivery service charges that are designed to recover the Illinois jurisdictional net delivery service revenue requirement. The relationship between cost allocation (the ECOSS), rate design (development of delivery service charges), and the Illinois jurisdictional annual net delivery service revenue requirement ("Rate Year Net Revenue Requirement") is shown as follows.



Q. **What general direction is provided to Illinois electric utilities pertaining to the preparation of an ECOSS?**

A. Section 285.5110 of Title 83 of the Illinois Administrative Code provides general direction pertaining to the preparation of an ECOSS.

Q. **In general, how are costs functionalized in an ECOSS?**

A. In an ECOSS, costs are identified by primary account of the Uniform System of Accounts ("USOA") and categorized into applicable functions and sub-functions. For each function and sub-function, a rate base with appropriate adjustments is identified, as

are operating and maintenance ("O&M") expense, depreciation expense, and taxes other than income taxes ("TOI"), and other operating revenue including related adjustments.

Q. **In general, how are costs allocated to customers in an ECOSS?**

A. After costs have been identified and categorized as described in my previous response, the relevant amounts from the function and sub-function cost categories - rate base, O&M expenses, depreciation expense, and TOI - are allocated to customer groups through the use of appropriate allocation factors. The cost of service for each customer group is determined by applying the pre-tax rate of return to the rate base allocated to the group and adding that to the group's allocated share of O&M, depreciation expense, and TOI expenses. Additionally, adjustments are made for revenue credits allocated to the group. Generally and to the extent practical, customers are segmented into groups based upon differentiations in the facilities used to provide service and identifiable, pertinent customer attributes.

Q. **What is the general framework of the cost of service studies?**

A. The following generally pertain to each of the cost of service studies, or ECOSSs, prepared by ComEd. Each ECOSS consists of an Excel spreadsheet model containing two main sections, the functionalization section and the allocation section. The functionalization section includes a tab for the functionalization calculations ("Schedule 1a - Functionalization") and a tab for the functionalization factors calculations ("Schedule 1b - Functionalization Factors"). The allocation section includes a tab for allocation calculations ("Schedule 2a - Allocation") and a tab for allocation factors calculations ("Schedule 2b - Allocation Factors"). There is also a third section that

includes a tab with a comparison calculation ("Schedule 3 - Comparison of Delivery Service Cost of Service") that is designed to compare corresponding allocated costs between ECOSSs.

Q. **Have the methodologies contained in the cost of service studies been approved for use in functionalizing and allocating costs since the enactment of Section 16-108.5 of the Public Utilities Act ("PUA" or "Act")?**

A. Yes. The methodologies contained in the ECOSSs have been utilized in the determination of delivery service charges filed in compliance with the Docket No. 11-0721 ("2011 FR Case") Order and the Docket No. 12-0321 ("2012 FR Update Case") Order. The ECOSS ComEd submitted in the 2012 FR Update Case was not contested. Prior to that, the ICC found the ECOSS ComEd submitted in the 2011 FR Case acceptable. See 2011 FR Case Order at 179. Both of these ECOSSs employ methodologies consistent with the methodologies used in the ECOSS that was approved in the 2010 Rate Case Order.

B. Functionalization of Costs

Q. **Why is it important to functionalize ComEd's costs?**

A. Costs are functionalized using as much detail as is available in order to classify costs to the extent practical in a manner that reflects cost causation.

Q. **How are costs functionalized in the ECOSSs?**

A. Costs are functionalized in one of two general ways, either by direct assignment or through the use of functionalization factors.

Q. **What does it mean to functionalize costs by direct assignment?**

A. Costs incurred with respect to facilities, personnel, and activities that are able to be explicitly identified as being associated with a specific function or sub-function are classified in their entirety to that function or sub-function.

Q. **What is the purpose of sub-functions defined in the ECOSSs?**

A. In order to functionalize costs using detail provided by the USOA and to appropriately allocate these embedded costs among customer groups, sub-functions are specified. Identifying costs by sub-functions provides refinement in cost classification and allows for cost allocation that reflects cost causation to the extent practical. The sub-functions used in this study and prior studies ordered by the Commission are specified as distinct cost categories in Table BLB-D1: ECOSS Sub-functions.

Table BLB-D1: ECOSS Sub-functions
High Voltage (“HV”) Electric Service Stations (“ ESS”)
HV Distribution Substations
HV Distribution Lines
Shared Distribution Substations
Secondary Voltage Distribution Substations
Shared Distribution Lines
Secondary Voltage Distribution Lines
Primary Voltage Transformers
Secondary Voltage Transformers
Service Connections
Customer Installations Other
Fixture-Included Lighting (“FIL”)
Metering Service
Billing Computation and Data
Bill Issue and Processing
Customer Service and Information
Revenue Related

Q. **Are other costs functionalized in the ECOSSs?**

A. Yes. Applicable costs are functionalized to the T function. In addition, although ComEd has not had a P function for over a decade, small amounts of its resources are devoted to

the activity of purchasing electricity to provide electric supply service to some customers. This activity is identified as the Supply Administration ("SA") function, and appropriate costs are assigned to the SA function.

Q. **What is presented in Schedule 1a - Functionalization?**

A. Schedule 1a - Functionalization in each ECOSS shows how balances and cost components associated with (a) rate base, including electric plant in service, depreciation reserve, and other rate base items; and (b) expenses, including O&M expenses, depreciation expenses, and TOI, excluding the Illinois Electricity Distribution Tax ("IEDT"), are directly assigned or apportioned through the use of functionalization factors to the T function, the SA function, or the previously listed sub-functions.

Q. **How are the functionalization factors developed that are used to apportion costs that are not directly assigned?**

A. ComEd functionalization factors are determined by employing ratios developed from detailed data, including information associated with wages and salaries ("W&S"), gross plant, and net plant. The functionalization factors are developed and identified in each ECOSS in Schedule 1b - Functionalization Factors.

C. Allocation of Costs

Q. **How are the functionalized costs used in the allocation section of each ECOSS?**

A. Functionalized cost amounts identified in Schedule 1a - Functionalization are allocated to ComEd's delivery classes in Schedule 2a - Allocation. However, because costs functionalized to the T and SA functions are not included in the determination of the Rate Year Net Revenue Requirement, they are not included among the costs allocated to

delivery classes that are used to determine delivery service charges, which are designed to recover the Rate Year Net Revenue Requirement.

Q. **What are delivery classes?**

A. Delivery classes are assemblages of ComEd's customers that are grouped together based upon certain common characteristics, which are addressed in ComEd Ex. 2.0 by Mr. Tenorio. ComEd's fifteen delivery classes and the corresponding sectors are specified in Table BLB-D2: Delivery Classes. For the purposes of allocating costs in the ECOSS, the HV Delivery Class is further segmented into two subclasses, the HV Up to 10,000 kW subclass and the HV Over 10,000 kW subclass. References I make to delivery classes in this direct testimony include these subclasses, as applicable.

Table BLB-D2: Delivery Classes

Delivery Class	**Sector**
Residential Single Family Without Electric Space Heat ("SFNH") Delivery Class	Residential
Residential Multi Family Without Electric Space Heat ("MFNH") Delivery Class	Residential
Residential Single Family With Electric Space Heat ("SFH") Delivery Class	Residential
Residential Multi Family With Electric Space Heat ("MFH") Delivery Class	Residential
Watt-Hour ("WH") Delivery Class	Nonresidential
Small Load ("SL") Delivery Class	Nonresidential
Medium Load ("ML") Delivery Class	Nonresidential
Large Load ("LL") Delivery Class	Nonresidential
Very Large Load ("VLL") Delivery Class	Nonresidential
Extra Large Load ("ELL") Delivery Class	Nonresidential
HV Delivery Class	Nonresidential
Railroad ("RR") Delivery Class	Nonresidential
Fixture-Included Lighting ("FIL") Delivery Class	Lighting
Dusk to Dawn Lighting ("DDL") Delivery Class	Lighting
General Lighting ("GL") Delivery Class	Lighting

Q. **Are there costs allocated to the delivery classes in Schedule 2a - Allocation that are not directly shown in Schedule 1a - Functionalization?**

A. Yes. The total return on rate base, including related income taxes, and the IEDT are not directly shown in Schedule 1a - Functionalization. Although the total return on rate base, including related income taxes, is not shown in Schedule 1a - Functionalization, it is computed from the rate base that is functionalized in Schedule 1a - Functionalization and allocated to the delivery classes in Schedule 2a - Allocation. The IEDT is allocated to the delivery classes in Schedule 2a - Allocation, and it is not necessary to be functionalized according to sub-functions related to the D and C functions.

