

Powerex Comments on BP-18 Southern Intertie Rate

Powerex appreciates the opportunity to provide these comments on the April 20, 2016 *BP-18 Rate Case Workshop: Southern Intertie Hourly Non-Firm Rate*. Powerex strongly supports and appreciates the extensive effort invested by Bonneville staff and stakeholders during the prior workshops that explored the seams issues arising on the Southern Intertie between Bonneville and the CAISO organized markets. Powerex fully agrees with Bonneville's conclusion in the White Paper that these seams issues have "eroded the product advantages and value of BPA Long Term Firm (LTF) transmission [service] on the Southern Intertie."¹ Powerex believes that a material increase in the rate charged by Bonneville for Hourly Non-Firm (HNF) service on the Southern Intertie is likely the single-most effective measure to address this issue, and is fully consistent with sound ratemaking principles.

In the following sections, Powerex provides its comments on each aspect of Bonneville's proposed methodology.

HNF rate formula should be based on 4-6 hours per day, 5 days per week

Bonneville explains that the current Hourly Non-Firm rate is calculated based on recovering the Long-Term Firm rate during 80 hours per week (*i.e.*, 16 hours per day, 5 days per week). The intention appears to be to avoid "cherry picking", and thus to ensure that HNF service makes the same contribution to rate recovery as LTF service, even when HNF service is used only during the "high value" hours of an average week. But CAISO's hourly market structure, combined with the rise in renewable generation in California, distinguish the pattern of "high value hours" in that market from the standard 16-hour products traded elsewhere in the west. This important difference implies that the HNF rate formula should be changed:

$$IS\ HNF\ New = IS\ LT * \left(\frac{7}{?}\right) * \left(\frac{24}{?}\right)$$

Bonneville indicates that "the most valuable hours in the day are when net load is the highest. This appears to be the 4-6 hours of the evening peak."² Powerex agrees, and supports Bonneville's proposal to change in the average hours per day assumed in the HNF rate formula (*i.e.*, the denominator in the second fraction in the formula, above). As Bonneville noted in the prior workshops, the effectiveness of the rate change increases as the rate rises. For this reason, Powerex supports Bonneville using a rate formula fraction equal to $\left(\frac{24}{4}\right)$.

Powerex supports maintaining the first fraction in the formula at its current value of $\left(\frac{7}{5}\right)$, however. While there is abundant evidence that, on average, there are relatively few high value *hours* in the CAISO markets, neither stakeholders nor Bonneville staff have argued or presented evidence that the number of high value *days* has increased from an average of five per week to seven days per week.

In short, Powerex recommends calculating the BP-18 HNF rate as follows:

$$IS\ HNF\ New = IS\ LT * \left(\frac{7}{5}\right) * \left(\frac{24}{4}\right)$$

¹ Bonneville April 20, 2016 presentation, at 3.

² *Id.* at 5.

The rate for Hourly Firm service on the Southern Intertie should equal the Hourly Non-Firm rate

Powerex supports Bonneville's leaning that the Hourly Firm rate should be set equal to the Hourly Non-Firm rate. This is consistent with Bonneville's current rate design, which calculates an hourly rate and applies it to both Firm and Non-Firm service. Maintaining this rate design also avoids selling a higher-quality product (*i.e.*, Hourly Firm service) at a rate that is lower than a lower-quality product (*i.e.*, Hourly Non-Firm service). Finally, a higher Hourly Firm rate on the Southern Intertie will maintain a strong financial incentive for transmission customers to continue to invest in Long-Term service.

The Daily Block 1 (Day 1-5) rate should not circumvent the revised HNF rate

A higher HNF rate will be effective in addressing the identified Southern Intertie seams issues if—and only if—the rate cannot be circumvented by use of alternative Non-Firm services whose rates remain at current levels. One way to undermine the higher HNF rate would be to purchase non-firm service on a daily, rather than hourly, basis. Currently, unscheduled Firm reservations are sold as either Hourly Non-Firm or as Daily Non-Firm service after 10 p.m. of the day prior to delivery. Daily Non-Firm service is almost never used at present, but it is important to ensure it does not offer a way to circumvent and undermine the proposed HNF rate change. The higher proposed HNF rate will discourage relying on HNF service in making deliveries to the CAISO, but the effectiveness of this rate change will be undermined if transmission customers are not also discouraged from using Daily Non-Firm service in the same way.

For example, the current rate for Hourly Non-Firm service is 3.53 mills per kWh, while the rate for one day of Daily Non-Firm service (*i.e.*, the Daily Block 1 rate) is 57 mills per kW per day. A transmission customer wishing to purchase an entire day of Non-Firm service effectively receives a 33% discount compared to purchasing 24 hours of Hourly Non-Firm service, since it gets 24 hours of service for the price of 16 hours. If the HNF rate is increased to, say, 14.15 mills per kWh³ but the Daily Block 1 rate remains at 57 mills per kW per day, then the cost of one day of Daily service would become the financial equivalent of just four hours of Hourly service, implying a discount of 83% compared to purchasing service on an Hourly basis.

