STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY	:	
	:	No. 10-_____
Proposed general increase in electric rates	:	

Direct Testimony of

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Associate Director,

Navigant Consulting Inc.

On Behalf Of

Commonwealth Edison Company

List of Issues & Major Conclusions

- The cash working capital requirements associated with jurisdictional delivery service operations of ComEd are $95.7 million.

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I. Introduction

A. Witness Identification

Q. **Please state your name and business address.**

A. My name is Nagendra Subbakrishna. My business address is 1717 Arch Street, Suite 4800, Philadelphia, PA 19103.

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

A. I am employed by Navigant Consulting Inc. ("NCI") as an Associate Director in its Energy practice.

B. Purpose of Direct Testimony

Q. **What is the purpose of your pre-filed testimony?**

A. The purpose of my pre-filed testimony is to present the Cash Working Capital ("CWC") requirements associated with jurisdictional delivery service operations of Commonwealth Edison Company ("ComEd") based on a Lead/Lag study.

Q. **How is your pre-filed testimony organized?**

A. My testimony is organized in the following manner:

- The definition of CWC and its determination using a Lead/Lag study (cash Lags increase working capital requirements, while cash Leads reduce them, as discussed below),
- Discussion of Revenue Lags and Expense Leads in the context of ComEd's operations,
- Consideration of pass-through taxes in the Lead/Lag study, and
- Presentation of the overall CWC requirements of ComEd's delivery services business.

The overall CWC requirements of ComEd identified in my study are reflected in the testimony of ComEd panel witnesses Kathryn Houtsma and Martin Fruehe, ComEd Ex. 6.0.

C. Summary of Direct Testimony

Q. **In brief, what is the conclusion of your testimony?**

A. The cash working capital requirements associated with jurisdictional delivery service operations of ComEd are $95.7 million as stated in the synopsis at the front of my testimony. This figure is derived by taking into account the cash working capital requirements associated with revenue lags of $219,172,000, expense leads of $172,287,000, pass-through tax collections lags of $68,082,000, and pass-through tax payments leads of $19,231,000 as shown in the Table below. (Again, Cash Lags increase CWC requirements, while Cash Leads reduce them, as discussed below.)

Summary of CWC Requirements

Line	Description	CWC Requirements $000s
	(A)	(B)
1	**REVENUE LAGS**	**$219,172**
2	**EXPENSE LEADS**	$172,287
3	**PASS-THROUGH TAXES – COLLECTIONS LAGS**	**$68,082**
4	**PASS-THROUGH TAXES – PAYMENTS LEADS**	$19,231
5	**CASH WORKING CAPITAL REQUIREMENT = Col (B) Line1 – Col (B) Line 2 + Col (B) Line 3 – Col (B) Line 4**	**$95,736**

D. Itemized Attachments to Direct Testimony

Q. **Are you sponsoring any exhibits with your pre-filed testimony?**

A. Yes. I am sponsoring the attached ComEd Exhibit ("Ex.") 7.1, which provides additional detail regarding ComEd's revenue lag, expense lead, and pass-through tax related cash working capital requirements; and the attached Appendix, which is my *Curriculum Vitae*.

E. Background and Qualifications

Q. **What are your responsibilities in your current position?**

A. I provide business analytic support to staff at investor-owned utilities and governmental agencies focusing on financial, economic, and regulatory issues.

Q. **Please describe your educational background and work experience.**

A. My curriculum vitae summarizes my educational background and work experience.

Q. **Have you previously testified before a utility regulatory commission?**

A. Yes. I have testified previously before utility regulatory commissions in New York and Illinois.

II. Cash Working Capital

Q. **What is CWC?**

A. CWC is the amount of funds required to finance the day-to-day operations of a regulated electric utility and, as contemplated by the Illinois Commerce Commission's (the "Commission" or "ICC") rules, is included as part of a rate base for ratemaking purposes. These funds are included in rate base because they are a capital cost incurred by the utility in order to be able to provide its utility services to customers.

Q. **How were ComEd's CWC requirements determined?**

A. A Lead/Lag study was used to determine ComEd's CWC requirements. When a lead/lag study is used to determine CWC requirements, Section 285.2070 of Part 285 of the Commission's rules requires that the lead/lag study be provided on a jurisdictional basis and included as work-papers. The Lead/Lag study is provided as the work-papers to my testimony.

Q. **What is a Lead/Lag study?**

A. A Lead-Lag study is a specific analysis of the timing of cash inflows to ComEd in conjunction with an analysis of the timing of cash outflows from ComEd. In the context of ComEd's study, the difference in time between the date that a customer receives a good or a service and the date that the customers' payment for that good or service or tax is available to ComEd is termed a "Revenue Lag". There are also other applicable lags such as those relating to when pass-through taxes are collected from customers. In contrast, the difference in time between the date that ComEd receives a good or service from a vendor supporting its delivery services and the date on which ComEd's payment for that service is available to the vendor is termed an "Expense Lead". There also are other applicable leads, such as those relating to when pass-through and certain other taxes are paid. Lags and Leads are both measured in days and, where appropriate, are dollar-weighted.

Q. **Why are the lags and leads dollar-weighted?**

A. Lags and leads should be dollar-weighted to more accurately reflect the flow of dollars. To use an example, let's suppose that a particular transaction has a Cash Outflow Lead time of 100 days and its dollar value was $100. Let's suppose further that another

transaction has a Cash Outflow Lead time of 30 days with a dollar value of $1 Million. A simple un-weighted average of the two transactions would give us a Cash Outflow Lead time of 65 days (100+30 divided by 2). On the other hand, dollar weighting the two transactions gives us a Cash Outflow Lead time that would be closer to 30 days, an answer which is more representative of how the dollars actually flowed in this example.

Q. **What are the key steps in developing a Lead/Lag study?**

A. At a minimum, two steps need to be followed when developing a lead/lag study:

1. Develop an understanding of how a regulated electric utility business works, i.e., in terms of products and services sold to customers or purchased from vendors and applicable taxes and the collections and payment policies and procedures that govern such transactions; and,
2. Quantify such workings in terms of Lead and Lag times using data from a relevant period of time and a representative data set. It is important to ascertain and factor into the model and the study whether (or not) there are known changes to existing business policies and procedures going forward. Where such changes are known and material, they should be factored into the study.

