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VIA HAND DELIVERY

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Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First St, NE
Washington, DC 20426

Re: Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc., Docket No. EL08-__-000

Dear Secretary Bose:

Pursuant to Rule 207 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.207 (2008), Section 219 of the Federal Power Act ("FPA"), 16 U.S.C. § 824s (2000 & Supp. V 2005),[1] and Order No. 679,[2] Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc. ("ComEd") respectfully submits for filing a Petition for Declaratory Order for Incentive Rate Treatment ("Petition").

Enclosed for filing are an original and fourteen copies of ComEd's Petition and supporting documents.

This filing consists of the following:

1. Transmittal Letter;
2. Petition;
3. Attachment A - Affidavit of Ronald F. Szymczak and accompanying exhibits;
4. Form of notice suitable for publication in the *Federal Register*; and
5. Check in the amount of $20,970.00 for the filing fee as required by 18 C.F.R. 381.302(a).

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[1] Energy Policy Act of 2005. Pub. L. No. 109-58, § 1241, 119 Stat. 594 (2005) ("EPAct 2005"), amended the FPA by adding Section 219.

[2] Promoting Transmission Investment through Pricing Reform, Order No. 679, 71 Fed. Reg. 43,294 (Jan. 31, 2006), FERC Stats. & Regs. ¶ 31,222 (2006) ("Order No. 679"); *order on reh'g,* Order No. 679-A. 72 Fed. Reg. 1152 (Jan. 10, 2007). FERC Stat. & Regs. ¶ 31,236 (2006) ("Order No. 679-A"); *order denying reh 'g,* Order No. 679-B, 119 FERC ¶ 61,062 (2007).

We have included two (2) additional copies of the Petition to be date-stamped and returned to our messenger. Please do not hesitate to contact me if you have any questions. Thank you for your attention to this matter.

Very truly yours,

Becky Bruner

Becky Bruner
Counsel to ComEd

Enclosures

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Commonwealth Edison Company Commonwealth Edison Company of Indiana, Inc.	)	Docket No. EL08-__-000

COMMONWEALTH EDISON COMPANY'S PETITION FOR DECLARATORY ORDER FOR INCENTIVE RATE TREATMENT

Pursuant to Rule 207 of the Federal Energy Regulatory Commission's ("Commission") Rules of Practice and Procedure, 18 C.F.R. § 385.207 (2007),[1] Section 219 of the Federal Power Act ("FPA"), 16 U.S.C. § 824s (2007), and Order No. 679 and its progeny[2], Commonwealth Edison Company ("ComEd"), on behalf of itself and its wholly-owned subsidiary Commonwealth Edison Company of Indiana, Inc. ("ComEd") hereby submits this petition for declaratory order, requesting the Commission to approve certain incentive rate treatments for transmission-related projects.

I. INTRODUCTION AND SUMMARY

ComEd, a transmission owner within the PJM Interconnection, LLC ("PJM"), is seeking authorization for incentive rate treatment for twenty-two new transmission projects that have been approved, or are expected to be approved later this year, as baseline transmission

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[1] Section 1241 of the Energy Policy Act of 2005 amended the FPA by adding Section 219. Pub. L. No. 109-58, 119 Stat. 594 (2005) ("EPAct 2005").

[2] *Promoting Transmission Investment Through Pricing Reform*, Order No. 679, 71 Fed. Reg. 43,294 (Jan. 31, 2006), FERC Stats. & Regs. ¶ 31,222 (2006) ("Order No. 679"); *order on reh'g*, Order No. 679-A, 72 Fed. Reg. 1152 (Jan. 10, 2007), FERC Stats. & Regs. ¶ 31,236 (2006) ("Order No. 679-A"), *order on reh'g*, Order No. 679-B, 119 FERC ¶ 61,062 (2007) ("Order No. 679-B").

enhancement projects assigned to ComEd under the PJM Regional Transmission Expansion Plan ("RTEP"). As described below and in greater detail in the accompanying affidavit from ComEd's Manager of Interregional and Long Range Planning, Ronald Szymczak, (Attachment A to this filing), the projects include Static VAR Compensators ("SVC"), capacitor installations, transformer installations and upgrades to transmission lines and circuit breaker installations ("Projects").[3] One of the projects was approved by the PJM Board of Managers ("PJM Board") as a baseline upgrade under the 2006 RTEP, eight were approved by the PJM Board as baseline upgrades under the 2007 RTEP, while the remaining thirteen projects are expected to be approved by the PJM Board in October of this year as baseline upgrades under the 2008 RTEP.[4] The projects expected to be approved as baseline upgrades under the 2008 RTEP are currently under review by the PJM Transmission Expansion Advisory Committee ("TEAC").

Mr. Szymczak explains that the Projects will help to ensure reliability on the PJM transmission system within the ComEd zone. The Projects will help to provide voltage adequacy and stability to serve load within the ComEd zone and to support regional transfers scheduled by PJM and the Midwest ISO. The SVCs will continuously monitor system voltage levels and automatically supply dynamic reactive power to the system as needed. The capacitors will provide static reactive power compensation and help to ensure that voltage levels remain stable during regional power transfers impacting the ComEd zone. The transformer installations are required to maintain acceptable loading during contingency scenarios under peak load

[3] Attachment A (Szymczak Affidavit) and Exhibit No. A-1.

[4] ComEd's requested incentives for the projects expected to be approved as part of the 2008 RTEP is contingent upon receipt of such approval.

conditions. Finally, the line upgrades -- typically reconductoring – are required to upgrade line capacity and to prevent first contingency overloads under peak load conditions.

The Projects are scheduled to go into service between 2009 and 2013, at a projected aggregate cost of more than $217 million. As PJM-approved baseline upgrades under the RTEP, the Projects are non-routine projects that will help ensure regional reliability or reduce congestion. The Commission has found that PJM RTEP baseline projects satisfy both the rebuttable presumption of eligibility for incentives, as well as the nexus requirement for a return on equity ("ROE") incentive, under Order Nos. 679 and 679-A.[5]

The Commission has found that SVCs represent several types of advanced technologies enumerated in Section 1223(a) of EPAct 2005 and, as such, qualify for incentive rate treatment under Order No. 679.[6] The two SVCs that ComEd intends to install also represent advanced technologies and, therefore, qualify for incentive rate treatment.

ComEd requests an incentive-based ROE adder of 150 basis points for its investment in each of the Projects. ComEd's request with respect to those projects that are expected to be approved as part of the 2008 RTEP is contingent upon such approval. ComEd requests an additional ROE adder of 50 basis points to be applied to its investment in the two SVCs as a

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[5] *Commonwealth Edison Co.*, 122 FERC ¶ 61,037 at P 27 (2008) ("*ComEd II*") (citing *Baltimore Gas & Electric*, 120 FERC ¶ 61,084 at PP 54 and 58 (2007), *reh'g denied*, 122 FERC ¶ 61,304 (2008) ("*BG&E*").

[6] *Trans-Allegheny Interstate Line Co.*, 119 FERC ¶ 61,219 at P 83 and fn. 96 (2007) ("*TrAILCo*") and *United Illuminating Co.*, 119 FERC ¶ 61,182 at P 71 (2007) ("*United Illuminating*") (noting that the standard of review for advanced technology incentives under EPAct 2005 section 1223 is whether the technology "mitigate[s] congestion and enhance[s] grid reliability by increasing the capacity, efficiency or reliability of an existing or new transmission facility").

separate incentive for the use of advanced technology. While ComEd fully expects the two SVCs to be approved as part of the 2008 RTEP, ComEd's request for approval of a 50 basis point ROE adder for the use of advanced technology is not contingent upon such approval. In the unlikely event that the SVCs do not become RTEP baseline projects, ComEd would continue with the projects and would expect to install the two SVCs at the Elmurst substation. The current estimate is that the SVCs will be in service by 2012, but the date may be accelerated to 2010.

The ROE adders requested in this petition as incentive rate treatment are subject to the settlement agreement approved by the Commission in ComEd's recent rate case, Docket No. ER07-583-000.[7] The settlement agreement sets the stated ROE component of ComEd's formula rate at 11.5 percent and, for purposes of determining future incentive ROEs under Order No. 679, the settlement provides that the highest incentive for any given project approved by the Commission shall be 13.0 percent unless and until ComEd supports a new ROE analysis and the Commission establishes a new range or reasonableness.[8] ComEd is not submitting a new ROE analysis as part of this petition, but rather is making its request subject to the 13.0 percent ROE cap established in Docket No. ER07-583-000. Thus, should the Commission approve the requested incentive-based 150 basis point ROE adder and the separate 50 basis point ROE adder for advanced technology for ComEd's investment in the two SVCs, ComEd commits to limit the total ROE applicable to its investment in the SVC projects to 13.0 percent.

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[7] *Commonwealth Edison Co.*, 122 FERC ¶ 61,030 (2008) ("*ComEd I*").

[8] The settlement preserves parties' right to challenge a ComEd request for incentives.

ComEd requests that the Commission approve the requested ROE incentives without requiring ComEd to submit a new ROE analysis in a future Section 205 rate filing. An order granting this petition can be implemented under ComEd's formula rate pursuant to the implementation procedures and protocols, including the true-up adjustment mechanism.[9] When investment associated with one of the baseline projects occurs during a rate year, as defined by ComEd's formula rate, ComEd will include that investment, along with the incentive rate treatment authorized by the Commission, in the annual update to the formula rate.[10] To the extent that forecasted costs are included in the formula rate in any given rate year, those costs are subject to true-up to actual costs in the annual update for the following rate year.

II. DESCRIPTION OF COMED

ComEd, an Illinois corporation, is a wholly-owned subsidiary of Exelon Corporation, a Pennsylvania corporation. ComEd maintains more than 91,000 miles of transmission and distribution lines in Northern Illinois and provides delivered electric power to more than 3.8 million customers. ComEd does not own any generating facilities. ComEd's retail electric service is regulated by the Illinois Commerce Commission ("ICC"), while its transmission and sales for resale of electric energy in interstate commerce are regulated by this Commission. ComEd transferred operational control over its transmission facilities to PJM on May 1, 2004.

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[9] *See* Attachment H-13A and B of the PJM Open Access Transmission Tariff.

[10] A ministerial Section 205 filing may be required to revise certain tariff sheets to reflect the applicable incentive-based ROEs approved by the Commission in this proceeding.

III. DESCRIPTION OF PROJECTS AND RELIABILITY BENEFITS

A. The PJM RTEP Process Identifies Baseline Upgrades Needed For Reliability

PJM is responsible for planning the enhancement and expansion of the PJM transmission system to ensure reliability. PJM identifies transmission system upgrades and enhancements necessary to ensure reliability of the PJM transmission system through the RTEP process.[11] With stakeholder input through the TEAC[12] and the Planning Committee, PJM develops an annual RTEP to identify system enhancements required to provide reliable firm transmission service, to meet load growth and satisfy interconnection requests. The RTEP is based on analysis of applicable contingencies and reliability criteria, operational performance of the regional transmission system, and economic and environmental factors. The contingencies studied and the criteria used to determine reliability violations are based on PJM load and/or generator deliverability criteria, NERC planning standards and, within the ComEd zone, the Exelon transmission planning criteria.[13]

The RTEP planning horizon permits PJM to conduct reliability-based sensitivity analyses to assess both near-term reliability needs within the next five years and longer-term needs up to

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[11] The protocol for the RTEP process and development of the RTEP itself is set forth in Schedule 6 of the PJM Amended and Revised Operating Agreement ("PJM Operating Agreement"). The PJM Operating Agreement requires that the RTEP be developed to enable the transmission needs in the PJM region to be met on a "reliable, economic and environmentally acceptable basis." Operating Agreement, Schedule No. 6, Section 1.1.

[12] The TEAC incorporates all the regional and subregional RTEP projects in the final RTEP for approval by the PJM Board. The TEAC is open to participation by: (i) all transmission customers and applicants for transmission service; (ii) any entity proposing to provide transmission facilities to be integrated into the PJM Region; (iii) all PJM members; (iv) the relevant state regulatory commissions and state consumer advocates; and (v) any other interested entities or persons. PJM Operating Agreement, Schedule No. 6, Section 1.3(b).

