

Exhibit No.:
Issue: Transmission Costs
Witness: John R. Carlson
Type of Exhibit: Direct Testimony
Sponsoring Party: Kansas City Power & Light Company
KCP&L Greater Missouri Operations Company
Case No.: EU-2014-____
Date Testimony Prepared: September 20, 2013

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: EU-2014-____

DIRECT TESTIMONY

OF

JOHN R. CARLSON

ON BEHALF OF

**KANSAS CITY POWER & LIGHT COMPANY
AND
KCP&L GREATER MISSOURI OPERATIONS COMPANY**

**Kansas City, Missouri
September 2013**

DIRECT TESTIMONY

OF

JOHN R. CARLSON

Case No. EU-2014-_____

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

2 A: My name is John R. Carlson. My business address is 1200 Main Street, Kansas City,
3 Missouri 64105.

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

5 A: I am employed by Kansas City Power & Light Company (“KCP&L”) as Originator,
6 Generation Sales and Services.

7 **Q: On whose behalf are you testifying?**

8 A: I am testifying on behalf of KCP&L and KCP&L Greater Missouri Operations Company
9 (“GMO”) (collectively referred to as the “Company”).

10 **Q: What are your responsibilities?**

11 A: My primary responsibilities are to structure and market long-term power purchases and
12 sales to meet the operational and wholesale needs of the Company. I also develop and
13 manage the Company’s budget for Regional Transmission Organization (“RTO”) fees
14 and transmission charges.

15 **Q: Please describe your education, experience and employment history.**

16 A: I received a Bachelor of Science degree in Architectural Engineering from the University
17 of Kansas in 1997. In 2004, I received a Master of Business Administration from the
18 University of Chicago Booth School of Business. From 1997 to 2001, I worked for
19 Custom Energy and Enron Energy Services, companies focused on performance

1 contracting and other energy efficiency project financing structures. In 2002, I stepped
2 outside the energy industry and worked in financial services focusing on asset
3 management and risk management. I joined KCP&L in 2006 as an Energy Consultant in
4 the Delivery Division. My responsibilities included managing all facets of the customer
5 relationship for KCP&L's large industrial customers and developing solutions that met
6 the customer's needs, to include demand response and energy efficiency opportunities.
7 In 2007, I became Manager of Market Competitiveness where I was responsible for
8 developing and implementing non-regulated products and services for residential,
9 commercial and industrial customers. In 2010, I moved to the Generation Division at the
10 Company and started work as an Originator of wholesale power transactions. Since that
11 time I have also been assigned with developing and managing the Company's budget for
12 RTO fees and transmission charges.

13 **Q: Have you previously testified in a proceeding at the Missouri Public Service**
14 **Commission ("MPSC" or "Commission") or before any other utility regulatory**
15 **agency?**

16 A: Yes, I have. I provided testimony to the MPSC in the Company's most recent Missouri
17 rate cases, ER-2012-0174 and ER-2012-0175. I have also testified before the MPSC in
18 Case Nos. EO-2013-0396 and EO-2013-0431.

19 **Q: On what subjects will you be testifying?**

20 A: My testimony will discuss (1) the Southwest Power Pool, Inc. ("SPP") administration
21 charges for retail load and point-to-point transmission; and (2) SPP transmission costs
22 allocated to the Company. I also will explain why these costs are changing.

1 **SPP ADMINISTRATION CHARGES**

2 **Q: Please describe the SPP administration charge.**

3 A: SPP is a Regional Transmission Organization (“RTO”) approved by the Federal Energy
4 Regulatory Commission (“FERC”). As an RTO, SPP is a transmission provider currently
5 administering transmission service over portions of Arkansas, Kansas, Louisiana,
6 Missouri, Nebraska, New Mexico, Oklahoma and Texas. The Company is a member of,
7 and has transferred control over its transmission facilities to, SPP. With the exception of
8 certain grandfathered agreements, transmission service over the Company’s transmission
9 facilities is provided pursuant to the SPP Open Access Transmission Tariff (“Tariff”).
10 SPP exercises functional control over all of the Company’s transmission assets, and
11 offers point-to-point and network integration transmission services and generator
12 interconnections on the Company’s transmission system pursuant to the Tariff.

