Plainsandeastern

From: Luis Contreras <doccontreras@gmail.com>
Sent: Saturday, June 13, 2015 12:11 PM
To: Plainsandeastern
Subject: P&E Clean Line Part 2: 2026 is an optimistic estimate for the in-service date
Attachments: 2026 is an optimistic estimate for the in-service date.pdf

June 12, 2015

P&E Clean Line Part 2: 2026 is an optimistic in-service date

Dear Dr. Moniz,

The information on the project schedule is incomplete; it ignores the Interconnection Study prepared by TVA, and assumes no transmission expansion by SPP, MISO, TVA or anyone else in the next 10 years.

Assuming a start date in 2016, with no service to Arkansas, *an optimistic in-service date for the proposed transmission line is* ***2026.***

Why would DOE choose to participate on a project with no end in sight and no clear estimate of the total cost?

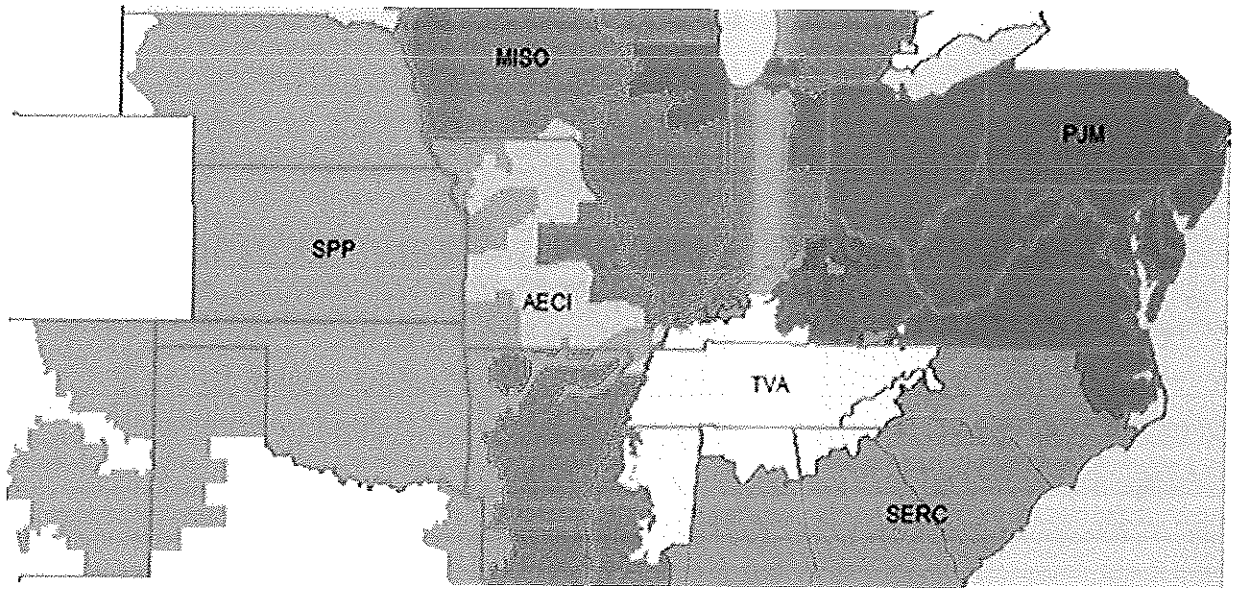
Respectfully,

Dr. Luis Contreras
Eureka Springs, AR

It is all about time

Large construction projects fail due to delays, poor planning and lack of coordination. This is especially true when the plan is based on optimistic estimates and third parties are involved.

The P&E Project is highly dependent on front-end and back-end tasks over which P&E has no control: new wind farms and interconnection with TVA. The proposed P&E merchant line is not a member of the regional transmission organizations on the path of the line, and ignores other transmission expansion projects.



The P&E project depends on TX, OK, AR, and TN state public service utilities and state governments, and land agents seeking voluntary easements to host the line. The project has a convoluted relationship with Southwestern Power Administration and DOE. The project schedule should reflect *all of the tasks* associated with delivering the project on time. Without a complete schedule, P&E will be unable to build the line on time and within budget.