Q. **How did you develop an understanding of how ComEd's business works?**

A. I interviewed staff from ComEd's Customer Service, Payroll, Employee Benefits, Revenue Accounting, Tax, and Treasury Departments. Some key questions that were addressed during the course of the interviews included:

1. What is being sold (or bought)? If a service is being provided (purchased), over what time period was the service provided (or purchased)?

2. Who are the buyers (sellers)?
3. What are the terms for payment? Are the terms for payment driven by industry norms or by company policy? Is there flexibility in the terms for payment?
4. Are any changes expected to the terms for payment either driven by industry or internally by ComEd? What is the basis for such changes (if any)?
5. How is payment made (e.g., cash, check, electronic funds transfer)?

Responses by ComEd staff to these and other related questions were used to develop an understanding of how ComEd worked, as well as planned to work going-forward, on a day-to-day basis.

Q. **How did you quantify the Lead and Lag days used in your analysis?**

A. Consistent with ComEd's proposed test year of calendar 2009 and for the most part, I used transactions during calendar year 2009 in my analysis. Key items relating to such transactions used in developing Lead and Lag days were:

- the service period governed by the transaction,
- the invoice date,
- the payment date,
- the payment amount, and
- the method of payment, e.g., by ACH, wire, or by a company issued check.

A data set was developed using data from the utility's General Accounting, Customer Service, Accounts Payable, Payroll, Human Resources, and Tax Systems. Once the data had been gathered from the multiple in house systems, sampling and data validation was performed to the extent necessary and appropriate. Standard statistical sampling techniques were used, and validation generally took the form of comparing actual invoices with data from the utility's systems to ensure accuracy. Where relevant and

appropriate, my analysis made adjustments for known and measurable changes to the nature of such transactions over the period 2010-2011.

Q. **Were all Leads or Lags quantified using the same approach?**

A. No. It is important to note that not all items in a Lead/Lag study may use actual payments or utilize dates on which actual payments were made by ComEd. In some instances, particularly Taxes, both the due date and the amount of an estimated payment are established by statute, regulation, or by contract with significant penalties in place for missing the due date. In this instance, the statutorily established due date and required estimated payment were used within the study in lieu of the actual date and amount of payment. Thus, even though ComEd might make its tax or other payments before the due date, such advance payments have not been considered for the purpose of determining an expense Lead time, thereby (ultimately) resulting in a conservative estimate of ComEd's cash working capital requirements.

Q. **When did you use statutory definitions for developing Lead and Lag days?**

A. As I describe in more detail at a later juncture in my testimony, statutory or contractual definitions of either due dates or estimated amounts or both were used in developing expense or payment Lead times for inter-company billings, federal and state income taxes, federal and state unemployment taxes, the electricity distribution tax, the state public utility fund contribution, and all categories of pass-through taxes. The reason why the lead times for such items were estimated using statutory or contractual definitions is because ComEd has control over when it elects to make such payments. By doing so, payments for these items that may have been made by ComEd before the statutory or

contractual due dates have been ignored, i.e., payments that would otherwise act to increase its cash working capital requirements.

Q. **How did you convert the results of the Lead/Lag Study into a CWC requirement for ComEd?**

A. I used a gross lag method. As shown in the Table below and on ComEd Ex. 7.1, a Lead/Lag study produces a Lag and Lead result denominated in number of days (Col C of the Table below). This result in days divided by 365 (366 for a leap year) produces a daily CWC factor for Lags as well as for Leads (Col D in the Table below). These Lag and Lead factors, applied to Test Year Amounts respectively (Col B of the table below), produce the CWC requirements. The CWC requirements are included in rate base for ratemaking purposes. The following hypothetical table illustrates the CWC formula using the gross lag method. Note that the two negatives on lines 3 and 4 of the Table below are there to indicate that non-cash items are deducted from revenues.

Hypothetical Table

Line	Description	Test Year Amounts $M	Revenue Lags and Expense Leads Days	Cash Working Capital Factor	Cash Working Capital Requirement $M
	(A)	(B)	(C)	(D) = (C)/365	(E) = (D) * (B)
1	**Revenue Lags**				
2	Item 1	$200.0	50.0	13.70%	$27.4
3	Item 2	(20.0)	50.0	13.70%	(2.7)
4	Item 3	(20.0)	50.0	13.70%	(2.7)
5	Total Revenue Lags	$160.0			**$21.9**
6	**Expense Leads**				
7	Item 1	$90.0	35.0	9.59%	$8.6
8	Item 2	60.0	50.0	13.70%	8.2
9	Item 3	10.0	90.0	24.66%	2.5
10	Total Expense Leads	$160.0			$19.3
11	Pass-Through Tax Collection Lags Note that the value in Col (C) is the time taken to collect these taxes	$50.0	35.0	9.59%	**$4.8**
12	Pass-Through Tax Payment Leads Note that the value in Col (C) is the time taken to remit these taxes	$50.0	20.0	5.48%	$2.7
11	**Cash Working Capital Requirement** = Line 5 - Line 10 + Line 11 – Line 12				**$4.7**

Q. **Is the approach you used in developing ComEd's lead/lag study consistent with the approach the ICC approved in the most recent rate cases of The Peoples Gas Light and Coke Company ("PGLC") and North Shore Gas ("NSG") Company (Docket Nos. 09-0166/0167 Cons.)?**

A. For the most part, yes. Although, while there might be terminology differences, the same theory and principles have been applied in both the PGLC/NSG presentation and the ComEd presentation. That having been said, it is important to note that there are differences between the two. First, ComEd is an electric utility and PGLC and NSG are gas utilities. Thus, certain revenue and expense related items that were considered in the PGLC and NSG studies are irrelevant in the ComEd context. Second, even where revenue lag and expense lead are comparable, business enterprises tend to operate under their situation-specific rules and constraints. Thus, while the underlying theory and

principles might be the same, the ultimate answer from a comparative exercise, taking into consideration business-specific rules and constraints, might show differences.

Q. **Is the approach you used in developing ComEd's lead-lag study consistent with the approach the ICC just approved in the most recent rate cases of the Ameren Illinois Utilities ("AIU") (Docket Nos. 09-0306 et.al. Cons.)?**

A. Again, and for the most part, yes. The same theory and principles may have been applied in both the AIU and the ComEd presentations. The key difference between the two is that pass-through taxes in the ComEd presentation are **not** treated as either a source of revenue or an expense to ComEd, although the capital requirement associated with those taxes exists and is calculated separately. Also, again, it is important to consider that business enterprises tend to operate under their situation-specific rules and constraints. Thus, while the underlying theory and principles might be the same, the differences in how pass-through taxes are treated and the specifics of different business enterprises means that the ultimate answer from a comparative exercise might show differences. I discuss and explain further the treatment of pass-through taxes in Section V of my testimony.