13 The SPP is a not-for-profit entity that must remain revenue neutral; its costs must
14 be recovered from its users (transmission customers). Consequently, the Company pays
15 SPP an administration charge for performing the aforementioned RTO functions on its
16 behalf. Pursuant to the Tariff, SPP collects the costs of conducting its RTO functions
17 from its transmission service customers under Schedule 1-A.¹ The administration charge
18 is assessed per MWh for all capacity reserved on a point-to-point basis. For network
19 integration transmission service, the administration charge is determined using a
20 customer’s coincident peak demands. The charge per MWh is the same for both network
21 and point-to-point service. SPP’s administration charge is used to recover expenses
22 associated with scheduling, system control, dispatching, transmission system planning,

¹ Southwest Power Pool, Inc., Open Access Transmission Tariff, Sixth Rev. Vol. 1, Schedule 1-A available at <http://www.spp.org/publications/SPP%20Current%20Effective%20Tariff%206-13-13.pdf>.

1 reliability coordination, standards development, congestion management, market
2 facilitation, monitoring and compliance services.

3 **Q: How does SPP calculate the administration charge?**

4 A: Pursuant to Schedule 1-A of the Tariff, SPP is required to establish a rate for its
5 administration charge annually that enables it to recover 100% of its total annual
6 expenses, subject to a rate cap. SPP's administration charge is set each year based on
7 projected costs and revenues for that year. The rate cap serves as a limit on the annual
8 administration charge in order to provide SPP customers a level of certainty and
9 predictability regarding SPP's year-to-year administrative costs.

10 **Q: Why is SPP's administration charge increasing?**

11 A: SPP has sought, and obtained, FERC approval to increase the rate cap on its
12 administration charges from \$0.225/MWh to \$0.35/MWh. Since 2008, the administration
13 charge rate cap was set at \$0.225/MWh and SPP was able to fully recover its expenses
14 and remain under this cap through 2011. However, due to increases in expenses
15 primarily associated with the ongoing development and implementation of the upcoming
16 Integrated Marketplace (i.e., the more comprehensive power market that SPP is planning
17 to implement in 2014), SPP requested and received FERC approval to raise the
18 administration charge cap to \$0.35/MWh effective January 1, 2012.² Consequently, the
19 administration charge set forth in Schedule 1-A has increased from \$0.255/MWh
20 beginning January 1, 2012 to \$0.315/MWh beginning January 1, 2013, as approved by
21 the SPP Board of Directors at its October 30, 2012 meeting.³ As implied by the

² *Southwest Power Pool, Inc.*, FERC Docket No. ER12-277-000, Letter Order (issued Dec. 14, 2011) (accepting SPP's proposed tariff changes).

³ Southwest Power Pool Board of Directors/Members Committee Meeting, Oct. 30, 2012, Meeting minutes available at <http://www.spp.org/publications/BOD103012.pdf>.

1 \$0.35/MWh rate cap, further escalation of the administration charge above the current
2 \$0.315/MWh level is anticipated subsequent to 2013 as SPP moves forward with
3 implementing the Integrated Marketplace.

4 **SPP TRANSMISSION COSTS**

5 **Q: Please describe the transmission planning and cost recovery mechanisms used by**
6 **the Company prior to joining SPP.**

7 A: Before the Company's transmission facilities were placed under SPP functional control, it
8 planned its transmission system to serve retail customers within its franchised service
9 territory and the costs of these transmission facilities were recovered from retail
10 ratepayers through rates approved by this Commission and FERC. The Company is
11 obligated to serve retail customers within its franchised service territory that seek service.
12 The Company has for decades, and will continue to, build transmission facilities that are
13 necessary to reliably serve its retail load (*e.g.*, generation interconnection or transmission
14 service requests from customers within its franchised service territory).

15 **Q: How did the cost allocation method change once SPP became an RTO?**

16 A: Before SPP received RTO status, SPP customers in the Zone (*e.g.*, the Company is two of
17 the seventeen transmission pricing Zones currently under the Tariff) where a new
18 transmission facility was located would be allocated costs associated with that facility.
19 This zonal methodology is consistent with utility-specific transmission planning that
20 occurred prior to SPP becoming an RTO.