Q. **How are costs allocated to ComEd's delivery classes in each ECOSS?**

A. Costs are allocated to ComEd's delivery classes in one of two general ways, either by direct assignment or with apportionments accomplished with the use of allocation factors.

Q. **Why is it important to allocate ComEd's costs in this manner?**

A. Allocated costs are used to determine the delivery service charges that are applied on a delivery class basis in order to provide for the recovery of those costs. Therefore, costs are allocated to delivery classes using as much detail as is available in order to assign costs in a manner that reflects cost causation to the extent practical.

Q. **What does it mean to allocate costs by direct assignment?**

A. Costs incurred with respect to facilities, personnel, and activities that are able to be explicitly identified as being incurred to provide service to a specific delivery class or subclass are classified in their entirety to that class or subclass.

Q. **What is presented in Schedule 2a - Allocation of each ECOSS?**

A. Schedule 2a - Allocation shows how each sub-functionalized total cost amount pertaining to the D and C functions developed in Schedule 1a - Functionalization is allocated to

ComEd's delivery classes by either direct assignment or through the use of allocation factors. Each set of allocation factors is developed on the basis of a particular attribute or specific information, as identified in Table BLB-D3: ECOSS Allocators. Generally, allocation factors are used to apportion rate base; O&M, Depreciation, and TOI expenses; and revenue credits for each delivery class. The allocation factors determined for each of the listed allocators, along with the KWH-ALL allocator, are used to apportion associated costs to the delivery classes in order for the apportionment of costs to reflect cost causation to the extent practical.

Table BLB-D3: ECOSS ALLOCATORS
HV Class
CP 69kV & below
CP-ALL
CP<69 KV
NCP-SEC
NCP-SEC LINE
NCP-PRI TR
WEIGHTED SERVICES
METER
METER READING
METER O&M
CUST-INSTALL
BILLING-ACCT
NUMBER OF BILLS
CUST-INFO
REVENUE-RELATED

Furthermore, allocation factors developed on the bases of additional allocators identified as CP<69 FOR RR, NCP-SEC – FOR DDL, SERVICES – FOR DDL, METER FACTOR, TOTAL O&M, MET. SERV. NET PLT., and AMI PILOT, as well as the previously listed allocators METER O&M and METER READING, are used to adjust the allocation of certain costs pertaining to the railroad facilities, dusk to dawn lighting facilities, meter-related costs, and the costs associated with the advanced metering

infrastructure ("AMI") pilot program, as applicable, to delivery classes in accordance with Commission directives. Allocation factors developed on the basis of the KWH-ALL allocator are used to apportion the IEDT to delivery classes. All allocators and their associated allocation factors are provided in Schedule 2b - Allocation Factors.

Q. **What costs are directly assigned to ComEd's delivery classes?**

A. Costs functionalized to the Fixture-Included Lighting ("FIL") sub-function are directly assigned to the FIL Delivery Class. Costs functionalized to the High Voltage Electric Service Stations ("HV ESS") sub-function are directly assigned to the HV Delivery Class.

Q. **Why are other costs allocated to the delivery classes through the use of allocation factors?**

A. Allocation factors are used for situations in which costs are not reasonably able to be directly assigned to a specific delivery class.

Q. **How are allocation factors determined?**

A. Allocation factors are generally determined by taking an applicable, single measurable attribute associated with a delivery class and dividing it by the sum of the corresponding attributes for all the delivery classes. Basically, it is the computation of a percentage. The general formula used to determine an allocation factor applicable to a specific delivery class is as follows:

$$\boldsymbol{Delivery\ Class\ Allocation\ Factor} = \frac{\boldsymbol{Delivery\ Class\ Attribute}}{\sum_{\boldsymbol{over\ all\ classes}} \boldsymbol{Delivery\ Class\ Attribute}}$$

In some instances, the attribute for the delivery class is not a single directly measurable quantity, and it must be developed from multiple quantities before it can be used in the previously shown equation. In those cases, weighting ratios are developed. Weighting ratios are typically determined by taking the ratio of an average cost applicable to a delivery class to the corresponding average cost applicable to the Residential Single Family Without Electric Space Heat ("SFNH") Delivery Class. Basically, it is a comparison to a standard. The general formula used to determine a weighting ratio applicable to a specific delivery class is as follows:

$$\textbf{\textit{Delivery Class Weighting Ratio}} = \frac{\textbf{\textit{Delivery Class Average Cost}}}{\textbf{\textit{SFNH Delivery Class Average Cost}}}$$

Because the average cost for the SFNH Delivery Class is set as the standard, the weighting ratio for the SFNH Delivery Class is always equal to 1.0. For other delivery classes, the weighting ratio is between zero and 1.0 if the average cost for the delivery class is less than the average cost for the SFNH Delivery Class. Conversely, the weighting ratio is greater than 1.0 if the average cost for the delivery class is greater than the average cost for the SFNH Delivery Class. This ratio is then multiplied by an applicable measurable quantity for the class to obtain the attribute for the delivery class.

Q. **Do you provide more detail pertaining to how the various allocation factors are determined and used?**

A. Yes. ComEd Ex. 3.06 provides detailed information pertaining to the manner in which the allocation factors are determined. ComEd Ex. 3.06 also shows the costs that are allocated through the use of the allocation factors, and it provides the steps involved in

determining the delivery classes' coincidental peaks ("CPs") and NCPs that are used to develop some of the factors.

D. ECOSS Results

Q. **How are the results of each ECOSS used?**

A. The results of the ECOSS are used as cost inputs in the rate design model employed to determine delivery service charges that are designed to recover the Rate Year Net Revenue Requirement. These specific results include a total customer-related cost, a total meter-related cost, a total distribution-related cost, and a total IEDT-related cost allocation for each delivery class or subclass, as applicable.

Q. **How are those results developed?**

A. Once the previously described costs have been allocated to the fifteen delivery classes in Schedule 2a - Allocation, they are adjusted as necessary using a scaling factor so that the sum of all the costs allocated to the fifteen delivery classes equals the Rate Year Net Revenue Requirement.

Q. **What is presented in Schedule 3 - Comparison of Delivery Service Cost of Service of each ECOSS?**

A. Schedule 3 - Comparison of Delivery Service Cost of Service, presents a side-by-side comparison for two ECOSSs of the overall portion of the applicable Rate Year Net Revenue Requirement allocated to each of the fifteen delivery classes. The values shown represent the overall cost of delivery service for each of the fifteen delivery classes as determined by the applicable ECOSS. For each of the two ECOSSs, subtotals are provided for each of the three sectors, as well as a total for all fifteen classes which

equals the applicable Rate Year Net Revenue Requirement. Those values are then used to calculate differences in allocated costs both in dollar amounts and as a percent change between the two ECOSSs by delivery class, by sector, and in total. In Schedule 3 of the RDI ECOSS, each of those values is compared to the corresponding amount allocated to the delivery class in the 2013 FRU ECOSS. For each of the illustrative ECOSSs, each of those values is compared to the corresponding amount allocated to the delivery class in the RDI ECOSS.

