PJM RTEP-2016 RTEP Proposal Window #2

York-Coyote 345 kV Project

A Proposal to PJM Interconnection August 15, 2016

Submitted by

Transource® Energy, LLC

1 Riverside Plaza, Columbus, Ohio 43215-2372

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A. Executive Summary

Transource® Energy, LLC (Transource) is pleased to provide the following proposal to PJM in response to the *PJM RTEP-2016 RTEP Proposal Window #2Problem Statement & Requirements Document*. Transource was specifically formed as a joint venture between subsidiaries of American Electric Power Company (AEP) and Great Plains Energy Incorporated (GPE) to participate in competitive processes for transmission development and to provide benefits to transmission customers through the planning, construction, and ownership of high quality, low cost transmission infrastructure. Transource is located at 1 Riverside Plaza in Columbus, Ohio.

A.1. General Description of Proposed Project

Transource proposes to build the "York-Coyote 345 kV Project" (or, "the Project") in western Ohio and eastern Indiana. Two greenfield stations will be constructed as part of the Project. The first will tap the existing Tanners Creek – Losantville 345 kV line in eastern Indiana with a new ring bus to be called York station. A second new station will be constructed near the existing Wiley 138 kV station, to be called Coyote station. Coyote station will tap the existing Miami Fort – Woodsdale 345 kV line and install a new 345/138 kV transformer with a 138 kV tie line to Wiley station. The existing Morgan – Fairfield 138 kV line will also be tied into the existing Wiley station. The Project will also establish a new 16.8 mile 345 kV single circuit transmission line from York station to Coyote station. A second 345/138 kV transformer will need to be added to DEOK's Foster Station as part of this proposal.

Transource has completed the necessary preliminary project development work to determine project constructability, preliminary cost estimates, and a conceptual project schedule. Experienced AEP engineering, siting, permitting, project management, and construction personnel were the primary resources for this work.

A.2. Reliability Problem(s) Proposed to Resolve

The Project addresses the planning criteria violation(s) listed below:

PJM N-1-1 Violations

FG #	Fr Bus	Fr Name	To Bus	To Name	CKT	KVs	Areas	Rating	DC Ld(%)	AC Ld(%)	Contingency 1	Contingency 2
N2-T4	250082	08P.UN1	250160	08EPROVI	1	138/138	212/212	198.0	96.57	101.85	'DEO&K P1-* P2-1 LOE BRKR OPEN AT PORT UNION 3885'	'DEO&K P1-* P2-1 LOE BRKR OPEN AT PORT UNION 3889'
N2-T5	250082	08P.UN1	250160	08EPROVI	1	138/138	212/212	198.0	96.92	101.85	'DEO&K P1-* P2-1 LOE BRKR OPEN AT PORT UNION 3889'	'DEO&K P1-* P2-1 LOE BRKR OPEN AT PORT UNION 3885'
N2-T6	249574	08TDHNTR	250109	08TODM17	1	345/138	212/212	450	105.47	107.51	DEO&K P1-* P2-1 TODHUNTER 345/138 TB15'	'DEO&K P1-* P2-1 TODHUNTER 345/138 TB16'
N2-T7	249574	08TDHNTR	250108	08TODM16	1	345/138	212/212	483	98.34	100.24	'DEO&K P1-* P2-1 TODHUNTER 345/138 TB15'	'DEO&K P1-* P2-1 TODHUNTER 345/138 TB17'
N2-T8	249574	08TDHNTR	250109	08TODM17	1	345/138	212/212	450	104.62	106.69	DEO&K P1-* P2-1 TODHUNTER 345/138 TB16'	'DEO&K P1-* P2-1 TODHUNTER 345/138 TB15'
N2-T9	249574	08TDHNTR	250107	08TODM15	1	345/138	212/212	470	103.26	105.19	'DEO&K P1-* P2-1 TODHUNTER 345/138 TB16'	'DEO&K P1-* P2-1 TODHUNTER 345/138 TB17'
N2-T10	249574	08TDHNTR	250107	08TODM15	1	345/138	212/212	470	103.32	105.22	'DEO&K P1-* P2-1 TODHUNTER 345/138 TB17'	'DEO&K P1-* P2-1 TODHUNTER 345/138 TB16'

