Smart Wires, Inc. Comments on the 2016-2017 Draft Study Plan and Stakeholder Meeting February 29, 2016

Submitted By:	Company:	Date Submitted:
Todd Ryan; todd.ryan@smartwires.com; 617.784.5342	Smart Wires, Inc.	March 14, 2016

Comments

Smart Wires, Inc. ("Smart Wires") appreciates the opportunity to participate in the annual Transmission Planning Process (TPP) stakeholder process. Smart Wires submits these comments on the 2016-2017 Draft Study Plan and the topics discussed at the Stakeholder Meeting on February 29, 2016. Smart Wires commends the CAISO for their work to ensure a robust stakeholder process and for its thoughtful consideration of new grid resources. Smart Wires looks forward to continued dialogue on this process.

Solutions for Corrective Action Plans

We encourage the CAISO to include advanced power flow control technologies in the analysis of transmission solutions to identified reliability[1], economic[2], and policy needs[3].

While current models include traditional power flow control technologies, such as phase-shifting transformers and switched series reactors, there have been new developments in power flow control technology. Newer advanced technologies, such as flexible AC transmission systems (FACTS) and Smart Wires technologies, may not be adequately represented in current models and planning processes. For example, many planning models are not capable of capturing the easily dispatchable nature of advanced power flow control technologies. Such newer technologies can require shorter lead time to implement, can be re-deployable and can greatly reduce the environmental impacts compared to some of the conventional solutions, such as reconductoring of existing lines. It is therefore important that these planning models can appropriately represent advanced power flow control to enable selection of the solutions that can best meet California's future transmission needs.

[1] CAISO Open Access Transmission Tariff §24.4.1(c) "*The CAISO technical study results will identify needs and proposed solutions…"*

[2] *Id.* §24.4.6.7 **Economic Studies and Mitigation Solutions**

[3] *Id.* §24.4.6.6 **Policy-Driven Transmission Solutions**

There are a number of initial steps that the CAISO could consider, such as:

- **Verify that advanced power flow control can be appropriately modeled in technical and economic studies.** There is a bare minimum amount of information that one needs to model a transmission solution[4]; the CAISO should verify that it has all this information to minimally represent advanced power flow control technologies such as Smart Wires PowerLine Guardian and Tower Router. Additionally, advanced power flow control technologies are more easily dispatched, have greater granularity and accuracy in dispatch, and allow for more intelligent control than traditional power flow control technologies. These details matter when evaluating two similar, but different technologies. We would ask that CAISO verify that these differences can be appropriately represented, or approximated, in models and software.

- **Verify that advanced power flow control is included in the set of transmission solutions,** along with the traditional upgrade options. CAISO is required to "*consider the comparative costs and benefits of viable alternatives to the particular transmission solutions*."[5] We are asking CAISO to consider advanced power flow control in the evaluation and selection of transmission alternatives to best meet California's future transmission needs.

- **Verify that a full set of long-term societal benefits are included when comparing capital investment and the cost of solution alternatives.** CAISO is required to "*consider the degree to which, if any, the benefits of the transmission solutions outweigh the costs.*"[6] Advanced power flow control technology typically provides a more cost efficient solution than traditional solutions while providing benefits beyond those which are considered today.[7] Advanced power flow control technologies can have additional benefits by reducing permitting and environmental impacts; reducing project schedules through quick deployment; increasing investment certainty through incremental deployment on an "as-needed" basis; and increasing investment certainty due to the technology's ability to be re-deployed.

We appreciate CAISO's consideration of these comments; if you wish to discuss please do not hesitate to contact Todd Ryan at 617.784.5342, or Todd.Ryan@SmartWires.com.

Todd Ryan, Ph.D. | Director of Regulatory Affairs
c:617.784.5342 | todd.ryan@smartwires.com

Smart Wires Inc.
201 Spear Street | Suite 1350 | San Francisco, CA | 94105
LinkedIn | Twitter | smartwires.com

---

[4] *Id.* §24.4.7 **Description of Transmission Solutions**
[5] *Id.* §24.4.6.7 **Economic Studies and Mitigation Solutions**
[6] *Id.*
[7] *Id.* §24.4.6.7 The current list of benefits include "*any reduction in production costs, Congestion costs, Transmission Losses, capacity or other electric supply costs resulting from improved access to cost-efficient resources*."