[13] Attachment A (Szymczak Affidavit) at P 8.

fifteen years forward.[14] Based on its forward-looking reliability-based analyses, PJM identifies transmission expansions and upgrades to resolve projected violations of reliability criteria. In the 2007 RTEP, PJM described the type of baseline expansions and upgrades typically required to resolve reliability violations under its five-year forecast analyses:

> Transmission enhancements cover a range of power system element upgrades: circuit breakers, replacements to accommodate increased current interrupting duty cycles, new capacitors to increase reactive power support, new lines, line reconductoring, new transformers to accommodate increased power flows and other circuit reconfigurations and upgrades to accommodate power system changes.[15]

PJM designates transmission owners responsible for constructing the baseline upgrades identified to resolve reliability violations. Having been designated by PJM as the transmission owner with the obligation to construct the Projects, ComEd is contractually obligated to construct, own and/or finance the Projects, subject to the provisions of the PJM Operating Agreement.[16] Nine of the projects are baseline upgrades under the 2006 or 2007 RTEP. The remaining thirteen projects, including the SVC project, are expected to be included in the 2008 RTEP.

Mr. Szymczak's affidavit describes the Projects, their estimated cost, projected in-service dates and the risks and challenges faced by each project or group of projects. Mr. Szymczak also

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[14] PJM 2007 RTEP Executive Summary, *available at* http://www.pjm.com/planning/reg-trans-exp-plan.html.

[15] *Id.* Section 3.

[16] PJM Operating Agreement, Schedule No. 6, Section 1.7.

explains the reliability benefits of the Projects and supports the technology statement for the two SVCs.

B. ComEd's Baseline RTEP Projects

1. Static VAR Compensators

Delivery of electric energy across an alternating current ("AC") power system involves the flow of active and reactive power. Reactive power, quantified in units of volt-ampere-reactive ("VARS" or megavars "MVAR"), is used to establish the electric and magnetic fields required by equipment connected to the AC power system and to control transmission and distribution voltage levels. As power flows through the system, particularly when transmission and distribution facilities are heavily loaded, reactive power losses can be substantial. Without adequate sources of reactive power located close to the points at which it is consumed, voltages may decline to unacceptable levels, which can lead to system voltage collapse.[17]

During 2007, ComEd contacted PJM about conducting a comprehensive study of the need for reactive power compensation, including dynamic reactive power, within the heavily loaded northeast portion of the ComEd zone of the PJM transmission system.[18] Sources of dynamic reactive compensation are important on heavily loaded systems to offset reactive power losses and to maintain voltage levels. It was agreed that ComEd would initiate the study with

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[17] Attachment A (Szymczak Affidavit) at P 15.

[18] Two synchronous condensers ("SCs") converted at the retired Zion nuclear generating station have been providing dynamic reactive power support to the transmission system, but these SCs have became increasingly difficult and expensive to operate and maintain. One of the SCs is no longer in service and the Zion site is expected to begin to be decommissioned in 2011, creating the need to determine a new source of dynamic reactive power compensation. *Id.* at PP 14 and 18.

PJM participation. PJM participated in every stage of the study through communications with ComEd, including e-mails, conference calls and meetings. The study showed that dynamic reactive power support is needed for at least a portion of the total reactive power compensation, and that it would be provided best by installing two 300 MVAR SVCs at the Elmurst substation in the ComEd zone.[19] PJM has expressed no concerns with the study's recommendations, and ComEd expects PJM to approve the SVCs as baseline projects in the 2008 RTEP.

The study evaluated twelve alternative solutions for providing reactive power compensation, including capacitor bank solutions, addition of a new high voltage direct current ("HVDC") transmission line, and installation of new generation both near Zion and in other parts of the system. Based on the study, the most effective and least cost solution for providing reactive power compensation that met all the reliability criteria involved installation of two 300 MVAR SVCs at the Elmhurst substation, to meet dynamic reactive compensation requirements, and installation of 1843.2 MVAR of capacitor banks to meet voltage stability margins.[20] Currently, PJM and ComEd expect to install the two 300 MVAR SVCs at Elmhurst in 2012, but are evaluating a possible advancement to 2010.[21]

SVCs are Flexible AC Transmission System ("FACTS") devices that use solid-state thyristor-controlled capacitor banks to continuously monitor system voltage levels and to automatically supply reactive power to the system as needed. Because SVCs automatically respond to fluctuations in system voltage, these devices provide significant benefits to the system

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[19] *Id.* at P 17 and Exhibit No. A-2.

[20] *Id.* at PP 19-21. The capacitor banks are described in Section III.B.2 of this petition.

[21] *Id.* at P 21.

operators' ability to effectively manage operation of capacitors in real time.[22] Deploying this advanced technology, along with the capacitor banks described below, will provide voltage support and dynamic voltage recovery at times when the system is impacted by large regional and inter-regional power flows, such as those resulting from regional transfers dispatched by PJM and the Midwest ISO.

Installation of the two SVCs at the Elmhurst substation will result in a total SVC capacity of 600 MVAR, making it one of the largest SVC installations in the world. The SVCs will save approximately 10 MW of system losses and will reduce the need for capacity and reserves. Compared to other alternatives, the SVCs will not require any new right-of-way or transmission lines. ComEd is working with PJM to finalize the SVC project, which is expected to be approved as a baseline upgrade in the 2008 RTEP. At this time, the total estimated cost of the SVC installation is $76.5 million.

The SVCs will help ensure that:

- voltage stability margins and dynamic voltage criteria for the PJM transmission system in the ComEd zone are met;
- the system has adequate transmission capacity to serve load within the zone reliably; and
- transmission operators have a dynamic source of MVARs that automatically responds to fluctuations in system MVAR requirements.[23]

[22] *Id.* at PP 7, and 21-22.

[23] *Id.* at PP 17 and 22.

The other RTEP baseline projects for which ComEd is seeking incentives can be grouped into three categories: 1) capacitor installation, 2) transformer installation, or 3) line upgrades and circuit breakers. ComEd estimates that the total cost for these projects to be $141.1 million.

2. Installation of Capacitors

In addition to the dynamic reactive power needs addressed by the SVC, the study described above showed the need for significant static reactive power compensation to address steady-state system needs. Four of the ComEd baseline projects included in the 2007 RTEP involve installation of capacitors, and ComEd expects seven more baseline projects for installation of capacitors to be included in the 2008 RTEP. These capacitor will be installed at optimal locations, primarily on 138 kV buses, throughout the ComEd zone to increase steady state voltage margins specified in the Exelon Transmission Planning Criteria during critical 345 kV transmission line contingencies and PJM load deliverability criteria.[24] As the projects progress, ComEd expects to add 518.4 MVAR in 2009, 691.2 MVAR in 2010, 633.6 MVAR in 2011 and 35 MVAR in 2012.[25]

3. Installation of Transformers

The need for installation of transformers within the ComEd zone of the PJM transmission system was driven by the requirement to comply with either: 1) NERC planning standards, 2)

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[24] In the PJM load deliverability analysis, numerous generators in the ComEd zone are simultaneously modeled off, simulating forced outages at peak load conditions. Replacement generation is imported from outside the ComEd zone and single transmission contingencies simulated. The analysis showed that for seven different contingencies, low voltage was identified on forty different 138 kV buses. The bus with the lowest voltage was at Shorewood for the loss of the 138 kV line between Dresden Station and Shorewood. *Id.* at P 27.

[25] *Id.*

Exelon transmission planning criteria or 3) PJM deliverability criteria for load and/or generation. ComEd expects the 2008 RTEP to include four baseline projects for autotransformer to be installed at certain substations in the ComEd zone. The projected in-service dates for these projects ranges from 2010 through 2013. The transformer installations are required to maintain acceptable loading during contingency scenarios at peak load.[26] Mr. Szymczak's affidavit identifies the specific contingencies and overload elements that drive the need for each of the transformer installations.[27]

4. Line Upgrades and Breaker Installations

The need for installation of line upgrades and circuit breakers within the ComEd zone of the PJM transmission system is driven by the requirement to comply with either: 1) NERC planning standards, 2) Exelon transmission planning criteria or 3) PJM deliverability criteria for load and/or generator interconnection. In paragraphs 29 and 30 of his affidavit, Mr. Szymczak identifies the criteria violation creating the need for each of these baseline upgrades.

One ComEd transmission line upgrade was included as a baseline project in the 2006 RTEP and two were included in the 2007 RTEP. ComEd expects the 2008 RTEP to include one baseline upgrades to install a circuit breaker within the ComEd zone. Each of these projects will result in upgrades to capacity on the transmission lines. These upgrades are expected to be installed from 2009 through 2013.

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[26] *Id.* at P 28.

[27] *Id.*

In 2009, ComEd will construct two upgrades to 138 kV transmission lines: 1) reconductoring of 3.2 miles on the 138 kV transmission line between the Oswego and Montgomery substations to upgrade the capacity of the line from 264 MVA to 449 MVA, and 2) reconductoring of 3.7 miles on the 138 kV transmission line between the Pleasant Valley and Woodstock substations to upgrade the capacity of the line from 300 MVA to 451 MVA.

In 2010, ComEd will install a 138 kV transmission line circuit breaker in the Aptakisic substation, on a 138 kV transmission line connecting the Prospect Heights-Wheeling-Buffalo Grove-Aptakisic-Leithton-Libertyville substations. In 2013, the 138 kV transmission line from Lisle to York Tap will be upgraded from 445 to 483 MVA.

IV. THE COMMISSION SHOULD APPROVE THE REQUESTED 150 BASIS POINT ROE ADDER FOR THE PROJECTS

Under Order No. 679, an applicant requesting incentive rate treatment is required to provide a detailed explanation of how the proposed rate treatment complies with Section 219 of the FPA.[28] In order to meet these standards, the applicant must demonstrate that: (1) the facilities for which it seeks incentives help ensure reliability or reduce the cost of delivered power by relieving congestion; and (2) there is a nexus between the incentives being sought the investment being made.[29] Order No. 679-A adopts a rebuttable presumption of eligibility for incentives with respect to transmission projects that either result from a fair and open regional

[28] 18 C.F.R. § 35.35(d).

[29] *Id.*, Order No. 679 at P 26.

planning process that considers and evaluates projects for reliability and/or congestion and is found acceptable to the Commission.[30]

Because each of the Projects was approved as a baseline upgrade under the 2007 RTEP or is expected to be approved next October under the 2008 RTEP, ComEd's Projects and ComEd's request for a 150 basis point ROE adder for its investment in the Projects satisfies the Commission's standard. The Commission has found that PJM's designation, through the RTEP process, of a project as a baseline upgrade establishes a rebuttable presumption that the project is eligible for incentives, and satisfies the nexus requirement for an ROE incentive.

> [W]hen an applicant has adequately demonstrated that the project for which it requests an incentive in not routine, that applicant has, for purposes of the nexus test, *shown that the project faces risks and challenges that merit an incentive*. By definition, projects that are not routine under our analysis articulated above face inherent risks and challenges and/or provide benefits that are worthy of incentives. The Commission has found that all baseline projects in the PJM RTEP qualified as non-routine and, thus, satisfied the nexus requirement for the an ROE incentive.[31]

The Commission has explained:

> PJM's scrutiny of baseline projects is significant in our analysis of whether a project has met the nexus test. Pursuant to the PJM Operating Agreement, PJM is required to adopt a single regional plan that will maintain the reliability of the PJM grid in a manner that supports competition in the PJM region. Projects that are identified as "baseline" projects in the PJM RTEP process are those that benefit customers in one or more transmission owner zones for the purpose of maintaining reliability or mitigating congestion on the PJM grid. Such projects therefore are, by definition, regional projects and thus, not routine. The

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[30] Order No. 679-A at PP 48-49.

[31] *ComEd II* at P 27 (quoting *BG&E* at P 54, emphasis in original); *see also PPL Electric Utilities Corp. et al.*, 123 FERC ¶ 61,084 at P 30, *reh'g pending* ("*PPL*"), and *Duquesne Light Co.*, 118 FERC ¶ 61,087, at P 65-66 (2007), *reh'g pending* (*Duquesne*).