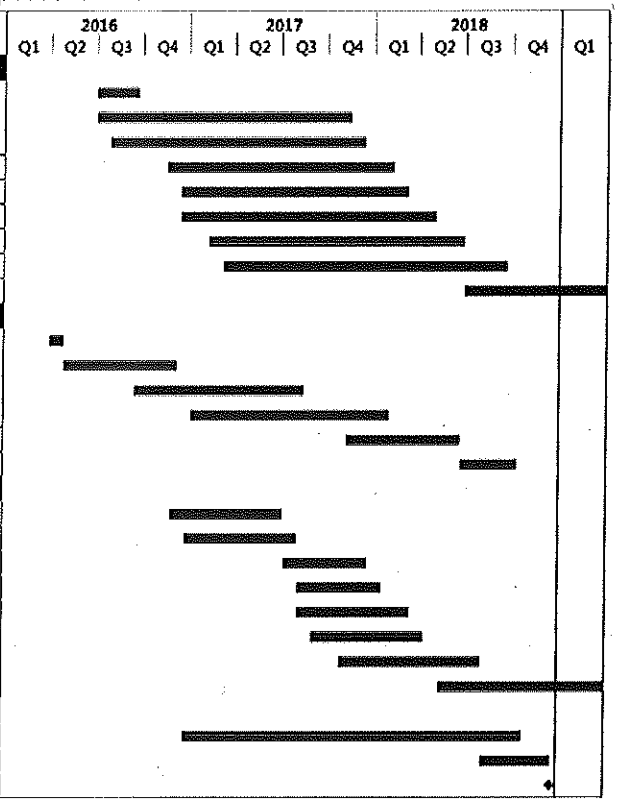
Proposed Schedule

There is only *one paragraph* in the revised Application (page 10-8), and one-page Appendix on the timeline.

> **A proposed schedule of major construction activities is provided below and attached to this Application as Appendix 10-K. On-site construction activities are targeted to begin for the converter stations in the second quarter of 2016 and for the HVDC transmission line July of 2016. Wind generation companies will construct the new wind farms that will connect to the Oklahoma converter station. Clean Line anticipates construction of the wind farms will begin in the fourth quarter of 2016 and finish October of 2018. Commissioning of the Project will begin in the third quarter of 2018 and the Project will be placed in service by the end of 2018. This proposed schedule is subject to adjustment and the actual construction durations and completion dates will be dependent on a number of factors including weather and availability of labor.**

Plains & Eastern Clean Line Proposed Construction Schedule Last Updated: Jan 7, 2015

Activity Description	Duration
1. HVDC Transmission Line	**760d**
T-Line construction mobilization	3 mons
Right-of-way surveys, clearing, erosion control and site prep	18 mons
Materials delivered to laydown yard	18 mons
Access road construction	16 mons
Foundation excavation and installation	16 mons
Materials delivered to erection site	18 mons
Structure framing and erection	18 mons
Conductor and optical ground wire stringing and clipping	20 mons
Clean up and restoration	12 mons
2. AC/DC Converter Station	**660d**
Converter station construction mobilization	1 mon
Converter station site preparation	8 mons
Converter station civil works and building construction	12 mons
Electrical equipment installation	14 mons
Control and protection equipment installation	8 mons
Site finishing	4 mons
3. AC Transmission Lines	**620d**
Right-of-way surveys, clearing, erosion control and site prep	8 mons
Materials delivered to laydown yard	8 mons
Access road construction	6 mons
Foundation excavation and installation	6 mons
Materials delivered to erection site	8 mons
Structure framing and erection	8 mons
Conductor and optical ground wire stringing and clipping	10 mons
Clean up and restoration	12 mons
4. General	**520d**
Wind generation construction*	24 mons
Commissioning	5 mons
Energization	0 days



*Wind generators are responsible for the construction of the wind farms that would connect to the Project. In this schedule, it is assumed that construction of the wind farms will occur over a two-year time period.

