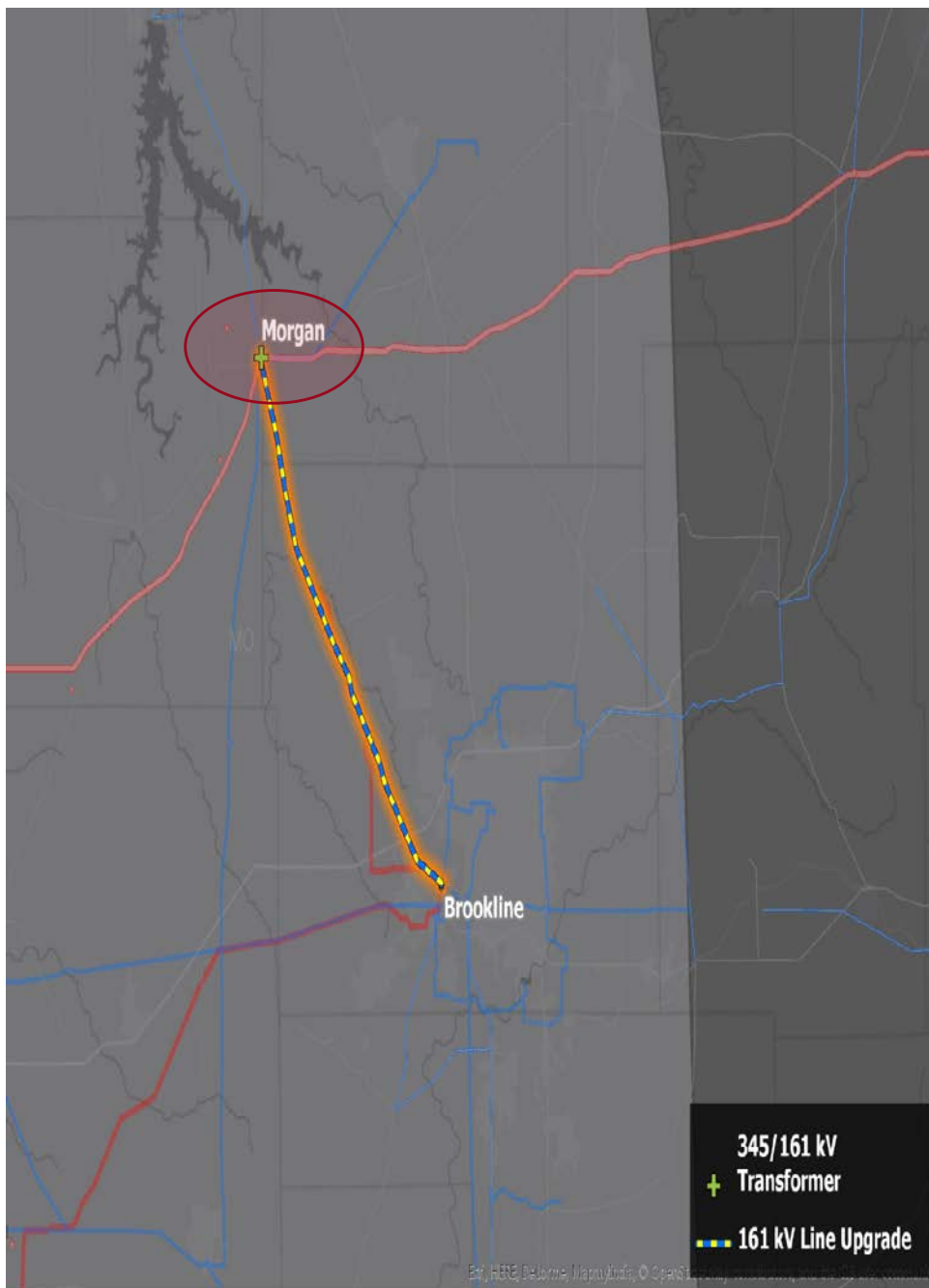


SPP-AECI Joint Projects

Morgan Transformer Project

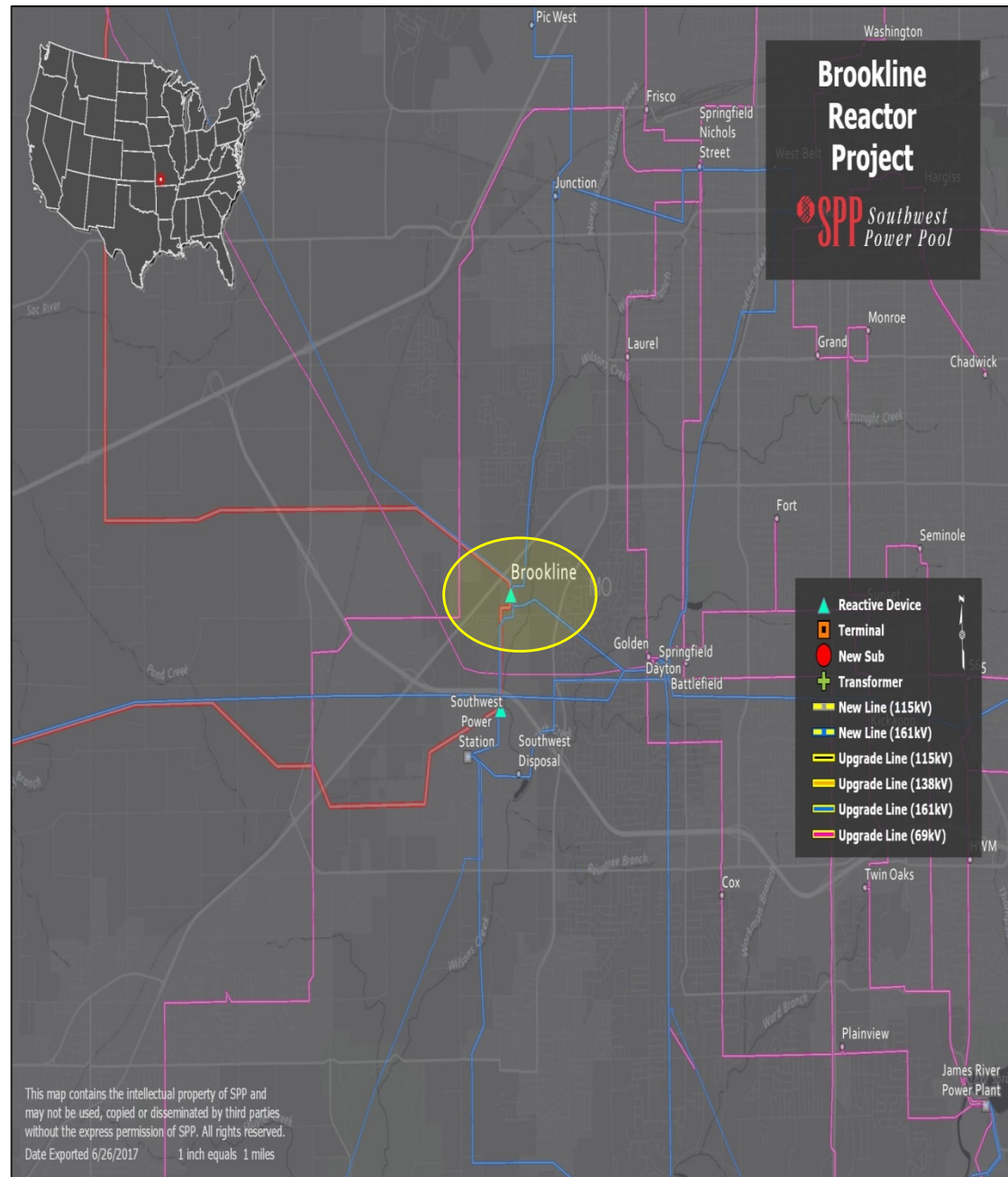
- Addition of a new 400 MVA 345/161 kV Transformer at AECI's Morgan substation and an uprate of the 161 kV line between Morgan and Brookline
 - Located in southwest Missouri
 - Wholly on AECI's transmission system
 - \$13.75M Cost Estimate



Brookline Reactor Project

- Addition of a 50 MVAR Reactor at City Utilities Brookline 345 kV substation

- Located in southwest Missouri
- Wholly on SPP's transmission system
- \$5.0M Study-level Cost Estimate



Approvals

- **SPP Board of Directors**
 - Approved the Morgan Transformer Project as a part of the 2017 SPP ITP10 Portfolio
 - Approved Regional Cost Allocation of the Morgan Transformer Project
 - Approved the Brookline Reactor Project out of the Regional Review of the SPP-AECI JCSP
- **Regional State Committee**
 - Approved Regional Cost Allocation of the Morgan Transformer Project
- **AECI Board of Directors**
 - Met on May 24th, 2017 to approve AECI's participation in both the Morgan Transformer and Brookline Reactor Projects

FERC Filings

- SPP will make a filing at FERC for the two projects
 - Approval of SPP-AECI Joint Projects
 - Cost Sharing between SPP and AECI
 - SPP Regional Cost Allocation
 - Other Issues Related to the Treatment of the Projects
- SPP and AECI met with FERC staff for a pre-filing meeting on June 13th to discuss the purpose of the filing
- SPP is targeting to make the filings shortly following Board of Director's meeting in July