> Commission therefore finds that the regional benefits provided by PJM-approved baseline projects serve to make these facilities non-routine for purposes of the nexus requirement for an ROE incentive.[32]

As RTEP baseline upgrades, the Projects help ensure reliability or reduce the cost of delivered power by relieving congestion. Moreover, the nexus between ComEd's investment in the Projects and an ROE incentive, by definition, is satisfied. The specific request of a 150 basis point ROE adder is justified because it is consistent with the level of ROE adders previously approved by the Commission and because it addresses the risks and challenges identified in Mr. Szymczak's affidavit, including the substantial amount of investment involved, the need to procure financing and materials to meet the required service dates and the engineering and technology risks associated with the first installation of SVCs on the ComEd system.

As RTEP baseline upgrades, the Projects merit an incentive-based ROE comparable to those approved in prior orders. For ComEd's investment in a prior RTEP baseline project, West Loop Phase II, the Commission approved a 150 basis point incentive-based ROE adder and allowed ComEd to include Construction Work in Progress ("CWIP") in rate base.[33] In some orders, where the transmission owner has requested an incentive-based ROE adder of 150 basis points, the Commission has offset the requested adder to reflect reduced risk associated with awards of other incentive rate treatments, such as CWIP, abandonment and pre-commercial cost recovery.[34] ComEd is not seeking these other forms of incentive rate treatment for its investment

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[32] *ComEd II* at P 27 (quoting *BG&E* at P 58); *see also PPL* at PP 32-32 (finding that as an approved baseline project in the PJM RTEP, the Susquehanna Line, by definition, is not routine, and finding that the nexus requirement is satisfied).

[33] *ComEd II* at PP 28-29.

[34] *PPL* at P 39 (reducing the requested 150 basis point incentive-based ROE adder to 125 basis points to reflect the reduced risk associated with CWIP and abandonment incentives);

(Footnote continued)

in the Projects; therefore, no reduction in the requested incentive-based ROE adder of 150 basis adder is merited. For its investment in the two SVC projects, ComEd is requesting two separate ROE adders and is presenting the Commission with an independent basis for each request, but as noted previously, ComEd commits to capping the overall ROE for the SVCs at 13.0 percent. ComEd's request for a 50 basis point ROE adder for its investment in the SVCs is explained below.

V. THE COMMISSION SHOULD APPROVE THE REQUESTED 50 BASIS POINT ROE ADDER FOR THE SVCs

With a total capacity of 600 MVA, the SVC installation at the Elmhurst substation will one of the largest in the world. The two SVCs that ComEd will install are comparable technically to the SVC installed by the Trans-Allegheny Interstate Line Company ("TrAILCo") at the Black Oak substation. Although TrAILCo did not seek incentive rate treatment for the Black Oak SVC on the basis of the use of advanced technology, the Commission found in *TrAILCo* that the Black Oak SVC represents three of the 18 technologies named in Section 1223 of EPAct 2005: 1) an optimized transmission line configuration (by increasing the efficiency and magnitude of power flow capability); 2) a flexible AC transmission system (by monitoring voltage and continuously supplying reactive power through thyristor control); and 3) power electronics (by providing, through thyristor control, a defined range of reactive supply

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Southern California Edison Co., 121 FERC ¶ 61,168 at P 129 (2007), *reh'g denied*, 123 FERC ¶ 61,293 (2008) (reducing the requested 150 basis point incentive-based ROE adder to 125 basis point adder to reflect the reduced risk associated with CWIP and abandonment incentives); Duquesne at P 57 (reducing the requested 150 basis point incentive-based ROE adder to 100 basis points to reflect the reduced risk associated with CWIP, abandonment and pre-commercial cost incentives).

dynamically at precise increments to maintain minimum voltage levels).[35] These same advanced technologies are represented by the two SVCs that ComEd will install at the Elmhurst substation. As Mr. Szymczak explains in his affidavit, an SVC is a FACTS shunt device that uses power electronics to control power flow. The SVCs installed at the Elmhurst substation will regulate the amount of reactive power injected into the power system by switching capacitor banks connected to the secondary side of a step-down transformer. The power-electronics-based thyristor switches allow capacitor banks to be switched on and off, repeatedly if necessary, within a timeframe of a few cycles. Exhibit No. A-3 of Mr. Szymczak's affidavit contains the technology statement required by Order No. 679.

The SVCs that ComEd will install represent the kind of advanced technologies that Congress intended to encourage. The Commission previously has granted an ROE adders of 50 basis points for investment associated with the use of advanced technologies.[36] Thus, ComEd requests that the Commission grant an ROE incentive of 50 basis points for this investment, subject to an overall ROE cap of 13.0 percent.

VI. THE REQUESTED ROE INCENTIVES CAN BE IMPLEMENTED THROUGH COMED'S FORMULA RATE AND PROTOCOLS

The ROE incentives requested in this petition can be implemented through ComEd's formula rate and protocols without the necessity of a Section 205 filing to establish an ROE zone of reasonableness. This is because the settlement agreement approved by the Commission earlier

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[35] *TrAILCo.*, 119 at P 83 and fn. 96 and *United Illuminating* at P 71 (noting that the standard of review for advanced technology incentives under EPAct 2005 section 1223 is whether the technology "mitigate[s] congestion and enhance[s] grid reliability by increasing the capacity, efficiency or reliability of an existing or new transmission facility").

[36] *United Illuminating* at P 73.

this year in ComEd's rate case sets a stated ROE for ComEd and establishes a zone of reasonableness applicable to future requests for incentive-based ROEs.[37] Section 3.2 of the settlement agreement sets the stated ROE component of ComEd's formula rate at 11.5 percent, which includes a 50 basis point adder for participation in a Regional Transmission Organization ("RTO"). Section 3.3 of the settlement agreement provides:

> For purposes of determining future incentive ROEs under Order No. 679, and without waiving any party's right to challenge any future ComEd filing seeking incentives, the highest incentive for any given project approved by the Commission shall be 13.0% unless and until ComEd supports a new ROE analysis establishing a Commission-approved range or reasonableness.[38]

In accordance with the settlement agreement approved in Docket No. ER07-583-000, ComEd has elected not to submit a new ROE analysis as part of this petition, but rather to make its request subject to the zone of reasonableness established in the settlement agreement.[39] ComEd requests that the Commission approve the requested incentive rate treatment without conditioning such approval on the determination of a new zone of reasonableness in a future Section 205 rate filing. ComEd submitted ROE support, including a Discounted Cash Flow analysis, as part of its recent rate filing in Docket No. ER07-583-000, and in January of this year the Commission approved the settlement agreement in that proceeding thereby setting ComEd's stated ROE at 11.5 percent and establishing 13.0 percent as the upper end of the zone of

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[37] *Commonwealth Edison Co.*, 122 FERC ¶ 61,030 (2008) ("*ComEd I*").

[38] *See* Settlement Agreement and Offer of Settlement filed October 5, 2007 in Docket No. ER07-583-000.

[39] As noted previously, should the Commission approve the requested incentive-based 150 basis point ROE adder and the separate 50 basis point ROE adder for advanced technology for ComEd's investment in the two SVCs, ComEd commits to limit the total ROE applicable to its investment in the SVC projects to 13.0 percent.

reasonableness. Also in January of this year, in Docket No. EL07-41-000, the Commission approved a 150 basis point ROE adder (resulting in a 13.0 percent ROE) as an incentive for ComEd's investment in a prior RTEP baseline project.[40] Because the Commission has recently approved: 1) a settlement agreement establishing 13.0 percent as the upper end of the zone of reasonableness for ComEd's ROE, and 2) an incentive-based ROE of 13.0 percent for a ComEd baseline RTEP project, ComEd requests that the Commission not require ComEd to submit a new ROE analysis in a future rate case in order to implement the incentive rate treatments requested in this petition.

ComEd proposes to implement an order granting incentives under its formula rate pursuant to the applicable implementation procedures and protocols, including the true-up adjustment mechanism.[41] When investment associated with one of the baseline projects occurs during a rate year, as defined by ComEd's formula rate, ComEd will include that investment, along with the incentive rate treatment authorized by the Commission, in the annual update to the formula rate. To the extent that forecasted costs are included in the formula rate in any given rate year, those costs are subject to true-up to actual costs in the annual update for the following rate year.

VII. COMMUNICATIONS

Correspondence or communications regarding this matter should be sent to the following individuals:

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[40] *ComEd II* 122 FERC at P 28.

[41] *See* Attachment H-13A and B of the PJM Open Access Transmission Tariff.

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A copy of this filing is being served on PJM, the Illinois Commerce Commission, and the Indiana Utility Regulatory Commission. Copies of the filing are also available for inspection at ComEd's office. ComEd has also served a copy of this filing on all PJM members by requesting PJM to post this filing electronically, and ComEd requests waiver of the requirement to post by mailing paper copies to PJM members.

VIII. CONCLUSION

For the reasons stated herein, ComEd requests that the Commission issue an order granting an incentive-based ROE adder of 150 basis points for its investment in each of the Projects and an additional ROE adder of 50 basis points to be applied to its investment in the two SVCs as a separate incentive for the use of advanced technology. ComEd's requested 150 basis point ROE adder with respect to those projects that are expected to be approved as part of the 2008 RTEP is contingent upon such approval. ComEd commits that it will cap the ROE applicable to the SVCs at 13.0 percent, consistent with the settlement agreement in ComEd's recent rate case. ComEd further requests that the Commission not require ComEd to submit a

new ROE analysis in a future rate case in order to implement the incentive rate treatments requested in this petition.

Sincerely,

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Attorneys for Commonwealth Edison Company

ATTACHMENT A

Attachment A
Affidavit of Ronald F. Szymczak

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Commonwealth Edison Company Commonwealth Edison Company of Indiana, Inc.	)	Docket No. EL08-__-000

AFFIDAVIT OF

RONALD F. SZYMCZAK

ON BEHALF OF
COMMONWEALTH EDISON COMPANY
AND COMMONWEALTH EDISON COMPANY OF INDIANA, INC.

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Title

I. INTRODUCTION AND EXPERIENCE

1. My name is Ronald F. Szymczak. My business address is Two Lincoln Centre, Oakbrook Terrace, Illinois, 60181.

2. I am employed by Commonwealth Edison Company ("ComEd"), a wholly-owned subsidiary of Exelon Corporation, as its Manager of Interregional and Long Range Planning. In that capacity I am responsible for ComEd's long-range transmission planning, transmission facility ratings and participation in the regional work of ReliabilityFirst, the regional reliability organization for ComEd. In addition, I currently serve as the Chairman of the ReliabilityFirst Transmission Performance Subcommittee and the Exelon representative on the ReliabilityFirst Reliability Committee. I have over 33 years of work experience at ComEd and have held positions in distribution engineering, transmission planning and financial analysis. I have spent the last 14 years of my career in Transmission Planning as a manager of engineers dealing with transfer capability and power flow analysis, Available Transfer Capability calculations, transmission facility ratings, intraregional studies and interregional studies.

3. I obtained a Bachelor of Science, Electrical Engineering ("BSEE") degree from the University of Illinois at Chicago in 1974 and am a Registered Professional Engineer in the State of Illinois. In addition to my responsibilities at ComEd I have served on various committees of the regional and national organizations of the North American Electric Reliability Corporation ("NERC"), Reliability*First* and the Mid-America Interconnected Network ("MAIN"), the predecessor regional reliability organization for the geographic region that included ComEd.

II. PURPOSE OF TESTIMONY

4. My affidavit describes twenty-two new transmission projects for which ComEd is seeking incentive rate treatment. Nine of these projects have been approved by PJM Interconnection, LLC ("PJM") as baseline upgrades under PJM's Regional Transmission Expansion Plan ("RTEP"). The remaining projects, including the installation of two Static VAR Compensators ("SVCs") at the Elmhurst transmission substation ("Elmhurst TSS"), are expected to be approved as baseline upgrades under the 2008 RTEP due next October. As RTEP baseline upgrades, these projects will ensure reliability, and provide voltage adequacy and stability, for serving load in the ComEd zone. The projects also will support those regional transfers scheduled by PJM or MISO that impact the ComEd transmission system. My affidavit identifies each project, together with its estimated costs, its projected in-service date and the risks and challenges faced by each project or group of projects. I also generally explain the engineering aspects of the various projects, and support a technology statement for the SVCs.