Retaining a low Daily Block 1 rate will continue to permit transmission customers to rely on using Non-Firm service to “flow ahead” of customers investing in Long Term Firm service. While the number of “high value” hours in which this is most beneficial may be 4-6 hours per day *on average*, in practice these patterns will be highly variable from day to day and week to week. There will likely be some times of the year in which there are no high value hours at all, whereas at other times of the year high price spreads may exist across nearly all hours of the day. This is particularly likely during the spring, when Northwest producers with Long Term Firm transmission reservations are seeking to sell their surplus hydro generation into the higher-value markets in California. A higher HNF rate will do little to address the seams issues in such circumstances if Bonneville continues to offer unscheduled Firm service as Daily Non-Firm service at a low rate.

The primary objective of the HNF rate change is to discourage reliance on the seams issues that allow customers using Non-Firm service to “flow ahead” of customers investing in Long Term Firm service. This objective will be undermined if Bonneville were to offer a “backdoor discount” by retaining the current Daily Block 1 rate. For this reason, Powerex recommends that Bonneville set the Daily Block 1 rate equal

³ This is consistent with the proposed formula using 4 hours per day and 5 days per week. IS LT (1.68 mills per kWh) * (7/5) * (24/4) = 14.15 mills per kWh.

to 24 times the HNF rate (*i.e.*, no discount for purchasing all 24 hours), or, at most, retain the current relationship whereby the Daily Block 1 rate is equal to 16 times the Hourly rate.

Changing the Daily Block 1 rate should not raise any concerns over revenue impacts or utilization. As extensively demonstrated by Bonneville's analysis during the prior rate workshops, the scheduling of Daily transmission service on the Southern Interties has been virtually nonexistent since at least FY 2010.⁴ Thus, an increase in the Daily Block 1 rate will have no adverse consequences on revenues or utilization, and will not disturb the expectations of transmission customers using this service (since virtually no customers use it). An increase in the Daily Block 1 rate will simply ensure that this service does not become an avenue to circumvent the increase in the Hourly rate. To allow such an outcome would defeat the very purpose of these workshops, which is to address the Southern Intertie seams issues.

Rates should not be direction-specific

Bonneville also seeks comments regarding whether the revised HNF rate on the Southern Intertie should apply only in the North-to-South direction, or whether it should apply to reservations in either direction. Again, a primary consideration is to anticipate and avoid ways in which the revised HNF rate can be circumvented. This would be precisely the result if Bonneville were to adopt a higher Hourly rate on the Southern Intertie for North-to-South reservations, but retain the current Hourly rate in the South-to-North direction. A transmission customers could readily purchase Hourly Firm service South-to-North (which is frequently available) at the low rate, and re-direct this reservation North-to-South as 1-NS service. Effectively, non-firm Hourly service would still be available at a low rate from Bonneville in the North-to-South direction.

As a general matter, it is problematic to apply different rates to services that can be re-directed and effectively substitute for one another. For instance, if a transmission provider that offered lower rates for short-distance service permitted customers to re-direct that short-term service on to longer-distance paths at no additional cost, it would not be long before customers exploited the availability and pricing of short-distance service to avoid the higher rates that should apply to their long-distance use. The same principle applies here, and Bonneville should take steps to avoid offering a lower-rate Southern Intertie service that can be re-directed and used to replicate service offered at the higher proposed rate.

A second important consideration is that the patterns and economics of inter-regional trade between the Northwest and California are rapidly changing. While congestion value on the Southern Intertie has historically been in the North-to-South direction, the introduction of high levels of renewable resources in California is leading to increasing instances in which there is value in delivering power in the South-to-North direction. But the same seams issues that have distorted the allocation of congestion value for imports into California can and will distort the allocation of congestion value for exports out of California. Powerex therefore urges Bonneville to take a forward-looking approach to its design of Southern Intertie rates, and apply the new methodology to reservations in both directions.

Rates should not differ according to season or off-peak periods

Bonneville seeks comments on whether the rate for Hourly Non-Firm service on the Southern Intertie should be different across seasons, or during off-peak periods. As an initial matter, the full capacity of the

⁴ Bonneville presentation from November 18, 2015 workshop, at 3 and 4. Available at https://www.bpa.gov/Finance/RateCases/BP-18/Meetings/SchedulingDataCharts_2015-11-12.pdf. The data supplied by Bonneville shows that Daily service (both Firm and Non-Firm) was used for 0.06% of scheduled energy volume on the COI and 0.12% of scheduled energy volume on the PDCI.

Southern Intertie is already subscribed on a long-term basis.⁵ When demand to use the Southern Intertie is low, there are sufficient incentives and opportunities for customers to make their unused Long-Term Firm reservations available on the secondary market. It is not necessary for Bonneville to sell additional service on a non-firm basis, or to reduce the rate for that non-firm service in hopes of encouraging use of the facilities. As discussed more fully below, the desire for full economic utilization argues against reduced rates for non-firm service based on direction, season, or time of use.