21 After receiving RTO status, SPP worked with the Regional State Committee, a
22 committee comprised of retail regulatory commissioners from agencies in the states SPP
23 administers transmission service, to develop and implement a cost allocation

1 methodology that allocates one-third of the costs of SPP-approved projects to the entire
2 region based on load ratio share and two-thirds of those costs to specific zones based on
3 megawatt-mile impacts. This transmission cost allocation methodology was for upgrades
4 supporting reliability and transmission service from long-term power resources, and was
5 commonly known as Base Plan funding. This is the first occurrence of a “highway” rate,
6 allocating costs regionally, within the SPP.

7 **Q: How has SPP’s cost allocation methodology evolved into the Highway/Byway**
8 **methodology being used today?**

9 A: Once SPP received RTO status in 2004, the focus shifted from individual utilities and
10 transmission owners planning for their individual Zones to coordinated regional planning
11 for the whole SPP Region.

12 Following the Base Plan funding methodology came the Balanced Portfolio, an
13 initiative to develop a group of transmission upgrades that would benefit the entire SPP
14 region, and to allocate those project costs regionally based on load ratio share (the ratio of
15 a Transmission Customer’s network load to the total SPP load). KCP&L currently has an
16 approximately 8.0 percent load share responsibility for those projects as well as other
17 transmission upgrade costs in the SPP region that are allocated on a region-wide basis.
18 KCP&L Greater Missouri Operations Company (“GMO”) has a separate and additional
19 share of approximately 4.0 percent of those regionally allocated costs. Therefore, the
20 companies together have an approximately 12.0 percent responsibility of regionally
21 allocated costs. This is in addition to the zonally allocated costs of SPP-approved
22 projects.

1 In 2010, SPP implemented a Highway/Byway cost allocation methodology which
2 was a hybrid zonal (“byway”) and regional (“highway”) allocation model, dependent on
3 the voltage level of the transmission facility. Concurrently, SPP approved the Priority
4 Projects, a group of projects that would help reduce congestion, better integrate SPP’s
5 east and west regions, improve SPP members’ ability to deliver power to customers and
6 further the addition of new generation to the electric grid.

7 The Highway/Byway methodology effectively regionalizes transmission costs
8 associated with regionally-focused transmission facilities. More specifically, the
9 Highway/Byway cost allocation methodology was structured in the following manner:

Voltage	Regional	Zonal
300 kV and above	100%	0%
Above 100 kV and below 300 kV	33%	67%
100 kV and below	0%	100%

10 SPP’s cost allocation methodology has changed over time as the needs of the SPP
11 region and its members have changed. The methodology used prior to SPP becoming an
12 RTO was based on local, reliability-based transmission solutions and zonally-allocated
13 costs. This mirrored an operating environment where utilities were responsible for
14 maintaining and operating systems within their operating Zone. Once SPP received RTO
15 status, that environment changed and SPP began planning regionally to meet the needs of
16 its transmission customers which now include retail load in Arkansas, Kansas, Louisiana,
17 Missouri, Nebraska, New Mexico, Oklahoma and Texas. The regional focus of the RTO

created the need for regional allocation of the resulting costs, in order to effectively meet the needs of the SPP region as a whole instead of utility by utility.

Q: How are SPP transmission costs allocated amongst SPP transmission customers?

A: In general, SPP's transmission costs are charged to SPP's Network and Point-to-Point Transmission Customers based on the zonal and regional Annual Transmission Revenue Requirement ("ATRR") amounts approved by the FERC and the magnitude of load associated with each customer's transmission service. The total zonal rate, based on the zonal ATRR amounts specific to the Zone of the load served by the transmission reservation, plus the total regional rate, calculated on a regional load ratio share basis, equals the total rate for a transmission customer under the SPP Tariff. As mentioned previously, KCP&L's load ratio share is approximately 8.0 percent and GMO's is approximately 4.0 percent. Therefore, the companies together have an approximately 12.0 percent of regionally allocated costs in addition to the zonally allocated costs of SPP-approved projects.

Q: How is the zonal ATRR calculated for SPP-approved projects?

A: Table 1 from Attachment H of the Tariff documents the zonal ATRR for SPP-approved projects. The zonal ATRR for these projects is calculated by adding together Column (4), the Base Plan Zonal ATRR for projects issued a NTC prior to June 19, 2010 and Column (5), the Base Plan Zonal ATRR for projects issued a NTC on or after June 19, 2010, and subtracting Column (6), the ATRR Reallocated to Balanced Portfolio Region-wide ATRR.⁴

⁴ SPP Tariff Attachment H, Effective October 1, 2013, http://www.spp.org/publications/For_Bills_2013-10-01_Revenue_Requirements_and_Rates%20Rev%20081913.xls.