III. EXHIBITS

5. My affidavit includes three exhibits prepared by me or under my direct supervision.

A-1 Table of Information for Projects

A-2 System Maps of Projects (2009-2013)

A-3 Technology Statement for Static Var Compensators

IV. OVERVIEW OF PROJECTS AND REQUESTED INCENTIVES

6. The projects included in this filing represent an investment by ComEd of over $217 million in transmission system additions over the next five years. These system additions will help to ensure reliable service to load served in the ComEd zone by the

PJM transmission system and to support those regional transfers scheduled by PJM and the Midwest ISO that impact transmission facilities in the ComEd zone. This substantial investment is required to maintain a reliable transmission system that serves a peak load in the ComEd zone typically exceeding 20,000 MW. In addition, transmission in the ComEd zone can be impacted by regional and inter-regional transfers, typically in the 1,000 MW to 4,000 MW range, scheduled by PJM and MISO.

7. ComEd expects the SVCs to be included as a baseline project in the 2008 RTEP. ComEd is installing these devices to satisfy a need for long-term reinforcement that will help to provide adequate dynamic voltage performance of the transmission system, *i.e.*, voltage stability and dynamic voltage recovery. The SVCs will provide a source of dynamic reactive power that will replace the Zion synchronous condensers, a current source of dynamic reactive power on part of the PJM transmission system in the ComEd zone, which are planned to be retired. The SVC is a flexible AC transmission ("FACTS") device that, using solid-state thyristor controlled capacitor banks, will continuously monitor system voltage levels and automatically supply reactive power to the system as needed. ComEd will install two 300 MVAR SVCs at Elmhurst TSS to help ensure that: (1) voltage stability margins and dynamic voltage criteria are met; (2) the system has adequate transmission capacity to serve load within the ComEd zone reliably; and (3) transmission operators have a dynamic source of reactive power that automatically responds to system fluctuations.

8. The PJM RTEP baseline projects for which ComEd is seeking incentive treatment are all being done to meet either NERC Planning Standards TPL-002 and/or -003, the Exelon Transmission Planning Criteria or PJM load and/or generator deliverability

criteria. The projects, other than the SVCs, fall into one of three following categories: (1) capacitor installation; (2) transformer installation; or (3) line upgrades or circuit breaker installations. Capacitor Installation: Installation of capacitors is done to meet voltage adequacy or voltage stability margins as required under the applicable criteria listed earlier. The installation of these capacitors will help ensure that adequate voltage levels will exist under normal and contingency conditions. In addition, the capacitors also ensure that voltages will remain stable during regional transfers impacting the ComEd system and under high load levels where generation external to the ComEd service territory may be required to serve the load. Under this condition, the capacitors provide reactive power that cannot be transported from distant generation external to ComEd.

Transformer Installation: New transformer installations are required to meet the applicable criteria listed earlier in order to ensure reliability under contingency conditions.

Line Upgrades: Finally, the line upgrades (typically reconductoring) are driven by thermal overloads occurring under contingency conditions specified in the applicable criteria listed earlier and also ensure reliability under contingency conditions.

9. ComEd is requesting an incentive-based return on equity ("ROE") adder for its investment in each of these RTEP baseline projects, to be applied to ComEd's base ROE of 11.5 percent under the ComEd formula rate. In addition, ComEd is requesting an additional ROE adder for its investment in the SVCs to reflect the use of advanced technology. ComEd's request with respect to each of the projects not included in the RTEP (other than the SVCs) is contingent upon the project's approval as part of the

2008 PJM RTEP. In the unlikely event that the SVCs are not included in the 2008 RTEP, they would still be entitled to the incentive for advanced technology. Moreover, as explained in detail in the petition, ComEd is capping its overall request for incentives, including the incentives applicable to the SVCs, at 13.0 percent.

V. TRANSMISSION PLANNING AND EXPANSION WITHIN PJM

10. ComEd has transferred operational control of its transmission facilities to PJM. PJM is responsible for planning the enhancement and expansion of the PJM transmission system to ensure reliability. Schedule 6 of the PJM Operating Agreement sets forth the protocol for development of the PJM RTEP. With stakeholder input through the Transmission Expansion Advisory Committee ("TEAC") and the Planning Committee, PJM develops an annual RTEP to identify system enhancements required to provide reliable firm transmission service to meet load growth and satisfy interconnection requests. The RTEP is based on analysis of applicable reliability criteria, operational performance of the regional transmission system, and economic and environmental factors.

11. The TEAC established by the PJM Office of the Interconnection ("PJM OI") is a broad-based stakeholder committee within PJM that participates actively in the development of the RTEP. The TEAC meets periodically with representatives of the PJM OI to provide advice and recommendations on the development of the RTEP. The TEAC reviews Regional RTEP Projects and Sub-regional RTEP projects when the PJM OI judges that these projects will substantially impact power flow(s) on the regional transmission facilities. The TEAC incorporates all the Regional and Sub-regional RTEP projects in the final RTEP for approval by the PJM Board. The TEAC is open to

participation by: (i) all Transmission Customers and applicants for transmission service; (ii) any entity proposing to provide transmission facilities to be integrated into the PJM Region; (iii) all Members of PJM; (iv) the relevant state regulatory commissions and state consumer advocates; and (v) any other interested entities or persons. The TEAC is governed by rules and procedures set forth in the PJM Regional Planning Process Manual (PJM Manual M-14 series) and by the rules and procedures applicable to PJM committees.

12. Baseline upgrades are projects identified by PJM during the RTEP process that are required to eliminate reliability criteria violations. The RTEP process to determine baseline upgrades involves powerflow analysis of the time frame five years into the future. The contingencies studied and the criteria used to determine violations are based upon PJM load and generator deliverability criteria, the NERC planning standards and, in the ComEd zone, upon the Exelon Transmission Planning Criteria.

13. Some of the transformers, capacitors and line upgrades for which ComEd is seeking an incentive-based ROE adder are presently baseline upgrades under the RTEP. The remaining projects, including the SVC project for which ComEd is seeking the same incentive-based ROE adder, plus an additional ROE for the use of advanced technology, are expected to be included in the 2008 RTEP. The projects expected to be included in the 2008 RTEP are currently under review by the TEAC. With the exception of the ROE incentive for the SVCs for the use of advanced technology, ComEd's request for ROE incentives for the projects expected to be included as baseline upgrades under the 2008 RTEP is contingent upon the projects being approved by PJM.

14. Recognizing the need for dynamic reactive support within the ComEd zone of the PJM transmission system, ComEd contacted PJM during 2007 about having a study performed to determine the optimum solution. ComEd inquired whether PJM would prefer to lead the study or to participate in a study with ComEd in the leading role. PJM indicated their preference for the latter. ComEd then conducted the study, described in some detail herein, that demonstrated that the best solution would be the installation of the SVCs and capacitors. PJM participated in every stage of the study, received all emails that were exchanged, and participated in conference calls and meetings. PJM did not recommend any changes to the final report of the study, and ComEd expects PJM to approve the SVCs as baseline projects in the 2008 RTEP.

VI. DESCRIPTION OF PROJECTS

A. Installation of SVCs

15. Based on the results of the 2007 study, ComEd and PJM have determined that installation of state-of-the-art, solid state SVCs is necessary to assure reliable operation of the PJM transmission system in the ComEd zone on a long-term basis. The delivery of electric energy across an AC power system involves the flow of reactive, as well as real, power through the transmission and distribution system. Reactive power, quantified in units of VARs or Megavars (MVAR), is used to establish the electric and magnetic fields required by equipment connected to the AC power system as well as to control transmission and distribution voltage levels. As power flows through the system, reactive power losses are far greater than real power losses. Reactive power losses are proportional to the square of the currents flowing through transmission and distribution lines and power transformers. This means that these facilities consume substantially more reactive power when heavily loaded than when lightly loaded.

Without adequate sources of reactive power close to the points at which it is consumed, voltages may decline to unacceptable levels, ultimately leading to a system voltage collapse.

16. The northeast portion of the ComEd zone, in particular, relies heavily on reactive compensation to offset MVAR losses, as well as to maintain stable and acceptable voltage levels. ComEd has installed static reactive compensation in the form of switched capacitors, and as described further below, is going to install more of these devices. These capacitors are effective in providing voltage support under steady state conditions; however due to switching times, they are relatively slow to respond to quickly developing system changes, such as when a contingency occurs on the system. Some capacitors on the distribution system are capable of automatic control based on voltage, but even these devices are relatively slow to respond (60 seconds is a typical response time), and are considered static. Some of the reactive compensation on the system must be dynamic in nature to respond quickly to system changes and mitigate voltage stability issues that could result following a contingency.

17. The study determined that the need for dynamic reactive support on the PJM transmission system in the ComEd zone would best be served by installation of the SVCs. PJM is in the final stages of completing the portion of the 2008 RTEP related to facilities and operations within the ComEd zone, but ComEd expects the SVCs to be listed as a baseline upgrade assigned to ComEd. The installation involves two 300 MVAR SVCs located at the Elmhurst TSS, which will result in a total SVC capacity of 600 MVAR at the site, making it one of the largest SVC installations in the world. The total conceptual estimated cost of the SVC installation is $76.5 million

18. In 1998, ComEd retired the Zion nuclear generating station, located in Zion, north of Chicago on the shore of Lake Michigan. At that time, ComEd came up with the concept of providing dynamic reactive support in this region by converting the two Zion generators to synchronous condensers (SCs). At the time, this was an innovative and cost-effective solution to the need for dynamic reactive capability on the system. By 2008, however, the Zion SCs have become increasingly difficult and expensive to operate and maintain, and one of the two is no longer in service for that reason. Retirement of the remaining Zion SC, which provides a significant source of dynamic reactive support (825 MVAR), would put the reliability of the PJM transmission system in the ComEd zone at risk over time. The Zion site is now expected to be decommissioned after the summer of 2011, which will result in the retirement of the Zion SC at that time. This creates an acute need for the installation of a dynamic reactive source to maintain reliability.

19. The 2007 study to determine a reinforcement solution to meet the need for dynamic reactive sources within the ComEd zone was conducted in two parts. The first part dealt with voltage stability, and the results of that analysis, along with cost estimates, were used to narrow down the alternative options for reinforcement solutions. The second part of the study dealt with dynamic voltage recovery. Twelve reinforcement alternative options were developed to represent a range of reinforcement strategies, including all-capacitor solutions, addition of new transmission, including 765 kV and high voltage direct current (HVDC) transmission lines, as well as installation of new generation both near Zion and in other parts of the system.

20. Based on the first analysis, the voltage stability test, it was determined that the least cost solution was a capacitor reinforcement solution. However, based on the second analysis, the need for adequate dynamic voltage recovery, it was determined that the static capacitor reinforcement was not a stand-alone solution, because at least a portion of the reactive compensation would need to be dynamic in nature to meet the Exelon reliability criteria for voltage recovery. Based on the study, the most effective and least cost solution for providing reactive power compensation that met all the reliability criteria was installation of two 300 MVAR SVCs at the Elmhurst TSS, to meet dynamic reactive compensation requirements, and installation of 1843.2 MVAR (2009-2012) of capacitor banks to meet voltage stability margins.

21. ComEd and PJM decided on a combination of installing new capacitors, to meet voltage stability margins, and installing two 300 MVAR SVCs at Elmhurst TSS in 2012, with consideration for advancement to 2010, to meet the dynamic reactive compensation requirements. The combined cost of installing the SVCs and the capacitors was lower than the cost of any other alternative that met all the reliability criteria. Installation of the SVCs will have additional benefits over the other alternatives. As greater quantities of static capacitors are added to the system, ComEd believes that operation of the system will become much more complex. Transmission operators will find that it is increasingly difficult to maintain adequate voltage stability margins while also avoiding over-voltages. With larger numbers of static capacitors, operators can also lose awareness of when load levels are approaching the point of voltage collapse because the pre-collapse voltages move closer to the normal operating range. For these reasons, transmission operators will likely require more complex

systems and applications to help them effectively manage the operation of capacitors in real time. Dynamic devices such as SVCs are of additional benefit to operators in that these facilities automatically respond to fluctuations in system MVAR requirements, giving operators time to manually switch capacitors as needed.