Q. **In the Ameren cases, as to the collections lags period, the Order expressed concern regarding what it called the "absence of empirical evidence supporting the collection lag assumptions used in Ameren's lead/lag study…." Is the collections lag in your Lead/Lag study based on empirical evidence?**

A. Yes. As I indicate later, the collections lag used in the Lead/Lag study was measured by using receivables aging data contained in receivables reports used by ComEd for normal business purposes. This data was provided by ComEd's Revenue Accounting function

for the test year, calendar year 2009. The collections lag reflects ComEd's actual experience in the test year.

Q. **Why is it not appropriate to use a statutory period that customers have to pay their bills in the calculation of the collections lag?**

A. That would only be appropriate if each and every customer actually paid their bill by the statutory due date. However, ComEd records indicate that in 2009 at least one-third of ComEd's receivables were outstanding past their statutory payment date.

Q. **Are those customers assessed a late payment fee to cover the cost of the outstanding receivables?**

A. Yes, my understanding is that customers are assessed a late payment fee, and that those late payment fees are applied as a reduction to the revenue requirement in this proceeding, but that does not alter the fact that ComEd has a cash working capital requirement due to the lag in actual collections. (The panel testimony of Ms. Houtsma and Mr. Fruehe indicates that ComEd collected $11.1 million of late payment fees in 2009.)

Q. **In the Ameren cases, the Order stated in part: "Since every dollar for pass through taxes is collected from ratepayers, the inflows and outflows earmarked for these taxes should be perfectly balanced. Thus the need for CWC should not arise with respect to pass-through transactions." Have you reviewed whether in fact the cash inflows and outflows for pass-through taxes are perfectly balanced at ComEd?**

A. Yes, I have reviewed whether in fact the cash inflows and outflows for pass-through taxes are perfectly balanced at ComEd. While the amounts of taxes collected and paid

are ultimately balanced, the timing of the collections and payments are not balanced, and it is this timing imbalance that results in a cash working capital requirement. The pass-through taxes are broken down into four categories in ComEd Ex. 7.1 as to their lags and their leads. As I discuss later, and as the exhibit reflects, the four categories of taxes must be paid to the taxing entity in advance of when the money is collected from customers. The taxes are collected from customers 42.11 days from a customer meter reading, but they are remitted to the respective taxing authorities in 26.11 days, 32.44 days, a negative or pre-paid (13.30) days, and 28.43 days respectively. As the exhibit also reflects, the net effect of the payment and collections lags and leads for pass-through taxes is that, in fact, ComEd has a net positive CWC requirement associated with pass-through taxes of $48,850,000. This cost of fronting the tax payments is a very real cost of doing business.

Q. **Does ComEd have discretion to wait until it collects the pass-through taxes from customers to make the payments to the imposing entity?**

A. No. Each of the pass-through taxes have statutory payment dates that must be met regardless of whether the customer has remitted the taxes to ComEd.

Q. **The Ameren Order also states that the Commission's Staff had made a "legitimate point" about whether pass-through taxes are "directly associated with the provision of utility service". Are the four categories of pass-through taxes in the Lead/Lag study associated with ComEd's provision of delivery services?**

A. Yes. The four categories of pass-through taxes are only required because ComEd is a public utility that delivers electricity. The CWC requirements associated with that function that I have discussed above are a capital cost of ComEd's doing business as a utility that provides delivery services.

Q. **Finally, the Ameren Order states that it is not the case that there is "an additional and measureable cost to pass-through taxes…." Do the cash flows for pass-through taxes experienced by ComEd cause any additional and measureable costs?**

A. A. Yes. As I stated above, there are in fact timing differences between payments and collections of pass-through taxes at ComEd, even though the taxes themselves are paid by customers, and those timing differences result in a net additional and measureable cost. The timing differences have been measured by the Lead/Lag study. When applied to historical pass-through tax payment amounts, the additional and measurable cost is $48,850,000.

Q. **Q. Are you testifying to the test year amounts shown on ComEd Ex. 7.1?**

A. A. No. ComEd panel witnesses Ms. Houtsma and Mr. Fruehe are testifying to the level of test year amounts shown on ComEd Ex. 7.1and used in the determination of ComEd's CWC requirements.

III. <u>Revenue Lags</u>

Q. **Q. What is a Revenue Lag?**

A. A. A Revenue Lag is the time difference between when service is provided to a customer and when customer payments for such services are available to ComEd.

Q. **Q. Would you apply the same definition of Revenue Lag to Pass-Through Taxes?**

A. Not exactly. The Revenue Lag associated with pass-through taxes should measure the time difference between when such taxes are calculated based on kilowatt-hours delivered and when customer payments of such taxes are available to ComEd for

remitting to the respective taxing authorities. I refer to this period of time as the Pass-Through Tax Collection Lag Time.

Q. **What are the components of Revenue Lags where a service is provided?**

A. A Revenue Lag where a service is provided by ComEd consists of five sequential components: a) service Lag; b) billing Lag; c) collections Lag; d) payment processing Lag; and e) bank float. The Lag times of each of these five components, when added together, results in the Revenue Lag for the purpose of calculating the CWC requirements of ComEd where it provides a service to a customer. An illustration of how each component relates to one another is provided in the diagram below.

Revenue Lags

Q. **What is a Service Lag?**

A. A service Lag measures the time from ComEd's provision of electricity to a customer to the time the customer's service period ends and the meter is read. Interviews with Customer Service Staff at ComEd indicated that all customers receive service and are billed on a monthly basis. Thus, using a mid-point methodology, a service Lag of 15.21 days was determined, i.e., the mid-point of a service month.

Q. **What is a Billing Lag?**

A. A billing Lag is the time period between the end of a customer's service period and meter read to the time that customer's bill is generated and sent to the customer. Interviews with ComEd's Customer Service Department indicated that where ComEd generates bills using actual meter reads, the process takes a day. Where such actual meter reads are not available, an estimated bill is generated and dispatched – a process that could take up to five days. Taking this information into account and using data for 2009 from ComEd's billing system which indicated that approximately 88% of bills generated were based on actual meter reads, an overall weighted average billing Lag of 1.49 days was determined.