E. Other Computations

Q. **Are any other embedded cost computations performed under your direction?**

A. Yes. While not part of the ECOSS, supporting work papers are developed to further segment the distribution related total embedded cost allocated to each of the SL, ML, LL, VLL, and ELL delivery classes. This additional segmentation identifies subtotals associated with secondary distribution facilities, primary distribution facilities without transformation, and primary transformation. Similarly, a supporting work paper is developed to further segment the distribution related total cost for each of the two subclasses in the HV Delivery Class. This additional segmentation identifies subtotals associated with secondary distribution facilities, primary distribution facilities without transformation, primary transformation, HV distribution facilities without transformation, and HV transformation. The subtotals developed in these work papers are used as cost inputs in the rate design model that determines the delivery service charges.

III. THE RDI AND 2013 FRU ECOSSs

Q. **Are you familiar with the RDI ECOSS?**

A. Yes. As previously noted, the RDI ECOSS is attached to my direct testimony as ComEd Ex. 3.01. In addition, ComEd Ex. 3.02 shows the determination of the allocation factors for that ECOSS that are consistent with certain changes identified later in this direct testimony. There are confidential and public versions of ComEd Ex. 3.02. Moreover, ComEd Ex. 3.03 provides the primary/secondary analysis used in the RDI ECOSS, as well as in the 2013 FRU ECOSS.

Q. **Are you familiar with the 2013 FRU ECOSS?**

A. Yes. As I previously noted, it was submitted to the ICC along with a petition to initiate ComEd's 2013 formula rate update proceeding, and it is attached to my direct testimony in ComEd Ex. 3.04. ComEd Ex. 3.05 shows how allocation factors used in the 2013 FRU ECOSS were determined. There are confidential and public versions of ComEd Ex. 3.05.

Q. **What costs do the RDI ECOSS and the 2013 FRU ECOSS allocate?**

A. The RDI ECOSS and the 2013 FRU ECOSS are designed to allocate the 2014 Rate Year Net Revenue Requirement of $2,334,330,000 presented by Mr. Martin G. Fruehe in his direct testimony that was recently filed with the petition to initiate ComEd's 2013 formula rate update proceeding.

Q. **How does the RDI ECOSS differ from the 2013 FRU ECOSS?**

A. They differ in two ways. First, the services and standard meters allocation factors used in the RDI ECOSS have been revised to reflect the updated standard meter service allowances and meter rentals as addressed in ComEd Ex. 2.0 by Mr. Tenorio. Second, the RDI ECOSS removes references associated with two cost categories that are out of

date and should no longer be incorporated in the ECOSS. One is the removal of the Shared Primary/Secondary Transformers sub-function from Schedule 1a - Functionalization because costs are no longer functionalized to this sub-function. The other is the removal of computations pertaining to uncollectible costs in Schedule 2a - Allocation in response to the Commission directive to remove uncollectible costs from the determination of the Rate Year Net Revenue Requirement. These removals are updates in nature and are not substantive. None of the differences constitutes a change in the functionalization or allocation methodologies employed in the 2013 FRU ECOSS. Therefore, just as with the 2013 FRU ECOSS, the RDI ECOSS is consistent with the 2010 Rate Case Order.

Q. **With respect to the three customer sectors, how do the cost allocations in the RDI ECOSS compare to the cost allocations in the 2013 FRU ECOSS?**

A. The cost allocations to the three customer sectors in the two cost studies are provided in Table BLB-D4: 2013 FRU Cost Allocations and RDI Cost Allocations and Figure BLB-D1: 2013 FRU Cost Allocations and RDI Cost Allocations.

Table BLB-D4: 2013 FRU Cost Allocations and RDI Cost Allocations						
Cost Category	**2013 FRU ECOSS**			**RDI ECOSS**		
	Residential Sector	**Nonresidential Sector**	**Lighting Sector**	**Residential Sector**	**Nonresidential Sector**	**Lighting Sector**
HV ESS	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
HV Distribution Substations	46.32%	53.63%	0.05%	46.32%	53.63%	0.05%
HV Distribution Lines	45.18%	54.77%	0.05%	45.18%	54.77%	0.05%
Shared Distribution Substations	46.40%	53.55%	0.05%	46.40%	53.55%	0.05%
Secondary Voltage Distribution Substations	49.56%	49.53%	0.90%	49.56%	49.53%	0.90%
Shared Distribution Lines	46.44%	53.51%	0.05%	46.44%	53.51%	0.05%
Secondary Voltage Distribution Lines	75.39%	23.51%	1.10%	75.39%	23.51%	1.10%
Primary Voltage Transformers	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
Secondary Voltage Transformers	49.56%	49.53%	0.90%	49.56%	49.53%	0.90%
Service Connections	92.30%	6.51%	1.19%	91.77%	7.05%	1.18%
Customer Installations Other	79.81%	19.84%	0.35%	79.81%	19.84%	0.35%
FIL	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%
Metering Service	77.83%	21.87%	0.29%	78.82%	20.89%	0.29%
Billing Computation and Data	84.00%	15.85%	0.15%	84.00%	15.85%	0.15%
Bill Issue and Processing	90.36%	9.48%	0.17%	90.36%	9.48%	0.17%
Customer Service and Information	77.07%	22.53%	0.40%	77.07%	22.53%	0.40%
Revenue Related	58.42%	40.37%	1.21%	58.48%	40.31%	1.21%
Total	**58.77%**	**40.39%**	**0.83%**	**58.83%**	**40.34%**	**0.83%**

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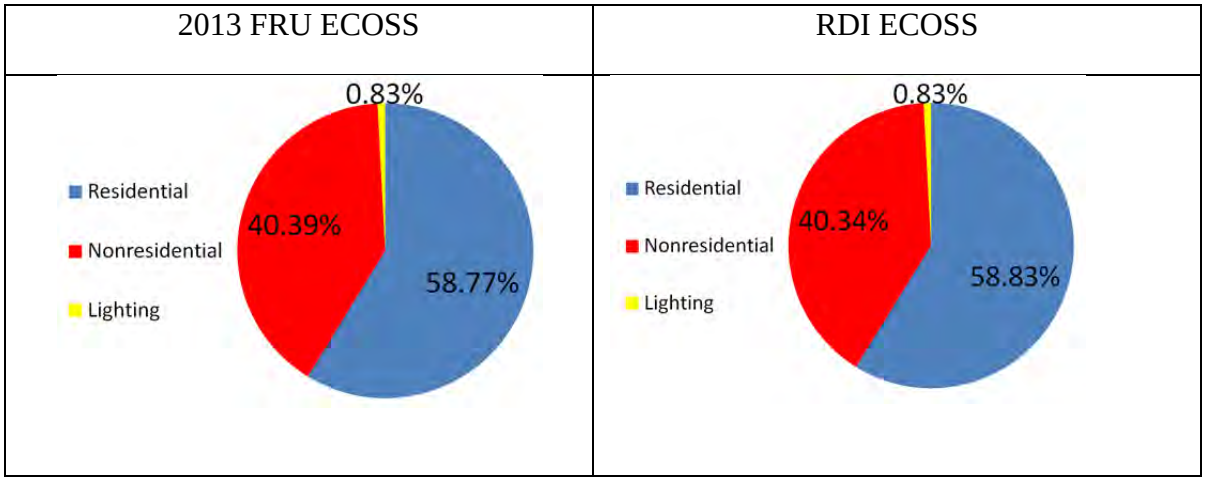
Figure BLB-D1: 2013 FRU Cost Allocations and RDI Cost Allocations



412

413 Q. **What is ComEd's position with respect to the 2013 FRU ECOSS and RDI ECOSS?**

414 A. ComEd takes no position at this time as to the relative merits of the methodologies
415 applied in the 2013 FRU ECOSS and the RDI ECOSS.