22. In short, ten years ago the Zion SCs provided the most cost-effective solution to the need for a dynamic source of reactive power on ComEd's system. At this point in time, the SVCs represent the next stage of implementing technology to meet that need. The cost-effectiveness of the SVCs is bolstered by the fact that they will not require ComEd to install any new transmission lines or obtain any new rights-of-way. The SVCs also offer an additional benefit by comparison with the Zion SCs. The SVCs will save approximately 10 MW of system losses that are now being incurred; in addition to saving energy, this will benefit the system by reducing the need for capacity and reserves. Finally, deploying this advanced technology at this time, along with the capacitor banks described below, will also be valuable in providing voltage support and dynamic voltage recovery at times when the ComEd system experiences large regional and inter-regional power flows.

23. For these reasons, the study demonstrated that installation of the two 300 MVAR SVCs at Elmhurst TSS, along with installation of the capacitor banks described below, is the most effective and least-cost solution to the need for reactive power on the transmission system, particularly in the northeast portion of the ComEd zone. Installation of the SVCs will help ensure that the transmission system meets voltage stability margins and Exelon's reliability criteria for dynamic voltage recovery that adequate transmission capacity exists to reliably serve load in the ComEd zone and other portions of PJM due

to regional transfers, and that operators have a dynamic source of MVARs that automatically responds to fluctuations in system reactive requirements, giving operators time to manually switch capacitors as needed.

B. SVC Technology

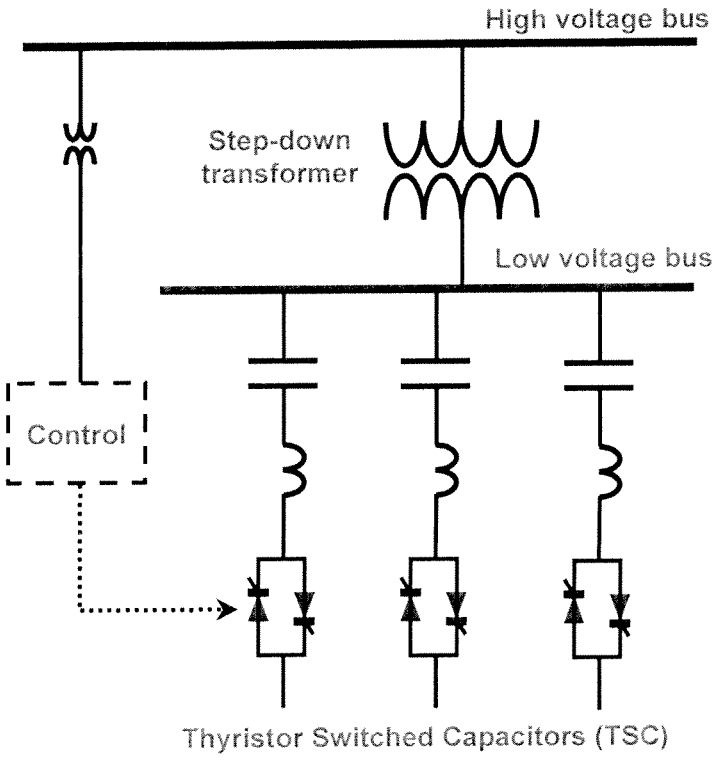
24. The SVCs that ComEd will install are comparable from a technical point of view to the SVC installed by the Trans-Allegheny Interstate Line Company at its Black Oak substation, which the Commission approved for incentive rate treatment in Docket No. ER07-562-000.

25. The SVC is a shunt device of the Flexible AC Transmission System (FACTS) family, using power electronics to control power flow. The SVCs ComEd will install regulate the amount of reactive power injected into the power system by switching capacitor banks connected to the secondary side of a step-down transformer. Power-electronics-based thyristor switches allow the capacitor banks to be switched on and off, repeatedly if necessary, within a timeframe of a few cycles.

26. The figure below shows a one-line diagram of an example SVC. Components of an SVC include thyristor switched capacitors (TSC), step-down transformers, and a control system. TSC blocks are switched on or off as needed to provide the desired leading (capacitive) MVARs to the system. The SVC components operate at a voltage optimized for the particular SVC. A step-down transformer provides interconnection to the desired system voltage level.

C. Installation of Capacitors

27. In addition to the dynamic system performance that are primarily addressed by the SVCs, ComEd's and PJM's analysis showed the need to install a significant amount of static reactive compensation on the system to address steady-state system needs. Static



reactive compensation in the form of capacitors is an economically efficient way to address steady-state voltage adequacy and stability issues. Transmission capacitors on the ComEd transmission system are typically sized at 57.6 MVAR or 115.2 MVAR and

are located on the 138 kV buses at selected transmission substations. The planned installation of these transmission capacitors in the upcoming years optimally places these devices throughout the system to provide the most impact on increasing steady state voltage stability margins. ComEd has identified the need for a total of 518.4 MVAR to be added in 2009, 691.2 MVAR in 2010, 633.6 MVAR in 2011 and 35 MVAR in 2012. The capacitor bank installations are required based upon meeting voltage stability margins (1843.2 MVAR), specified in the Exelon Transmission Planning Criteria, during critical 345 kV transmission line contingencies and PJM load deliverability criteria (35 MVAR).

28. In the PJM load deliverability analysis numerous generators in the ComEd zone are simultaneously modeled off, simulating forced outages at peak load conditions. Replacement generation is imported from outside the ComEd zone and single transmission contingencies simulated. The analysis showed that for seven different contingencies, low voltage was identified on forty different 138 kV transmission buses. The bus with the lowest voltage was at Shorewood for the loss of the 138 kV transmission line between Dresden Station and Shorewood.

D. Installation of Transformers

29. ComEd's and PJM's system analysis has determined the need to install transformers on the transmission system for the period 2009-13. The need for these transformers, as well as for the line upgrades I will describe below, is driven by the requirement to comply with NERC Planning Standards, the Exelon Transmission Planning Criteria or PJM load and/or generator deliverability criteria. In 2010, a first 300 MVA 345/138 kV autotransformer will have to be installed at Plano substation. The need for this

autotransformer is driven by the following contingencies and overloaded elements that occur under peak load conditions:

- Loading on Electric Junction 300 MVA 345/138 kV autotransformer 83 for the loss of Electric Junction 300 MVA 345/138 kV autotransformer 84;
- Loading on Electric Junction 300 MVA 345/138 kV autotransformer 84 for the loss of Electric Junction 300 MVA 345/138 kV autotransformer 83;
- Loading on Wolfs 300 MVA 345/138 kV autotransformer 81 for loss of 138 kV blue line Electric Junction to Wolfs;
- Loading on Wolfs 300 MVA 345/138 kV autotransformer 81 for loss of 345 kV line Dresden to Electric Junction and Dresden 300 MVA 345/138 kV autotransformer;
- Loading on Wolfs 300 MVA 345/138 kV autotransformer 81 for loss of 345 kV line Electric Junction to Wayne;
- Loading on Wolfs 300 MVA 345/138 kV autotransformer 81 for loss of 345 kV line Electric Junction to Lombard;
- Loading on 138 kV blue line Wolfs to Oswego for loss of 138 kV red line Wolfs to Plano; and
- Loading on 138 kV red line Wolfs to Oswego for loss of 138 kV blue line Wolfs to Sandwich.

30. In 2011, the third 300 MVA 345/138 kV autotransformer is required at Goodings Grove substation and the second 300 MVA 345/138 kV autotransformer will be needed at the Plano substation. The third Goodings Grove autotransformer is required to relieve loading on Gooding Grove transformer 82 for the loss of a Blue Island line

breaker on 138 kV transmission line Blue Island to Crestwood during peak load conditions. The second Plano autotransformer is required during peak load conditions to relieve loading on Electric Junction 300 MVA 345/138 kV autotransformer 83 for the loss of Electric Junction 300 MVA 345/138 kV autotransformer 84 and loading on Electric Junction 300 MVA 345/138 kV autotransformer 84 for the loss of Electric Junction 300 MVA 345/138 kV autotransformer 83.

31. In 2012, the second 300 MVA 345/138 kV autotransformer will be needed at the East Frankfort substation along with a red-blue 345 kV bus tie. The East Frankfort bus tie and second autotransformer are required to relieve loading on East Frankfort transformer 83 for the loss of 345 kV transmission line Braidwood to Davis Creek and a single University Park red generating unit during peak load conditions.

E. Line Upgrades and Breaker Installations

32. ComEd's and PJM's system analysis has also determined the need for upgrading lines and installing breakers in the 2009-2013 period. In 2009, there will be two projects to upgrade 138 kV facilities. The reconductoring of 3.2 miles on the 138 kV line between Oswego and Montgomery will upgrade the capacity of the line from 264 MVA to 449 MVA. This line can become overloaded at peak load for loss of 138 kV transmission line Wolfs to Sandwich. The reconductoring of 3.7 miles on the 138 kV transmission line between Pleasant Valley and Woodstock will upgrade the capacity of the line from 300 MVA to 451 MVA. This line can become overloaded at peak load following the multiple contingency of 138 kV blue line Cherry Valley to Belvidere and 138 kV red line Pleasant Valley to Marengo.

33. In 2010 ComEd will install a 138 kV transmission line circuit breaker in the Aptakisic substation, on the 138 kV transmission line between the Prospect Heights-Wheeling-Buffalo Grove-Aptakisic-Leithton- Libertyville substations. This circuit breaker is required to prevent overloads at peak load on 138 kV red line Prospect Heights to Libertyville for the loss of 138 kV blue line from the Prospect Heights substation to the Libertyville substation.

34. Also in 2013, the 138 kV transmission lines from Lisle to York Tap will also need to be upgraded from 445 to 483 MVA. This line can become overloaded under peak load conditions for the loss of the 300 MVA 345/138 kV Lombard transformer 84.

VII. RISKS AND CHALLENGES

35. The total conceptual estimated cost of the non-SVC projects is $141.1 million. Procurement of financing and materials to meet the required service date along with engineering and installation represent a challenge to ComEd.

36. The total conceptual estimated cost of the SVC installation is $76.5 million, which represents a substantial investment and therefore adds to the financial risk ComEd must take on. The installation involves two 300 MVAR SVCs located at the same substation which will result in a total SVC capacity, at the site, of 600 MVAR making it one of the largest SVC installations in the world. Although SVC technology has existed for several decades this will be the first installation an SVC on the ComEd transmission system. The introduction of the SVC technology to the ComEd transmission system has required its engineers to develop an understanding of the technology along with learning how to model and simulate an SVC's performance in power flow and dynamic voltage recovery analysis. As the process of the SVC installation moves forward

additional ComEd personnel will work to procure a new type of equipment and understand its installation, maintenance requirements and operational impacts. The SVC installation will require new procedures and processes to be established to successfully operate and maintain the SVCs.

37. Further affiant sayeth not.

Attachment No. A
Affidavit of Ronald F. Szymczak

I declare under penalty of perjury that the foregoing is true and correct. Executed on

17th day of July 2008.

