STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

ILLINOIS COMMERCE COMMISSION, On Its Own Motion	: :	
v.	:	No. 08-0532
COMMONWEALTH EDISON COMPANY Investigation of Rate Design Pursuant to Section 9-250 of the Public Utilities Act	: : :	

INITIAL BRIEF OF THE ILLINOIS INDUSTRIAL ENERGY CONSUMERS

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Pursuant to Section 200.800 of the Rules of Practice of the Illinois Commerce Commission ("ICC" or "Commission") (83 Ill. Adm. Code Part 200.800), and the briefing schedule set by the Administrative Law Judges ("ALJs"), the Illinois Industrial Energy Consumers ("IIEC" or "IIEC Companies") present their Initial Brief in this docket for the Commission's consideration. IIEC is a diverse group of large electricity consumers, including Abbott Laboratories, Inc., Caterpillar Inc., Enbridge Energy, LLP, ExxonMobil, General Iron Industries, ArcelorMittal USA, Sterling Steel Company, and Thermal Chicago, as well as the University of Illinois.

INTRODUCTION

This proceeding was initiated by the Commission under Section 9-250 of the Public Utilities Act (220 ILCS 5/9-250) pursuant to its Order of September 10, 2008 ("Initiating Order") in this docket. The Commission directed that Commonwealth Edison Company ("ComEd") provide an updated Embedded Cost of Service Study ("ECOSS") that cured the deficiencies the Commission identified in the ECOSS ComEd presented in its most recent rate case, *Re Commonwealth Edison Company*, ICC Dkt. 07-0566. (Initiating Order at 4).

The IIEC Companies participated in this case as delivery service customers directly and adversely affected by deficiencies the Commission found in ComEd's ECOSS in Docket 07-0566. (*See* Initiating Order, at 2, 3, 4). In particular, the IIEC Companies are harmed by the failure of ComEd's ECOSS in Docket 07-0566 to accurately separate and allocate the costs caused by customers taking service at primary voltages (between 4 kV and 69 kV) from those caused by customers taking service at secondary voltages (less than 4 kV). That deficiency has not been

corrected by the revisions ComEd has proposed in response to the Commission's directive to provide an updated ECOSS that "cures the deficiencies" outlined by the Initiating Order. (Initiating Order at 4).[1] IIEC did not address the other deficiencies identified by the Commission, in this docket.

The record in this proceeding requires the Commission to choose between two distinct approaches to determining costs of service for ComEd ratepayers. The first approach, favored by IIEC, adheres to the Commission's cost causation principles by allocating costs on the basis of the purpose (or function) for which costs are incurred or facilities are used. (*See* Initiating Order at 2 (referring to the Commission's "explicit policy objective of assigning costs where they belong"). "[S]eparating and properly allocating primary and secondary service costs" was an express objective of the Commission's initiation of this investigation. (*Id*. at 2, 3, 4). Cost causation principles require that costs incurred to provide distribution service to customers at secondary voltages be assigned or allocated to customers taking service at secondary voltages, and not to customers taking service at primary voltages. The Commission has already found that a failure to allocate costs in this manner is a substantial cost study deficiency. (*Id.* at 1).

The second approach, favored by ComEd, relies on consideration of the voltage at which facilities are energized (albeit inconsistently) and an unusual definition of ComEd's secondary system, instead of on cost-causation principles, to separate and allocate primary and secondary service costs. ComEd draws a bright line that separates primary and secondary facilities in its

[1] IIEC makes reference below to the revised or updated ECOSS presented in this case as he "Revised ECOSS" or the "Updated ECOSS" or the "ComEd ECOSS".

distribution system, without adequate regard to their purpose or the type of service they provide. Furthermore, ComEd's approach, which purports to distinguish primary and secondary facilities, draws its bright line at an illogical and counter-intuitive point on the distribution system - - at a point where the voltage does not change.

ComEd's size-based customer class definitions fail to reflect any differentiation in customer service voltage levels. As a result, constitute a barrier to fully reflecting the results of a properly performed primary/secondary analysis.

ComEd rejects suggestions that the utility use data that could more accurately determine or verify its costs of service to distinctive customer groups because, according to ComEd, those steps are too hard. The evidence of record shows that there are practicable alternatives to the resource-intensive processes ComEd describes and rejects. Indeed, ComEd has identified and used some of them -- on a very limited basis -- in its revised ECOSS.

At its heart, ComEd's approach arbitrarily defines assets as secondary or primary (mainly, but not consistently) on the basis of the voltages at which they are energized, then allocates those asset costs to the customer classes ComEd deems appropriate. ComEd's definitional approach does not take adequate account of why facilities costs are incurred, what service they provide, what customers are served by the costs incurred, or to whom those costs should be allocated under cost causation principles. The mechanistic processes of ComEd's definition-based P/S analysis ignore the function of the costs ComEd incurs and does not advance the express cost-causation objectives of the Commission order that initiated this investigation.

IIEC presented testimony in this proceeding addressing the primary/secondary analysis ComEd incorporated into the ECOSS it presented in this case. Specifically, IIEC offered the testimony of Robert R. Stephens (Direct: IIEC Ex. 1.0 and 1.1 and Rebuttal: IIEC Ex. 3.0 and 3.1), David L. Stowe (Direct: IIEC Ex. 2.0, 2.1-2.5 and Rebuttal: IIEC Ex. 4.0, 4.1-4.4), and James R. Dauphinais (Rebuttal: IIEC Ex. 5.0.)

Mr. Stephens discussed how ComEd's rate class structure does not allow for full and efficient recognition of cost differences in serving customers at different voltages. Also, he presented sample rates that reflect the corrective modifications to ComEd's P/S analysis identified in the direct testimony of IIEC witness Stowe.

Mr. Stowe addressed deficiencies in the distribution system analyses ComEd performed, to determine the costs of serving its primary and secondary customers. He identified errors that persist in ComEd's assignment or allocation of distribution system costs to customers taking service at primary voltage ("primary voltage customers") and to customers taking service at secondary voltage ("secondary voltage customers").[2] He proposed specific modifications to some (though not all) deficiencies he found in ComEd's primary/secondary analysis.

Mr. Dauphinais discussed the fundamental inconsistency between (i) ComEd's proposed definition (functionalization) of primary-to-secondary voltage line transformers ("line

[2] "Taking service" at a certain voltage in this brief means the voltage of the line or lines entering a customer's premises. Staff uses a matching definition. (Lazare, Nov. 3 Tr. at 480-481). ComEd does not provide such a definition of taking service for customers below 69kV. However, its tariff adopts the voltage of the facilities entering the customer's premises to define its High Voltage delivery service. (ComEd General Terms and Conditions, Ill.C.C. No. 10, Original Sheet Nos. 136-137)

transformers"), and single-phase primary voltage circuits as primary distribution facilities; and (ii) ComEd's long standing functional split of its delivery service facilities and costs between transmission and distribution service. ComEd's split between transmission and distribution facilities and costs, on the basis of the function they serve, is detailed and consistent and is not based solely on voltage. Conversely, ComEd's definitional primary/secondary split in this case is arbitrary, inconsistent, and divorced from function and causation.