Q. **What is a Collections Lag?**

A. A collections Lag measures the time from when a customer's bill is dispatched to the customer to the time a payment is received by ComEd from that customer and recorded in ComEd's billing system as having been received. This period of time is measured by using receivables aging data contained in receivables reports used by ComEd for normal business purposes. Using such data provided by ComEd's Revenue Accounting function for calendar year 2009, a dollar-weighted average collections Lag of 39.16 days was determined for ComEd's operations. This reflects ComEd's actual experience.

Q. **What is a payment processing Lag?**

A. A payment processing Lag is the time period between the recording of a payment as having been received by ComEd from a customer and the payment being deposited into ComEd's bank account. Based on interviews with ComEd's customer service function as well as a review of the terms of ComEd's contract with its lockbox operator (Bank Tech), regardless of how a customer pays ComEd for electricity service, e.g., via a check, credit

card, or other electronic means, the customer's payment is in ComEd's bank account on the same day as received. In other words, the payment processing Lag time associated with normal processing would be 0.50 days. The exceptions would be if the payment were to be received on a Friday, Saturday, or a public holiday in which case additional time would be involved. When the exceptions are taken into account, an overall payment processing Lag of 0.85 days is the result.

Q. **What is Bank Float?**

A. Bank float is the time difference between when customer payments are deposited into ComEd's bank account and when the funds are available to ComEd. Data provided by ComEd's bank indicates that on average 43.6% of total deposits are available with a zero day float, 51.5% with a one day float, 4.8% with a two day float, and about 0.1% with a three or more day float. Taking this information into account, a dollar-weighted float time of 0.61 days was determined.

Q. **Based on your analysis of its components, what is the overall Revenue Lag for ComEd where a service is provided?**

A. The overall Revenue Lag for ComEd in the instance where ComEd provided a service is 57.32 days and is summarized in the Table below.

Revenue Lags

Line	Service Related Revenue Lag Component	Lag Time Days
1	Service Lag	15.21
2	Billing Lag	1.49
3	Collections Lag	39.16
4	Payment Processing Lag	0.85
5	Bank Float	0.61
6	Total	57.32

A corresponding Table for the lag associated with pass-through taxes (i.e., where no service is provided to the customer) is provided later in my testimony before the discussion of pass-through taxes.

The figure of 57.32 days is found in column (B), lines 2 and 4 though 7 of ComEd Ex. 7.1. That figure is used to derive a cash working capital factor (which simply divides the figure over the number of days in the year and is shown in column (C) of ComEd Ex 7.1), which is then multiplied by applicable test year amounts in column (D) to arrive at the aggregate subtotal of $219,172,000 in column (E), line 8, of ComEd Ex. 7.1.

IV. <u>Expense Leads</u>

Q. **What is an Expense Lead?**

A. An Expense Lead is the time period between when a good or service is provided to ComEd and when ComEd pays for that service.

Q. **Would you apply the same definition of Expense Leads to Pass-Through Taxes?**

A. Not exactly. Pass-through taxes are not recorded as revenues or expenses for accounting purposes. Rather, Expense Leads in the instance of pass-through taxes should measure the time difference between when a customer invoice (or bill) is sent for such taxes and when such taxes are required to be remitted by ComEd to the respective taxing authority. I refer to this period of time as the Pass-Through Tax Payment Lead Time.

Q. **What are the components of Expense Leads where a good or a service is received by ComEd?**

A. Expense Leads where a good or a service is provided to ComEd have both a Service Lead component, i.e., services are assumed to be provided to ComEd evenly around the mid-point of the service period, and a Payment Lead component, i.e., the time period from the end of the service period to the time payment was made and the funds left ComEd's possession.

Q. **What expense related items did you consider in your Lead/Lag study?**

A. The following items recorded as expenses on ComEd's books, were considered in my study:

1. Payroll and Withholdings
2. Employee Benefits – excluding Claims
3. Employee Benefits – Claims
4. Inter Company Billings
5. Property and Other Leases
6. Miscellaneous Operations and Maintenance Expenses
7. Taxes Other Than Income Taxes
    a. Property Taxes
    b. Federal and State Unemployment Taxes
    c. Electricity Distribution Tax
    d. State Franchise Tax
    e. City of Chicago Payroll Taxes
    f. State Public Utility Fund Tax
    g. City of Chicago Transaction/Lease Tax
    h. Illinois Sales and Use Tax
    i. City of Chicago Sales and Use Tax
8. Interest Expense
9. Federal and State Income Tax

Q. **Why were these expense lead items selected?**

A. These items were selected for two reasons, the first being that when considered collectively these represent the typical activities associated with a wires company on a day to day basis and, second, these items are generally consistent (if not more granular) with items that have been considered in past lead-lag studies approved by the ICC.

Q. **What is the Expense Lead time associated with Payroll and Withholdings and how was it determined?**

A. Based on data for calendar year 2009, the dollar-weighted Cash Outflow time for payroll and withholdings was determined to be 14.64 days. The Expense Lead time was determined taking into consideration the following payroll and withholding related rules as reported by staff from ComEd's Payroll Department:

1. The majority of ComEd's employees are paid their base earnings bi-weekly on a current basis on the Thursday prior to a Sunday pay period end. Additional earnings such as overtime payable to such employees are done so after two additional weeks.
2. A small group of ComEd's employees are paid their base earnings two weeks after their services have been provided to ComEd. Such employees receive additional earnings for activities such as overtime (if eligible) at the same time as their base earnings.
3. The majority of ComEd's employees are paid by direct deposit (approximately 82%).
4. Payroll related withholdings are remitted by ComEd to the Federal Government and the State of Illinois on a schedule defined by the Internal Revenue Service and the Illinois Department of Revenue respectively, i.e., next business day and Illinois' semi-weekly remittance schedule respectively.