IV. ILLUSTRATIVE ECOSSs

Q. **Did ComEd prepare other ECOSSs for this proceeding?**

A. Yes. ComEd prepared six alternative, or illustrative, ECOSSs for this proceeding. The results of these illustrative ECOSSs are presented in ComEd Exs. 3.10, 3.12, 3.14, 3.16, 3.17 and 3.18. The determinations of the corresponding allocation factors and/or primary secondary analyses used in the illustrative ECOSSs are shown, respectively, in ComEd Exs. 3.11, 3.13, 3.15, and 3.19. Each illustrative ECOSS uses the RDI ECOSS as a basis, but then is revised as described in this direct testimony. Also, each illustrative ECOSS allocates the same 2014 Rate Year Net Revenue Requirement of $2,334,330,000.

Q. **How does the illustrative ECOSS presented in ComEd Ex. 3.10 differ from the RDI ECOSS?**

A. The illustrative ECOSS presented in ComEd Ex. 3.10 incorporates all the findings and recommendations presented by Christensen Associates Energy Consulting, LLC ("CA") in its report, the CA Distribution Study, which is ComEd Ex. 3.07. The illustrative ECOSS presented in ComEd Ex. 3.10 differs from the RDI ECOSS with respect to (a) the use of direct observation, (b) the allocation of the costs associated with 4 kV facilities, (c) sampling circuits, and (d) the treatment of assets used to serve the ELL Delivery Class.

Q. **With respect to the three customer sectors, how do the cost allocations in the illustrative ECOSS presented in ComEd Ex. 3.10 compare to the cost allocations in the RDI ECOSS?**

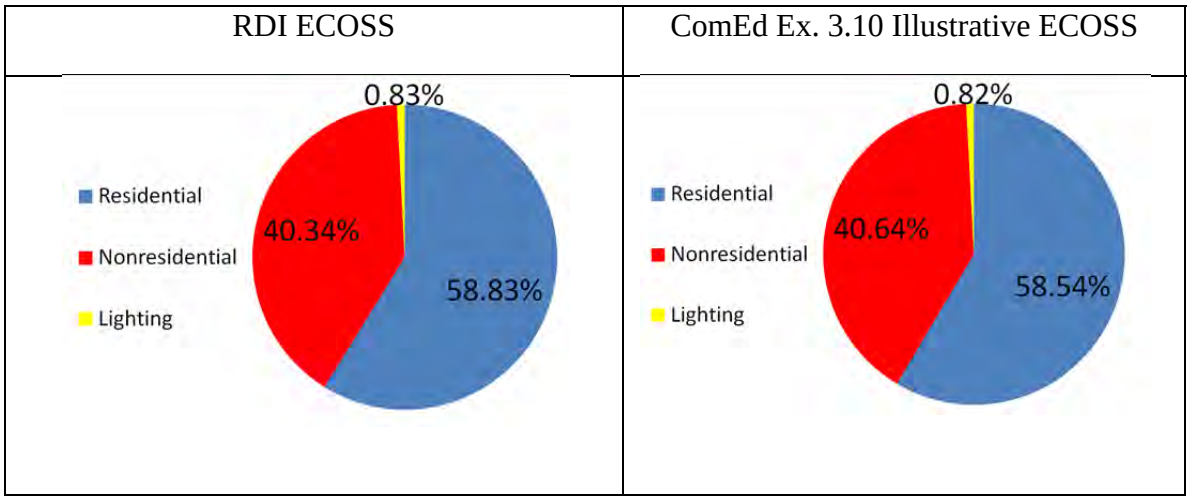
A. The cost allocations to the three customer sectors in the RDI ECOSS and the illustrative ECOSS presented in ComEd Ex. 3.10 are provided in Table BLB-D5: RDI Cost

Allocations and ComEd Ex. 3.10 Illustrative Cost Allocations and Figure BLB-D2: RDI Cost Allocations and ComEd Ex. 3.10 Illustrative Cost Allocations.

Table BLB-D5: RDI Cost Allocations and ComEd Ex. 3.10 Illustrative Cost Allocations

Cost Category	RDI ECOSS			ComEd Ex. 3.10 Illustrative ECOSS		
	Residential Sector	Nonresidential Sector	Lighting Sector	Residential Sector	Nonresidential Sector	Lighting Sector
HV ESS	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
HV Distribution Substations	46.32%	53.63%	0.05%	46.32%	53.63%	0.05%
HV Distribution Lines	45.18%	54.77%	0.05%	45.18%	54.77%	0.05%
Shared Distribution Substations (At or Below 4kV)	46.40%	53.55%	0.05%	47.39%	52.56%	0.05%
Shared Distribution Substations (Over 4kV)	46.40%	53.55%	0.05%	46.40%	53.55%	0.05%
Secondary Voltage Distribution Substations	49.56%	49.53%	0.90%	49.56%	49.53%	0.90%
Shared Distribution Lines (At or Below 4kV)	46.44%	53.51%	0.05%	47.39%	52.56%	0.05%
Shared Distribution Lines (Over 4kV)	46.44%	53.51%	0.05%	46.44%	53.51%	0.05%
Secondary Voltage Distribution Lines	75.39%	23.51%	1.10%	75.37%	23.51%	1.12%
Primary Voltage Transformers	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
Secondary Voltage Transformers	49.56%	49.53%	0.90%	49.56%	49.53%	0.90%
Service Connections	91.77%	7.05%	1.18%	91.77%	7.05%	1.18%
Customer Installations Other	79.81%	19.84%	0.35%	79.81%	19.84%	0.35%
FIL	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%
Metering Service	78.82%	20.89%	0.29%	78.82%	20.89%	0.29%
Billing Computation and Data	84.00%	15.85%	0.15%	84.00%	15.85%	0.15%
Bill Issue and Processing	90.36%	9.48%	0.17%	90.36%	9.48%	0.17%
Customer Service and Information	77.07%	22.53%	0.40%	77.07%	22.53%	0.40%
Revenue Related	58.48%	40.31%	1.21%	58.20%	40.61%	1.19%
Total	**58.83%**	**40.34%**	**0.83%**	**58.54%**	**40.64%**	**0.82%**

Figure BLB-D2: RDI Cost Allocations and ComEd Ex 3.10 Illustrative Cost Allocations



Q. **How does the illustrative ECOSS presented in ComEd Ex. 3.12 differ from the RDI ECOSS?**

A. The illustrative ECOSS presented in ComEd Ex. 3.12 differs from the RDI ECOSS with respect to CA's findings in the CA Distribution Study related to the allocation of costs associated with 4 kV facilities.

Q. **With respect to the three customer sectors, how do the cost allocations in the illustrative ECOSS presented in ComEd Ex. 3.12 compare to the cost allocations in the RDI ECOSS?**

A. The cost allocations to the three customer sectors in the RDI ECOSS and the illustrative ECOSS presented in ComEd Ex. 3.12 are provided in Table BLB-D6: RDI Cost Allocations and ComEd Ex. 3.12 Illustrative Cost Allocations and Figure BLB-D3: RDI Cost Allocations and ComEd Ex. 3.12 Illustrative Cost Allocations.

