

Pacific Gas and Electric Company



California Gas Transmission

OFO Report

First Quarter 2002

(January – March 2002)

Distributed April 30, 2002

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I. BACKGROUND

PG&E is providing this Operational Flow Order (OFO) Report (Report) as required by its OFO Settlement Agreement (OFO Settlement or Settlement)¹ and as part of its continued commitment to keep the California natural gas market participants informed. These Reports are provided quarterly. This Report covers the first quarter of 2002 – January 1 through March 31. The purpose of the OFO Report is to document “the number and causes of each customer-specific and system-wide OFO, EFO and ‘trimming’ occasion (‘Event’) within the prior three months.”²

The OFO Settlement has been in effect since April 1, 2000. As demonstrated in the previous quarterly reports, this Settlement has been successful in reducing the market impacts of OFOs. This, and future, quarterly reports will focus on providing the data required in the Settlement. Background information and discussion on the OFO process is available from the Pipe Ranger web site, located on the Internet at http://www.pge.com/pipeline/library/ofofodiv/fofo_index.html.

II. OFO EVENTS DURING THE QUARTER

A. OFO Event Summary

During the quarter ending March 31, 2002, PG&E called a total of eleven (11) OFO events. Nine (9) of the OFO events were system-wide OFOs and two (2) were customer-specific OFOs. Six (6) of these events were a result of high pipeline inventory and five (5) were a result of low pipeline inventory. There were no EFO events during this quarter and there were no “trimming”, or receipt point capacity allocation, events. Table 1 provides a summary of each OFO event.

¹ PG&E’s OFO Settlement was approved by the CPUC in Decision 00-02-050 on February 17, 2000. The Settlement tariffs were effective April 1, 2000.

² See Section C.1.f, page 5 of the OFO Settlement.

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Table 1: OFO Event Summary

Date	Type	Cause / Comments
Thursday January 3, 2002	<ul style="list-style-type: none"> ● System-Wide ● <u>High Inventory</u> ● Stage 2 at \$1.00/Dth ● Tolerance Band: 0% 	<ul style="list-style-type: none"> ● Projected ending inventory of 4,668 MMcf exceeded upper limit of 4,500 MMcf. ● Customer-Specific OFO not called because more than ten (10) balancing entities would have been targeted.
Friday January 11, 2002	<ul style="list-style-type: none"> ● System-Wide ● <u>High Inventory</u> ● Stage 2 at \$1.00/Dth ● Tolerance Band: 1% 	<ul style="list-style-type: none"> ● Projected ending inventory of 4,510 MMcf exceeded upper limit of 4,500 MMcf. ● Customer-Specific OFO not called because previous operating experience with Customer-Specific OFOs, under similar market conditions, did not result in improved pipeline system conditions.
Wednesday January 30, 2002	<ul style="list-style-type: none"> ● Customer-Specific ● <u>Low Inventory</u> ● Stage 2 at \$1.00/Dth ● Tolerance Band: 4% ● No. Customers: 8 	<ul style="list-style-type: none"> ● Projected ending inventory of 3,911 MMcf was below the lower limit of 4,000 MMcf.
Tuesday February 5, 2002	<ul style="list-style-type: none"> ● System-Wide ● <u>Low Inventory</u> ● Stage 2 at \$1.00/Dth ● Tolerance Band: 3% 	<ul style="list-style-type: none"> ● Projected ending inventory of 3,875 MMcf was below the lower limit of 4,000 MMcf. ● Customer-Specific OFO not called because more than ten (10) balancing entities would have been targeted.
Friday February 22, 2002	<ul style="list-style-type: none"> ● System-Wide ● <u>High Inventory</u> ● Stage 2 at \$1.00/Dth ● Tolerance Band: 0% 	<ul style="list-style-type: none"> ● Projected ending inventory of 4,572 MMcf exceeded upper limit of 4,500 MMcf. ● Customer-Specific OFO not called because previous operating experience with Customer-Specific OFOs, under similar market conditions, did not result in improved pipeline system conditions.
Sunday February 24, 2002	<ul style="list-style-type: none"> ● System-Wide ● <u>High Inventory</u> ● Stage 2 at \$1.00/Dth ● Tolerance Band: 0% 	<ul style="list-style-type: none"> ● Projected ending inventory of 4,633 MMcf exceeded upper limit of 4,500 MMcf. ● Customer-Specific OFO not called because targeted customers' forecast imbalance relief was insufficient.
Wednesday February 27, 2002	<ul style="list-style-type: none"> ● System-Wide ● <u>High Inventory</u> ● Stage 2 at \$1.00/Dth ● Tolerance Band: 0% 	<ul style="list-style-type: none"> ● Projected ending inventory of 5,002 MMcf exceeded upper limit of 4,500 MMcf. ● Customer-Specific OFO not called because more than ten (10) balancing entities would have been targeted.
Thursday February 28, 2002	<ul style="list-style-type: none"> ● System-Wide ● <u>High Inventory</u> ● Stage 2 at \$1.00/Dth ● Tolerance Band: 2% 	<ul style="list-style-type: none"> ● Projected ending inventory of 4,845 MMcf exceeded upper limit of 4,500 MMcf. ● Customer-Specific OFO not called because targeted customers' forecast imbalance relief was insufficient.