IIEC recommends that in its order in this investigation proceeding, the Commission:

1. Direct ComEd to modify its primary/secondary analyses and its ECOSS in accordance with IIEC's recommendations and to present, in its next rate case, a revised ECOSS that incorporates appropriately modified primary/secondary analyses.

2. Refuse to use -- for any purpose -- either ComEd's original ECOSS (which the Commission has found deficient) or the revised ECOSS ComEd presented in this case, unless the modifications recommended by IIEC have been incorporated.[3]

3. If ComEd's ECOSS, as modified by IIEC, is used to adjust rates in this case, direct that the rates provided by IIEC witness Stephens in his Rebuttal Testimony (IIEC Ex. 3.1) be the basis for any modified rates. Although these illustrative rates do not

[3] To clarify ComEd's tariff definitions, the Commission also should direct that ComEd define "service voltage" for customers not in its High-Voltage (69 kV) classification in the same way it defines service voltage for High-Voltage class customers, i.e., according to the voltage of ComEd's lines entering the customer's premises.

reflect a complete remedy for the deficiencies in ComEd's analysis, as described by IIEC, they are superior to ComEd's calculated rates.

ARGUMENT

A. The Commission-Identified Failure of ComEd's ECOSS to Properly Allocate Costs of Primary and Secondary Service Has Not Been Cured.

The Initiating Order in this docket noted that the Commission had found "substantial deficiencies in specific elements of the ECOSS" ComEd presented in Dkt. 07-0566.[4] According to the Commission, those deficiencies were sufficiently serious that they rendered the study problematic for use in setting rates. *Re Commonwealth Edison Company*, ICC Dkt. 07-0566, Final Order, Sept. 10, 2008 ("*Dkt. 07-0566 Order*") at 213). The Commission stated: "Having considered the evidence and arguments of the parties, the Commission finds that the ECOSS is deficient in not separating and properly allocating primary and secondary service costs." (*Id*. at 207).

While ComEd's first attempt at performing a P/S analysis to identify and separate the costs of primary and secondary service, has produced ECOSS modifications that move its results closer to a proper cost of service allocation, it has not taken adequate account of cost causation. In this inaugural P/S analysis, ComEd has failed to make full use of its own data or the procedures used by more experienced utilities. Those simple steps could cure many of the cost allocation deficiencies remaining in ComEd's flawed P/S analysis. Such failures, established by the evidence of record, suggest strongly that ComEd gave higher priority to preserving the bulk of its original ECOSS than

[4] The Commission actually found ComEd's ECOSS deficient in several respects. IIEC has focused its presentation in this case on one of those deficiencies - ComEd's P/S analysis. IIEC's failure to address any other deficiency should not be considered acceptance of ComEd's or any other party's position on that issue.

to responding seriously to the Commission finding that ComEd's ECOSS "is deficient in not separating and properly allocating primary and secondary service costs." (*Id.* at 207).

The major deficiency in ComEd's Revised ECOSS is due principally to the fact that its primary/secondary analysis does not distinguish the costs of serving customers at primary voltages from the costs of serving customers at secondary voltages. Under ComEd's approach, the fundamental task of identifying the costs of primary and secondary service is largely a matter of definition. ComEd's arbitrary definitions do not consider the functions of the various facilities that make up its distribution system, or of other costs it incurs to serve customers at primary or secondary voltages. Rather, ComEd has relied upon an arbitrary, inconsistently applied definition of its primary system facilities as the root determinant of the costs of service to primary and secondary customers.

Citing existing tariff provisions, ComEd's main witness Lawrence Alongi testified that ComEd defines its primary system as follows:

> The Company's primary distribution system utilizes electric facilities to distribute electricity at the following common nominal voltages: 4,000 volts, 12,000 volts, and/or 34,500 volts. However, in certain individual situations, the Company's primary distribution system utilizes electric facilities to distribute electricity at 69,000 volts, 138,000 volts, or 345,000 volts, if the Company determines that distribution at such nominal voltage is more economical, efficient, or reliable than distribution at a voltage listed in the first sentence of this paragraph. (Alongi, ComEd. Ex. 6.0, 9:259-269).

In ComEd's P/S analysis, costs associated with facilities that are energized at primary voltage are deemed costs of primary service, regardless of the function they perform the service they are used to provide the customers they serve. ComEd's secondary system, and its secondary costs of service,

are those facilities and costs not categorized (by definition) as primary. ComEd defines secondary customers as primary customers because they "bypass" its defined secondary system. ComEd's stated objective was to "assign[] costs associated with the secondary distribution system to customers that take service from the secondary distribution system," as ComEd defines it. (*Id.* at 8:240).

However, there are notable deviations from ComEd's supposedly straight-forward, tariffed definition of its primary system. Mr. Alongi testified, with respect to a particularly consequential deviation from the tariffed definition. He stated that "ComEd used the simple guiding principle that the assignment of a transformer to primary versus secondary is determined by the voltage of the source side of the transformer, not the load side of the transformer," even though such transformers are not "utilized to distribute electricity at common nominal voltages: 4,000 volts, 12,000 volts, and 34,500" or at higher voltages." (*Id.* at 10:270-272, 9:259-263). The "principle" is indeed simple, but it ignores cost causation and is inconsistent with functionalization of its transmission and distribution system.

ComEd's arbitrary deviation from its claimed voltage-based definition, underlies the ECOSS' treatment of the cost of line transformers used to reduce voltage to below 4 kV. This is one of the most egregious examples of the distortions that arise from ComEd's definitional (as opposed to functional) approach to identifying the cost of primary and secondary costs of service. Despite the fact that such line transformers are needed and used only for service to secondary voltage customers (taking service at less than 4 kV) -- and ComEd assigns 100% of those facilities and costs to primary and allocates the costs among all customers accordingly. (*See,* IIEC Ex. 2.0 at 19:407-

413). Assigning cost responsibility without regard to whether the facilities and costs are needed to serve primary customers or secondary customers violates the Commission's "explicit policy objective of assigning costs where they belong." (*Dkt. 07-0566 Order* at 206). ComEd's approach also yields other nonsensical results. For example, in ComEd's P/S analysis: (i) almost half of ComEd's non-secondary (primary) customers are (according to ComEd) members of a residential class,[5] (ii) customers who take service at secondary voltages can be categorized as primary customers; and (iii) the border between ComEd's primary and secondary distribution systems is at a point where facilities on both sides operate at secondary voltage. (ComEd Ex. 6.0 at 16:403-406; ComEd Ex. 10.0C at 5:128-6:132; IIEC Ex. 2.0 at 7:136-141 *quoting* ComEd Ex. 2.2, page 6 of 7, Table 5; Lazare, Nov 3 Tr. at 486:5-16).