Table BLB-D6: RDI Cost Allocations and ComEd Ex. 3.12 Illustrative Cost Allocations						
Cost Category	**RDI ECOSS**			**ComEd Ex. 3.12 Illustrative ECOSS**		
	Residential Sector	**Nonresidential Sector**	**Lighting Sector**	**Residential Sector**	**Nonresidential Sector**	**Lighting Sector**
HV ESS	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
HV Distribution Substations	46.32%	53.63%	0.05%	46.32%	53.63%	0.05%
HV Distribution Lines	45.18%	54.77%	0.05%	45.18%	54.77%	0.05%
Shared Distribution Substations (At or Below 4kV)	46.40%	53.55%	0.05%	47.39%	52.56%	0.05%
Shared Distribution Substations (Over 4kV)	46.40%	53.55%	0.05%	46.40%	53.55%	0.05%
Secondary Voltage Distribution Substations	49.56%	49.53%	0.90%	49.56%	49.53%	0.90%
Shared Distribution Lines (At or Below 4kV)	46.44%	53.51%	0.05%	47.39%	52.56%	0.05%
Shared Distribution Lines (Over 4kV)	46.44%	53.51%	0.05%	46.44%	53.51%	0.05%
Secondary Voltage Distribution Lines	75.39%	23.51%	1.10%	75.39%	23.51%	1.10%
Primary Voltage Transformers	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
Secondary Voltage Transformers	49.56%	49.53%	0.90%	49.56%	49.53%	0.90%
Service Connections	91.77%	7.05%	1.18%	91.77%	7.05%	1.18%
Customer Installations Other	79.81%	19.84%	0.35%	79.81%	19.84%	0.35%
FIL	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%
Metering Service	78.82%	20.89%	0.29%	78.82%	20.89%	0.29%
Billing Computation and Data	84.00%	15.85%	0.15%	84.00%	15.85%	0.15%
Bill Issue and Processing	90.36%	9.48%	0.17%	90.36%	9.48%	0.17%
Customer Service and Information	77.07%	22.53%	0.40%	77.07%	22.53%	0.40%
Revenue Related	58.48%	40.31%	1.21%	58.50%	40.29%	1.21%
Total	**58.83%**	**40.34%**	**0.83%**	**58.85%**	**40.32%**	**0.83%**

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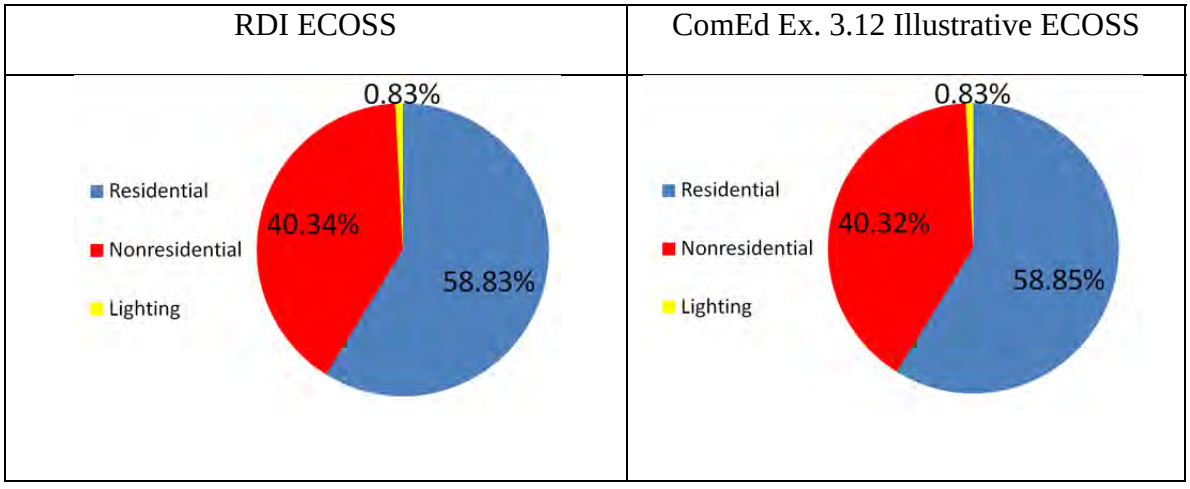
Figure BLB-D3: RDI Cost Allocations and ComEd Ex 3.12 Illustrative Cost Allocations



455

Q. **How does the illustrative ECOSS presented in ComEd Ex. 3.14 differ from the RDI ECOSS?**

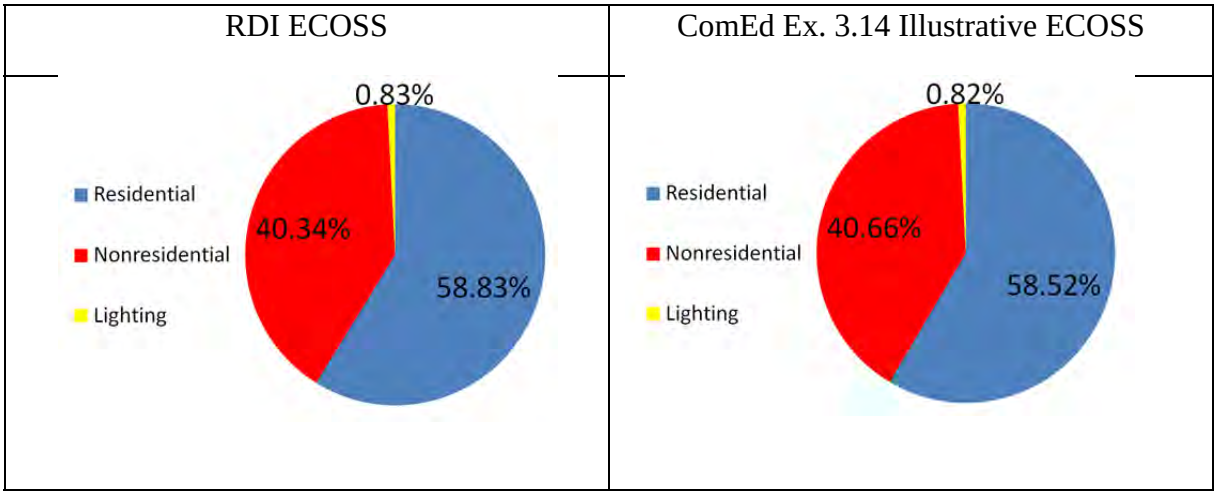
A. The illustrative ECOSS presented in ComEd Ex. 3.14 differs from the RDI ECOSS with respect to CA's findings in the CA Distribution Study related to (a) the use of direct observation, (b) sampling circuits, and (c) the treatment of assets used to serve the ELL Delivery Class. It excludes CA's findings in the CA Distribution Study related to the allocation of the costs associated with 4 kV facilities.

Q. **With respect to the three customer sectors, how do the cost allocations in the illustrative ECOSS presented in ComEd Ex. 3.14 compare to the cost allocations in the RDI ECOSS?**

A. The cost allocations to the three customer sectors in the RDI ECOSS and the illustrative ECOSS presented in ComEd Ex. 3.14 are provided in Table BLB-D7: RDI Cost Allocations and ComEd Ex. 3.14 Illustrative Cost Allocations and Figure BLB-D4: RDI Cost Allocations and ComEd Ex. 3.14 Illustrative Cost Allocations.

Table BLB-D7: RDI Cost Allocations and ComEd Ex. 3.14 Illustrative Cost Allocations						
Cost Category	**RDI ECOSS**			**ComEd Ex. 3.14 Illustrative ECOSS**		
	Residential Sector	**Nonresidential Sector**	**Lighting Sector**	**Residential Sector**	**Nonresidential Sector**	**Lighting Sector**
HV ESS	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
HV Distribution Substations	46.32%	53.63%	0.05%	46.32%	53.63%	0.05%
HV Distribution Lines	45.18%	54.77%	0.05%	45.18%	54.77%	0.05%
Shared Distribution Substations	46.40%	53.55%	0.05%	46.40%	53.55%	0.05%
Secondary Voltage Distribution Substations	49.56%	49.53%	0.90%	49.56%	49.53%	0.90%
Shared Distribution Lines	46.44%	53.51%	0.05%	46.43%	53.52%	0.05%
Secondary Voltage Distribution Lines	75.39%	23.51%	1.10%	75.37%	23.51%	1.12%
Primary Voltage Transformers	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
Secondary Voltage Transformers	49.56%	49.53%	0.90%	49.56%	49.53%	0.90%
Service Connections	91.77%	7.05%	1.18%	91.77%	7.05%	1.18%
Customer Installations Other	79.81%	19.84%	0.35%	79.81%	19.84%	0.35%
FIL	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%
Metering Service	78.82%	20.89%	0.29%	78.82%	20.89%	0.29%
Billing Computation and Data	84.00%	15.85%	0.15%	84.00%	15.85%	0.15%
Bill Issue and Processing	90.36%	9.48%	0.17%	90.36%	9.48%	0.17%
Customer Service and Information	77.07%	22.53%	0.40%	77.07%	22.53%	0.40%
Revenue Related	58.48%	40.31%	1.21%	58.18%	40.63%	1.19%
Total	**58.83%**	**40.34%**	**0.83%**	**58.52%**	**40.66%**	**0.82%**