This is an incomplete project schedule. There are no allowances for delays, system testing, and certification. Ignoring the 10-years to have an interconnection agreement with TVA is a fatal flaw.

The Interconnection Agreement with TVA will take 10 years

TVA's Interconnection System Impact Study (ISIS), Appendix 10-C, for a 3,500 MW line from OK to the Shelby Station, clearly shows the time to get TVA approval is at least 10 years, *with no service to Arkansas*.

Interconnection System Impact Study: Clean Line (Shelby Option) - FINAL

EXECUTIVE SUMMARY

The Tennessee Valley Authority (TVA) conducted an Interconnection System Impact Study (ISIS) at the request of Clean Line to interconnect a High Voltage Direct Current (HVDC) transmission line with the maximum capability of delivering 3500 MW to the TVA system in Shelby County, Tennessee (see Appendix B).

Clean Line's interconnection request is for the unidirectional delivery of up to 3,500 MW of power into the TVA system. It has been accepted under TVA's Large Generator Interconnection Procedures (LGIP) based on the stated purpose of the interconnection request to deliver power from generating facilities connected to the Clean Line Project into the TVA system. If Clean Line expands the project to provide for bi-directional flows of power though the Clean Line Project, then (1) additional studies by TVA will be required and (2) the LGIP will no longer be the appropriate process for the interconnection of the Clean Line Project to the TVA system.

The objective of the ISIS is to identify all Adverse System Impacts on TVA's transmission system in order to maintain system reliability as a result of the Interconnection Request. The ISIS will also determine the facility additions, modifications, and upgrades that are needed to maintain a reliable interconnection.

In addition to identifying all Adverse System Impacts on the TVA transmission system, TVA monitors TVA customers and neighboring transmission systems for impacts. Entergy and MLGW have been identified as Affected Systems that are impacted as a result of the Clean Line HVDC interconnection. TVA will hold Clean Line's Interconnection Right contingent upon the completion of an Affected System Impact Study by all identified Affected Systems and the mitigation of any impacts identified by those Affected System Impact Studies.

TVA ISIS results:

- Adverse system impacts were found. TVA gave P&E a conditional approval. The time required to upgrade the system is **EIGHT** years.

4.4 Project Schedule

The estimated completion time for all projects identified by this ISIS is 8 years after TVA receives authorization to begin work and the completion of the Facilities Study. The completion date will be determined by the construction of the [redacted] transmission line project.

Subject to (a) the completion of all required studies, (b) execution of an appropriate interconnection agreement, and (c) the completion of all TVA and Clean Line facilities (including the direct assignment facilities identified in this study) required for a safe and reliable interconnection, the Clean Line Project may be able to interconnect to the TVA system prior to the completion of all the Network Upgrades identified by this study; provided, however, that no such interconnection shall occur without the prior approval of TVA. The interconnection of the Clean Line Project to the TVA system shall at all times be in accordance with the terms and conditions of the interconnection agreement.

The Arkansas converter station and Bi-directional flows were not included in ISIS. TVA's Large Generator Interconnection Procedures (LGIP) used to give conditional approval, would not apply.

Clean Line's interconnection request is for the unidirectional delivery of up to 3,500 MW of power into the TVA system. It has been accepted under TVA's Large Generator Interconnection Procedures (LGIP) based on the stated purpose of the interconnection request to deliver power from generating facilities connected to the Clean Line Project into the TVA system. If Clean Line expands the project to provide for bi-directional flows of power though the Clean Line Project, then (1) additional studies by TVA will be required and (2) the LGIP will no longer be the appropriate process for the interconnection of the Clean Line Project to the TVA system.

After the *Facilities Study* is completed by TVA and the upgrades are completed, in addition to the eight years, the *Interconnection Agreement* is contingent on the results and mitigation of a third study, **Affected System Impact Study** on TVA's downstream customers and neighboring transmission systems, including Entergy and Memphis Light, Gas and Water (MLGW) transmission system.

5.0 Conclusion

In conclusion, the identified Direct Assignment Facilities and Network Upgrades on the TVA transmission system (as shown below) are required in order for Clean Line to permanently interconnect the HVDC transmission line capable of delivering 3500 MW to the TVA transmission system.