As IIEC details below, more work is needed before ComEd's ECOSS truly reflects the costs of serving primary voltage and secondary voltage customers. The Commission should find that ComEd's ECOSS and the primary/secondary analysis it incorporates do not "cure the deficiencies" the Commission identified and that it remains unsuitable for modifying rates in this case.

B. ComEd's Separation and Allocation of the Costs of Primary and Secondary Service Remains Deficient. IIEC Has Provided Needed Modifications.

ComEd has failed to respond seriously to the Commission's directive to properly separate and allocate primary and secondary service costs. (IIEC Ex. 2.0 at 13:249). In the P/S analysis incorporated in its ECOSS, ComEd ignored the requirements of the Initiating Order and of cost

[5] Mr. Stowe interprets the ComEd data as showing an even greater percentage of residential customers taking service at secondary voltages classified by ComEd as non-secondary (primary) customers. (IIEC Ex. 2.0 at 7:136, Table 1).

causation principles. ComEd limited its objective to separating its facilities costs into primary and secondary level baskets, making "the unsubstantiated assumption that voltage level equates to cost responsibility, i.e., that facilities operating below 4 kV are used exclusively to serve secondary customers, while facilities operating above 4 kV serve all customers equally."[6] (*Id.* at 13:266, 15:315). ComEd's objective was "very different from the objective of determining the costs of serving primary and secondary customers." (*Id.* at 13:267). ComEd's primary/secondary analysis is based on these fundamental errors in objective and causation.

IIEC's cost of service expert, Mr. Stowe, who has performed such studies in the past, examined ComEd's P/S analysis in detail and identified its major deficiencies. He also recommended corrective actions the Commission should order ComEd to take to correct or mitigate the principal deficiencies he found. (*See generally* IIEC Ex. 2.0, IIEC Ex. 4.0). His recommendations and the flaws they address are discussed below, beginning with the conceptual shortcomings of ComEd's P/S analysis, then moving through its mechanical missteps.

1. ComEd's P/S Analysis Ignores Function and Cost Causation to Apply Arbitrary Facility and Cost Definitions

ComEd's P/S analysis focuses on defining facilities as either primary or secondary. ComEd's cost categorizations are based on inconsistently applied voltage distinctions (*contrast* IIEC Ex. 2.0 at 11:228 and IIEC Ex. 4.0 at 13, n.5), an arbitrary "guiding principle" (ComEd Ex. 6.0 at

[6] This is an erroneous assumption, as reveled by ComEd's response to IIEC Daa Request 4.03, which acknowledged that ComEd allocates to primary customers the costs of primary voltage facilities that are used exclusively to serve secondary customers. (IIEC Ex. 2.0 at 15: 318). That erroneous assumption substantially overstates the cost responsibility of primary customers.

10:270), and engineering judgments that lack record support or are contradicted by, *inter alia*, the utility's own data (*e.g.*, IIEC Ex. 2.0 at 19:407-413). What is absolutely clear is that the bases for ComEd's categorization of its distribution system costs do not include either the function of the facilities or whether they are used in providing primary service or secondary service.

> Mr. Alongi's limited objective of determining the cost of equipment operating at primary and secondary voltages is very different from the objective of determining the costs of serving primary and secondary customers. The first objective focuses on cost of equipment above and below an operating voltage threshold, regardless of the customers served by that equipment, while the second objective focuses on the actual costs incurred to serve particular customers, regardless of the voltage level of the facilities providing service. (IIEC Ex. 2.0 at 13:266-272).

The entirety of ComEd's primary/secondary analysis rests on this seminal definitional exercise. Though facilities are purportedly categorized as primary or secondary based on the voltage level at which they operate, line transformers, line transformer taps, line transformer attachments, grounding wires, *et alia* are simply defined out of ComEd's secondary distribution system. As a result, even though ComEd's data show that approximately 90% of its line transformers were purchased to reduce the voltage of electricity to provide service at secondary voltage levels, 100% of its transformer-related distribution costs are assigned to primary. (IIEC Ex. 2.0 at 19:397-413). Similarly, grounding wires, which are used on primary and secondary systems alike, are assigned solely to primary. (Alongi, Nov. 3 Tr. At 583:1-584:12; ComEd Ed. 1.5). Using its definitions of the primary and secondary distribution systems, ComEd defines a primary customer as one that "bypasses" the secondary distribution system, even if the customer is served at secondary voltage.

The remaining customers on ComEd's distribution system are its secondary customers. (ComEd Ex. 6.0 at 10:277-292).

A properly conducted P/S analysis can distinguish the costs of serving secondary voltage customers from those incurred to serve primary voltage customers. In a proper analysis, "the secondary distribution system is the portion of the distribution system that operates at secondary voltage levels and is necessary for the distribution of electricity to customers who take service at those voltage levels." (IIEC Ex. 4.0 at 7:141-143). Logically, these customers would be the secondary voltage customers. Primary distribution facilities and primary voltage customers would be similarly (logically) identified. Such a proper analysis would, for example, assure that primary voltage customers, who receive service prior to its transformation and do not use distribution system facilities that operate at secondary voltages, are not allocated costs of transformation or of facilities that operate at secondary voltages. ComEd's P/S analysis makes no attempt to assure that such costs follow their function or causation. (IIEC Ex. 2.0 at 249 ("The most egregious error is that ComEd's analysis does not attempt to identify the cost of serving secondary and primary customers.")). Instead, ComEd indulges its preference for definitions over function in the assignment of these costs to primary or secondary.

ComEd extends its definitional approach to the separation and allocation of primary and secondary costs by impressing its size-based customer class definitions on top of its facilities definitions. Together, those definitions constitute ComEd's cost allocation methodology. All cost allocation determinations are made at the level of ComEd's size-based customer classes. (Heintz, Nov 2 Tr. at 354:19-355:3). ComEd assumes that each class of customers uses the secondary

distribution system in proportion to its total demand -- not just the demand attributable to service provided at secondary voltages. (Heintz, Nov 2 Tr. at 372:14-373:2).

ComEd's analysis does not address the basic ECOSS deficiencies the Commission identified when it examined ComEd's ECOSS in Docket 07-0566.

> This failure of the ECOSS to separate costs results in customers who only take service at primary voltages paying substantial amounts of secondary distribution costs attributable to other customer classes. (Final Order, Docket No. 07-0566 at 206).

Yet, at no point does the function performed or the customers served by particular facilities or incurred costs -- or cost causation in any other form -- take the lead role in ComEd's P/S analysis.