Q. **What is the Expense Lead time associated with Employee Benefits and how was it determined?**

A. Based on interviews with ComEd's Human Resources and Benefits Department staff and using data from calendar year 2009, the dollar-weighted Expense Lead time associated with non-claims related employee benefits was determined to be 5.12 days. Interviews with ComEd personnel responsible for administering Benefit programs indicated that major benefits provided by ComEd to its employees are life insurance, health and dental coverage, vision coverage, long term disability assistance, COBRA coverage, and a 401-K match. Vendors of such programs such as (and not limited to) insurance companies are paid from trusts funded by ComEd. ComEd funds such trusts on pay-day for both of ComEd's pay groups. Both the employee contribution and ComEd's match are transmitted to the trust at the same time.

Q. **Why do you separate claims from the basket of ComEd sponsored employee benefits?**

A. ComEd payments for claims are separated from the basket of other ComEd sponsored benefits because of the requirements of ComEd's Claims Processing vendor. According to ComEd staff, payments to ComEd's vendor have to be made more frequently. Thus, ComEd's affiliate, Exelon Business Services Company ("Exelon BSC"), pays for such claims to the Claims Processing vendor and then bills ComEd for such payments made as part of the normal inter-company billing process.

Q. **Referring to ComEd Ex. 7.1, why do Employee Benefits - Pensions and OPEB's, and Employee Benefits - Amortization of Severance Assets, have a zero Expense Lead time?**

A. ComEd accounting staff and witnesses Houtsma and Fruehe report that the liabilities for Pensions and Other Post Employment Benefits ("OPEB's") have already been deducted

from rate-base. Since the cash available to ComEd as a result of the timing lag has already been considered in the rate base calculation, its re-consideration in the lead/lag study is not necessary and, in fact, would be duplicative. I also understand from ComEd information that there is not an Expense Lead time associated with the amortization of severance costs, because the severance payments were made in 2005, and the test year expense represents the non-cash amortization of the regulatory asset set up to recover the costs over a 7.5 year period.

Q. **What is the Expense Lead time associated with Inter-Company Billings ("ICB") and how was it determined?**

A. ICB is a bill received by ComEd from Exelon BSC for Administrative, General, and other services provided to ComEd by the services arm of its parent. ComEd settles the bill via an ACH payment. Based on data for calendar year 2009, the expense Lead time associated with ICB was determined to be 30.35 days. This Lead time was derived from the billing and settlement procedures, i.e., payments due on or around the 15th of the month following the provision of service. Additionally, the billing and settlement procedures (including the timing and method of settlements) were validated in interviews with ComEd staff.

Q. **What is the Expense Lead time associated with Property and Other Leases and how was it determined?**

A. Using data from calendar year 2009, the dollar-weighted Expense Lead time associated with property and other leases was determined to be 7.82 days. This Expense Lead time takes into account the fact that property and other leases are generally paid by ComEd either in advance or in the current month for the current month. Payments are also made

in the current month for miscellaneous services provided by the property manager related to property maintenance.

Q. **Why were property and other leases considered as in a separate category in your study?**

A. The Expense Lead time associated with property and other leases were considered as a separate category for the following reasons: a) they are not considered within the inter-company billing process; b) they relate mainly to an administrative type of service and thus might be out of place if considered under the umbrella of "miscellaneous operations and maintenance"; and, c) they act to counter-balance the CWC impact of other categories such as property taxes that have an inordinately long Expense Lead time.

Q. **What are Miscellaneous Operations and Maintenance Expenses?**

A. "Miscellaneous Operations and Maintenance" expenses are those items that are not included in purchased power, payroll and withholdings, employee benefits, ICB's, and property and other leases. Examples of such expenses include (and are not limited to) those that are charged to Distribution Operations and Maintenance accounts, such as tree trimming expenses.

Q. **What is the Expense Lead time associated with Miscellaneous Operations and Maintenance expenses and how was it determined?**

A. Using a data sample from calendar year 2009, the dollar-weighted Expense Lead time associated with miscellaneous operations and maintenance expenses was determined to be 64.34 days. This Expense Lead time was derived in the following manner:

1. The population was defined as all transactions relating to Distribution Operations and Maintenance accounts.
2. From this population, a list of vendors was developed and stratified into three categories: a) greater than $1 million in annual transactions; b) $100,000 - $1 million in annual transactions; and c) $100,000 or less in terms of annual transactions.
3. The top 30 vendors in dollar amounts were then selected from the stratified population ensuring that ***at least*** 10 of them were from each of the three strata mentioned above.
4. An accounts payable data set was developed for the selected 30 vendors. This data set (totaling approximately 12,000+ invoices) was further sampled in a manner consistent with statistical significance, resulting in a sample of about 600 invoices.

The invoices in the sample were then reviewed by ComEd staff to make a determination of what the governing contract terms were in terms of when a product or service was provided and when the payment for such a product or service was due. The results of ComEd staff review were incorporated into my analysis and reported here.

Q. **Was bank float associated with ComEd payments considered in your analysis?**

A. Yes. Using data provided by ComEd's banks, an Expense Lead time of 8.02 days was determined for bank float.

Q. **Would you consider your bank float estimate to be conservative?**

A. Yes. Even though ComEd issues checks that may have much shorter clearing times such as payments to its own employees in the form of a pay-check, the amount of time it would take for a vendor check to clear has been used as bank float in my study. This results in a longer lead time compared with, for example, employee paychecks, and is conservative because it (ultimately) has the effect of reducing the amount of CWC in rate base.

Q. **What categories of Taxes other than Income Taxes were considered in your analysis?**

A. Taxes other than Income Taxes that were considered in my study include: a) Property Taxes, b) Federal and State Unemployment taxes; c) Electricity Distribution tax; d) State franchise tax; e) City of Chicago Payroll Taxes; f) State Public Utility Fund tax; g) City of Chicago Transaction/Lease Tax, h) Illinois Sales and Use Tax, and, i) City of Chicago Sales and Use Tax.

Q. **Please summarize the various Taxes Other than Income Taxes considered and the expense lead times associated with them.**

A. A summary of the various Taxes Other than Income Taxes considered and the expense lead times associated with them is provided in the Table below.