Direct Assignment Facilities	Cost Estimate ($k)
Interconnect the HVDC lines and create a double-breaker arrangement by adding 3 bays[4], 10 breakers, 16 switches, line relays, and interchange metering at the [redacted] substation	[redacted]
Network Upgrades	
Construct [redacted] transmission line (37 miles)	[redacted]
Convert [redacted] switchyard to a double breaker arrangement (required for switchyard expansion) and construct a double breaker bay at [redacted]	[redacted]
Upgrade three [redacted] transmission lines	[redacted]
Upgrade twenty-seven [redacted] transmission lines (354.2 miles)	[redacted]
Total	[redacted]

Notes:

1. Costs based on planning level estimates (± 50%).
2. Estimated project completion time is 8 years after TVA receives authorization to begin work and the completion of the Facilities Study.
3. Clean Line will be responsible for any generation re-dispatch cost incurred by TVA as a result of the construction of any of the facilities associated with this Clean Line interconnection project. Estimated re-dispatch cost will be determined during the Facilities Study when more detailed outage schedules are developed.
4. TVA is still investigating the possibility of utilizing substation equipment which will allow the HVDC lines to be interconnected by adding 2 bays instead of 3 bays. The final interconnection arrangement will be determined during the Facilities Study.

In addition to identifying all Adverse System Impacts on the TVA transmission system, TVA monitors TVA customers and neighboring transmission systems for impacts. Entergy and MLGW have been identified as Affected Systems that are impacted as a result of the Clean Line HVDC interconnection. TVA will hold Clean Line's Interconnection Right contingent upon the completion of an Affected System Impact Study by all identified Affected Systems and the mitigation of any impacts identified by those Affected System Impact Studies.

TEN years seems a conservative estimate for the TVA Interconnection.

2018 is an infeasible completion date

The TVA Interconnection Agreement is the longest task that would determine the in-service date for the proposed line. Starting in 2016, the in-service date would be **2026**. Before this day there are no revenues only 10 years of expenses.

2026 is an optimistic estimate for the in-service date

To have the line ready by *2026* highly unlikely events need to happen:

- DOE ignores the Arkansas Congressional Delegation and decides the Arkansas Converter Station is not needed.
- DOE chooses to participate and uses federal eminent domain to take Arkansas land easements by force.
- Traversed Arkansas landowners sign on the dotted line.
- P&E finds 2,000 friends willing to invest $1 Million with no return for at least 10 years.
- Third party investors build 1,750 2-MW industrial turbines and the transmission infrastructure.
- P&E finds someone, somewhere to buy power from the line.

It is all about time!

References

TVA Draft Integrated Resource Plan
2015
http://www.tva.com/environment/reports/irp/pdf/TVA-Draft-Integrated-Resource-Plan.pdf

FERC Rejects Order 1000 Waiver on SPP-SERTP Seam
http://www.rtoinsider.com/ferc-order1000-spp-sertp-13865/
RTO Insider March 2015

The Federal Energy Regulatory Commission said last week that SPP must engage in interregional coordination and cost allocation with the Southeastern Regional Transmission Process region (SERTP), rejecting the RTO's request for a limited waiver of Order 1000 requirements.

FERC's ruling came in a 94-page order that approved Order 1000 compliance filings by SPP and the SERTP utilities, subject to additional filings (ER13-1939).

SPP had argued its only interconnection to SERTP was via Associated Electric Cooperative Inc. (AECI), which supplies 51 local electric cooperatives in Missouri, Iowa and Oklahoma.

Because AECI is "a non-commission jurisdictional utility" that does not intend to revise its Open Access Transmission Tariff to implement Order 1000, SPP argued, it was impossible for the RTO to comply with Order 1000's requirements regarding the SERTP seam.

A waiver is also appropriate, SPP argued, because it and AECI already engage in interregional coordination through a joint operating agreement. The two regions have been exploring revisions to the JOA to provide "similar benefits that the requirements of Order No. 1000 intend to provide," SPP said.