ComEd vigorously defends its decision not to conduct a functional, cost causation focused approach to identifying and separating the costs of primary and secondary distribution service in its P/S analysis. Ostensibly, ComEd's opposition is based on its lack of sufficient accounting data to conduct the primary/secondary analysis properly and on its position that the costs of alternative data collection or estimation processes to permit proper allocations outweigh the benefits of tracking cost causation. (ComEd Ex. 10.0C at 7:154). ComEd's conclusion is wrong. ComEd uses just such a functional approach when identifying and separating its transmission and distribution costs. That functionalization does not rely on accounting data, but rather on an examination of the functions of the facilities and costs being categorized. That functionalization process is a model for what ComEd could do for distribution costs. (*See generally* IIEC Ex. 5.0). ComEd's opposition seems to be tied to the perceived inconvenience of categorizing assets in a manner different from its traditional

accounting -- though ComEd does not deny that it could modify its approach if so directed. ComEd questions only the cost-benefit balance of doing so. (ComEd Ex. 10.0C at 7:154).

Later in this brief, IIEC identifies a slate of practicable costing practices used by utilities with experience performing primary/secondary analyses (and to a limited extent by ComEd in its P/S analysis) that permit more appropriate cost allocations. Moreover, ComEd's definitional P/S analysis is fundamentally at odds with the functional (cost causation) approach it already uses to separate and assign transmission and distribution costs, and with the Commission's directive. (IIEC Ex. 5.0 at 4:70-74; Initiating Order at 2).

Mr. Stowe's functional look at ComEd's distribution system revealed three distinct categories of facilities and costs (primary, secondary and general sub-systems) that are identified in his testimony. (*See* IIEC Ex. 2.0 at 4:73-80). That more refined separation of distribution costs, by itself, could do much to prevent "customers who only take service at primary voltages paying substantial amounts of secondary distribution costs attributable to other customer classes." Final Order, Dkt. No. 07-0566 at 206). As discussed later, Mr. Stowe's testimony and ComEd's revised allocations based on record or visual sampling demonstrate that such a separation of costs can be accomplished without great expense.

Had ComEd performed a functional identification and separation of primary and secondary distribution costs in its P/S analysis, the ECOSS could have been easily modified to incorporate the allocation of costs based on causation. ComEd's cost of service study expert (Alan Heintz) testified that his ECOSS calculations could have accommodated primary and secondary distribution costs split by function or costs split by percentages reflecting relative usage -- had ComEd provided them.

In the ECOSS he presented, however, Mr. Heintz relied entirely on the P/S analysis of ComEd, performing no validation checks of the primary and secondary cost splits ComEd provided. (Heintz, Nov. 2 Tr. at 363:14-364-9).

ComEd appears to assume (implicitly if not explicitly) that it is enough that its deviation from cost causation is "systematic" (ComEd Ex. 7.0 at 5:103). However, the magnitude of the mis-allocated costs affected by its improper separation of facilities costs belie any supposition that substituting definitions for separation and allocation based on cost causation is insignificant. Mr. Stowe noted, for instance, that the mis-assignment of the costs of line transformers -- which function principally as secondary (as nearly 90% provide service only at secondary voltages), but are primary by definition in ComEd's P/S analysis -- is about $903 million. (IIEC Ex. 2.0 at 19:397-413). Other transformer related facilities, equipment, and costs are mis-assigned in tandem, with an additional $386.6 million impact on primary customers. (*Id.* at 18:384).

Because ComEd's P/S analysis fails to consider the function and cost causation of the elements of its distribution system, relying on arbitrary definitions to identify the facilities that are to be in the primary and secondary systems, the P/S analysis in this case remains deficient.

2. The P/S Analysis Should Be Modified to Incorporate IIEC's Recommended Sub-System Definitions. ComEd's Definitions of Its Primary/Secondary Systems Are Illogical, Internally Inconsistent, and Inconsistently Applied and They Contradict ComEd's Functional Determination of Its Transmission and Distribution Systems.

Based on his review of data provided by ComEd, Mr. Stowe described the Company's distribution system as being composed of three separate distribution sub-systems ("secondary," "primary," and "general") with distinctive cost causation attributes. The secondary distribution

sub-system, functionally determined by Mr. Stowe, distributes electricity exclusively to secondary customers, those receiving service at secondary voltages. (IIEC Ex. 2.0 at 4:73-80). It is composed of multi-phase primary feeder circuits, single-phase primary lateral circuits, and the extensive network of conductors and cables that operate at secondary voltage levels. One characteristic that distinguishes the secondary distribution sub-system from the other two is that it consists of both primary and secondary voltage circuits, yet serves only secondary customers. (*Id.*, at 8:154). Some facilities that may be energized at primary voltage levels, are used exclusively to serve secondary customers. (*Id.*, at 8:163). In contrast, what ComEd refers to as its "secondary system" consists only of the network of conductors and cables that connect to the Leads from the secondary side of a line transformer, and extend from pole-to-pole or underground from pad mounted transformer to pedestal, not all of the components necessary for providing service at secondary voltages. (*Id.* at 9:182-190).

Similarly, primary distribution sub-system, functionally determined by Mr. Stowe, distributes electricity exclusively to primary customers, those taking service at primary voltages. The distinguishing characteristic of this sub-system is that it consists of primary voltage circuits that serve only primary customers. (*Id.*, at 4:73-80, 10:198). The "general distribution sub-system," as functionally determined by Mr. Stowe, serves both primary and secondary customers. (*Id.*). An example would be the "community transformers" described in Table S1 of the surrebuttal testimony of ComEd withess Lawrence Alongi. (ComEd Ex. 10.0C at 12:272).

Customers who do not receive any benefit from a particular distribution sub-system and do not cause any of that sub-system's costs to be incurred, should not be allocated any of its costs.

However, ComEd's definition-based P/S analysis does not prevent such misallocations of distribution costs. (*See, e.g.*, IIEC Ex. 4.0 at 2:22-3:46; Heintz, Nov 2 Tr. at 364:20-365:6; Lazare, Nov 3 Tr. at 479:20-480:5).

ComEd's P/S analysis categorizes, by definition, certain facilities as primary distribution facilities even though they are used exclusively to provide service at secondary voltages -- line transformers and single-phase primary voltage level circuits, in particular. That categorization is not only unreasonable, but conceptually inconsistent with its longstanding functional split of its delivery facilities between transmission and distribution. (IIEC Ex. 5.0 at 2:28-31). Pursuant to the seven-factor test established by the Federal Energy Regulatory Commission's Order No. 888, a distinct set of guidelines developed in cooperation with other Illinois utilities ("Whitepaper Regarding General Guidelines for Delineation of Transmission and Local Distribution Facilities"), and a more detailed set of procedures ComEd developed for its system, ComEd determines the transmission and distribution portions of its delivery system on a functional basis. (*Id.* at 5:93-6:100). In its P/S Analysis, ComEd assigns line transformers and transformer-related facilities and equipment to primary instead of secondary. That assignment is based on the voltage of the source (high) side of the transformer and ignores the load side voltage from which service is provided. (ComEd Ex. 6.0 at 10:270; IIEC Ex. 2.0 at 17:369-18:377). The functionalization of transmission-distribution transformers and related facilities differs from the line transformers situation only in the voltage levels of the facilities. Yet, ComEd did not automatically categorize transformers with a transmission level high side voltage as transmission facilities. Even where the input voltage of facilities was at transmission levels, the facilities were not functionalized as transmission because

they were not used to provide service to transmission customers, but rather to distribution customers. (IIEC Ex. 5.0 at 6:104-115). When such facilities served other transmission facilities or upstream generation facilities, they were functionalized as transmission. Facilities were consistently categorized on the basis of their function, not their labels. (*Id.* at 6:113-115).