1 **Q: How is the region-wide ATRR calculated for SPP-approved projects?**

2 A: Table 2 from Attachment H of the Tariff describes the Region-wide ATRR for SPP-
3 approved transmission projects. The Region-wide ATRR (Line 5) is calculated by
4 adding together the Base Plan Region-wide ATRR values (Lines 1 and 2), the Balanced
5 Portfolio Region-wide ATRR reallocated from Table 1 (Line 3), and the Balanced
6 Portfolio Region-wide ATRR (Line 4). The Region-wide charge to network customers is
7 then calculated by multiplying each customer's regional load ratio share by the total
8 Region-wide ATRR, Line 5.⁵ In this manner, network transmission customers are
9 charged for facilities constructed throughout the region based on their load ratio shares,
10 understanding that these transmission facilities benefit the entire SPP region.

11 **Q: How are SPP transmission costs allocated to KCP&L expected to change?**

12 A: SPP transmission costs allocated to KCP&L have been rising, and projections from SPP
13 show that these expenses will continue to increase at a very significant rate from 2013
14 through 2019, recede slightly from there through 2021, and then increase again in 2022.
15 Base plan transmission costs allocated to KCP&L were approximately \$10.5 million for
16 the calendar year 2012, and they are projected to increase to \$35.1 million in 2016. SPP
17 further projects KCP&L's share of the SPP transmission costs to peak at over \$45 million
18 in 2022 (Schedule JRC-1). This equates to a substantial increase of approximately 16%
19 increase per year from 2012 – 2022. These projections reflect both zonal and region-
20 wide components of the costs of SPP-approved projects and the increases are primarily
21 driven by the region-wide components.

⁵ Ibid.

1 **Q: How are SPP transmission costs allocated to GMO expected to change?**

2 A: SPP transmission costs allocated to GMO have been rising, and projections from SPP
3 show that these expenses will continue to increase through 2019, recede slightly from
4 there through 2021, and then increase again in 2022. Transmission costs allocated to
5 GMO were 5.1 million for calendar year 2012, and are projected to increase to \$14.9
6 million in 2016. SPP further projects GMO's share of the SPP transmission costs will
7 peak at over \$25 million in 2022 (Schedule JRC-2). This equates to an approximate 16%
8 increase per year from 2012 – 2022. These projections reflect both zonal and region-
9 wide components of the costs of SPP-approved projects and the increases are primarily
10 driven by the region-wide components.

11 **Q: Why are the SPP transmission costs allocated to transmission customers increasing?**

12 A: There are three main drivers of regional transmission expansion and cost allocation. First,
13 the Balanced Portfolio and Priority Projects discussed previously are being completed
14 and are now being paid for by SPP transmission customers.

15 Second, the increase in renewable resources in areas either not currently
16 connected to the grid or in areas where capacity expansion is needed (the transmission
17 system cannot currently handle the projected capacity increases) is resulting in the need
18 for transmission expansion. A majority of these new transmission projects are
19 “highways”, those 300kV and above, with costs allocated regionally. This allocation
20 process is discussed previously in this testimony.

21 In addition to the increase in renewable resources, the SPP regional footprint and
22 utilization of the transmission system under its functional control is changing depending
23 on where in the SPP region demand is expanding or contracting and where new

1 generation assets are being constructed or retired. In order to meet its FERC mandated
2 reliability requirements, SPP continually monitors power flows throughout the footprint
3 and takes action on both a short and long-term basis to manage transmission congestion.
4 From a long-term perspective, SPP implements a planning process that identifies system
5 limitations, develops transmission upgrade plans, and tracks project progress to ensure
6 timely completion of system improvements.⁶ This planning process, known as the
7 Integrated Transmission Planning Process (ITP), is an iterative three year process that
8 includes 20-year, 10-year and near-term assessments. The process seeks to target a
9 reasonable balance between long-term transmission investment and congestion costs to
10 customers. The projects and associated costs born out of the ITP 20-year, 10-year and
11 near-term assessments are the third main driver to regional transmission expansion and
12 cost allocation. The ITP was approved by the SPP Board of Directors in October 2009
13 and then approved by the FERC in July 2010.

