

## **Analysis of Load Forecast, Resource Availability Forecast, and Transmission System Conditions that Call for Certification**

The California ISO has assessed its load and available resource forecast for February 06, 2001 and found resource deficiencies in California in 15 out of 24 hours ranging from 498 MW to 4,206 MW. In addition, due to internal transmission constraints, the California ISO has found a deficiency in Northern California resources for every hour of the operating day, ranging from 2,410 MW to 5,246 MW. This document describes (1) the forecast components and the values expected for each component, (2) the magnitude and duration of the resource deficiency, (3) the conditions that give rise to this deficiency and motivates this certification in order to obtain the necessary resources. (See Attachment A for data underlying this analysis.)

### **Notification of Conservation Measures**

The California ISO has initiated conservation measures, specified for Stage One and Two Emergencies, for operating day February 06, 2001.

Anticipating supply shortages and transmission constraints for tomorrow, the California ISO has issued notifications to utilities, governmental agencies, market participants and the general public to take action tomorrow to conserve energy, in addition to several other measures that are likely to be required. Such notifications have been effectuated through various means, including, but not limited to: (1) telephone contacts with utility distribution companies and local government agencies; (2) release of our POWER WATCH to media; (3) press conferences; and (4) numerous interviews with individual radio and television stations throughout the state of California.

### **Summary and Primary Reasons for Continued Certification**

On a daily basis, the ISO narrowly avoids curtailment of firm customers by arranging adequate deliveries of electricity. Due to the underlying operating conditions described herein, the ISO would not be able to secure such supplies absent the Section 202c authority. For example, the certification of 02/03 for operating day 02/04 allowed the ISO operators to arrange for import deliveries between 850 MW to 1,269 MW to address the deficiencies reported for the same period. These imports do not include energy paybacks or the energy delivered through CDWR arrangements. However, even with the Section 202(c) authority, the California ISO had to declare Stage 3 Emergency today (February 05, 2001) and the interruption of firm load has been narrowly avoided up to the time of this writing. Similar conditions are likely to exist tomorrow since PG&E's Interruptible Customer contract limits North of Path 15 were exhausted as of 7:20 pm on January 22, 2001, thereby exposing firm customers to a higher probability of rotating black-outs. In addition, suppliers remain reluctant to sell to the ISO, either through the market or under bilateral arrangements due to continuing concerns regarding cost-recovery (See Item (4) below). Gas supplies reportedly are diminishing and gas storage for non-core customers could be effected (non-core customers include electric generators). These conditions could lead to the curtailment of generation in at least the PG&E area. Until these concerns are remedied, the ISO anticipates that it will have to continue to rely on the authority granted to it under Section 202c.

**1. Peak Load Forecast<sup>1</sup>**

This load forecast peaks at 32,853 MW at 1800 hours. This forecast is fairly typical for this season.

**2. Forecast of Resource Availability**

Scheduled resources are only 78% of the forecasted peak load, and the amount of CAISO's forecasted real-time resources make-up only 35% of the deficit in scheduled resources.

02/06 Peak Forecast

Scheduled Resources <sup>2</sup>	25,786 MW
Real-time Resources <sup>3</sup>	2,462 MW
Other Resources <sup>4</sup>	850 MW

*Today's Status: Over the last few days, the CAISO has continued to solicit additional supplies. Most out-of-state suppliers continue to be averse to prescheduling their deliveries a day in advance of the operating day. Instead, the ISO communicates with these suppliers on an hourly basis to acquire available supply.*

**3. Resource Deficiency**

Given the load and resource forecast for the operating day of February 06, 2001 the CAISO has found resource deficiencies in California in 15 out of 24 hours ranging from 498 MW to 4,206 MW. In addition, due to internal transmission constraints, the California ISO has found a deficiency in Northern California resources for every hour of the operating day, ranging from 2,410 MW to 5,246 MW.

**4. Persistent Conditions Causing Deficiency and Requiring Certification**

While current load levels are typical for this season, over the past month resources have become increasingly unavailable. This trend is anticipated to continue. Moreover, any contingency (e.g., transmission outage or generation outage) could trigger an immediate emergency that could result in firm load shedding throughout California. The underlying and continuing conditions are identified below:

- (1) **Continuing Transmission Constraint on Path 15:** Due to the locational dispersion of resources in California, the CAISO must transmit power from generation capacity in Southern California to Northern California to meet Northern California load. Path 15 has

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<sup>1</sup> The total load forecast in Attachment A includes the load forecast and the reserve requirements necessary to reliably serve that load.

<sup>2</sup> Scheduled resources are those submitted by Scheduling Coordinators through schedules in the CAISO's Day-ahead and Hour-ahead markets (the latter is estimated for tomorrow based on historical trends). Operating reserves are also counted in scheduled resources.

<sup>3</sup> Real-time resources include forecasted capacity expected to be bid into the supplemental and replacement reserve markets. This forecast is based on historical volumes and trended based on the last few weeks of market operation.

<sup>4</sup> Other Resources include Out-of-market arrangements with parties in and out-of the CAISO Control area. These forecasts are based on recent experience and on phone calls made to numerous parties who have provided OOM in the past.

been and will continue to be fully loaded and therefore, no additional power can be transmitted North (where there continues to be a deficiency).

*Today's Status: Path 15 continues to be constrained in most every hour (based on full transfer capability).*

- (2) **Limited Hydroelectric Generation in both Northern California and the Northwest.** These resources are and will continue to be limited due to low water levels and related environmental restrictions.