As ComEd recognized in the Commission docket considering approval of its functionalization process, the reason for this function-based categorization of facilities and costs is to ensure that customers will be appropriately charged for the use of those assets necessary to provide the services they are using, but not for the use of other assets not required to provide the customers' service. (*Id.*, at 7:129-132). This is essentially the goal in this case as well.

Under a consistent application of the principles used to split its transmission and distribution facilities, ComEd's P/S analysis would also split facilities on function. Facilities used to deliver electricity to customers at primary voltages would be categorized as primary, and those used to meet secondary voltage level customer demands would be categorized as secondary. Function and cost causation, not arbitrary definitions, would determine the categorization of facilities and costs for rate setting purposes.

3. The Most Significant Specific Problems in ComEd's P/S Analysis Can Be Resolved By IIEC's Recommended Modifications

Below, IIEC reviews a number of the significant flaws in ComEd's P/S analysis. Each contributes to the ECOSS' continued status as problematic for setting rates. These problems would be eliminated or mitigated if the Commission orders ComEd to implement a functional (cost causation) separation and allocation of primary and secondary costs. That is the correct, and IIEC's

preferred, remedy. However, IIEC also identified "patches" to correct -- on an interim basis -- the problems arising from ComEd's use of a definitional P/S split as a substitute for cost allocations based on cost causation. If the Commission decides that less than comprehensive corrections to ComEd's P/S analysis are appropriate at this point in ComEd's development of a proper study, it should order application of the "patches" IIEC has identified.

Secondary Line Transformers and Taps. For purposes of ComEd's P/S Analysis line transformers and related equipment are defined out of the secondary system. ComEd assigns to the primary sub-system the cost of transformers and equipment with the principal (if not sole) function of reducing primary voltage to a secondary voltage to provide electricity to customers at secondary voltages. (IIEC Ex. 2.0 at 18: 391-393). Whether ComEd decides, for its own reasons, to provide service at secondary voltage through a line transformer (and short tap wires), which ComEd considered "bypass" of secondary facilities, or through a transformer (and tap wires) plus any length of secondary distribution line or cable, should not determine whether a customer is a primary or a secondary customer. (IIEC Ex. 5.0 at 5:81-88; IIEC Ex. 4.0 at 6:123-130). Yet that is the result of ComEd's P/S split. As Mr. Stowe discusses in his rebuttal testimony, a very short length of line or cable operating at a secondary voltage is always needed between a primary-to-secondary line transformer and a customer's service drop. (IIEC Ex. 5.0 at 3:37-40, fn.3). However, ComEd's decision to define secondary voltage taps (i.e., the short wires attached to the low voltage side of the primary-to-secondary line transformer) out of the secondary distribution system creates primary customers who are actually served at secondary voltage. It also means that the dividing point between ComEd's primary and secondary systems is at a point where the facilities above and below

the demarcation point both operate at a secondary voltage. These are results of ComEd's elevation of its arbitrary definitions over function and cost causation principles in its ECOSS.

If the Commission orders only interim P/S study fixes, Staff's cost expert, Peter Lazare, described an appropriate interim corrective measure for the treatment of line transformers (and possibly transformer-related facilities and equipment).[7] Line transformer costs should not be allocated to customers taking service at primary voltages. (Lazare, Nov. 3 Tr. at 489:8-12). Mr. Lazars agreed that "any customer receiving service at the primary level should not have to pay for any of the transformer costs that transform electricity from primary to secondary levels." (Lazare, Nov. 3 Tr. at 489:8-12).

Single-Phase Primary Radial Circuits. ComEd's P/S analysis assigns to primary customers the costs of lateral primary circuits that are used exclusively to serve secondary customers. (IIEC Ex. 2.0, 14-15: 279-311).

Customers taking service at primary voltages are assigned those costs simply because ComEd labels all such facilities as primary. Though single-phase radials operate at primary voltages, only single-phase facility users -- all of whom take service at secondary voltages -- can benefit from these facilities. These facilities should be assigned to secondary,

This misassignment can be remedied on an interim basis simply by recognizing obvious cost causation facts and discarding ComEd's arbitrary definition as the determinant of cost assignment. The costs of these readily identified facilities should be assigned to the costs of secondary service.

[7] Mr. Lazars's position respecting the wires connecting transformers and customer services is unclear. (Lazars, Nov 3 Tr. at 489:4-23).

IIEC's Mr. Stowe answered ComEd's concern about the cost of identifying such facilities and costs by identifying a slate of specific practicable approaches.

> A variety of methods exist, yet most of these employ a combination of the following: (1) a thorough review of the Company's plant and accounting records, (2) a review of distribution system maps, electric diagrams, or a geographic information system ("GIS"), (3) systematic field audits (including field surveys and sampling) to confirm the validity of the records, and (4) estimates derived from experience and engineering judgment. (IIEC Ex. 2.0 at 24:516-524).

Assumption of Equal Cost Responsibility Across and Within Classes. ComEd makes an unwarranted assumption of equal cost responsibility across all classes of customers. ComEd's customer classes are defined on the basis of customer size (demand), not the cost causation characteristics of its members. The non-coincident peak demand of each class is assumed to capture the class' use of line transformers, for example, without regard to the distribution of primary and secondary service across the classes. (Heintz, Nov 2 Tr. at 354:19-355:3; IIEC Ex. 2.0 at 18:388). This allocation ignores the fact that 90% of these transformers are used to serve customers at secondary voltages. (IIEC Ex. 2.0 at 18: 388-393, 19:397-413).

An interim fix could require only that ComEd adjust its allocation factors to recognize the ratio of primary to secondary demand for customer classes. For example, a class with 60% of its total non-coincident peak demand attributable to service at secondary voltages would have line transformer costs allocated to the class on the basis of that 60%. The remaining 40% of total demand attributable to primary voltage service would not be burdened by an allocation of secondary costs not used to provide primary service. ComEd's cost of service expert, Mr. Heintz, confirmed

that the ECOSS could handle the more refined costs this process would produce. (Heintz, Nov 2 Tr. at 363:14-364:8).

