PJM RTEP-2016 RTEP Proposal Window #3

Carlisle-Rocky River West 345 kV BOLD™ Line Project

A Proposal to PJM Interconnection November 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 #3 Problem 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 Carlisle-Rocky River West 345 kV BOLD™ [1] Project (or, the Project) in northern Ohio. The Project will establish a new approximately 11.5 mile 345 kV double-circuit BOLD transmission line from the existing Carlisle Station to a new Rocky River West Substation. The new substation will connect into the existing Avon Lake-Juniper 345 kV line, approximately 16 line miles from the Avon Lake substation. In addition, the Project will establish a new 138 kV Sheffield switching station tying together the existing Johnson-Fieldstone 138 kV and Carlisle-National Bronze 138 kV lines.

Transource has completed the necessary preliminary project development work to determine project constructability, preliminary cost estimates, and a 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 violations listed in the following table.

[1] BOLD™ stands for Breakthrough Overhead Line Design. Please see Section C.1. of this proposal for more information.

2021 PJM Winter Analysis Generation Deliverability Result													
FG #	Fr Bu	Name	To Bu	Name	CKT	KVs	Area	Ratin	FN DC	FN AC	Cont Label	Cont Ty	Conductor Rating (MVA)
393	238524	02AD Q-2	238552	02AVON	1	138/138	202/202	361	117.86	122.58	ATSI-P7-1-CEI-345-001'	tower	Rate A/B =309/393
490	238524	02AD Q-2	238552	02AVON	1	138/138	202/202	361	117.86	122.58	ATSI-P2-3-CEI-345-001'	breaker	Rate A/B =309/393
386	238570	02BEAVER	239728	02BLKRVR	1	138/138	202/202	459	106.28	107.35	'ATSI-P7-1-OEC-345-001'	tower	Rate A/B =491/595
400	239728	02BLKRVR	239734	02USSTEEL	1	138/138	202/202	543	113.4	115.84	'ATSI-P7-1-CEI-345-001'	tower	Rate A/B =448/543
493	239728	02BLKRVR	239734	02USSTEEL	1	138/138	202/202	543	113.4	115.84	'ATSI-P2-3-CEI-345-001'	breaker	Rate A/B =448/543
392	238915	02LRN Q2	238524	02AD Q-2	1	138/138	202/202	361	117.92	122.61	'ATSI-P7-1-CEI-345-001'	tower	Rate A/B =309/393
489	238915	02LRN Q2	238524	02AD Q-2	1	138/138	202/202	361	117.92	122.61	'ATSI-P2-3-CEI-345-001'	breaker	Rate A/B =309/393
407	239734	02USSTEEL	238915	02LRN Q2	1	138/138	202/202	543	107.88	110.82	'ATSI-P7-1-CEI-345-001'	tower	Rate A/B =448/543
504	239734	02USSTEEL	238915	02LRN Q2	1	138/138	202/202	543	107.88	110.82	'ATSI-P2-3-CEI-345-001'	breaker	Rate A/B =448/543

Table 1. Addressed Contingencies Identified by PJM

The generation deliverability thermal overload on the Beaver-Black River 138 kV circuit occurs for the loss of the Beaver-Lake Avenue 345 kV double-circuit line (flowgate #386). This issue is an overlap from the 2016 RTEP Window 2 results. Additional flowgates have been identified for the 2016 RTEP Window 3. In order to solve all flowgates, the Project creates a parallel 345 kV path, allowing the through flow between Beaver and Avon Lake to remain on the 345 kV system, rather than the 138 kV. The tie in of the Johnson-Fieldstone 138 kV and Carlisle-National Bronze 138 kV lines at the new Sheffield station will also be necessary to support solving all identified violations.

Furthermore, Transource performed analysis of existing and new contingencies that the Project may create and found no planning criteria violations.

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 April 1, 2017, Transource could place the Project in service October 2020. Please refer to Section F of this proposal for more details on the proposed schedule.

A.4. Overview of Estimate

The estimated capital cost of the Project in 2016 dollars is $44,880,620. This estimated cost includes all Project components, 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 an Addendum to this posted document was submitted to PJM on September 30, 2016. PJM reaffirmed the pre-qualified status of AEP in a letter dated October 27, 2016.

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 an Addendum to this posted document was submitted to PJM on September 30, 2016. PJM reaffirmed the pre-qualified status of AEP in a letter dated October 27, 2016.

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.

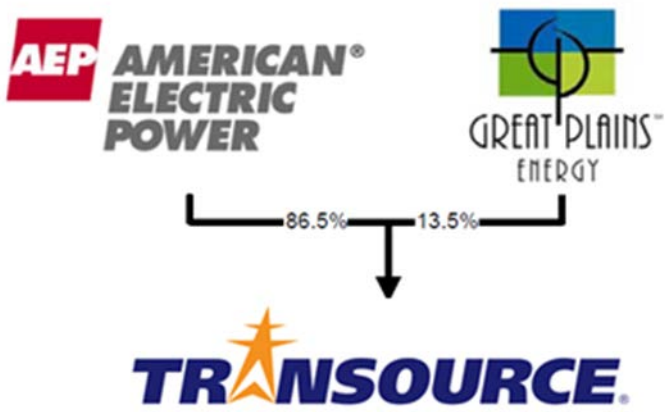

Figure 1. Summary of Transource Ownership Structure

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. In addition, Transource Missouri 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 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.

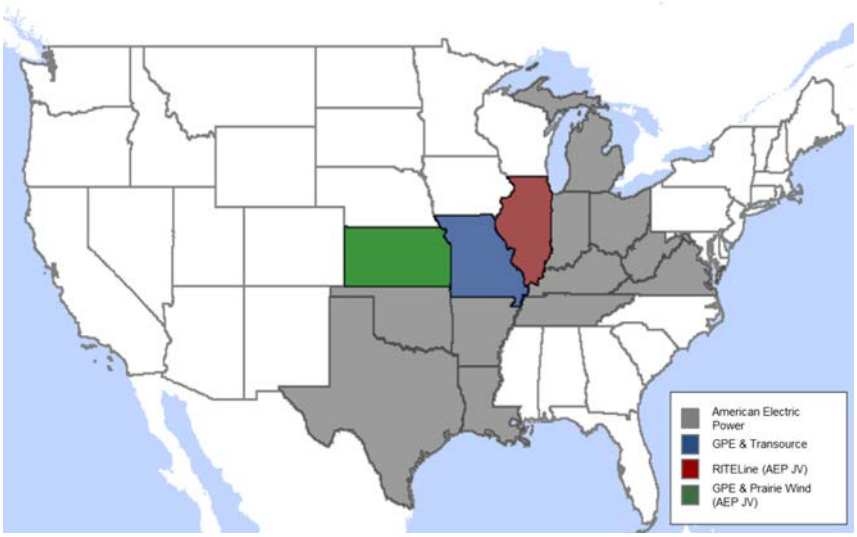

Figure 2. Combined Transmission Presence

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

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