

**Comments of Powerex Corp. on
NW Energy Coalition Proposal to Upgrade the PDCI**

Submitted by	Company	Date Submitted
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Powerex appreciates the opportunity to provide comments on the Interregional Transmission Planning stakeholder process. In particular, Powerex provides comments on the February 23, 2016 proposal by NW Energy Coalition (NVEC) to upgrade the Pacific DC Intertie (PDCI) from its current rating of 3,220 MW to a rating of 3,820 MW.

Powerex agrees with NVEC that the PDCI is a vital link between the Pacific Northwest and California. Historically, the PDCI has been heavily relied upon to deliver lower-cost wholesale energy from the Northwest into California, displacing higher-cost generation resources. Most of these deliveries have been, and continue to be, arranged and scheduled in hourly increments, predominantly on a day-ahead basis. Expansion of the PDCI could make additional conventional imports into CAISO possible, but this is not the primary activity cited by NVEC in support of its proposal. Rather, NVEC's proposal highlights the potential to use the PDCI to help meet California's renewable energy challenges. In Powerex's view, the PDCI facilities indeed seem ideally suited for such purpose, and could be used in at least three distinct ways to help meet this objective:

- The PDCI could be used to deliver additional Pacific Northwest renewable energy to California, directly helping to meet the state's 50% renewable portfolio requirement.
- The PDCI could be used to access flexible generation capacity from the hydro-rich Pacific Northwest region, providing valuable renewable integration services.
- The PDCI could also facilitate the export and re-delivery of oversupply energy, effectively using a combination of the flexible hydro generation, associated storage reservoirs, and demand in the Pacific Northwest as an intra-day "virtual battery" to help balance the net load challenges arising from California's growing renewable fleet. Indeed, the PDCI is the *only* intertie that directly connects the Pacific Northwest with California's SP15 region, where oversupply conditions are expected to be most acute.

Powerex strongly supports efforts that enable Northwest resources to be used to help meet California's renewable energy challenge. But in Powerex's view, upgrading the PDCI's transfer capability, on its own, will not advance this objective. This is largely due to pre-existing barriers that prevent and/or discourage the PDCI from being used for this purpose. For example, 15-minute scheduling has not yet been implemented on the PDCI, and use of the PDCI on an hourly basis provides limited value toward meeting California's renewable challenges. In Powerex's view, requiring transfers to be in hourly blocks is a critical barrier to providing flexible

capacity and intra-day storage services on the PDCI, as well as to using PDCI transfer capability to deliver renewable resources from the Pacific Northwest. Powerex understands that recent physical upgrades on the PDCI by Bonneville Power Administration (BPA) makes 15-minute scheduling technically feasible, and at a relatively low cost. We therefore urge BPA, Los Angeles Department of Water and Power and the CAISO to explore enabling this increasingly valuable service as soon as possible.

An additional impediment to facilitating efficient exports from the CAISO on the PDCI is the current CAISO policy of applying CAISO's Transmission Access Charge (TAC), as well as unpredictable uplift charges, to *all* export schedules. TAC and uplift charges impose a variable hurdle rate on all exports, which can block otherwise efficient energy transfers. And since TAC and uplift will make economic opportunities to purchase California oversupply relatively rare, few external entities will likely have sufficient incentive to take the steps necessary to be positioned to respond to real-time oversupply conditions when they do occur.

To be clear, Powerex is not suggesting that CAISO should pursue a policy of waiving TAC and uplift for *all* exports. Powerex has consistently supported ensuring that external entities *relying on* CAISO exports to meet firm load bear an appropriate share of the cost of the CAISO grid. But exports that are for economic displacement only, and that effectively provide "battery-like" storage services to CAISO, are needlessly impeded by the blanket approach of applying TAC and uplift to every export schedule. Energy exports from California on the PDCI are unlikely to be of significant value until such time as the very substantial TAC and uplift hurdle rates on *economic displacement* export activities are removed.

Finally, use of the PDCI to provide flexible capacity from the Pacific Northwest to CAISO is also unlikely to occur at a level that supports expansion of the PDCI absent CAISO market enhancements that permit the commitment of external flexible capacity well ahead of real time energy deliveries. Some of these enhancements are currently being explored, such as enhancements to the CAISO's FRAC-MOO program. These and related efforts are vital to creating a market in which 15-minute transactions with external flexible resources are not only technically feasible, but economically viable.

Powerex believes that the transfer capability of the PDCI is not currently an important limiting factor in the use of the intertie to support California's renewable energy goals. Rather, it is the existing technical and market design limitations that pose the most significant barriers. Measures addressing these technical and market design impediments are needed to enable the *existing* transfer capability of the PDCI to play an important role in meeting California's renewable energy challenge. Importantly, these measures could be implemented at a small fraction of the cost of upgrading the PDCI. Powerex therefore believes that expanding the PDCI transfer capability would be of limited value without first implementing all of these other measures.