Unsupported 100% of Cost Allocations. ComEd did not account for the fact that many of its area and underground circuits operating at primary voltage serve customers at secondary voltages. (IIEC Ex. 2.0 at 21:437). These costs are properly included in the cost of providing secondary service, but ComEd has assumed that 100% of the cost of these facilities were incurred to serve both customers at both primary and secondary voltages. (*Id*. at 21:454). ComEd admits that although it has methods available to identify customers that are served at primary voltage levels, it has not done so for purposes of its P/S analysis. (Alongi, Nov 3 Tr. at 574:20-576:10). Similarly, though ComEd recognized that certain types of distribution equipment are used exclusively in the secondary distribution system as ComEd defines it, *e.g.*, grounding conductors, ComEd nonetheless assigned 100% of the cost of these facilities to primary distribution system costs and none to the secondary system costs. (Alongi, Nov 3 Tr. at 583:23-585:12). ComEd's ECOSS does nothing to prevent such costs, incurred to serve customers at secondary voltages, from being allocated to customers provided service at primary voltages. (Heintz, Nov 2 Tr. at 364:10-365:14; Lazare, Nov 3 Tr. at 479:22-480:5).

In response to criticisms from other parties about assumptions incorporated in its ECOSS, ComEd conducted limited sampling exercises to check its engineering judgments. Those modest exercises led to revisions in ComEd's cost allocations. Such modest validation efforts, however, were not, in general, part of ComEd's P/S analysis. In the absence of a cost causative P/S analysis, such "reality checks" on ComEd's many exercises of engineering judgment could mitigate the

magnitude of ComEd's misallocations of primary and secondary distribution service costs. As Staff's expert Mr Lazare observed, after reviewing ComEd's revisions to some of its cost allocation assumptions, there is a clear need to expand the scope of visual inspections to test those such engineering judgments. (Staff Ex. 2.0 at 19:417). More refined cost estimates also could be produced through records review, sampling, or other estimation processes like those ComEd used in modifying its original cost allocations for Account 361, cable in conduit, and wood poles.

4. ComEd's ECOSS Over-Allocates Costs to Primary Distribution Service

In a number of instances, ComEd's use of definitions as a substitute for functional allocations of costs of service misassigns and over-allocates costs to primary service customers. ComEd's P/S analysis assumes that certain facilities, such as single and multi-phase primary circuits, serve both primary and secondary customers, even though these facilities actually serve only secondary customers. (IIEC Ex. 2.0 at 21:436-458). ComEd admitted that even in its revised ECOSS, there are customers that do not use secondary facilities but are allocated the costs of facilities they do not use. (See, e.g., Alongi, Nov 3 Tr. at 583:23-585:12).

As shown below, the consequences of ComEd's misassignments and misallocations of costs can be significant. (See, e.g., IIEC Ex. 2.0 at 18:278).

EFFECT OF MISASSIGNMENT AND MIS-ALLOCATIONS

Description	Estimated Cost Mis-Allocation	Source
Assignment of Line Transformer Costs to Primary Service	$903 million	IIEC Ex. 2.0 at 19:400
Assignment of Line Transformer-Related Costs to Primary	$383.6 million	IIEC Ex. 2.0 at 18:383.

Allocation of Line Transformer Costs to ELL Class	$18 million (60% of $30 million)	IIEC Ex. 4.0 at 23:468.

The revenue requirement results of Mr. Stowe's revisions to ComEd's P/S analysis, which used functional definitions of primary and secondary customers and distribution costs, were provided in IIEC Exhibit 2.5.[8] That exhibit shows that a properly revised P/S analysis would relieve primary service customers of at least $80 million in secondary distribution system revenue requirements. The constrained modifications of ComEd's updated analysis result in only $36 million in revenue requirement being re-allocated to secondary voltage level service. An additional $44 million ($80 million less $36 million) would be re-allocated if the modifications to ComEd's primary/secondary analysis that Mr. Stowe recommends were implemented.

C. ComEd Has Not Taken All Practicable Steps to Cure the Commission-Identified Deficiencies in Its ECOSS

1. ComEd Unnecessarily Limited Its Use of Practicable Cost Estimation and Identification Techniques

ComEd has taken a small, incremental step, to cure the deficiency in its ECOSS associated with its failure to identify the costs of serving primary customers and the costs of serving secondary customers. However, it has not taken all practicable steps to cure this deficiency.

For example, in the case of primary circuits (single phase and multi-phase) on ComEd's distribution system, ComEd has failed to account for the fact that many of these circuits are used

[8] Exhibit 2.5 is based on the corrections the P/S analysis he made in his direct testimony. (IIEC Ex. 2.0 at 29:627-30:666). Mr. Stowe's corrections do not complete the process of differentiating the impact of primary and secondary facilities on customers rates. (*Id*. at 28:667-29:678.

exclusively to serve secondary customers. (IIEC Ex. 2.0 at 21). ComEd's analysis assumes that every primary circuit is used to serve both primary and secondary customers. (*Id.).* Thus, primary customers are allocated the costs of facilities (primary circuits) that are used exclusively to serve secondary customers. (*Id.).* ComEd claimed that in order to estimate the cost of the primary circuits used to serve secondary customers, a time consuming and costly special study would be required. (*Id. at 22).*

However, IIEC witness Stowe explained that there are reasonable alternatives to estimating the cost of primary circuits (single phase and multi-phase) used to serve only secondary customers. (*Id*. at 23-24). Had ComEd elected to implement these practical alternative methods, it would have been able to estimate the cost of primary lines (single phase and multi-phase) used to serve secondary customers. Mr. Stowe indicated there were several methods available to ComEd to estimate these costs. Most of these methods employ a combination of (i) review of the utility's plant and accounting records, (ii) review of utility distribution system maps, electric diagrams, or a geographic information system, (iii) systematic field audits to confirm the validity of records, and (iv) estimates derived from experience and engineering judgment. (*Id*. at 24).

One of the methods Mr. Stowe described was identified as the four step method. This method is applied to the itemized costs that are accumulated in a particular FERC account. (*Id*.). ComEd actually used this method to split guy wire costs between primary and secondary in its P/S analysis in this case. (*Id*.). Guy wires are used to support poles in both primary and secondary circuits. But the cost of examining every guy wire on the utility's system, to determine whether those wires are attached to a pole on a primary circuit or a secondary circuit, is prohibitive. (*Id*.).

Therefore, ComEd estimated the cost of guy wires used in the secondary system and the cost of guy wires used in the primary system, using the four step method, which effectively separates the total cost of guy wires in the relevant FERC account on the basis of the known percentage of secondary poles and the known percentage of primary poles. (*Id*.). ComEd could have used a similar approach to identify the additional distribution circuit components that are used to serve both primary and secondary customers.

A second method of estimating the cost of primary lines, used to serve only secondary customers, involves identifying the cost of single phase primary circuits from the utility's records. This is known as the single phase method. (*Id*. at 25). Single phase primary circuits are seldom used to serve primary customers. (*Id*. at 25). So, one can assume that such circuits are used to serve secondary customers. The cost of those circuits can be determined from ComEd's records and added to the cost of serving those customers. (*Id*.).