PJM Generation Deliverability Violations

FG #	Fr Bus	Name	To Bus	Name	CKT	KVs	Areas	Rating	FN AC Flow	FN AC %	Cont Label	Cont Type
897	248009	06CLIFTY	250057	08M.FORT	1	138/138	206/212	129	132.81	102.96	'AEP_P7-1_#632'	tower
905	342661	4SPUR-KENT-R	324267	4KENTON	1	138/138	320/363	281	285.77	101.7	'EKPC_P7-1_SPUR 345 DBL'	tower
906	342664	4SPURLOCK	342661	4SPUR-KENT-R	1	138/138	320/320	281	285.76	101.69	'EKPC_P7-1_SPUR 345 DBL'	tower
907	250138	08NICKEL	250122	08WARRN1	1	138/138	212/212	198	200.68	101.35	'DEO&K P7-1 CIRCUIT5689&4515FOSTERGARVER'	tower
1137	248009	06CLIFTY	250057	08M.FORT	1	138/138	206/212	129	131.70	102.09	'AEP_P4_#1760_05JEFRSO 765'	breaker

Table 1. Addressed Contingencies Identified by PJM

The generation deliverability thermal overloads on Clifty Creek – Miami Fort, Spurlock – Kenton, and Nickel – Warren are all alleviated with this Project by providing additional 345 kV sources to the 138 kV system in the area. The N-1-1 thermal overloads on the Todd Hunter 345/138 kV transformers and the Port Union – E.Provi 138 kV lines were also alleviated by this Project.

Furthermore, Transource performed analysis of existing and new contingencies that the Project may create and found no planning criteria violations when the entire Project is completed. The Miami Fort – Hebron 138 kV line is getting close to 100% in this generation deliverability analysis due to this Transource proposal. If PJM identifies a violation on this line, Transource can install two 138 kV breakers at Miami Fort to fix the contingency "DEO&K P2-3/4 P4-* 919_MIAMI FORT." Creating a double-bus, double-breaker configuration for CB 919 and CB 909 at the Miami Fort 138 kV Station would resolve this overload if PJM identifies it.

A.3. Overall Schedule Duration

The Project is expected to be placed in service 42 months after execution of the PJM Designated Entity Agreement (DEA). Assuming the DEA is executed by January 1, 2017, Transource could place the Project in-service July 2020.

A.4. Overview of Cost Estimate

The estimated capital cost of the Project is approximately $59,104,168 (in 2016 dollars). This estimated cost includes all components of the Project, including work that PJM may consider as upgrades. Please refer to Section E of this proposal for details on the Project cost.

A.5. Designated Entity Statement of Intent

Transource seeks to be considered the Designated Entity for the Project described within this Proposal to design, construct, own, operate, and maintain the facilities and assets, subject to determination regarding components deemed upgrades by PJM.

A.6. Designated Entity Status/Pre-Qualification

Transource has been pre-qualified to be a Designated Entity for transmission projects in PJM under section 1.5.8 (a) of the PJM Operating Agreement. The pre-qualification information is contained in the document submitted to PJM on April 29, 2013, entitled *Pre-Qualification Application of American Electric Power and Certain Affiliates*. This document is on record with PJM and posted on the PJM website, with PJM pre-qualification ID of 13-05. PJM confirmed the pre-qualified status of Transource in a letter dated July 7, 2013. As required annually, Transource has reviewed this information and determined that no updates are required.

B. Company Evaluation Information

Transource Energy, LLC is located at 1 Riverside Plaza in Columbus, Ohio. Specific contact information is provided below.

B.1. Transource Contacts

Primary Contact	Robert Cundiff Manager, Transource Business Development	Transource Energy, LLC 1 Riverside Plaza Columbus, Ohio 43215-2372 Telephone: 614-716-2076 Email Address: rjcundiff@aep.com
Secondary Contact	Takis Laios Manager, Transmission Asset Strategy	Transource Energy, LLC 1 Riverside Plaza Columbus, Ohio 43215-2372 Telephone: 614-716-3462 Email Address: tlaios@aep.com

B.2. Transource Qualifications

Transource has been pre-qualified to be a Designated Entity for transmission projects in PJM under section 1.5.8 (a) of the PJM Operating Agreement. The pre-qualification information is contained in the document submitted to PJM on April 29, 2013, entitled *Pre-Qualification Application of American Electric Power and Certain Affiliates*. This document is on record with PJM and posted on the PJM website, with PJM pre-qualification ID of 13-05. PJM confirmed the pre-qualified status of Transource in a letter dated July 7, 2013. As required annually, Transource has reviewed this information and determined that no updates are required.

Transource will bring to bear the talents, resources, and capabilities of AEP, GPE, and their respective subsidiaries to execute the Project. These capabilities are detailed in Transource's prequalification submittal to PJM.

B.3. Overview of Transource Energy

Transource was formed to pursue the development of competitive transmission projects in marketplaces initiated by the implementation of FERC Order No. 1000. AEP owns 86.5 percent of Transource, and GPE owns 13.5 percent. The combined strengths of AEP and GPE in engineering, project management, procurement, project development, construction, operation and maintenance will result in effective and efficient delivery of transmission solutions that benefit transmission customers.