Category of Tax	Method of Determination of Expense Lead Time	Result Expense LeadDays
Property Taxes	Using data on actual property tax payments made to 30+counties by ComEd in calendar year 2009, In Illinois, property taxes are paid in arrears and are paid in installments during the year following the tax year. That is, taxes for 2008 are paid in installments during 2009.	383.96 Days
Federal and State Unemployment Taxes	Based on remittance schedules provided by the Internal Revenue Service and the Illinois Department of Revenue respectively, i.e., quarterly payments with payments due electronically on the last day of the month following the end of a quarter.	75.63 Days
Electricity Distribution Tax	Using the Illinois Department of Revenue's schedule for the payment of this tax applicable to retail distributors of electricity in Illinois, i.e., quarterly payments, remittance due on the 15th of the last month in a quarter, and payments due electronically.	29.63 Days
State Franchise Tax	Based on the date the payment was due by ComEd in 2009 for the privilege of having a franchise and doing business in the State of Illinois.	177.50 Days
City of Chicago Payroll Expense Tax	Based on the fact that the tax is payable quarterly on the last day of the month following the end of a quarter and is paid electronically.	75.63 Days
State Public Utility Fund Tax	Based on the fact that this tax is due on the 30th of June for the current year and is remitted electronically to the Illinois Commerce Commission.	6.52 Days
City of Chicago Transaction/Lease Tax	Based on the fact that the tax is on account of vehicle and other leases, is payable monthly on the last day of the month following the tax month, and, is payable electronically.	45.21 Days
Illinois Sales and Use Tax (ISUT)	Based on the fact the ISUT is a per kilowatt-hour charge levied by the State of Illinois for the privilege of electricity consumption in the state. The tax is due monthly on the last day of the month following.	45.13 Days
City of Chicago Sales and Use Tax (CSUT)	Based on the fact that the CSUT is compensation for the privilege of consuming electricity within the city limits of Chicago. The tax is based on kilowatt-hours consumed during any given month and the remittance is due on or around June 30 of the current year.	30.29 Days
Federal and State Income Taxes	Based on the requirements of the Internal Revenue Service and the Illinois Department of Revenue that Income Tax payments be made on an estimated basis quarterly on the 15th of March, June, September, and December. Note that this Expense Lead time has been derived with an equal weight put on each of the four installments.	37.88 Days

Q. **What is the Expense Lead time associated with Interest Expense?**

A. Consistent with the method that has been accepted by the Commission in prior proceedings, interest payments in my study have been viewed as being made in arrears.

Taking this principle into account and applying it to ComEd's schedule of long term debt outstanding, a dollar-weighted Expense Lead time of 91.02 days is derived.

Q. **Please summarize the Expense Lead times for the various items considered in your lead/lag study.**

A. A summary of the lead times associated with the various Expense Lead related items recorded as expenses on ComEd's books is provided in the Table below.

Expense Leads

Line	Expense Lead Description	Expense Lead Days
	(A)	(B)
1	Base Payroll and Withholdings	14.64
2	Employee Benefits - Pension & OPEB	-
3	Employee Benefits - Amortization of Severance asset	-
4	Employee Benefits – Other	5.12
5	Inter Company Billings - Less Pass-Throughs	30.35
6	Inter Company Billings – Pass-Throughs	30.35
7	Property Leases	7.82
8	Other Operations and Maintenance Expenses [Less Uncollectibles]	64.34
9	Property Taxes	383.96
10	Federal Unemployment Taxes	75.63
11	State Unemployment Taxes	75.63
12	Electricity Distribution Tax	29.63
13	State Franchise Tax	177.50
14	City of Chicago Payroll Taxes	75.63
15	State Public Utility Fund Tax	6.52
16	Chicago Transaction/Lease Tax	45.21
17	Illinois Sales and Use Tax	45.13
18	City of Chicago Sales and Use Tax	30.29
19	Interest Expense	91.02
20	Federal Income Tax	37.88
21	State Income Tax	37.88

These leads are shown on Col (B), lines 10 through 30, of ComEd Ex. 7.1. They are used to derive the applicable cash working capital factors (again, the leads divided by the number of days in the year, shown in Col (C)). The cash working capital factors are then applied to the applicable test year amounts, shown in Col (D) to arrive at the aggregate subtotal of $172,287,000 in column (E), line 31, of ComEd Ex. 7.1

V. Pass-Through Taxes

Q. **Did you consider Pass-Through taxes in your analysis?**

A. Yes.

Q. **What are Pass-Through taxes?**

A. Pass-through taxes are taxes that customers are required by statutes to pay to a taxing authority as a result of their electricity usage. Although the tax is assessed on the customer, and not the utility, ComEd nonetheless has a statutory obligation to calculate the amount, bill for it, and remit the tax to the appropriate taxing authority.

Q. **What is the relationship between pass-through taxes and the provision or receipt of a service?**

A. Pass-through taxes are not, as such, ComEd providing a service to its customers or ComEd receiving a good or a service from a vendor, although they are related to ComEd's operations as a provider of delivery services. They are calculated based on number of customers served or kilowatt-hours delivered, and are included on a customer's bill but are neither a source of revenue nor an expense to ComEd.

Q. **Why should pass-through taxes be considered within a lead-lag study?**

A. While pass-through taxes are not recorded as revenue and expense for accounting purposes, ComEd is responsible for the collection and remittance of such taxes. A time period exists between the time when ComEd is required to remit such taxes to the relevant taxing authority and when such taxes are collected by ComEd from its customers. In other words, ComEd is not allowed to wait to receive the funds from customers to then remit to the taxing authority. ComEd must pay the taxing authority on

a date certain regardless of when ComEd collects the tax. This time difference has the potential to generate a positive net cash working capital requirement for ComEd. In other words, this time difference costs ComEd real money.

Q. **Based on your study, is there a CWC requirement associated with Pass-Through taxes?**

A. Yes.

Q. **How are Pass-Through taxes calculated?**

A. As I mentioned earlier, the dollars associated with such taxes, are calculated on the basis of number of customers or kilowatt-hours sold, consumed, or delivered in any given month and included on a customer's bill for that month.

Q. **How are Pass-Through Taxes Collected from Customers?**

A. Starting from the date the customer's meter is read and the amount of tax calculated, ComEd realizes customer pass-through tax payments on the date that the customer pays the bill and necessarily includes processing time and bank float time – ComEd has no other way to collect such taxes.