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Wednesday March 6, 2002	<ul style="list-style-type: none"> ● Customer-Specific ● <u>Low Inventory</u> ● Stage 2 at \$1.00/Dth ● Tolerance Band: 1% ● No. Customers: 10 	<ul style="list-style-type: none"> ● Projected ending inventory of 3,819 MMcf was below the lower limit of 3,900 MMcf.
Tuesday March 19, 2002	<ul style="list-style-type: none"> ● System-Wide ● <u>Low Inventory</u> ● Stage 2 at \$1.00/Dth ● Tolerance Band: 0% 	<ul style="list-style-type: none"> ● Projected ending inventory of 3,818 MMcf was below the lower limit of 4,000 MMcf. ● Customer-Specific OFO not called because targeted customers' forecast imbalance relief was insufficient.
Monday March 25, 2002	<ul style="list-style-type: none"> ● System-Wide ● <u>Low Inventory</u> ● Stage 2 at \$1.00/Dth ● Tolerance Band: 1% 	<ul style="list-style-type: none"> ● Projected ending inventory of 3,773 MMcf was below the lower limit of 3,900 MMcf. ● Customer-Specific OFO not called because more than ten (10) balancing entities would have been targeted.

B. Receipt Point Capacity Allocation Events

There were no receipt point capacity allocation events during the quarter.

C. Reduced Upper Pipeline Inventory Limit Effective November 21

The Upper Pipeline Inventory Limit was been temporarily set at 4,500 MMcf under all Total Demand conditions effective November 21, 2001 because of an unplanned outage of the Gerber Compressor Station. This is a reduction in the Upper Pipeline Inventory Limit from 4,600 MMcf under high demand conditions (when Total Demand is above 2,800 MMcf). The Gerber Compressor outage is expected to last approximately six months. The compressor is tentatively scheduled to be back in operation in early May 2002. The temporary Upper Pipeline Inventory Limit will remain in place until the compressor unit is back in service.

III. DETAILED IMBALANCE DATA

Appendix A shows the imbalance detail for each balancing entity for each OFO day and the three days prior to the OFO.³ This includes the daily supply, usage and imbalance quantities based on billing data.⁴

Appendix A also indicates which entities were targeted for customer-specific OFOs and which entities met the following four criteria for significant contributors to each OFO event:

³ See Section C.1.f.(1), page 5, of the OFO Settlement.

⁴ The billing data for CPGs is based on their "Determined Usage", which is the forecast on the morning of flow day.

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- Total imbalance on 3-prior days exceeds 10 percent and 5,000 Dth. (This definition of significant contributor is specified in Section B.3.b of the OFO Settlement.)
- Total imbalance on 3-prior days exceeds 5,000 Dth.
- Total imbalance on 3-prior days exceeds 10 percent of usage.
- During a Customer-Specific OFO, both the imbalance and the supply increase during a high inventory OFO (or decrease during a low inventory OFO) by over 5,000 Dth on the OFO day.

The last three measures are added to provide more information for evaluating which entities may be contributing to an OFO event.

Appendix B contains detailed data for each OFO event for pipeline imbalances, net market center imbalances, pipeline balancing provided by allocated “balancing” storage, and pipeline inventory levels based on operating data.⁵ Also included is a full description of each data element shown in the tables.

