

PG&E Comments

Data Release - Phase I

| Submitted by | Company | Date Submitted |
|-----------------------------|---------|-------------------|
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Pacific Gas & Electric (PG&E) appreciates the opportunity to participate in the stakeholder process for Phase I of the CAISO’s Data Release Initiative and to submit comments regarding the November 5, 2009 Issue Paper and the November 12, 2009 CAISO Presentation. PG&E offers the following comments regarding Phase I of the Initiative.

PG&E supports the release of additional data to provide greater Market transparency. In considering such releases the CAISO and market participants need to carefully weigh the benefits of releasing additional data against possible risks such as the increased potential for market manipulation.

Our comments today are focused on the release of transmission constraint, contingency, nomogram, load distribution factor (LDF) and line biasing information. We have included descriptions of the data we believe should be released to all market participants, as well as mock-up tables of how the information could be organized. We will comment on other types of data releases in subsequent phases of this initiative.

Format of Released Data

Full Daily List of Data Released at TD+1. It is our preference that a full daily list of each data set be published every day, rather than a list of updates from a monthly reference file (i.e., CRR model). We agree with the CAISO that providing changes relative to another file is administratively cumbersome.

Regarding the timing of the data release, we suggest the CAISO publish the data after the close of both the day-ahead and real-time markets (TD+1). Releasing the data after the close of all the markets for that trade day eliminates any possibility that the data can be used to manipulate the market. This timing also allows sufficient opportunity for participants to send questions to the CAISO that might result in price corrections.

Most of our comments are focused on the release of day-ahead market data. There are two reasons for this. First, most of the market volume clears in the day-ahead market. Second, the amount of data generated in the real-time market is much greater, and possible benefits may not be worth the increased costs.

Lastly, providing a complete list of all the constraints, nomograms etc. which are *enforced* would be sufficient. It is not necessary to provide a list of un-enforced constraints, as they do not affect market outcomes.

Data Security and Accessibility

Support Similar Security Measures as Current CRR Data Package. PG&E supports the release of this data with security similar to that used for the release of the CRR FNM data (i.e., Non-disclosure Agreement).

If a secure OASIS portal cannot be set up to distribute the data, dissemination could be done via a password protected FTP server.

Constraints Enforced in Day Ahead Market (Table 1)

Release a List of Enforced Constraints and Limits. The constraint list would include branches, branch groups and interties. A list of all constraints enforced in the Day-Ahead Market could be formatted as shown in Table 1. The first column would have the name of constraint, while the second column would include the enforced limit. This limit would be the value actually used in the market optimization, not necessarily the normal or emergency limit. For instance, a 100 MVA line that has been biased up by 10 percent would show up as a 110 MVA.

| List of Constraints Enforced Day Ahead | |
|---|--------------------------------|
| Branch / Branch Group / Tie | Enforced Limit (MVA/MW) |
| A | 100 |
| B | 70 |
| C | 500 |
| D | 250 |
| E | 70 |
| F | 375 |
| G | 80 |
| H | 400 |
| I | 120 |
| J | 260 |

The columns represented above are what we consider to be the essential elements of releasing constraint information, but we would not be opposed to releasing even more data such as the normal or emergency limits.

Implicit in the construction of Table 1 is the assumption that constraint limits do not change significantly from hour to hour. If this is an incorrect assumption, we would suggest adding a column for every hour of the DAM.

Contingencies and Nomograms Enforced in Day Ahead Market (Tables 2 and 3)

Release a List of Enforced DAM Contingencies and Nomograms. As well as the constraints information, the CAISO should release a list of contingencies and nomograms enforced in the day-ahead market. Table 2 shows one way that this data could be presented together, but they could also be published separately.

| Table 2 | | | |
|---|----------------------|------------------|---|
| List of Enforced Contingencies and Nomograms (DAM) | | | |
| | Contingencies | Nomograms | |
| 1 | XX | FR | 1 |
| 2 | YY | GH | 2 |
| 3 | ZZ | KS | 3 |
| 4 | LL | PQ | 4 |
| 5 | PP | WE | 5 |
| | | EE | 6 |
| | | BR | 7 |

It is our understanding that the current CRR data package only publishes transmission nomograms. In this data set, we request that both transmission and generation nomograms be listed.

Publish Monthly a Listing of the Monitored Facilities for Each Contingency. For each contingency enforced in the day-ahead market, we request that the related monitoring facilities be published on a monthly basis. Having this information allows participants to more fully model and validate the market. One way of presenting this information is shown in Table 3. Here, each contingency is listed across the top in alphabetical order, and monitored branches are listed downward.