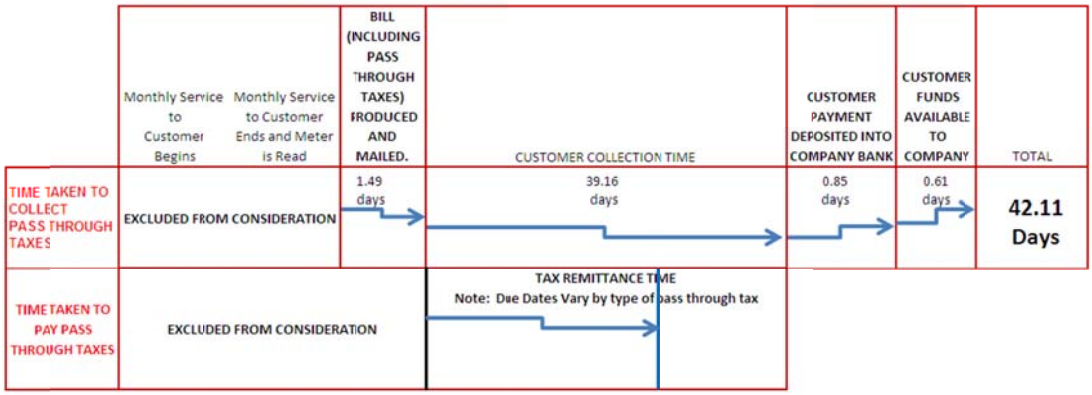
Q. **Provide an illustration of Pass-Through tax collection and payment time and show why there is a positive cash working capital requirement for ComEd.**

A. Assume that a residential customer's service cycle begins on January 1 of any given year. Assume further that the customer's meter is read on January 31 and the customer's bill (with a bill date of February 1) is generated and in the mail on February 1. By law, and all else held equal in terms of holidays and working days, the customer's payment has to be received by ComEd on or by February 23, i.e., 21 days from the date on the bill. But,

ComEd's experience as described earlier in more detailed under Revenue Lags, indicates that this is not the case. The customer does not pay the bill, on average, until March 12 and the funds are not available to ComEd until March 14. So, when the funds availability date of March 14 is compared with the meter read date of January 31, the time taken by ComEd to fully collect pass-through taxes from a customer is 42.11 days from the date that the customer meter is read. In terms of tax payments, consider the case of the Illinois Electricity Excise Tax. This tax is due in the current month for the current month in quarter monthly installments. So, for a customer receiving service over the period January 1 – January 31 described above, ComEd is making tax payments on behalf of the customer on January 7th, January 15th, January 22nd, and January 31st for the month of January – on average, around January 14th, i.e., even before it has billed the customer for consumption in the current month. And ComEd does not have access to the customer's payment (i.e., made whole), on average, until March 14. Thus, there is a net positive cash working capital requirement for ComEd in the example.

An illustration of both the time taken to collect such taxes and the time taken to pay them together with the steps involved is shown in the figure below.

Pass-Through Tax Collection and Payment Times



Q. **Do all Pass-Through taxes considered in your study have a positive CWC requirement?**

A. Yes. All categories of pass-through taxes applicable to ComEd have a positive net CWC associated with them including:

- Energy Assistance and Renewable Energy Charges (EAC/REC)
- Municipal Utility taxes (MUT)
- Illinois Excise taxes (IET)
- City of Chicago Infrastructure Maintenance Fee (CIMF).

Q. **When is the Energy Assistance and Renewable Energy Charge (EAC/REC) due to the Illinois Department of Revenue and how much in advance is ComEd making its remittance?**

A. Pursuant to 305 ILCS 20/1 to 20/14, the EAC/REC is due to the Illinois Department of Revenue on or before the 20thof the month following the billing month. The tax is calculated as a rate in terms of $/customer times the number of customers billed for the month prior. Taking the payment schedule and the tax calculation into account, ComEd is making remittances on account of the Energy Assistance and Renewable Energy Charge approximately 26.11 days in comparison to the 42.11 days it takes to collect such funds from its customers.

Q. **When is the Municipal Utility Tax (MUT) due and how much in advance is ComEd making its remittance?**

A. According to ComEd, both the City of Chicago and Outside Chicago MUT are payable on the last business day following the current month. The tax is levied as a percent of total kilowatt-hours from metered sales. Taking this payment schedule into account and

accounting for whether the last business day of the month following falls on a weekend or holiday (in which case the tax is payable the business day prior), ComEd is making its remittances approximately 32.44 days in comparison to the 42.11 days it takes to collect such funds from its customers.

Q. **When is the Illinois Electricity Excise Tax (IEET) due to the Illinois Department of Revenue and how much in advance is ComEd making its remittance?**

A. Pursuant to 35 ILCS 640/2-1 to 640/99, the IEET is due from ComEd to the Illinois Department of Revenue in quarter monthly installments, i.e., on the 7th, 15th, 22nd, and the last day of the month for the current month. The tax is calculated as a cent/KWh charge multiplied by an estimate of the number of kilowatt-hours delivered during the current month. Taking this information into account, the Lead/Lag study indicates that ComEd is pre-paying the IET by approximately 13.30 days in comparison to the 42.11 days it takes to collect the necessary funds from customers.

Q. **When is the Chicago Infrastructure Maintenance Fee (CIMF) due and how much in advance is ComEd making its remittance?**

A. The CIMF is a charge for the privilege of using the City's infrastructure and rights-of-way for delivering electricity to customers. The tax is based on kilowatt-hours consumed during any given month and the remittance is due on the last day of the month following. Taking this information into account, the Lead/Lag study indicates that the CIMF is being remitted by ComEd approximately 28.43 days in comparison to the 42.11 days it takes to collect the amounts from its customers.

Q. **Are the appropriate calculations relating to pass-through taxes reflected in ComEd Ex. 7.1?**

A. Yes. The leads, cash working capital factors, test year amounts, and resulting cash working capital requirements associated with collections of pass-through taxes are shown on lines 34 through 38 of the exhibit. The leads, cash working capital factors, test year amounts, and resulting cash working capital requirements associated with the payment of pass-through taxes leads are shown on lines 40 through 44 of the exhibit. Subtracting the amount shown on Col (E) line 44 from the amount shown on Col (E) line 38 results in a net cash working capital requirement associated with pass-through taxes of $48,850,000.

VI. <u>CWC Requirements of ComEd</u>

Q. **Based on your Lead/Lag study, what are the CWC requirements of ComEd?**

A. As stated earlier and shown on ComEd Ex. 7.1, the CWC requirements of ComEd are $95.7 million. This amount is derived by taking into consideration the cash working capital requirements associated with revenue lags, expense leads, pass-through tax collections, and pass-through tax payments. As shown in the Table below, the cash working capital requirements associated with revenue lags and pass-through collections is $287,254,000. The cash working capital requirements associated with expense leads and payments of pass-through taxes is $191,518,000. The difference between the two, i.e., $95.7 million is the cash working capital requirements of ComEd. A summary of each of the components of ComEd's cash working capital requirements is shown in the follow table.