14 **Q: Do you have anything to add in summary?**

15 A: Yes, I do. As a not-for-profit entity that must remain revenue-neutral, SPP's expenses
16 must be recovered from its users (transmission customers). The recovery mechanism is
17 an administration charge assessed on a \$/MWh basis for transmission service. Escalation
18 of the administration charge above the current \$0.315/MWh level, closer to the FERC
19 approved cap of \$0.35/MWh, is anticipated subsequent to 2013 as SPP moves forward
20 with implementing the Integrated Marketplace. This would represent a substantial
21 increase in administrative fees to transmission customers as the administrative charge is
22 assessed on both network integration and point-to-point transmission service.

⁶ Southwest Power Pool, Inc., 2010 Southwest Power Pool Strategic Plan, available at
http://www.spp.org/publications/2010_SPP_Strategic_Plan.pdf.

1 From a transmission planning perspective, before SPP became an RTO, the
2 planning function was on a zonal, utility-specific basis with costs allocated to customers
3 located in the zone where a new transmission facility was located. Planning for
4 transmission expansion centered on meeting retail load requirements for the zone(s)
5 served by a utility or transmission provider.

6 After SPP became an RTO in 2004, transmission planning changed to a
7 coordinated regional approach focusing on regional reliability and transmission
8 expansion through defined planning processes. Both the Balanced Portfolio, a group of
9 transmission upgrades that benefit the entire SPP region, and the Priority Projects, a
10 group of high voltage transmission projects planned to reduce system congestion and
11 better integrate the east and west regions of SPP, were results of this regional planning
12 effort, as are projects identified in SPP's ITP 20-year, 10-year and near-term planning
13 processes. In addition, the increase in renewable resources in the SPP footprint has
14 driven the necessity for incremental transmission upgrades and construction to transfer
15 that generation to load.

16 As discussed previously in this testimony, a majority of the costs of the regional
17 transmission projects described above are allocated regionally, on a load ratio share basis,
18 and represent a substantial investment by SPP transmission customers in a relatively short
19 time period.

20 **Q: Does that conclude your testimony?**

21 **A:** Yes, it does.

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of the Application of)
Kansas City Power & Light Company and KCP&L)
Greater Missouri Operations Company for the)
Issuance of an Accounting Authority Order relating) File No. EU-2014-
to their Electrical Operations and for a Contingent)
Waiver of the Notice Requirement of 4 CSR 240-)
4.020(2))

AFFIDAVIT OF JOHN R. CARLSON

STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)

John R. Carlson, being first duly sworn on his oath, states:

1. My name is John R. Carlson. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company ("KCP&L") as Originator, Generation Sales and Services.

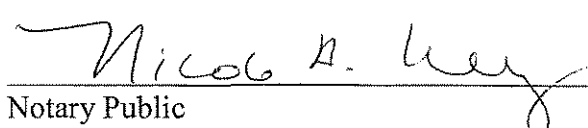
2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of KCP&L and KCP&L Greater Missouri Operations Company consisting of twelve (12) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.