Ronald F. Szymczak

EXHIBIT A-1

Exhibit A-1
Table of Information for Projects

Project Description	PJM RTEP ID	Criteria Violation	Estimated Cost	RTEP Year Approved	Expected to be approved in 2008 RTEP
2009					
Reconductor 3.2 miles of 138 kV line 14304 between Oswego TDC592 to Montgomery TSS 106	b0464	PJM generator deliverability	$2,500,000	2007	-
Reconductor 3.7 miles of 138 kV line 14106 between Pleasant Valley and Woodstock	b0511	NERC/Exelon	$3,700,000	2007	-
Install 57.6 MVAR 138 kV bus capacitors at Will County Station 18	b0461	PJM load deliverability/Exelon	$1,400,000	2007	-
Install 115.2 MVAR 138 kV bus capacitors at Joliet Station 9	b0462	PJM load deliverability/Exelon	$4,500,000	2007	-
Install 115.2 MVAR 138 kV bus capacitors at East Frankfort TSS 66	b0463	PJM load deliverability/Exelon	$3,100,000	2007	-
Install 230.4 MVAR 138 kV bus capacitors at Elmhurst TSS 135	b0510	NERC/Exelon	$5,900,000	2007	-
2010					
Install first 300 MVA 345/138 kV autotransformer at Plano TSS 167 with a series inductor	-	PJM generator deliverability/NERC/Exelon	$27,000,000	-	X
Install one 138kV circuit breaker at the Aptakisic substation on the 138 kV line between Prospect Heights-Wheeling-Buffalo Grove-Aptakisic-Leithton- Libertyville	-	PJM load deliverability/NERC/Exelon	$5,400,000	-	X
Install 230.4 MVAR capacitor banks at TSS 103 Lisle	-	PJM load deliverability/Exelon	$6,200,000	-	X
Install 230.4 MVAR capacitor banks at Station 13 Crawford	-	PJM load deliverability/Exelon	$6,200,000	-	X
Install 230.4 MVAR capacitor banks at TSS 51 McCook	-	PJM load deliverability/Exelon	$6,200,000	-	X
2011					
Install third 300 MVA 345/138 kV autotransformer at Goodings Grove TSS 116	-	PJM generator deliverability/NERC/Exelon	$16,900,000	-	X
Install second 300 MVA 345/138 kV autotransformer at Plano TSS 167 with a series inductor	-	PJM generator deliverability/NERC/Exelon	$13,500,000	-	X
Install 115.2 MVAR capacitor banks at TSS 66 East Frankfort	-	PJM load deliverability/Exelon	$3,900,000	-	X
Install 230.4 MVAR capacitor banks at TSS 144 Wayne	-	PJM load deliverability/Exelon	$7,800,000	-	X
Install 57.6 MVAR capacitor banks at TSS 143 Wolfs	-	PJM load deliverability/Exelon	$2,000,000	-	X
Install 230.4 MVAR capacitor banks at TSS 115 Bedford Park	-	PJM load deliverability/Exelon	$7,800,000	-	X
2012					
Install second 300 MVA345/138kV autotransformer at TSS 66 East Frankfort and Red-Blue 345 kV bus tie	-	PJM generator and load deliverability/NERC/Exelon	$13,500,000	-	X
Install 15 MVAR of shunt distribution capacitors at Wilmington	b0547	NERC/Exelon	$400,000	2007	-
Install 20 MVAR of shunt distribution capacitors at Shorewood	b0546	NERC//Exelon	$500,000	2007	-
Install two 300 MVAR SVCs at Elmhurst TSS 135	-	PJM load deliverability/Exelon	$76,500,000	-	X
2013					
Upgrade 138 kV Lines 10301 & 10302 from Lisle TSS 103 - Lombard (Includes station conductor, circuit switcher and line trap)	b0379	NERC/Exelon	$2,700,000	2006	-
Total Cost			$217,600,000		