FERC noted, however, that AECI voluntarily enrolled in the SERTP region. "As a result, SPP and SERTP are neighboring transmission planning regions," the commission said.

Large Number of Interconnections: FERC also said the RTO is connected to AECI "to a greater degree than SPP suggests" because of the large number of interconnections between AECI and 10 SPP members, including Kansas City Power & Light and Westar Energy.

The commission also rejected SPP's claim that FERC had set a precedent for its request when it granted a waiver to Maine Public Service Co. FERC noted that Maine Public Service is not interconnected to the

United States but rather to Canada. That unique situation, made it impossible to join a transmission-planning region consistent with Order 1000.

The commission accepted interregional cost allocation filings by SERTP members Southern Co., Duke Energy Carolinas, Louisville Gas & Electric, Kentucky Utilities and Ohio Valley Electric Corp. with a few caveats.

FERC ordered the companies to provide identical language in provisions on cost allocation, data exchange and the identification of interregional transmission facilities.

SPP, MISO Considering Four Transmission Projects with $438M Benefits
RTO Insider May 2015
http://www.rtoinsider.com/spp-miso-transmission-projects-14941/

MISO and SPP are considering $276 million in potential transmission upgrades under a joint model for identifying congested flowgates that could be relieved by economic projects.

Emerging from that joint process so far are four potential projects that could generate $438 million in benefits to the RTOs over 20 years, RTO officials said last week at a meeting of the SPP-MISO Interregional Planning Stakeholder Advisory Committee.

Four projects may not sound like much. But it's progress considering the RTOs' contentious relationship since December 2013 when New Orleans-based Entergy joined MISO rather than SPP, which had served as the Independent Coordinator of Transmission for Entergy's system since 2006.

Most visible is a dispute over flows between MISO's northern region and its new, southern region. MISO began limiting flows between the regions last spring after SPP complained that MISO had breached their joint operating agreement by moving power over its transmission footprint in excess of a 1,000-MW physical contract path.

But that dispute seemed distant as staff from both RTOs convened last week in Little Rock, Ark. Some even joked that they've been talking so much with those at the other RTO that they've memorized their phone numbers.

"We've learned a great deal about each other's processes," said Clayton Mayfield, an economic planner at SPP.

Collaboration has also improved modeling practices and provided a better understanding of neighboring stakeholder groups, said Jenell McKay, a senior analyst at MISO.

Stakeholders and staff at SPP and MISO came up with **67 potential** projects using a joint model based on each RTO's regional model. It projected transmission needs for 2019 and 2024. That was whittled down to seven projects with potential, but three of those didn't provide a minimum 5% benefit set as a threshold under the joint model.

The four projects with the most potential total $276 million. They include new and upgraded transmission lines and transformers in Louisiana, Kansas and Nebraska. Benefits range from a 21% congestion reduction to a complete reduction in congestion.

Mayfield cautioned that the project list is preliminary and that more projects will likely emerge from the ongoing collaborative effort. He noted that some projects initially identified were dismissed, and others added, after assumptions changed about the future of the Tennessee Valley Authority's Shawnee units.

MISO's 2014 Transmission Expansion Plan originally contemplated that Shawnee Units 1-10, totaling 1,369 MW, would be retired, but TVA has since decided to keep nine of the Shawnee units in service.

The IPSAC joint analysis is expected to result in final project recommendations by June 30. The committee also is looking at a handful of reliability projects to reduce overloads.

More Potential. Other joint studies may be underway. McKay said the RTOs have had discussions regarding a study involving the effects of the Environmental Protection Agency's proposed Clean Power Plan.

Pat Hayes, senior transmission policy specialist at Ameren, told the committee it could be helpful if staff conducts a "post mortem" regarding what differences the RTOs ran into and how they could have impeded a project from going through.

Kip Fox, director of transmission strategy and grid development at American Electric Power, said his "personal observation" is that the RTOs are working better together. He noted, however, that MISO and PJM have not been able to get moving on a seams project after four years. "I don't want the same thing to happen here," he told the committee.