Figure BLB-D4: RDI Cost Allocations and ComEd Ex 3.14 Illustrative Cost Allocations



Q. **How does the illustrative ECOSS presented in ComEd Ex. 3.16 differ from the RDI ECOSS?**

A. The illustrative ECOSS presented in ComEd Ex. 3.16 differs from the RDI ECOSS with respect to the treatment of amounts identified as indirect uncollectible costs. The illustrative ECOSS presented in ComEd Ex. 3.16 treats indirect uncollectible costs in accordance with the Indirect Uncollectible Cost Study presented in ComEd Ex. 3.08.

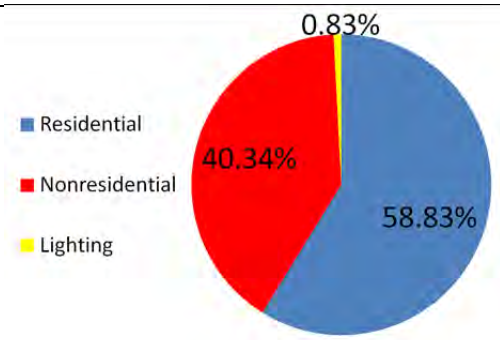
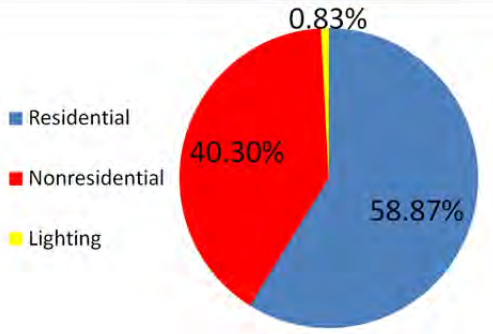
Q. **With respect to the three customer sectors, how do the cost allocations in the illustrative ECOSS presented in ComEd Ex. 3.16 compare to the cost allocations in the RDI ECOSS?**

A. The cost allocations to the three customer sectors in the RDI ECOSS and the illustrative ECOSS presented in ComEd Ex. 3.16 are provided in Table BLB-D8: RDI Cost Allocations and ComEd Ex. 3.16 Illustrative Cost Allocations and Figure BLB-D5: RDI Cost Allocations and ComEd Ex. 3.16 Illustrative Cost Allocations.

Table BLB-D8: RDI Cost Allocations and ComEd Ex. 3.16 Illustrative Cost Allocations

Cost Category	**RDI ECOSS**			**ComEd Ex. 3.16 Illustrative ECOSS**		
	Residential Sector	**Nonresidential Sector**	**Lighting Sector**	**Residential Sector**	**Nonresidential Sector**	**Lighting Sector**
HV ESS	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
HV Distribution Substations	46.32%	53.63%	0.05%	46.32%	53.63%	0.05%
HV Distribution Lines	45.18%	54.77%	0.05%	45.18%	54.77%	0.05%
Shared Distribution Substations	46.40%	53.55%	0.05%	46.40%	53.55%	0.05%
Secondary Voltage Distribution Substations	49.56%	49.53%	0.90%	49.56%	49.53%	0.90%
Shared Distribution Lines	46.44%	53.51%	0.05%	46.44%	53.51%	0.05%
Secondary Voltage Distribution Lines	75.39%	23.51%	1.10%	75.39%	23.51%	1.10%
Primary Voltage Transformers	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
Secondary Voltage Transformers	49.56%	49.53%	0.90%	49.56%	49.53%	0.90%
Service Connections	91.77%	7.05%	1.18%	91.77%	7.05%	1.18%
Customer Installations Other	79.81%	19.84%	0.35%	79.81%	19.84%	0.35%
FIL	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%
Metering Service	78.82%	20.89%	0.29%	78.82%	20.89%	0.29%
Indirect Uncollectibles	n/a	n/a	n/a	86.87%	22.71%	10.68%
Billing Computation and Data	84.00%	15.85%	0.15%	84.00%	15.85%	0.15%
Bill Issue and Processing	90.36%	9.48%	0.17%	90.36%	9.48%	0.17%
Customer Service and Information	77.07%	22.53%	0.40%	77.07%	22.53%	0.40%
Revenue Related	58.48%	40.31%	1.21%	58.52%	40.27%	1.21%
Total	**58.83%**	**40.34%**	**0.83%**	**58.87%**	**40.30%**	**0.83%**

Figure BLB-D5: RDI Cost Allocations and ComEd Ex 3.16 Illustrative Cost Allocations

RDI ECOSS	ComEd Ex. 3.16 Illustrative ECOSS
	

Q. **How does the illustrative ECOSS presented in ComEd Ex. 3.17 differ from the RDI ECOSS?**

A. The illustrative ECOSS presented in ComEd Ex. 3.17 differs from the RDI ECOSS with respect to the use of NCP allocation factors. NCP allocation factors that are developed in the RDI ECOSS are determined on the basis of delivery classes, while the NCP allocation factors that are developed in the illustrative ECOSS presented in ComEd Ex. 3.17 are determined on the basis of delivery classes for nonresidential and lighting customers but reduces the NCPs for the residential delivery classes proportionally so that the sum of these individual NCPs equals a single weather normalized NCP determined for the entire sector for residential customers.

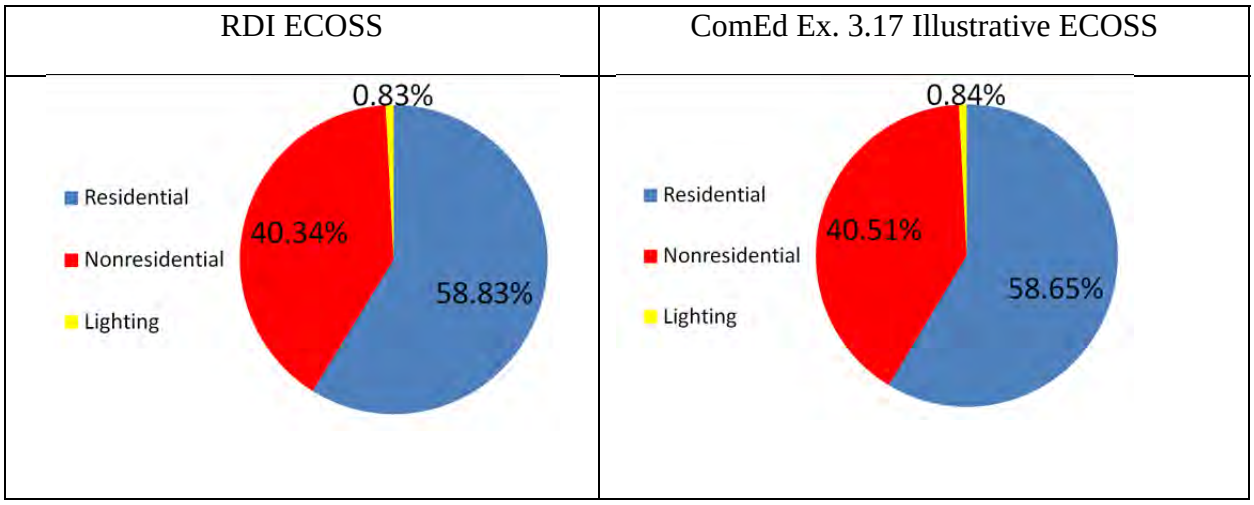
Q. **With respect to the three customer sectors, how do the cost allocations in the illustrative ECOSS presented in ComEd Ex. 3.17 compare to the cost allocations in the RDI ECOSS?**

A. The cost allocations to the three customer sectors in the RDI ECOSS and the illustrative ECOSS presented in ComEd Ex. 3.17 are provided in Table BLB-D9: RDI Cost Allocations and ComEd Ex. 3.17 Illustrative Cost Allocations and Figure BLB-D6: RDI Cost Allocations and ComEd Ex. 3.17 Illustrative Cost Allocations.