John R. Carlson

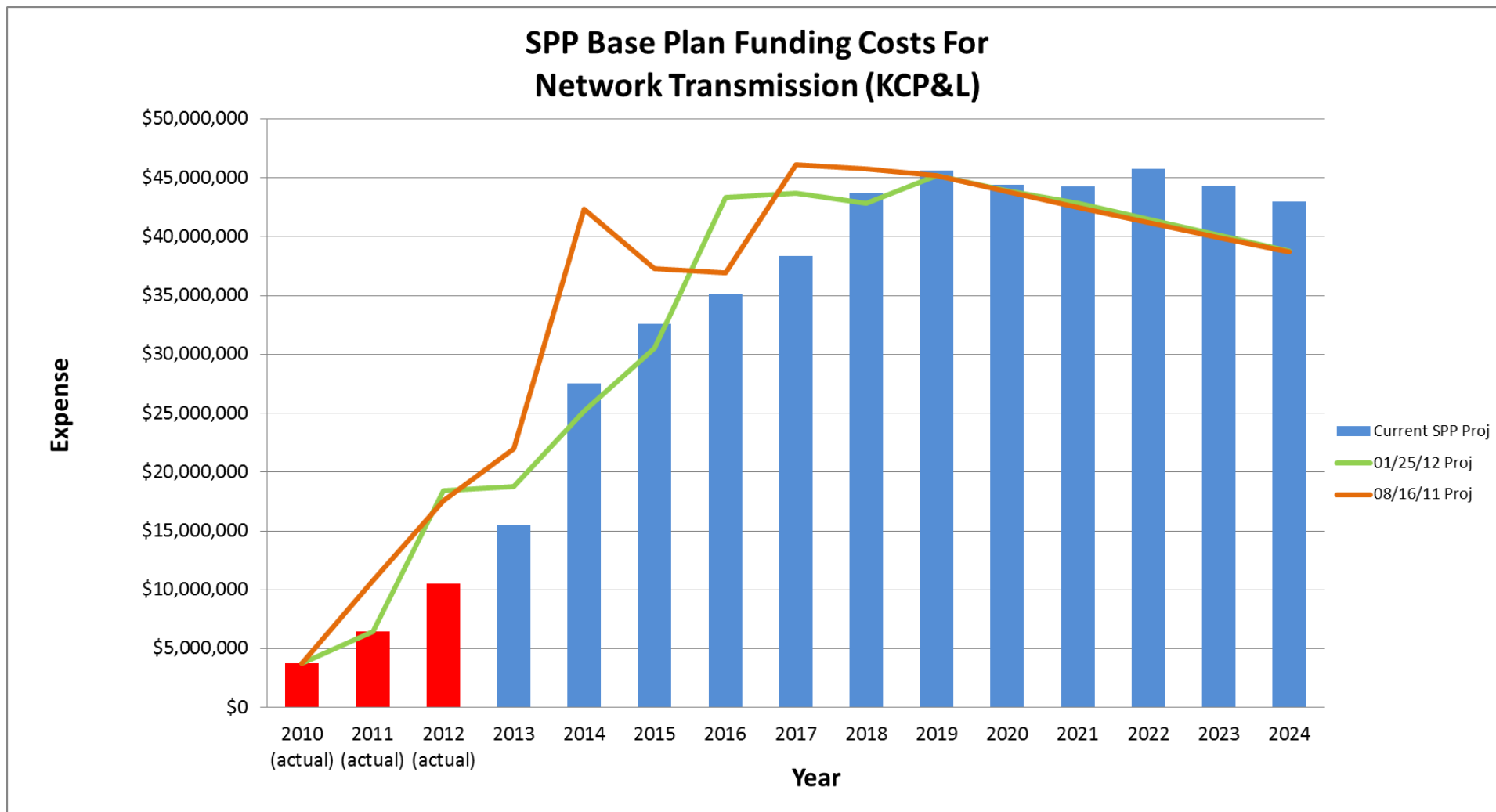
Subscribed and sworn before me this 20th day of September, 2013.