EXHIBIT A-2

Exhibit A-2
2009

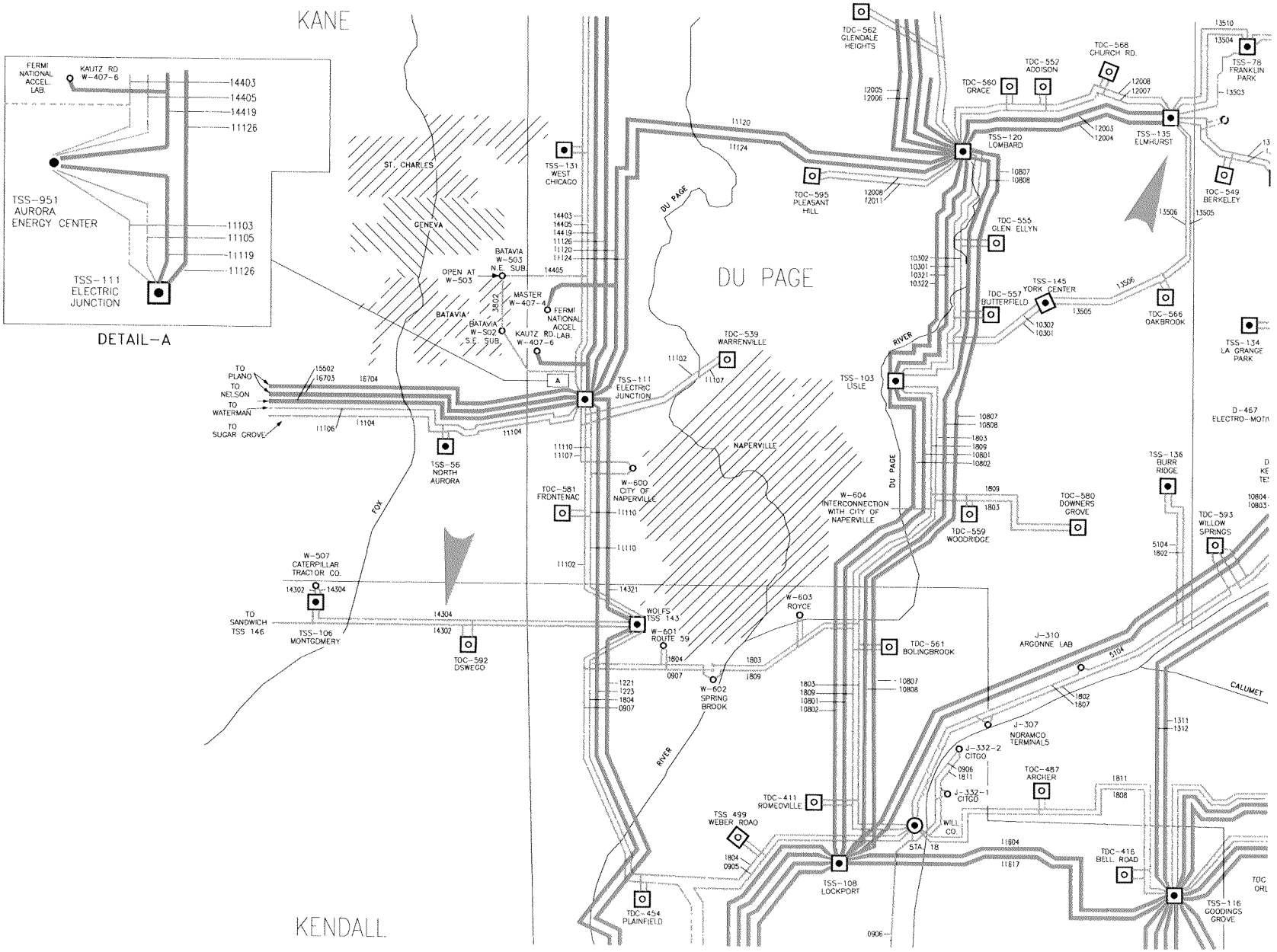


Exhibit A-2
2009

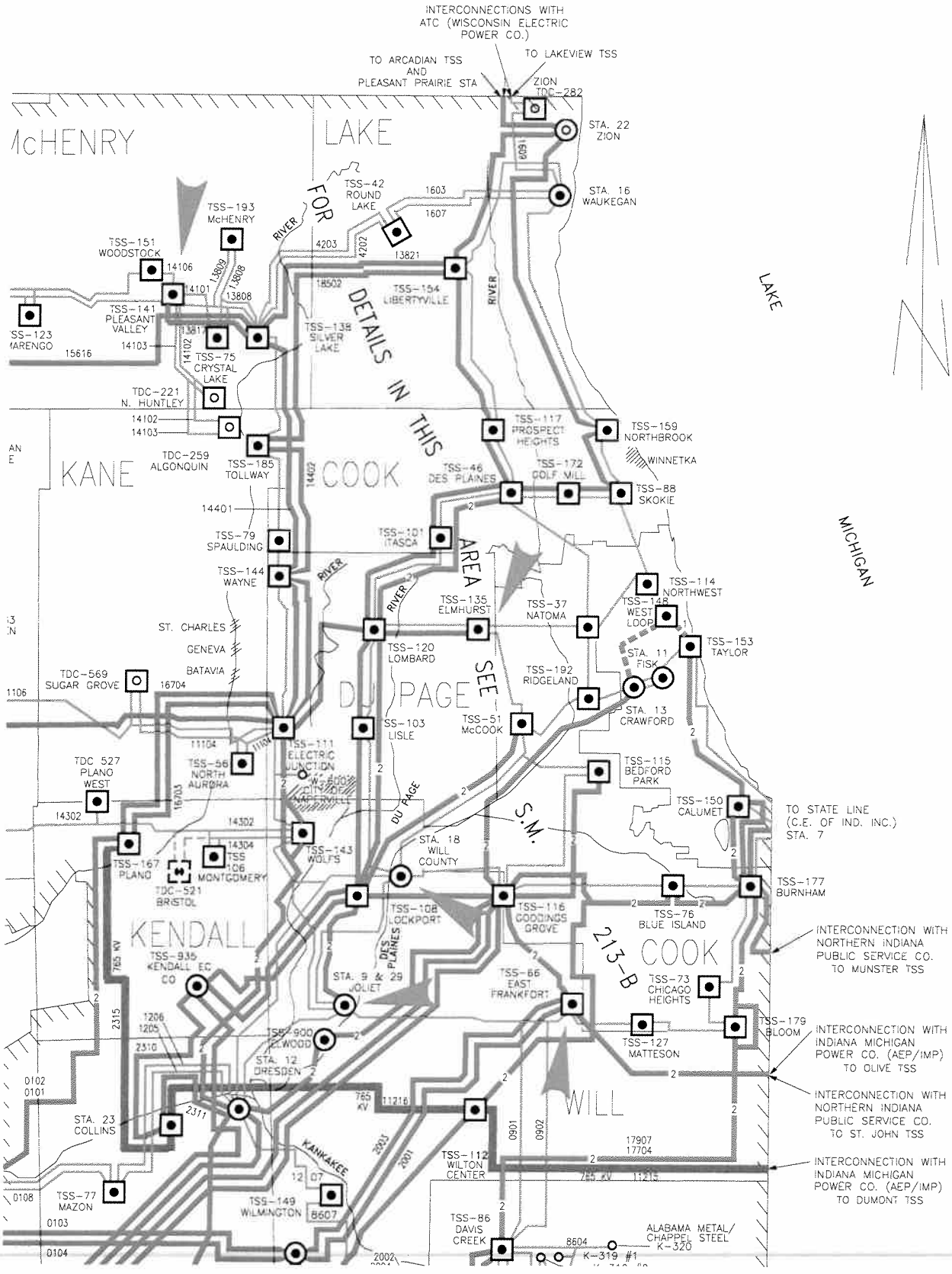


Exhibit A-2
2010

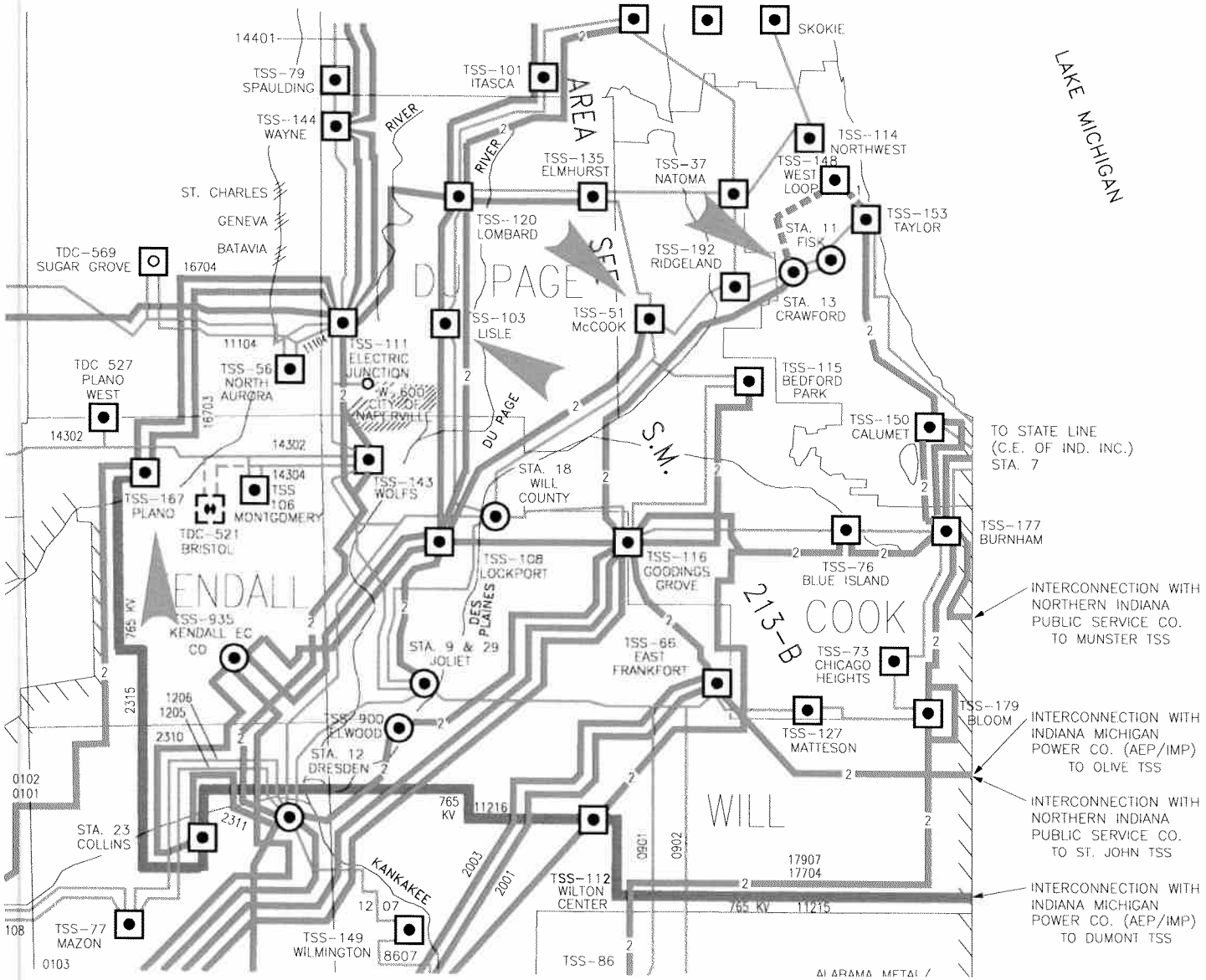


Exhibit A-2
2010

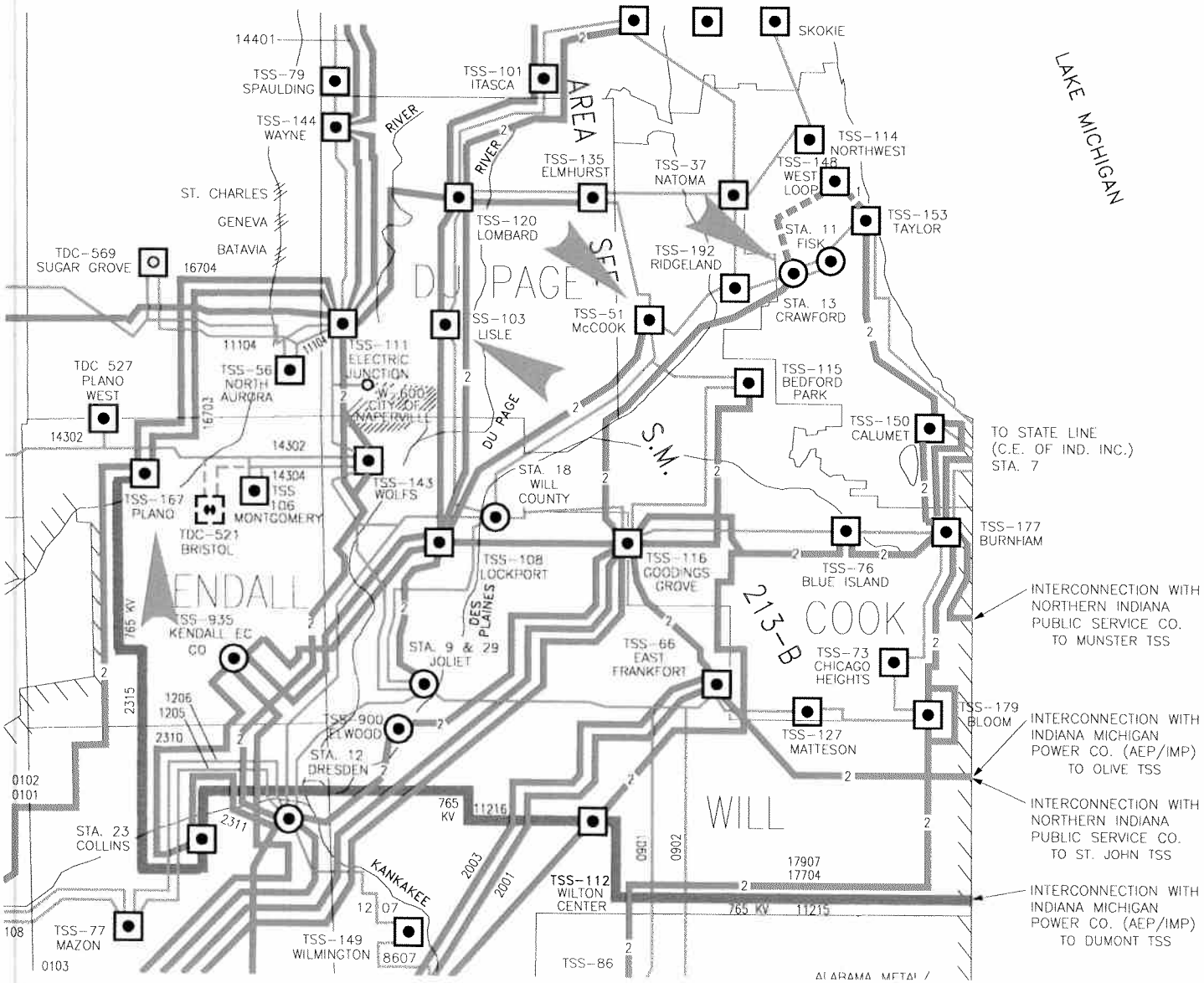


Exhibit A-2
2011

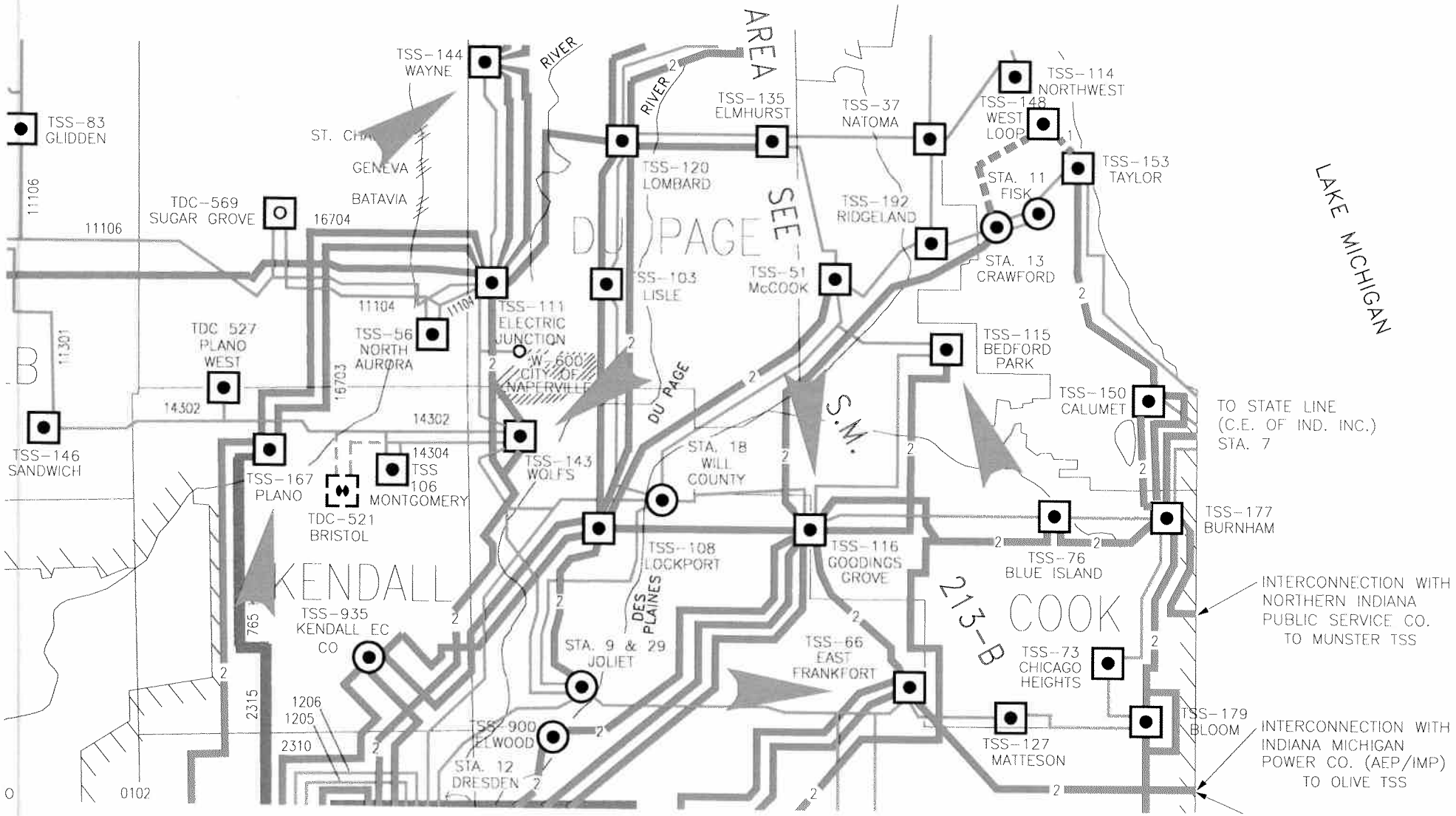


Exhibit A-2
2012

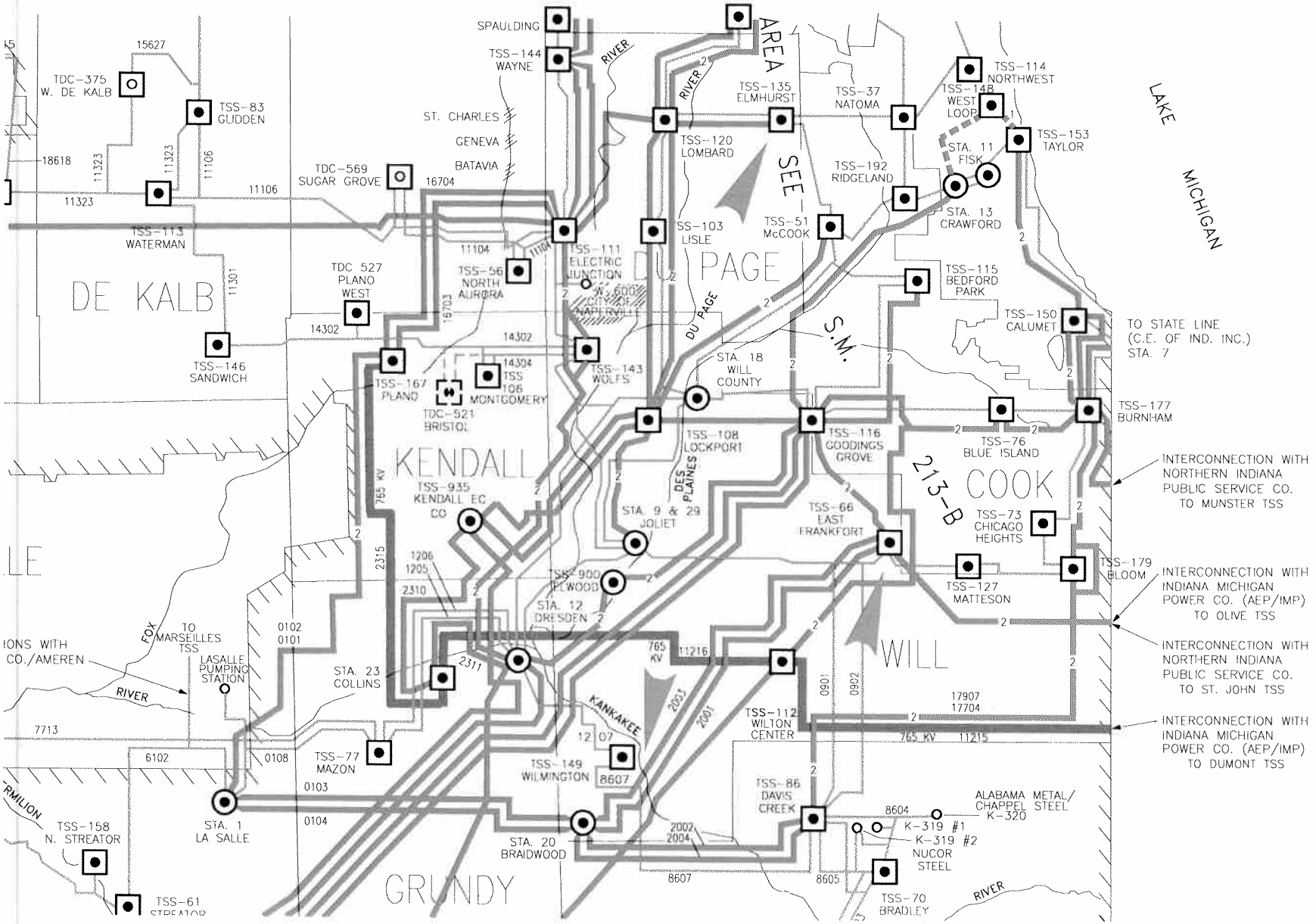


Exhibit A-2
2013

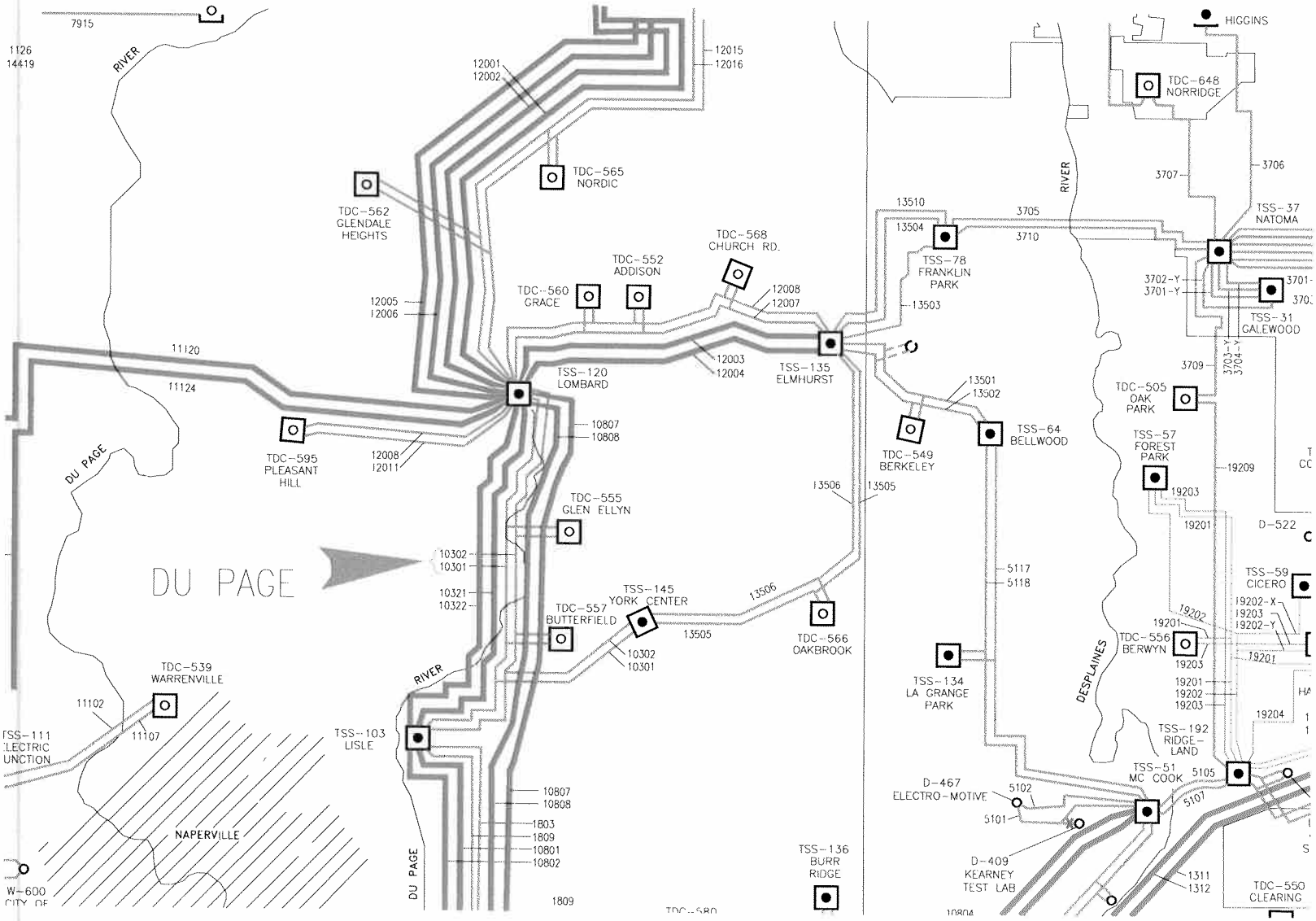


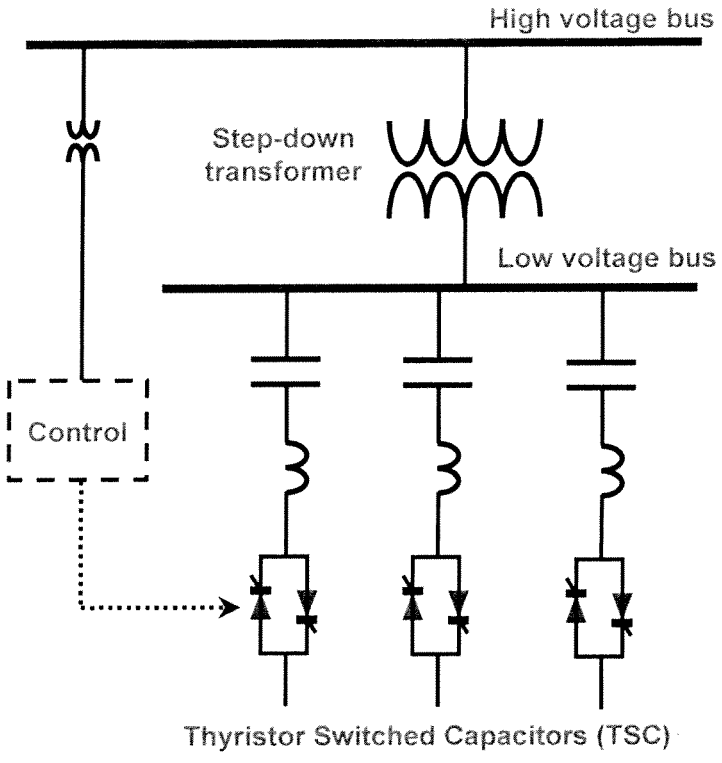
EXHIBIT A-3

TECHNOLOGY STATEMENT FOR STATIC VAR COMPENSATORS

I. Description of Static Var Compensators ("SVC")

The SVC is a shunt device of the Flexible AC Transmission System ("FACTS") family, using power electronics to control power flow. SVCs regulate the amount of reactive power injected into the power system by switching capacitor banks connected to the secondary side of a step-down transformer. Power-electronics-based thyristor switches allow the capacitor banks to be switched on and off, repeatedly if necessary, within a timeframe of a few cycles.

The figure below shows a one-line diagram of an example SVC. Components of an SVC include thryistor switched capacitors (TSC), step-down transformers, and a control system. TSC blocks are switched on or off as needed to provide the desired leading (capacitive) MVARs to the system. The SVC components operate at a voltage optimized for the particular SVC. A step-down transformer provides interconnection to the desired system voltage level.



SVC represents three of the 18 technologies named in Section 1223 of EPAct 2005: 1) an optimized transmission line configuration (by increasing the efficiency and magnitude of power flow capability); 2) a flexible AC transmission system (by monitoring voltage and continuously supplying reactive power through thyristor control); and 3) power electronics (by providing, through thyristor control, a defined range of reactive supply dynamically at precise increments to maintain minimum voltage levels).

II. Analysis Showed That The SVCs To Be Installed By ComEd Represent The Most Effective Least Cost Solution For Providing Dynamic Reactive Power Compensation

ComEd and PJM have determined that installation of state-of-the-art, solid state SVCs is necessary to assure reliable operation of the PJM transmission system within the ComEd zone on a long-term basis. ComEd performed, with participation from PJM, a study to determine a reinforcement solution to meet the need for dynamic reactive sources in the ComEd zone. Twelve reinforcement alternatives were developed to represent a range of reinforcement strategies, including all-capacitor solutions, addition of new transmission, including a 765 kV and high voltage direct current (HVDC) transmission lines, as well as installation of new generation. Based on the study, the most effective and least cost solution for providing dynamic reactive power compensation that met all the reliability criteria involved installation of two 300 MVAR SVCs at the Elmhurst substation.[1]