Summary of CWC Requirements

Line	Description	CWC Requirements $000s
	(A)	(B)
1	**REVENUE LAGS**	**$219,172**
2	**EXPENSE LEADS**	$172,287
3	**PASS-THROUGH TAXES – COLLECTIONS LAGS**	**$68,082**
4	**PASS-THROUGH TAXES – PAYMENTS LEADS**	$19,231
5	**CASH WORKING CAPITAL REQUIREMENT = Col (B) Line1 – Col (B) Line 2 + Col (B) Line 3 – Col (B) Line 4**	**$95,736**

Q. **What are your sources of information for the test year amounts shown on ComEd Ex. 7.1?**

A. The test year amounts shown on ComEd Ex. 7.1 were provided to me by ComEd panel witnesses Ms. Houtsma and Mr. Fruehe.

Q. **What are your recommendations regarding the CWC requirements of ComEd?**

A. The Company's jurisdictional CWC requirements are $95.7 million.

Q. **Does this conclude your pre-filed testimony?**

A. Yes.

APPENDIX
CURRICULUM VITAE OF
NAGENDRA SUBBAKRISHNA

1717 Arch Street, Suite 4800
Philadelphia, PA 19103

Education

- MS – Energy Management and Policy, University of Pennsylvania, 1990
- M Sc – Planning, University of British Columbia, Vancouver, Canada, 1988
- B.Sc (Hons) and M.Sc, Earth Sciences, Indian Institute of Technology, Kharagpur, India. 1984

Professional History

- Associate Director, Managing Consultant, and Senior Consultant, Navigant Consulting, 1997- present
- Energy Efficiency and Associate Rates Analyst, New York Public Service Commission, 1992-1997
- Environmental Analyst, Synergic Resources Corporation, 1990-1991
- Research Fellow, The Wharton School, University of Pennsylvania, 1989-90
- Research Fellow, Faculty of Commerce and Business Administration, University of British Columbia, 1988

Experience

- **Lead/Lag Studies and Working Capital Requirements:**
  - Prepared (or provided assistance toward the preparation of) lead/lag studies for:
    - *Central Illinois Lighting Company, Peoria, Illinois.*
    - *Central Illinois Public Service, Springfield Missouri.*
    - *Union Electric Illinois, St. Louis, Missouri.*
    - *Enersource Hydro Mississauga ("EHM"), Mississauga, Ontario, Canada.*
    - *Hydro One Networks, Distribution Operations, Toronto, Ontario, Canada.*
    - *Hydro One Networks, Transmission Operations, Toronto, Ontario, Canada.*
    - *Illinois Power Company, Decatur, Illinois.*
    - *Missouri Gas Energy, Kansas City, Missouri.*
    - *Peoples Energy and North Shore Gas, Chicago, Illinois.*
    - *Toronto Hydro Electric System Limited ("THESL") – Distribution Operations, Toronto, Canada.*

- **Rates and General Regulatory Support**
  - *California Department of Water Resources*
    - Assisted a multi-disciplinary team with the preparation of evidence relating to the agency's costs for filing with the California Public Utilities Commission ("CPUC").

- *Central Illinois Public Service, Union Electric Illinois, Central Illinois Lighting Company, and Illinois Power Company.*
  - Assisted with developing Minimum Filing Requirements ("MFR's") consistent with the requirements of the Illinois Commerce Commission.
- *Chugach Electric Cooperative and Municipal Light and Power, Anchorage, Alaska.*
  - Assisted with the regulatory and rate-making aspects of a possible merger between an electric cooperative and a municipal utility in the Anchorage Bowl.
- *First Energy, Akron Ohio.*
  - Performed reviews of regulatory treatment of found revenues in multiple jurisdictions where the Company has operations – Ohio, Pennsylvania, and New Jersey.
- *Indianapolis Power and Light Company, Indianapolis, Indiana.*
  - Reviewed and analyzed proposed shareholder incentives for energy efficiency and Demand Side Management investment as well as their attendant rate impacts.

- **Staff, New York Public Service Commission**
  - Assisted in implementing Commission policy on competition at Rochester Gas and Electric Corporation.
  - Contributed to a study on the environmental impacts of restructuring the electric power industry per the requirement of New York State's Environmental Quality Review Act (SEQRA).
  - Provided staff-level input and recommendations concerning energy efficiency and demand management to the Commission on issues relating to special rate programs such as business expansion, business retention, business incubation, and flexible rate contracts between utilities and large customers.
  - Performed staff-level reviews of the three-year electric rate plan of the Consolidated Edison Company of New York (Revenue Decoupling Mechanism). Focused on the energy efficiency and demand side management driven net lost revenue recovery aspect of the annual reconciliation.
  - Responsible for staff-level review of the energy efficiency and demand side management aspects of the integrated resource plans of Long Island Lighting Company.

Testimony Experience

UTILITY (APPLICANT)	REGULATORY AGENCY	DOCKET NUMBER	YEAR	TESTIMONY ON BEHALF OF	SUBJECT(S) OF TESTIMONY
Long Island Lighting Company	State of New York Department of Public Service	93-E-1123	1993	Staff, State of New York Department of Public Service	Conservation and Demand Side Management
Generic – Rulemaking	State of New York Department of Public Service	94-E-0952	1994	Staff, State of New York Department of Public Service	Environmental Impacts of Restructuring the Electric Industry in New York State
Rochester Gas and Electric Corporation	State of New York Department of Public Service	96-E-0798	1996	Staff, State of New York Department of Public Service	In the matter of the rate, rules, and regulations of Rochester Gas and Electric Corporation: Restructuring
Ameren, d/b/a Union Electric Company	Illinois Commerce Commission	03-0009	2003	Ameren, d/b/a Union Electric Company, Illinois	Cash Working Capital Requirements of the Company's Gas Business
Ameren, d/b/a Central Illinois Public Service Co.	Illinois Commerce Commission	03-0008	2003	Ameren, d/b/a Central Illinois Public Service Company	Cash Working Capital Requirements of the Company's Gas Business