These two methods (the four step method and the single phase method) are obviously practical methods for determining or estimating the cost of primary lines used to serve secondary customers. ComEd itself uses the first method in its primary/secondary analysis in this case, and all of the utilities reviewed by Mr. Stowe used it as well. In addition, at least two of the utilities reviewed by Mr. Stowe use the single phase method to estimate the cost of the primary (single phase) circuits used to serve secondary customers.[9] (*Id*. at 26).

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[9]AmerenCILCO, AmerenCIPS, AmerenIP, AmerenUE, Aquila WPC, Aquila L&P, Aquila MPS, Aquila WPK, Kansas City Power & Light Company, Detroit Edison Company, and Consumers Energy all use the four step method and Detroit Edison and Consumers Energy use the single phase method as well. (*Id*. at 26).

In addition, ComEd could also have easily recognized that approximately 90% of its line transformers are used exclusively to provide service to secondary customers. (*Id*. at 19). Estimating these line transformer costs would not be difficult. Data provided by ComEd establishes that $903 million of the $1.017 billion in line transformer costs, in FERC Account 368 - Line Transformers, is associated with transformers that serve a secondary voltage. However, ignoring this useful information, ComEd elected to allocate 100% of line transformers as if this equipment was used exclusively to serve primary customers. (*Id*. at 19). ComEd also allocates the cost of equipment associated with these transformers, totaling approximately $383.6 million, on essentially the same basis. (*Id*. at 18).

Furthermore, ComEd could have, as it did in the performance of major elements of its P/S analysis in this case, used engineering judgment and sampling to estimate these costs. (*See,* direct testimony of ComEd witness Alongi, Come Ex. 6.0 at 24-26, discussing the use of these techniques in the limited P/S analysis conducted in this case.)

Instead, as noted in Sections A and B above, ComEd elected to use an arbitrary definition of the secondary system to differentiate between primary and secondary costs, without regard to the function of the facilities and equipment used to serve secondary customers and primary customers. ComEd simply assigns these costs to primary customers and secondary customers on the basis of that arbitrary definition.

ComEd claims that it would be too difficult or expensive to properly estimate the cost of serving primary and secondary customers and that the necessary data was not available to permit such an estimate. Application of the practicable methods described above would have permitted

ComEd to largely (though not completely) cure a major deficiency in its ECOSS, as directed by the Commission.

2. ComEd's Primary/Secondary Analysis Suffers from ComEd's Refusal to Learn From More Experienced Utilities.

The separation and allocation of the distinct costs of providing primary and secondary service that ComEd presents in this case is the utility's first-ever attempt to perform such a study. (IIEC Ex. 2.0 at 28:612). Many other utilities have more experience in performing such studies. (*Id.* at 28:610). In fact, Mr. Stowe has personally conducted more primary/secondary analyses for cost of service studies than ComEd has. (*Id.* at 27:575). Mr. Stowe compiled and presented data on the results of the P/S analyses performed by 11 other electric companies operating in Midwestern states, including Illinois. (*Id.* at 26:568).[10] As Mr. Stowe was careful to note, the relationships he reported do not confirm either the quality or the accuracy of other utilities' studies. (*Id.* at 28:607-610) However, while the results of those eleven other utility studies are not a substitute for a study of ComEd's system and costs of service, there are lessons that can be taken from the analyses of utilities with more experience in performing such studies.

As Mr. Stowe illustrated in his testimony, other studies of longer standing have encountered and overcome some of the deficiencies in the P/S analysis underlying ComEd's ECOSS. (*See, e.g.*, IIEC Ex. 2.0 at 24:516-26:563). In his testimony, Mr. Stowe describes estimation techniques that

[10] In rebuttal, Mr. Stowe included Consolidated Edison of New York in his analysis, (IIEC Ex. 4.0 at 28:568-572; IIEC Ex. 4.3) demonstrating in response to AG witness Rubin, that even though New York has population density two times that of Chicago, it separates primary and secondary distribution costs and assigns 48.5% of its system to secondary compared to less than 14% for ComEd. (IIEC Ex. 4.0 at 34:738-748).

he and other experienced analysts have used to overcome data deficiencies like those ComEd blames for some of the identified flaws in its P/S analysis. (*Id.*).

Yet, ComEd has declined to be guided by their experience, even as a reasonableness check on the results of its inaugural P/S analysis. Mr. Stowe's comparison of the results of ComEd's and other utilities' P/S analyses shows that the result of ComEd's first try at a primary/secondary split is an outlier in the industry sample that Mr. Stowe assembled. (IIEC Ex. 4.0 at 27:575).

IIEC has compared the results of ComEd's P/S analysis results with results from the 12 other electric companies. IIEC Exhibit 4.3 shows that ComEd allocates 86.3% of the total balance from FERC Accounts 364 through 367 to primary and secondary customers, with the remaining 13.7% of the combined balance allocated to secondary customers alone. That is a much higher percentage allocated to primary and secondary customers than any of the other utilities examined. Such results suggest strongly that ComEd's analysis should be carefully checked and its underlying assumptions validated. (*See* IIEC Ex. 2.0 at 27:585-28:606; IIEC Ex. 4.0 at 28:568-578). Electric companies with experience in performing P/S analyses have consistently larger allocations to secondary customers alone. (*Id.* at 28: 610).

The substantive analyses (not comparisons to other utility results) of IIEC and other parties have shown that ComEd fails to recognize that many of its costs are incurred to install and maintain components that operate at primary voltage levels yet serve only secondary customers. Because of this, ComEd's analysis mis-identifies costs that are incurred to provide service exclusively to secondary customers, as costs incurred to provide service to both primary and secondary customers. This assessment is consistent with the comparative indicators from Mr. Stowe's bench-marking

exercise. ComEd's error results in a significant overstatement of primary customer costs. (IIEC Ex. 2.0 at 28:617-29:623).

Though ComEd has taken steps toward an improved ECOSS, its first attempt at an accurate separation and allocation of primary and secondary distribution service costs show its inexperience. ComEd also has demonstrated more than a little reluctance to change or to learn from more experienced utilities even though the Commission has expressly ordered it to change. Until ComEd does more, its still deficient P/S analysis should not be used to set rates for ComEd customers.

D. Results and Rate Impacts of ComEd's Revised ECOSS and IIEC's Modifications of the ComEd Primary/Secondary Analysis

IIEC has presented evidence showing the rate impact of modifying ComEd's P/S analysis as recommended by IIEC, to the extent quantifiable by IIEC in this case. Specifically, it has analyzed the impact of IIEC's modifications to the ComEd P/S analysis on the rates approved by the Commission in Docket 07-0566. (*See*, IIEC Ex. 1.0 at 6; IIEC Ex. 1.1; IIEC Ex. 3.0 at 5; IIEC Ex. 3.1).