Table BLB-D9: RDI Cost Allocations and ComEd Ex. 3.17 Illustrative Cost Allocations

Cost Category	**RDI ECOSS**			**ComEd Ex. 3.17 Illustrative ECOSS**		
	Residential Sector	**Nonresidential Sector**	**Lighting Sector**	**Residential Sector**	**Nonresidential Sector**	**Lighting Sector**
HV ESS	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
HV Distribution Substations	46.32%	53.63%	0.05%	46.32%	53.63%	0.05%
HV Distribution Lines	45.18%	54.77%	0.05%	45.18%	54.77%	0.05%
Shared Distribution Substations	46.40%	53.55%	0.05%	46.40%	53.55%	0.05%
Secondary Voltage Distribution Substations	49.56%	49.53%	0.90%	47.99%	51.07%	0.93%
Shared Distribution Lines	46.44%	53.51%	0.05%	46.44%	53.51%	0.05%
Secondary Voltage Distribution Lines	75.39%	23.51%	1.10%	74.21%	24.64%	1.15%
Primary Voltage Transformers	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
Secondary Voltage Transformers	49.56%	49.53%	0.90%	47.99%	51.07%	0.93%
Service Connections	91.77%	7.05%	1.18%	91.77%	7.05%	1.18%
Customer Installations Other	79.81%	19.84%	0.35%	79.81%	19.84%	0.35%
FIL	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%
Metering Service	78.82%	20.89%	0.29%	78.82%	20.89%	0.29%
Billing Computation and Data	84.00%	15.85%	0.15%	84.00%	15.85%	0.15%
Bill Issue and Processing	90.36%	9.48%	0.17%	90.36%	9.48%	0.17%
Customer Service and Information	77.07%	22.53%	0.40%	77.07%	22.53%	0.40%
Revenue Related	58.48%	40.31%	1.21%	58.28%	40.50%	1.22%
Total	**58.83%**	**40.34%**	**0.83%**	**58.65%**	**40.51%**	**0.84%**

Figure BLB-D6: RDI Cost Allocations and ComEd Ex 3.17 Illustrative Cost Allocations



Q. **How does the illustrative ECOSS presented in ComEd Ex. 3.18 differ from the RDI ECOSS?**

A. The illustrative ECOSS presented in ComEd Ex. 3.18 differs from the RDI ECOSS with respect to the use of NCP allocation factors. NCP allocation factors that are developed in the RDI ECOSS are determined on the basis of delivery classes, while the NCP allocation factors that are developed in the illustrative ECOSS presented in ComEd Ex. 3.18 are determined on the basis of customer sectors. The four NCPs determined for the residential sector are the same reduced NCPs used in ComEd Ex. 3.17. The NCPs for the nonresidential delivery classes are also reduced proportionally so that the sum of these individual NCPs equals a single weather normalized NCP determined for the nonresidential sector. There is no change to the NCPs for the lighting delivery classes because the sum of the individual NCPs is the same as the single NCP for the lighting sector.

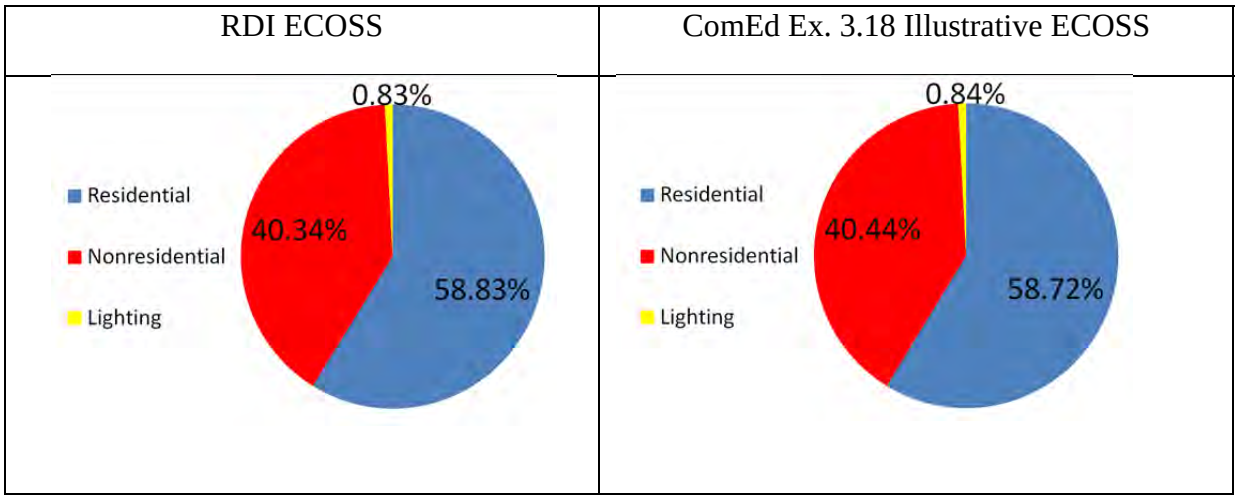
Q. **With respect to the three customer sectors, how do the cost allocations in the illustrative ECOSS presented in ComEd Ex. 3.18 compare to the cost allocations in the RDI ECOSS?**

A. The cost allocations to the three customer sectors in the RDI ECOSS and the illustrative ECOSS presented in ComEd Ex. 3.18 are provided in Table BLB-D10: RDI Cost Allocations and ComEd Ex. 3.18 Illustrative Cost Allocations and Figure BLB-D7: RDI Cost Allocations and ComEd Ex. 3.18 Illustrative Cost Allocations.

Table BLB-D10: RDI Cost Allocations and ComEd Ex. 3.18 Illustrative Cost Allocations

Cost Category	**RDI ECOSS**			**ComEd Ex. 3.18 Illustrative ECOSS**		
	Residential Sector	**Nonresidential Sector**	**Lighting Sector**	**Residential Sector**	**Nonresidential Sector**	**Lighting Sector**
HV ESS	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
HV Distribution Substations	46.32%	53.63%	0.05%	46.32%	53.63%	0.05%
HV Distribution Lines	45.18%	54.77%	0.05%	45.18%	54.77%	0.05%
Shared Distribution Substations	46.40%	53.55%	0.05%	46.40%	53.55%	0.05%
Secondary Voltage Distribution Substations	49.56%	49.53%	0.90%	48.63%	50.43%	0.94%
Shared Distribution Lines	46.44%	53.51%	0.05%	46.44%	53.51%	0.05%
Secondary Voltage Distribution Lines	75.39%	23.51%	1.10%	74.69%	24.15%	1.15%
Primary Voltage Transformers	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
Secondary Voltage Transformers	49.56%	49.53%	0.90%	48.63%	50.43%	0.94%
Service Connections	91.77%	7.05%	1.18%	91.77%	7.05%	1.18%
Customer Installations Other	79.81%	19.84%	0.35%	79.81%	19.84%	0.35%
FIL	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%
Metering Service	78.82%	20.89%	0.29%	78.82%	20.89%	0.29%
Billing Computation and Data	84.00%	15.85%	0.15%	84.00%	15.85%	0.15%
Bill Issue and Processing	90.36%	9.48%	0.17%	90.36%	9.48%	0.17%
Customer Service and Information	77.07%	22.53%	0.40%	77.07%	22.53%	0.40%
Revenue Related	58.48%	40.31%	1.21%	58.36%	40.42%	1.22%
Total	**58.83%**	**40.34%**	**0.83%**	**58.72%**	**40.44%**	**0.84%**

Figure BLB-D7: RDI Cost Allocations and ComEd Ex 3.18 Illustrative Cost Allocations



Q. **Do the illustrative ECOSSs allow the Commission to consider revenue requirement neutral tariff changes related to delivery service cost allocation and rate design?**

A. Yes. The RDI ECOSS, the 2013 FRU ECOSS, and each illustrative ECOSS presented in this direct testimony reflect the 2014 Rate Year Net Revenue Requirement of $2,334,330,000. Therefore, they are able to be analyzed and compared directly to each other and depict the impact on interclass allocations of such changes.