*Today's Status: Water supplies continue to be at critically low levels. As of end-of-year 2000, the availability of hydroelectric resources is 75% of normal in the Pacific Northwest and 40% of normal in California. Pacific Northwest hydroelectric resources are now less than 70% of normal with storage at 52% of normal. Reports from Municipal entities indicate that their water supplies are also running out and their credit concerns are increasing (see item (4) below).*

- (3) **Extensive Generating Unit Outages:** These outages include both planned and unplanned outages. This higher than normal unplanned outage rate is due to (a) mechanical failures caused by high usage rates on aging generation units in California and (b) environmental constraints including emissions limits. The combined outage numbers have improved from a high of 13,500 MWs on January 12, 2001. However, many of the units back in service are in southern California and, due to transmission constraints, cannot relieve the supply deficiency in northern California. In addition, since the first DOE order on December 14, 2000, the generating units online have had to run harder than would normally be the case and, therefore, additional outages for these units are likely. Scheduled outages in the upcoming weeks cannot be deferred because these units must be readied for the upcoming summer. **The potential for gas curtailments is increasing, particularly with increasingly cold weather in the northern states. As the potential for gas curtailments increases, the potential for additional generating unit outages increases.** Thus, there is and will continue to be for the foreseeable future, a large amount of generation unavailable in California. Recently, total forecasted outages have been reduced to approximately 7,000 to 9,000 MWs from previous highs in the 11,000 to 12,000 MW range. Unfortunately, most of the capacity returned to service is in the Southern part of California and is not available to alleviate conditions in Northern California.

*Today's Status: Compared to the last date for which the ISO certified, the overall amount of capacity out-of-service continues to be substantial.*

	<u>02/06 Forecast</u>	<u>02/05 Actual</u>
Total Outages:	6,953 MW	8,677 MW
Planned Outages:	2,471 MW	3,390 MW
Unplanned Outages:	4,482 MW	5,287 MW

- (4) **Limitations on Supply to California due to Uncertainty of Cost Recovery.** The main source of uncertainty is whether the affected regulatory agencies will permit full recovery of

costs incurred by the ISO and the IOUs. These concerns have resulted in parties' unwillingness, absent DOE orders, to sell to California. Deliveries are being arranged, as available, on an hourly basis. It is important to emphasize that credit and cost recovery concerns only serve to exacerbate the underlying supply situation (**as evidenced by resources giving ISO notification of their unavailability due to non-payment or credit concerns generally**). Even if these concerns were alleviated, the immediate supply problems with generator outages, transmission constraints, potential gas curtailments, and diminishing hydroelectric supplies would require use of DOE's section 202(c) authority to maintain electric service to customers.

***Today's Status:*** *Southern California Edison Company (SCE) has temporarily suspended payments due (1) on principal and interest on certain debt due, (2) to the PX, (3) to QFs and (4) for certain other obligations. In addition, the rating agencies have downgraded the credit ratings of the IOUs, the PX and the ISO to junk status. These events will exacerbate severely supplier's concerns about cost recovery and the ability to be paid. For example, the management of one of the state's municipal utility districts has instructed its operators not to sell power directly to the California ISO. At best, this municipal utility district is only willing to sell their excess power to the California Department of Water Resources (CDWR) that, in turn, sells it to the California ISO. Many other supplies have followed in this regard. Under these conditions, the authority under the DOE orders to require suppliers to sell to the ISO is absolutely essential to: (1) the ISO's ability to operate the transmission system reliably, and (2) the ability of the California IOUs to render service to their firm customers. While the CPUC took interim action on January 4, 2001, its limited and temporary rate increase has not been adequate to assuage these concerns. On Thursday, February 1, 2001, the California passed legislation that would provide funds for the purchase of power by CDWR on an ongoing basis through January 2, 2003. However, this prospective authority does not affect the market transactions entered into for November and December, 2000 and January, 2001 which have yet to be settled (the ISO settlements process occurs 60-75 days after a Trading Day). For example, the ISO issued its invoices for the month of November on February 2, 2001. The ISO had to provide notice to market participants of a shortfall in revenues received for November and the resulting reduced pro rata payments. The ISO was only able to pay approximately 1.8% of amounts owed. As of this writing, the ISO has not experienced any extraordinary or adverse reactions from suppliers other than what existed prior to the notification. This willingness to continue to supply is in large part due to the DOE orders.*

- (5) **Contractual Limitations on Access to QF Resources:** The operation of Northern California QF capacity cannot be maximized for the purpose of addressing either the control area supply shortage or the Path 15 overloads. Instead, these resources have been cycled off and on daily, in accordance with the terms of their power purchase agreements. These QFs do not typically ramp to full output until noon each day or shortly thereafter. While not at full output, Path 15 mitigation is suboptimal and overloads are more difficult to manage. These Northern California QF resources must be base loaded around the clock to assist in mitigating Path 15 overloads. PG&E has indicated its inability to get these resources to respond under the confines of their existing contracts.

*Today's Status: PG&E has continued to request that all QFs north of Path 15 generate at full output 24 hours a day based on the CAISO's request for resources. In total, QF generation is approximately 4,700 MW. As such, the CAISO is all the more concerned about the continuing ability of the QFs to provide power due to unresolved issues regarding payment terms between the Investor Owner Utilities and the QFs (see item (4) above).*

## **SUMMARY**

We do not expect an improvement in the conditions described above short of a significant reduction in the demand for electricity, the return of a significant amount of generating capacity, and the resolution of credit concerns. The CAISO remains very concerned about its ability to contract for necessary power supplies. Thus, the conditions that motivated the certification for February 05, 2001 persist and warrant renewed certification.