Cost Sharing between SPP and AECI

- **Morgan Transformer Project**
 - **\$13.75* Million Study Level Cost Estimate**
 - SPP Cost Responsibility - \$12.25 Million (89.1%)
 - AECI Cost Responsibility - \$1.5 Million (10.9%)
- **Brookline Reactor Project**
 - \$5.0 Million Study Level Cost Estimate
 - SPP Cost Responsibility - \$4.85 Million (97%)
 - AECI Cost Responsibility - \$150 Thousand (3%)

*Original \$9.2 Million Study Level Cost Estimate

*Project still cost beneficial at new cost estimate

Payment Obligations

- **Morgan Transformer Project**
 - SPP's payment obligation for its portion of the Morgan Transformer Project shall be determined by utilizing SPP's portion of the final costs of the Facility multiplied by a 16% levelized carrying charge for the physical service life of the Facility
- **Brookline Reactor Project**
 - AECI intends to provide its portion of the costs of the Brookline Reactor Project in a lump sum payment to SPP or CUS as a contribution in aid of construction

Ownership / Capacity

- **Morgan Transformer Project**
 - AECI will own 100% of the project
 - AECI will construct the project and be responsible for the maintenance and operation of the facility
- **Brookline Reactor Project**
 - City Utilities of Springfield will own 100% of the project and will be responsible for the maintenance and operation of the facility
 - SPP will assign City Utilities of Springfield to construct the project in accordance with the provisions of the Tariff
- **Allocation of Capacity**
 - SPP and AECI will allocate the additional transmission capacity based on the allocation of the cost assumed by each Party for the Facilities
 - “Capacity” includes physical capacity of the project and any change in flowgate allocations

Revised 2017 ITP10 Analysis

Project	Future	APC Benefit (\$M) 40-year	Cost (\$M) 40-year	Net Benefit (\$M) 40-year	B/C 40-year
Morgan	F1	\$43.3	\$24.30	\$19.00	1.78
Morgan	F3	\$70.1	\$24.30	\$45.80	2.88
JTEC	F1	\$80.1	\$34.40	\$45.70	2.33
JTEC	F3	\$42.4	\$34.40	\$8.00	1.23

- Revised analysis simply reflects impact of updated cost estimates for both projects
- F1 = Regional Clean Power Plan Implementation
- F3 = Reference Case

Recommendation

- SPP Staff recommends the Board of Directors reaffirm approval of the Morgan Transformer Project

Southwest Power Pool, Inc.
Recommendation to the Board of Directors
July 25, 2017
Morgan Transformer Project Recommendation

Organizational Roster

The following persons represent the Southwest Power Pool:

- Carl Monroe, Executive Vice President and Chief Operating Officer
- David Kelley, Director of Seams and Market Design

Background

The Board of Directors approved the Morgan Transformer Project as part of the recommended 2017 ITP10 portfolio on January 31, 2017. The project was reviewed and recommended in both the 2017 ITP10 Study and the SPP-AECI 2016 Joint Coordinated System Plan Study. The original study level cost estimate for the Morgan Transformer Project was \$9.2 Million. SPP was recently informed that AECI had conducted detailed scoping analysis of the project which identified that the cost estimate should be revised to be \$13.75 Million. The increase in costs was a result of field assessments which determined that the line uprate of the existing Morgan to Brookline 161kV line would require work to be done at many more structures than originally anticipated when developing the original cost estimate. Based on negotiations with AECI, SPP’s share of the Morgan Transformer Project is expected to be \$12.25 Million.

Because the 2017 ITP10 had also identified an alternative project that was also cost beneficial, SPP updated its analysis of the costs and benefits of both the Morgan Transformer Project and the alternative JTEC Project. To complete the analysis, SPP staff worked with staff at the City Utilities of Springfield (CUS) to refine the study level cost estimate for the JTEC project alternative. The revised JTEC cost estimate is \$15.85 Million.

Analysis

To revise the analysis, SPP staff recalculated the 40-year costs for both the Morgan Transformer Project and the JTEC Project while also accounting for SPP’s negotiated share of the Morgan Transformer Project. The 40-year costs were compared to the 40-year APC benefits identified in the 2017 ITP10 Study for both Future 1 (Regional Clean Power Plan) and Future 3 (Reference Case).

Project	Future	APC Benefit (\$M) 40-year	Cost (\$M) 40-year	Net Benefit (\$M) 40-year	B/C 40-year
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Recommendation

SPP Staff recommends the Board of Directors reaffirm approval of the Morgan Transformer Project.

Action Requested: Approve Recommendation