As a practical matter, Powerex doubts that specific seasons or time-of-day periods can be identified that will experience low demand for use of the Southern Intertie. Predicting these low-demand periods or times becomes even less certain if they must be identified years in advance (*i.e.*, during Bonneville's biennial rate case proceeding). Powerex anticipates that the specific occurrence of higher-value opportunities to use the Southern Intertie will be driven less by regular and predictable seasonal or daily patterns of demand, and increasingly by the relative amount of renewable energy production in both California and the Pacific Northwest, which varies day to day. Therefore, not only is it not *necessary* for Bonneville to offer Hourly Non-Firm service at a reduced rate during defined seasons or times of day, it is highly unlikely that such periods could be reliably defined and incorporated into Bonneville's rates.

Full economic utilization is supported by encouraging investment in Long-Term Firm service, not by offering Hourly Non-Firm service at lower prices

Bonneville observed that there are times of the year in which the Southern Intertie is not "regularly fully utilized," and asks whether this indicates a need for an HNF rate that varies by season or between on- and off-peak hours. Utilization also is cited as a possible reason for direction-specific rates. Powerex agrees that full economic utilization of the Southern Intertie is an important objective, but this objective is best pursued by ensuring the Southern Intertie remains fully subscribed on a long-term basis.

Full economic utilization is ensured when *incremental* transaction costs are minimized, as this allows transmission customers to move power between regions in response to even small price differences. One way to achieve maximum utilization could be to just make short-term transmission service inexpensive, or even free, so that the rate does not impede transactions from taking place. This is the logic behind adopting lower seasonal or off-peak rates: to encourage use that would not occur under the higher rates. While this may encourage full utilization, it acts as a direct disincentive to investing in Long-Term Firm service, and undermines Bonneville's business model for recovering the revenue requirements of the Southern Intertie.

A more effective and financially sustainable way to encourage full economic utilization is to ensure that the full capacity of the Southern Intertie is sold on a long-term basis, ahead of the day-ahead and real-time wholesale energy markets. This means that, in every hour of the year, there will already exist sufficient "sunk" transmission reservations to allow the entire capability of the Southern Intertie facilities to be scheduled, without requiring the incremental purchase of any additional transmission rights. This is the precise outcome that is supported by increasing the rate for Hourly Non-Firm service on the Southern Intertie. By strengthening the incentives for transmission customers to purchase Long-Term Firm service on the Southern Intertie, Bonneville can ensure that the Southern Intertie can be fully utilized using transmission reservations that have already been sold on a long-term basis; no additional "hurdle rates" will need to be incurred in order to achieve full use of the transmission facilities.

⁵ This occurs in the North-to-South direction at present. However, all Firm service reservations are eligible to be re-directed in the opposite direction on a Firm basis (if there is Firm ATC), or on a non-firm (1-NS) basis.

With the full capacity of the Southern Intertie subscribed under long-term service, utilization depends only on whether or not the scheduling rights that have already been granted are actually used. There is every incentive for this to occur, as transmission customers investing in Long-Term Firm service have multiple ways to use those reservations: (1) they can use the reservation to deliver their own energy resources from the Northwest to California; (2) they can use the reservation to acquire energy resources from other parties in the Northwest, and deliver these to California; or (3) they can re-sell their reservations in the secondary market to third parties that are able to make more efficient use of the transmission service. Critically, an increase in Bonneville's Hourly Non-Firm rate will not reduce the incentives or opportunities to fully utilize the Southern Intertie through the use or re-sale of Long-Term Firm reservations.

Full economic utilization of the Southern Intertie is most likely to occur if Long-Term Firm service remains fully subscribed. Offering Hourly Non-Firm service at a relatively low rate undermines the incentives to invest in Long-Term Firm service, and hence may have the perverse result of impeding full economic utilization of the transmission facilities. An increase in the Hourly Non-Firm rate, however, will help ensure the Southern Intertie remains fully subscribed on a Long-Term Firm basis, and therefore will help ensure maximum economic utilization of those facilities.

It is not necessary to modify the SCD rate to achieve Bonneville's objectives

Finally, Bonneville inquired whether the SCD rate applicable to Hourly service would also need to be calculated using the revised formula. Applying the revised formula to the SCD rate calculation *could* be consistent with Bonneville's rate principles. However, Powerex does not think this is *necessary* in order to achieve Bonneville's objective of addressing the seams issues on the Southern Intertie, *provided* that the changes Bonneville implements in the formula for the HNF IS rate result in a sufficient increase in the rate for Hourly Non-Firm service on the Southern Interties. For example, if Bonneville adopts robust parameters in the hourly rate formula—that is, assuming five days per week and four hours per day—then revisiting the SCD rate calculation should not be necessary.