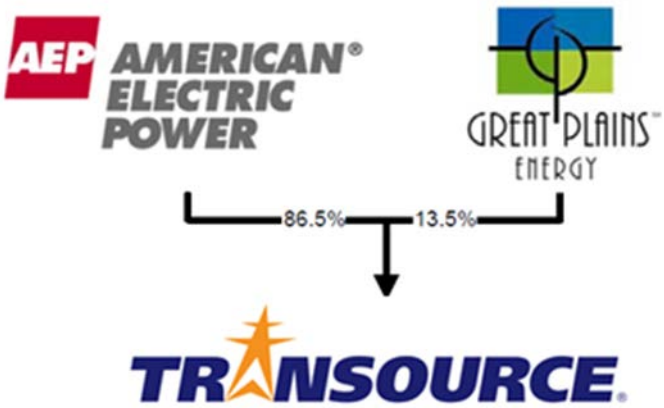

Figure 1. Summary of Transource Ownership Structure

Transource is currently developing two Southwest Power Pool (SPP) approved transmission projects in the state of Missouri through its subsidiary Transource Missouri LLC (Transource Missouri). The Iatan-Nashua 345 kV Transmission Project was recently placed into service, and the Sibley-Nebraska City 345 kV Transmission Project is currently under construction. Transource received approval from the Federal Energy Regulatory Commission (FERC) of a formula rate and certain incentives for Transource Missouri in FERC Docket No. ER12-2554. Transource Missouri also received approval from the Missouri Public Service Commission of a settlement filed in File No. EA-2013-0098 for a line Certificate of Convenience and Necessity to finance, construct, own, operate and maintain these projects.

In addition to these two projects in Missouri, Transource was recently awarded PJM's largest-ever market efficiency project on the Pennsylvania-Maryland border in the eastern portion of PJM. Transource is also developing the Thorofare Creek Area Project in central West Virginia as part of PJM's 2014 Regional Transmission Expansion Plan.

The figure below provides a snapshot of the states in which Transource's owners, AEP and GPE, currently own or are developing transmission assets.

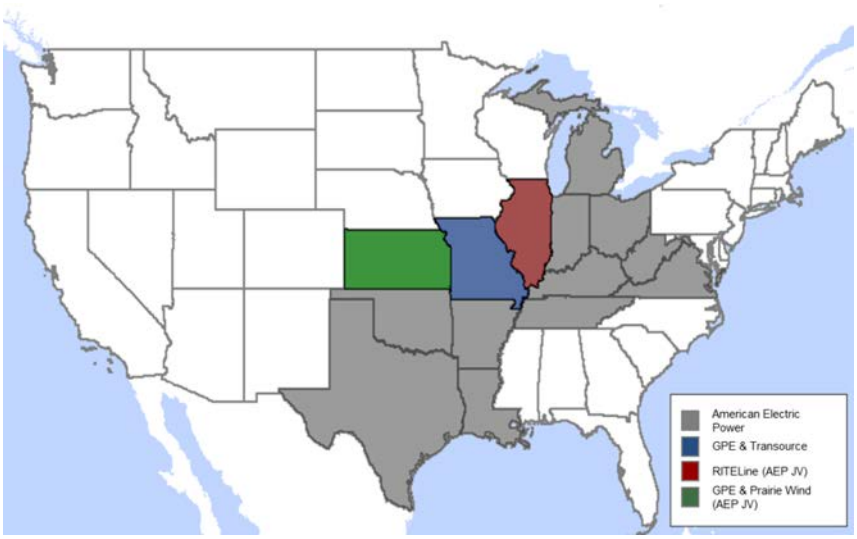

Figure 2. Combined Transmission Presence

C. Proposed Project Constructability Information

[REDACTED]

D. Analytical Assessment

[REDACTED]

E. Cost

[REDACTED]

F. Schedule

[REDACTED]

G. Operations/Maintenance

G.1. Operational Plan

Transource is flexible regarding Project operations that can be provided using one of the following approaches:

- Transource can operate the new facilities directly using the capabilities of the AEP Transmission Operations (TOps) organization.
- Transource can work with the incumbent transmission owner to facilitate their operations of the new facilities.

The TOps organization operates from a state-of-the-art System Control Center (SCC) located in New Albany, Ohio. AEP TOps also operates five Transmission Operations Centers that coordinate transmission switch orders and interface with field personnel. The SCC and Transmission Operations Centers are staffed with NERC and PJM-Certified operators.

Operator tools include a State Estimator covering AEP's 11-state transmission system, real-time contingency analysis, and visualization and situational awareness tools. TOps has a back-up control center that can be staffed and fully functional within one hour from declaration of an emergency. TOps completes approximately 18,000 switching jobs totaling over 200,000 switching steps with an accuracy rate exceeding 99.99 percent annually.

G.2. Maintenance Plan

[REDACTED]

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