The SVCs will provide voltage stability and dynamic voltage recovery. Using solid-state thyristor controlled capacitor banks, the SVCs will continuously monitor system voltage levels

[1] The study also showed that installation of 1843.2 MVAR of capacitor banks were required to meet static reactive power requirements.

and automatically supply reactive power to the system as needed. The SVCs will help ensure that: (1) voltage stability margins and dynamic voltage criteria for the ComEd system are met; (2) the system has adequate transmission capacity to serve load within the service territory reliably; and (3) transmission operators have a dynamic source of reactive power that automatically responds to system fluctuations. The SVCs provide an additional benefit to transmission and distribution system operators in that these facilities automatically respond to fluctuations in system MVAR requirements, giving operators time to manually switch capacitors as needed.

ComEd expects the two 300 MVAR SVCs to be included as baseline upgrades in the 2008 PJM RTEP within an expected in-service date of 2012, but PJM and ComEd are evaluating a possible advancement of the in-service date to 2010.

DC 416346 v1

NOTICE OF FILING

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Commonwealth Edison Company Commonwealth Edison Company of Indiana, Inc.	)	Docket No. EL08-__-000

NOTICE OF FILING

(July __, 2008)

Take notice that on July 18, 2008, Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc. filed a petition for declaratory order under Rule 207 of the Federal Energy Regulatory Commission's ("Commission") Rules of Practice and Procedure, 18 CFR § 385.207 (2007).

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. Such notices, motions, or protests must be filed in accordance with the provisions of Section 154.210 of the Commission's regulations (18 CFR 154.210). Anyone filing an intervention or protest must serve a copy of that document on the Applicant. Anyone filing an intervention or protest on or before the intervention or protest date need not serve motions to intervene or protests on persons other than the Applicant.

The Commission encourages electronic submission of protests in lieu of paper using the "eFiling" link at http://www.ferc.gov. Persons unable to file electronically should submit an original and 14 copies of the protest to the Federal Energy Regulatory Commission, 888 First Street, N.E. Washington, DC 20426.

This filing is accessible on-line at http://www.ferc.gov, using the "eLibrary" link and is available for review in the Commission's Public Reference Room in Washington, DC. There is an "eSubscription" link on the web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email FERCOnlineSupport@ferc.gov, or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date: 5:00 pm Eastern Time on August ___, 2008.

Kimberly D. Bose
Secretary

CERTIFICATE OF SERVICE

I hereby certify that I have on this day served the foregoing document upon each party designated on the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Washington, DC this 18th of July, 2008.

Pamela R. Clarke-Koonce

Pamela R. Clarke-Koonce