

## CALWEA COMMENTS ON PROPOSED CHANGES TO PIRP TECHNICAL REQUIREMENTS FOR WIND PLANTS

The California Wind Energy Association (CalWEA) offers these comments on the following March 2<sup>nd</sup> ISO documents:

- **CAISO PIRP Wind Telemetry Requirements (Wind Proposal)**, a revised version of ISO’s proposed changes to PIRP wind-energy telemetry requirements (except outage-reporting requirements – see below).
- **CAISO Issue Paper – Regarding Potential Modifications to Outage Reporting and Other Requirements of the EIRP\* (Outage Paper)**, containing, among other things, proposals for: (1) revised PIRP Availability Reporting; and (2) imposition of most PIRP requirements on non-PIRP EIRs (Eligible Intermittent Resources – wind, solar, or run-of-the-river hydro), regardless of whether they join PIRP and become PIRs (Participating Intermittent Resources).

*\*Eligible Intermittent Resources Protocol (MRTU Tariff Appendix Q), which contains PIRP requirements.*

### **Changes to wind-plant meteorological requirements for PIRs, and other EIRs with PGAs or QF-PGAs**

#### **ISO proposals**

- **Telemetry requirements**

EQUIPMENT	CURRENT	LAST PROPOSAL	WIND PROPOSAL
<b>Met stations – number</b>	One station	Second station required – one at “hub” height, one 30m below hub height	One station, at 30m below hub height Second station, at avg. hub height, <b>if no compliance w/anemometer specs (below)</b>
<b>Met stations – location</b>	Representative location on the plant site	Close to centroid* & equidistant from it, so centroid bisects a line between the two stations; and  In an area not “influenced by turbine wake effects.”	The “prevailing upstream side of the wind farm,” i.e., at the edge of the plant site where the wind usually “comes in” – if two stations are needed, they can share the same tower.
<b>Backup power source</b>	Not required	Each station must have a backup power source “independent of the primary power source.”	Same
<b>Anemometer &amp; wind vane (wind speed &amp; direction)</b>	No explicit requirement	Required throughout plant site, e.g., one anemometer for every 5 turbines	Sufficient DTs placed so all turbines are w/in a horizontal distance $\leq 5 \times \text{AHS}$ and a Vertical Distance of 75m**; output data from each DT must be provided separate from overall plant output

\* Geographic center of the plant site.

\*\* **DT = Designated Turbine** = turbine with an anemometer providing wind speed & direction

**AHS = Average Horizontal Spacing** = average horizontal distance between a turbine & its closest neighbor

**Vertical Distance** = elevation difference between the height of one turbine’s base & the height of another’s

- **Transition for existing PIRP plants:** Existing PIRP plants with “the capability of providing the data” would have 6 months to comply. The ISO said on the March 2<sup>nd</sup> PIRP conference call that “capability” would be defined as existence on the required turbines of the necessary anemometers and wind vanes, or the ability to install them fairly easily. (ISO believes that most of the newer wind turbines would come with this equipment already.)

The Wind Proposal also appears to provide for some exceptions, at ISO staff discretion. It states that a mutual agreement could be reached between the plant owner, the ISO, and the FSP on “a cost-effective distribution of DTs that...adequately measures the variability of the wind” on the plant site.

### **CalWEA comments**

- **Overall improvement:** This proposal is better than ISO’s last proposal, because it would allow for:
  - **Less wind-data monitoring throughout the site for plant sites with more-uniform topology**, rather than establishing some arbitrary standard, or an onerous standard from which exemptions must be sought;
  - **An opportunity to waive the requirement for a second met station;** and
  - **Placement of the second met station on the same tower as the first**, if a second station is needed.

CalWEA continues to support the backup-power requirement as a sensible reform.