IIEC's analysis shows that Distribution Facilities Charges in ComEd's current rates would decline from: $5.67/kW to $4.68/kW for the Medium Load Delivery Service Class, $6.04/kW to $4.66/kW for the Large Load Delivery Class, $5.71/kW to $4.43/kW for the Very Large Load Delivery Class, $3.28/kW to $2.96/kW for the Extra Large Load Delivery Class, $3.17/kW to $2.83/kW for the Railroad Delivery Class, and $2.87/kW to $2.79/kW for the High Voltage Delivery Class. At the same time, the increase to smaller rate classes would be relatively modest - - measured in mills per kWh. (*See*, IIEC Ex. 3.1 at 1-2). The rate impact analysis presented by IIEC does not

assume any change in ComEd's basic ECOSS methodology for the rate design approved by the Commission in Docket 07-0566. (IIEC Ex. 1.0 at 6).

The IIEC analysis does not fully reflect the difference in cost of service, of primary customers and secondary customers, revealed by its modifications to the ComEd P/S analysis. (*Id*. at 6). This is because ComEd's rate class definitions do not generally account for voltage differences on a direct basis, with the exception of the High Voltage Rate Class (69 kV and above). (*Id*.). ComEd's current rates are based largely on the demand levels of the customers in a rate class, without explicit voltage differentiation for the majority of customers taking service at less than 69 kV. It is this group of customers that is most affected by the P/S analysis in this case. (*Id* at 6-7)

This lack of voltage differentiation does not affect all customer classes equally. Some customer classes are predominantly or exclusively made up of customers who take service either at primary voltage or secondary voltage. However, some customer classes include both primary and secondary customers, and under ComEd's rate structure all customers in a class pay the same rates (with the exception of the High Voltage Class). As a result, the cost of service differences between primary and secondary customers, identified in IIEC's modified primary/secondary analysis, cannot be fully reflected in rates. (*Id.* at 7).

Rates reflecting the voltages at which customers take service would allow the results of IIEC's modified P/S analysis as incorporated into ComEd's Revised ECOSS to be fully reflected in ComEd's rates. This in turn would allow ComEd customers to pay rates more closely based on costs they impose on the ComEd system. ComEd's rate classes (with the exception of the High Voltage Class), do not reflect service voltage levels. Consequently, the ComEd ECOSS, which

assumes those rate classes, cannot fully reflect the difference in the cost of serving primary voltage customers and secondary voltage customers, even if it incorporates the modified P/S analysis suggested by IIEC. Hence, the rates based on the study cannot fully reflect that cost difference. (IIEC Ex. 1.0 at 7-8). This is not to say that the Commission cannot implement the results of a correct P/S analysis under the current rate structure. Rather, it means that the information learned in the ECOSS analysis can be more fully used and rate equity can be more fully realized if there were to be voltage differentiated rates.

While IIEC has not proposed a modification of ComEd's rate structure in the context of this case, it has recommended that the Commission consider the possibility of such a modification in a future case. (IIEC Ex. 1.0 at 8-9). It is not necessary that the Commission make such a modification in this case in order to implement modifications of the ComEd P/S analysis suggested by IIEC. (*Id*. at 8-9).[11]

E. IIEC's Corrections to ComEd's P/S Analysis

First, the Commission should order ComEd to logically define secondary customers as those that take service at secondary voltage and primary customers as those that take service at primary voltage. ComEd should then be required to conduct its P/S analysis to identify the facilities and

[11]ComEd argued in its rebuttal testimony that if the P/S analysis, as developed by ComEd, is reflected in the ComEd ECOSS, ComEd's rates would be designed in a manner that customers with demand in excess of 400 kW would not be responsible for secondary distribution costs as ComEd has defined them. (ComEd Ex. 6.0 at 62-63). IIEC recognizes that to the extent a rate class does not contain both primary and secondary customers, it would not be necessary to have voltage differentiated rates for the customers in that particular class. (IIEC Ex. 3.0 at 9).

components of its distribution system that are used to serve these types of customers regardless of the voltage level at which the facilities or components may be energized.

Second, ComEd's P/S analysis in this case can and should be modified in several respects. IIEC's recommended list of modifications is not intended to be a representation of the universe of modifications that could or should be made to the ComEd P/S analysis. Rather, they represent the first step in an evolution of the P/S analysis that will occur over time.

ComEd's analysis of FERC Account 368 - Line Transformers - showed that 88.8% of the account balance was incurred for transformers to step the voltage down to secondary levels. However, within FERC Account 364, ComEd allocated 100% of "transformer mounting" costs to primary. ComEd's P/S analysis should be corrected to allocate 88.8% of "transformer" mounting costs in FERC Account 364 to secondary. (IIEC Ex. 2.0 at 29:630-635).

Also, the primary and secondary systems within the City of Chicago are different than the primary and secondary systems in the suburbs and communities surrounding the City. ComEd's P/S analysis was inconsistent in recognizing this difference. As a result, it assigned certain costs, incurred outside the City of Chicago, based on primary and secondary ratios developed for use inside the City of Chicago. To eliminate this error, costs in each ComEd FERC account should be grouped by location and components inside and outside the City should be separated. (*Id*. at 29:636-643).

The four-step method should be used to allocate the costs of 4 kV and 12kV cable to primary and secondary customers. However, a separate four-step estimate should be made for components located inside the City and outside the City. (*Id*. at 29:644-646).

The four-step estimation method should also be used to allocate the costs of "switch cut-out/disconnects" and of bare, copper, single-conductor wire to primary and secondary, with a separate estimate for components located inside and outside Chicago. (*Id.* at 29:647-650).

IIEC witness Stowe made the changes described above and showed the effects of these adjustments in his direct testimony. (*See*, IIEC Ex. 2.0 at 30:664-666; IIEC Ex. 2.5).

In addition to the modifications discussed above, ComEd should be directed to modify its P/S analysis to allocate approximately 89% of the line transformer accounts in FERC Account 368 to secondary. The evidence in this case shows that approximately 89% of the costs of these transformers was incurred for transformers used to serve secondary customers. However, ComEd defined all primary to secondary line transformers as part of the primary system, even though 88.8% of their cost was incurred to provide service to secondary customers. (IIEC Ex. 2.0 at 19:397-406).

Finally, ComEd's P/S analysis should be modified to ensure that single-phase primary circuits are properly allocated to the customers they are designed to serve. (*See*, IIEC Ex. 4.0 at 27:549-554).

Until these recommendations are fully reflected in the ComEd P/S analysis, neither the ComEd ECOSS as presented in Docket 07-0566 nor the revised ECOSS presented by ComEd in this case, should be used for rate design and revenue allocation purposes.

XII. CONCLUSION

The Commission should adopt IIEC's recommendations to (i) require that primary and secondary customers be defined by the voltage at which they take service and (ii) to modify ComEd's P/S analysis to correct the deficiencies identified by IIEC for all the reasons stated above.

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Respectfully submitted,

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