Notary Public

My commission expires: Feb. 4, 2015

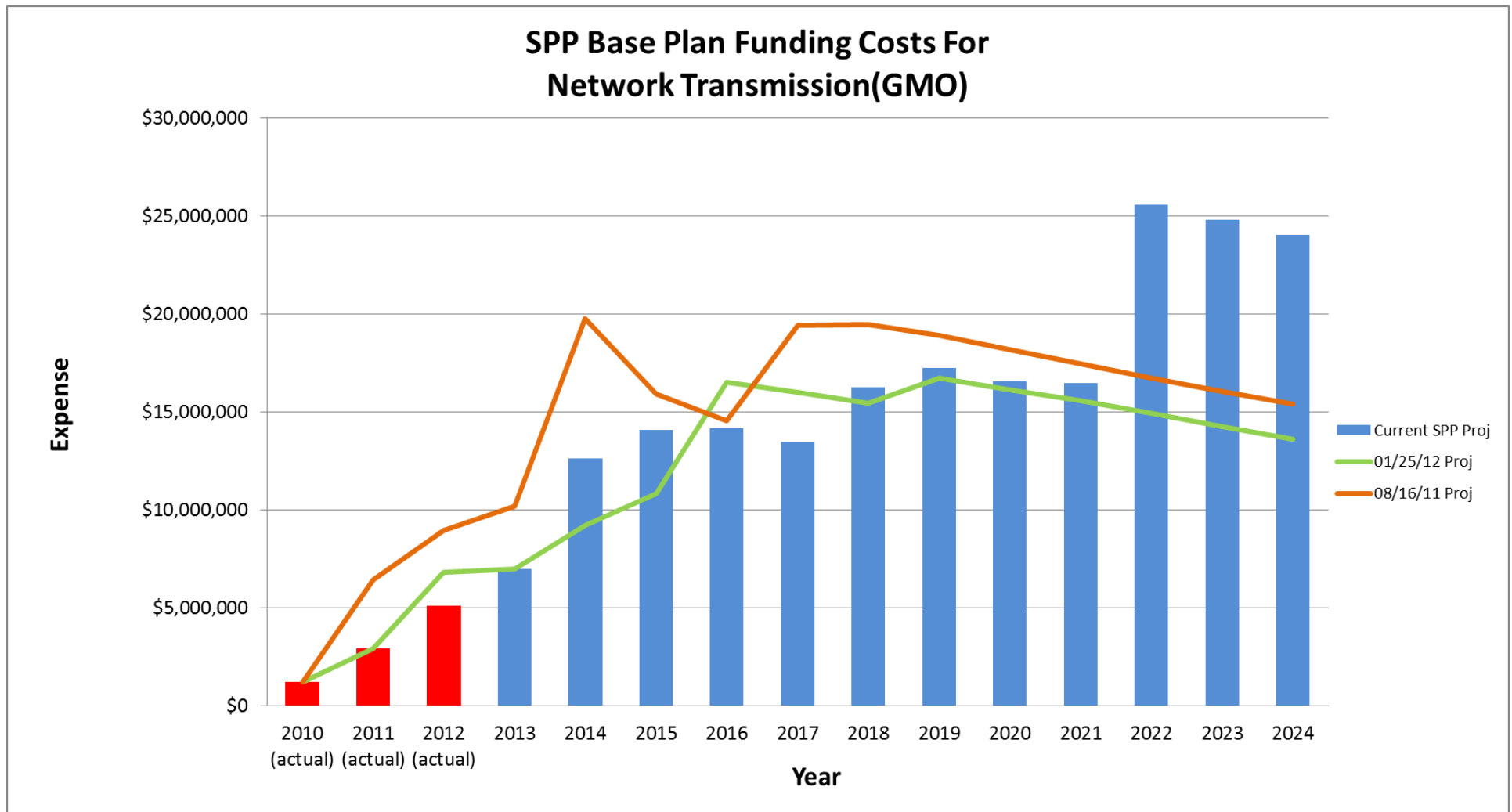
NICOLE A. WEHRY Notary Public - Notary Seal State of Missouri Commissioned for Jackson County My Commission Expires: February 04, 2015 Commission Number: 11391200



¹ Projections for Current SPP Proj time series taken from: July 8 2013 ATRR Forecast All Upgrades for Posting.xlsx, Maintained by SPP Engineering, Posted July 8, 2013, <http://www.spp.org/publications/July%208,%202013%20ATRR%20Forecast%20All%20Upgrades.zip>

² Projections for 01/25/12 time series taken from: SPP 10 Year Cost Allocation Forecast Jan 2012 for Posting to RTWG REV 6.xlsx, Maintained by SPP Engineering, Posted January 24, 2012, [http://www.spp.org/publications/201220January20ATRR20Forecast\[1\].zip](http://www.spp.org/publications/201220January20ATRR20Forecast[1].zip)

³ Projections for 08/16/11 time series taken from : SPP ATRR All Totals Results August 16 2011 REV 1.xlsx, Maintained by SPP Engineering.



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¹ Projections for Current SPP Proj time series taken from: July 8 2013 ATRR Forecast All Upgrades for Posting.xlsx, Maintained by SPP Engineering, Posted July 8, 2013, <http://www.spp.org/publications/July%208,%202013%20ATRR%20Forecast%20All%20Upgrades.zip>

² Projections for 01/25/12 time series taken from: SPP 10 Year Cost Allocation Forecast Jan 2012 for Posting to RTWG REV 6.xlsx, Maintained by SPP Engineering, Posted January 24, 2012, [http://www.spp.org/publications/201220January20ATRR20Forecast\[1\].zip](http://www.spp.org/publications/201220January20ATRR20Forecast[1].zip)

³ Projections for 08/16/11 time series taken from : SPP ATRR All Totals Results August 16 2011 REV 1.xlsx, Maintained by SPP Engineering.