- **Remaining concerns**

- **Specific ISO proposals:** We would like to understand the rationale behind these proposals, i.e., the specific proposed horizontal and vertical distances from DTs. (We are not saying that we oppose them, only that we want to understand them.)
- **Telemetry equipment capability:** The ISO should verify that standard Data Processing Gateways (DPGs), routers, and other telemetry equipment have the capability to transmit separate data from potentially large numbers of DTs per plant site.
- **Met tower location:** The ISO’s proposal has changed significantly with each successive draft, and the latest proposal is not an improvement over the current requirement that the met tower be placed in a “representative location” on the plant site. A met tower in front of the turbines in a prevailing-wind direction is only preferable when the wind is blowing from the prevailing direction, and the wind speeds it measures even when the wind is blowing in that direction will be higher than those prevailing on most of the site.

As noted in our comments on the last ISO proposal, the main anemometer can be located anywhere on the site as long as the appropriate ratios/relationships are established between the wind speed and direction at that location and that at the turbine locations dependent on those measurements. There are not likely to be such a large number of wind plants that the FSP cannot monitor these relationships and calibrate them as needed.

- **Met tower/station height:** Hub-height met towers can be very expensive. The maximum commonly available tower is about 80 meters tall, but the newer, larger turbines – with output of 3MW, 4MW, or 5-10MW – will likely reach 85-110 meters. Similar to the tower-location issue, a 60-80 meter met tower height should provide sufficient data when combined with the appropriate scaler calculated to reflect positive or negative shear.
- **Transition issues for existing PIRP participants**
  - The ISO should formally define “capability of providing the data” as discussed on the March 2<sup>nd</sup> conference call and in the summary above.

- The ISO should clarify that a second met station would not be required if a DT agreement is reached with ISO.
  - Under no circumstances should a plant owner be required to move an existing met station to another location if that would require relocation of existing turbines.
  - There should be a cap on maximum required compliance costs (similar in concept to the maximum amount a car owner must spend to comply with smog rules) – e.g., \$5,000 per MW.
  - Additional compliance time should be allowed, beyond the specified six months, with a showing by the plant owner justifying an extension.
- **Application of the proposed telemetry and met-data requirements to older plants:**  
This issue is addressed below.

**Outage reporting for all PIRs, and other EIRs w/PGAs or QF-PGAs**

**Current ISO Tariff requirements:** Plants in PIRP now have no outage-reporting requirements beyond ISO Tariff requirements for generators generally (shown in black in the table below; they apply to outages expected to last, or lasting, at least 15 minutes).

**Outage Paper proposals**

- **Availability Reporting proposals**

- **General proposals for PIRs:** Physical de-rates or outages >1 MW must be reported by PIRP participants via the SLIC system (shown in red in the table below). This would apply to equipment availability only, not wind conditions at any given time, like current SLIC outage reporting.
- **Small units:** Units below 10 MW are exempt from current Availability Reporting requirements, but they would not be exempt from the new requirements. (They would continue to be exempt from Outage Reporting requirements.)

<b>REPORT TYPE</b>	<b>DEFINITION</b>	<b>REPORT THRESHOLD</b>	<b>REPORT DUE:</b>
<b>Availability Report – current requirement</b>	Quick report on unit/plant status change, via SLIC	Greater of 10 MW or 5% of Pmax	60 minutes after discovery
<b>Availability Report – new EIR requirement</b>	Quick report on unit/plant status change, via SLIC	1 MW, for generators $\geq 10\text{MW}$	60 minutes after discovery
<b>Outage Report (no change)</b>	Submission of more detailed info on the outage	Greater of 40 MW, or 10%, below Pmax	2 Business Days after Availability Report submission

- **New requirements for non-PIRP EIRs:** The Outage Paper proposes to impose PIRP telemetry, met data, forecast-fee, and Availability Reporting requirements on all EIRs with PGAs or QF-PGAs, not just those in PIRP. In other words, they would be subject to all PIRP requirements except scheduling to the hourly plant-specific PIRP forecast.