Q. **Could any Commission decisions made in that 2013 formula rate update proceeding have an impact upon the ECOSS?**

A. Yes. In the event the Commission directs ComEd to make adjustments to historical weather normalized billing determinants in the 2013 formula rate update proceeding, the ECOSS will be revised to provide for the incorporation of those adjustments in the determination of allocation factors, as applicable.

Q. **What is ComEd's position with respect to the illustrative ECOSSs presented in ComEd Exs. 3.10, 3.12, 3.14, 3.16, 3.17 and 3.18, and their corresponding allocation**

factors and primary/secondary analyses presented in ComEd Exs. 3.11, 3.13, 3.15, and 3.19, respectively?

A. ComEd takes no position at this time as to the relative merits of the methodologies applied in the preparation of the illustrative ECOSSs or their associated allocation factors and analyses attached to my direct testimony.

V. RESPONSES TO COMMISSION DIRECTIVES

Q. **How did ComEd respond to the directives in the 2010 Rate Case Order pertaining to (a) the employment of direct observation of ComEd distribution facilities, (b) sampling of ComEd distribution facilities, (c) the treatment of 4 kV facilities, and (d) the treatment of assets used to serve the ELL Delivery Class in cost analysis?**

A. In working to respond to these directives, the CA Distribution Study was prepared by CA and ComEd submitted it to the ICC and other stakeholders on November 8, 2011, with the initial filing of the 2011 FR Case. The CA Distribution Study addresses (a) the employment of direct observation of ComEd distribution facilities, (b) sampling of ComEd distribution facilities, (c) the treatment of 4 kV facilities, and (d) the treatment of assets used to serve the ELL Delivery Class in cost analysis. In the 2011 FR Case it was designated as Study Report #2. As previously noted, the CA Distribution Study was updated on March 14, 2013, and is attached to this direct testimony in ComEd Ex. 3.07. This study was updated to include Table 2.3 Comparison of Allocations in this Study and those in Docket No. 10-0467, which compares the allocation shares recommended by CA on the basis of the field observations and review performed by CA to those used by ComEd in the 2010 Rate Case. The updated study also includes minor changes to ComEd's description of certain allocation amounts. See ComEd Ex. 3.07 at pages 11-12.

ComEd's response to these directives is also addressed in ComEd Ex. 2.0 by Mr. Tenorio.

Also, as previously noted in this direct testimony, ComEd prepared an illustrative ECOSS, presented in ComEd Ex. 3.10, in which (a) the employment of direct observation of ComEd distribution facilities, (b) sampling of ComEd distribution facilities, (c) the treatment of 4 kV facilities, and (d) the treatment of assets used to serve the ELL Delivery Class are treated in accordance with the CA's findings in the CA Distribution Study. Table BLB-D5 provides the resultant cost allocation impacts of this treatment of distribution facilities on the three customer sectors.

Further, ComEd prepared an illustrative ECOSS, presented in ComEd Ex. 3.12, in which just 4 kV facilities are treated in accordance with CA's finding in the CA Distribution Study. Table BLB-D6 and Figure BLB-D3 provide the resultant cost allocation impacts of this treatment of 4 kV facilities on the three customer sectors.

ComEd also prepared an illustrative ECOSS, presented in ComEd Ex. 3.14, in which CA's findings in the CA Distribution Study are incorporated, except those pertaining to the treatment of 4 kV facilities. Table BLB-D7 and Figure BLB-D4 provide the resultant cost allocation impacts of this treatment of distribution facilities on the three customer sectors.

Q. **How did ComEd respond to the directive in the 2010 Rate Case Order pertaining to the treatment of indirect uncollectible costs in cost analysis?**

A. ComEd submitted Study Report #4, *Commonwealth Edison Company Study Reports Called For by the Order in Docket No. 10-0467 Indirect Collectible Costs*, to the ICC and other stakeholders on November 8, 2011, with the initial filing of the 2011 FR Case.

The Indirect Uncollectible Cost Study presented in ComEd Ex. 3.08 is an update to Study Report #4. Also, as previously noted in this direct testimony, the illustrative ECOSS presented in ComEd Ex. 3.16 treats indirect uncollectible costs in accordance with the results of the Indirect Uncollectible Cost Study. Table BLB-D8 and Figure BLB-D5 provide the resultant cost allocation impacts of this treatment of indirect uncollectible costs on the three customer sectors.

Q. **How did ComEd respond to the directive in the 2010 Rate Case Order to analyze distribution cost allocation methodologies used by other utilities in their cost of service studies?**

A. CA performed the analysis as directed and prepared the CA Cost Allocation Survey, which ComEd submitted to the ICC and other stakeholders on November 8, 2011, with the initial filing of the 2011 FR Case. In that case it was designated as Study Report #1. The CA Cost Allocation Survey is attached to this direct testimony in ComEd Ex. 3.09.

Q. **How did ComEd respond to the directive in the Docket No. 11-0498 Order pertaining to the use of a single NCP allocation factor for the residential sector in cost analysis?**

A. As previously noted in this direct testimony, ComEd prepared two illustrative ECOSSs, ComEd Exs. 3.17 and 3.18, for which certain distribution facilities costs are allocated based on a single NCP allocation factor for a customer sector(s) rather than for individual delivery classes. The NCP allocation factors developed for these two ECOSSs are determined in ComEd Ex. 3.19. The cost allocations to the three customer sectors in the RDI ECOSS and the illustrative ECOSSs presented in ComEd Exs. 3.17 and 3.18 are

provided in Tables BLB-D9 and BLB-D10, respectively, and graphically represented in Figures BLB-D6 and BLB-D7, respectively.

VI. CONCLUSION

Q. **What general conclusions can be drawn from your direct testimony?**

Five general conclusions can be drawn from this direct testimony. First, the underlying methodologies used to functionalize and allocate costs in the RDI ECOSS remain consistent with what the Commission approved in the 2010 Rate Case. Second, the changes in the RDI ECOSS when compared to the 2013 FRU ECOSS are generally updates in nature or are reflective of Commission directives. Third, ComEd is providing six illustrative ECOSSs that have differing allocations of costs to the fifteen delivery classes based upon previous Commission directives. This information is presented in order to provide the Commission and the parties with information they may use to evaluate the implications of certain matters the Commission previously indicated an interest in considering. Fourth, ComEd takes no position at this time with respect to the relative merits of the methodologies employed in the 2013 FRU ECOSS, the RDI ECOSS, or any of the illustrative ECOSSs attached to this direct testimony. Finally, ComEd has responded to Commission directives pertaining to cost identification and allocation in the 2010 Rate Case Order, the 2011 FR Case Order, the Docket No. 11-0498 Order, and the 2012 FR Update Case Order.

Q. **Does this complete your direct testimony?**

A. Yes.