Table 3

| Monitored Facilities for Each Enforced Contingency (DAM) | | | | | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | Contingency "XX" | Contingency "YY" | Contingency "ZZ" | Contingency "LL" | Contingency "PP" |
| Monitored Branch 1 | A | G | P | B | A |
| Monitored Branch 2 | B | L | A | C | N/A |
| Monitored Branch 3 | F | X | N/A | R | N/A |
| Monitored Branch 4 | N/A | W | N/A | J | N/A |
| Monitored Branch 5 | N/A | S | N/A | N/A | N/A |

List of Biases for both Day-Ahead and Real-Time Markets (Table 4)

Release a List of Biasing Information for both Day-Ahead and Real-Time Markets.

PG&E recommends releasing line biasing data for both the day-ahead market and real-time markets. In this case we believe the transparency value of releasing the real-time bias information outweighs the administrative cost. This is especially true since it is our understanding that the number of biasing situations is relatively small. Greater biasing transparency could eliminate a large percentage of tickets filed by market participants to the CAISO for investigation.

Our proposed format for the release of bias data is shown in Table 4. The data includes the unbiased and biased limits and the percentage derate. The last feature of this table is the general description of why the line was biased. We do not suggest the CAISO release the specific reason for the bias, but rather a general description such as “conforming” or “reliability”. Perhaps the CAISO could define a small list of general reasons for which it biases lines and refer to these categories in the data table.

Table 4

| Biasing Summary | | | | |
|----------------------------|-----------------------|---------------------|-----------------------|----------------------------|
| Branch/ Group / Tie | Unbiased Limit | Biased Limit | Percent Derate | General Description |
| A | 100.0 | 85.0 | -15% | Conforming |
| B | 50.0 | 65.0 | 30% | Reliability |
| C | 40.0 | 44.4 | 11% | Reliability |
| D | 85.0 | 70.6 | -17% | Conforming |
| E | 60.0 | 52.8 | -12% | Reliability |

The suggested format assumes that biases do not substantially change from hour-to-hour during the day-ahead market or from interval-to-interval in the real-time market. If this assumption is incorrect, the format would need to be modified to include the duration of the bias.

List of Load Distribution Factors (LDFs) for Day Ahead Market (Table 5)

Release LDFs for Day-ahead Market. The release of LDFs was not a part of the original CAISO issue paper, but was brought up in the November 12th conference call. For this reason, we feel compelled to weigh in on the topic here. In general, we support the release of day-ahead LDFs for all load aggregation points (DLAPs, MLAPs, and CLAPs). However, in the event that a load node represents a single customer, we request that this LDF be blacked out to protect the load forecast data for that single customer. A possible format for publishing day-ahead LDFs is presented in Table 5. It would also be helpful if the data could be organized or made available by sub-LAPs.

| Table 5 | | | | | | |
|---|-------------|-------------|-------------|---------------|--------------|--------------|
| Daily List of LDFs Enforced in DAM (every load node, every hour, for all LAPs) | | | | | | |
| | DLAP | HE 1 | HE 2 | --> | HE 23 | HE 24 |
| Node 1 | DLAP 1 | 0.012 | 0.023 | --> | 0.054 | 0.033 |
| Node 2 | DLAP 1 | 0.045 | 0.077 | --> | 0.071 | 0.012 |
| Node 3 | DLAP 1 | 0.064 | 0.039 | --> | 0.082 | 0.078 |
| Node 4 | DLAP 2 | 0.034 | 0.055 | --> | 0.099 | 0.023 |
| Node 5 | DLAP 2 | 0.032 | 0.023 | --> | 0.032 | 0.055 |
| Node 6 | DLAP 3 | 0.012 | 0.077 | --> | 0.054 | 0.022 |

* Actual Table will have 40 LAPs and 2,200 load nodes

Additions to OASIS Results

Request Publication of Contingencies that Caused Binding Constraints in both Day-Ahead and Real-Time Markets. It would be helpful to all market participants to understand if a contingency caused a binding constraint. As presented in page 21 of the CAISO issue paper, such data is already available in the MISO. A similar format should be used in OASIS.

Other Comments

Request Further Clarity on How ATC is Calculated. Although not specifically requested by either the issue paper or the CAISO presentation, PG&E would like further insight into how the ATC is currently calculated for interties. Since April 1, 2009 OASIS has often shown ATC available for an intertie and a shadow price during the same interval. It seems that either the ATC is being calculated incorrectly in OASIS or the intertie has been biased. If the intertie is biased, the release of the bias data should provide sufficient transparency to resolve the confusion.