**CalWEA comments**

- **Terminology consistency:** The ISO should make the terminology in its proposal consistent with that in the relevant ISO Tariff sections (e.g., Availability Report vs. Outage Report), to avoid confusion.
- **Additional Availability Reporting for PIRs generally:** As noted in our last comments, CalWEA does not object to more-granular reporting requirements, provided that the ISO

establishes an automated interface between plant SCADA systems and the ISO SLIC system. Manual reporting of 1-MW outages or de-rates would be too onerous otherwise and should not be implemented without an automated interface.

- **Imposition of Availability Reporting on small (<10MW) plants:** This proposal has not been adequately justified. In exempting these plants from Availability Reporting generally, the ISO (and FERC, through its approval of the existing ISO Tariff provisions) determined that outages/de-rates for such small plants are not likely to materially impact grid reliability, and the ISO has not provided information here that contradicts that assumption.
- **Application of PIRP telemetry Availability Reporting requirements to older PIRs – logistical issues:** There are a whole set of complications associated with applying either the current or proposed new PIRP requirements to older plants (e.g., 1999 vintage or before). For example:
  - **Height of second met station:** Since many older turbines have hub heights of about 80 feet, a second station 30 meters lower would have to be installed below the ground.
  - **DT requirements:** Older projects may contain hundreds of turbines, compared to the much smaller number of higher-output turbines typical in newer plants. For example, a newer 10MW facility on relatively level terrain may have 10 wind turbines, implying a two-turbine DT requirement. However, an older 10MW facility located on non-uniform terrain could have over 150 wind turbines, with 90+ DTs; moreover, these older turbines did not come equipped with the anemometers and wind vanes needed to measure wind speed and direction, and retrofits could be prohibitively costly.
  - **SCADA systems:** Many older plants have old control systems that are no longer supported by the manufacturer (e.g., no available protocol information to extract turbine or met-station data) or not operational, or they may have no SCADA systems at all. This will limit their ability to comply with both the DT data requirements (see above) and the proposed outage-reporting requirements (see below). The cost to install a new SCADA system could be prohibitive for these plants, many of which are very small compared to the newer plants participating in PIRP.

In conclusion, CalWEA proposes the following with respect to these older plants:

- ***They should be exempt from these requirements*** (as well as the Forecasting Fee – see below) unless they voluntarily join PIRP. Retrofitting them to meet PIRP requirements may simply be cost-prohibitive; moreover, the relatively small number of these plants should limit the impact of this exemption.
  - ***The ISO should work with these plants individually if it wants them to join PIRP***, to determine the most cost-effective compliance actions, subject to the maximum cost cap referenced above.
- **Imposition of most PIRP requirements on non-PIRP EIRs:** This may be an “academic” question for new plants, since all recent new intermittent plants on the ISO grid have entered PIRP, a trend that is likely to continue, and compliance costs for newer plants are likely to be lower. However, CalWEA has concerns about this element of the Outage Paper and proposes the following:

- **Older plants should be exempt from this proposal**, along with other PIRP requirements, unless they join PIRP (see above).
- **The ISO should develop a coherent policy on separate surcharges generally before it imposes any more surcharges or increases any existing fees.** CalWEA has raised this issue before in the PIRP and MRTU GMC stakeholder processes.

For example, surcharges are imposed on PIRs for PIRP forecasting services, but hydroelectric plants pay no charges for the much more extensive ISO activities to forecast output of those plants. Fees are imposed on generators taking Station Power service but are not proposed for the much greater manual effort to accommodate demand-side management programs under MRTU.

Moreover, while such charges may or may not be justified for voluntary programs where the payer receives a direct benefit, non-PIRP EIRs subject to this additional charge would receive no direct benefit (e.g., the monthly balancing provisions applied to PIRP plants) for the considerable additional expense they would incur.

The ISO does not appear to have any consistent rationale for when it does and doesn't impose separate surcharges or fees. It should develop such a policy, and then ensure that existing and future proposed charges are compliant with it.