IV. DISCUSSION

This section of the OFO Report provides PG&E’s comments and observations of the data presented, and also offers PG&E’s recommendations for possible change.⁶

A. Effectiveness of Customer-Specific versus System-Wide OFOs

Previous experience with customer-specific OFOs under high inventory conditions has not resulted in satisfactory relief to pipeline inventory levels. During the previous year, the ineffectiveness of the customer-specific OFOs required PG&E to implement receipt point capacity allocations on three occasions. As a result, since the end of May 2001, PG&E has decided to call system-wide high-inventory OFOs even when the customer-specific OFO criteria were met.⁷ By calling system-wide OFOs, PG&E expects to avoid the disruptive market impacts associated with a receipt point capacity allocation. Given the expected volatile market conditions, when pipeline inventory levels dictate the need for a high inventory OFO, PG&E plans to call only system-wide OFOs. As market conditions change, PG&E will continue to evaluate this issue. For low inventory OFOs, PG&E will continue to apply and use the customer-specific OFO criteria.

B. California Production Imbalances

California gas production is currently providing approximately 175 MDth per day of gas supply to the PG&E system. Imbalances between the scheduled nominations and actual gas production from California gas wells delivering into

⁵ This data is required by Sections C.1.f.(2), (3), (4), and (5) of the OFO Settlement.

⁶ The OFO Settlement Agreement specified that the quarterly OFO report would contain “any proposed changes to any OFO and balancing procedures and/or methodology addressed in this Settlement.” See Section C.1.f.6, page 5.

⁷ The operational flexibility to call system-wide OFOs is provided in Section C.3.b.9 of the OFO Settlement.

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the PG&E pipeline system are managed through California Production Balancing Agreements (CPBAs). The CPBA provides a monthly balancing mechanism at the gas well meter. While there are numerous differences, the CPBA generally works in much the same manner as an NBAA, which provides aggregate monthly balancing for a group of end-use customer meters. A significant difference is that CPBAs are not subject to OFOs and do not pay OFO noncompliance charges.

Unfortunately, CPBAs continue to adversely contribute to operational imbalances. During the past quarter, these daily imbalances were typically created on a High Inventory OFO day when the nominating agent decreased the supply nomination without a corresponding reduction in the physical gas supply flowing into the CPBA. Table 2 shows the net aggregate imbalance from the California gas production wells delivering supply into the PG&E pipeline system for each of the OFO days during this report period.

Table 2: California Production Imbalances on OFO Days

OFO Date	OFO Type	OFO Tolerance Band	CA Production Imbalance (Dth)	Percent Imbalance	Exceeds OFO Tolerance Band
January 3	High - SW	0%	9,936	6.2%	X
January 11	High - SW	1%	11,051	6.3%	X
January 30	Low - CS	(4%)	8,186	4.8%	
February 5	Low - SW	(3%)	(17,399)	(10.4%)	X
February 22	High - SW	0%	26,781	16.5%	X
February 24	High - SW	0%	19,854	12.3%	X
February 27	High - SW	0%	16,118	10.1%	X
February 28	High - SW	2%	(1,340)	(0.8%)	
March 6	Low - CS	(1%)	(19,870)	(11.3%)	X
March 19	Low - SW	(0%)	(37,758)	(19.7%)	X
March 25	Low - SW	(1%)	930	0.5%	

A positive imbalance means more gas was delivered into the pipeline system than was scheduled through the nomination process. A positive imbalance adversely impacts the system during a high inventory OFO. A negative imbalance means less gas was delivered into the pipeline system than was scheduled and has adverse impacts under low inventory OFOs.

On eight of the eleven OFO days during the quarter, the net California gas production imbalance exceeded the OFO tolerance band and further contributed to the operational problems that the OFO was trying to resolve.

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V. CONCLUSIONS

There was approximately the same number of OFO events during this quarter (11) as compared to the same quarter in the previous year (7). The frequency of OFO events has remained at approximately the same level during the past several quarters.

The ineffectiveness of customer-specific OFOs has led PG&E to call system-wide OFOs during high-inventory conditions, even when the customer-specific criteria were met. PG&E believes that calling the system-wide OFO is necessary to avoid the more disruptive receipt point capacity allocation in order to maintain safe operating pressure in the pipeline system.

CPBA imbalances on OFO days have exacerbated pipeline conditions. PG&E will continue to explore options to reduce the impact of the gas production imbalances on other market participants.

Appendix A: Detailed OFO Imbalance Report by Balancing Entity

1. Definition of Balancing Entity Types

There are three types of Balancing Entities on the PG&E system. The first type is a Core Procurement Group (CPG), which includes PG&E's Core Procurement Department and all Core Transport Agents (CTAs) – also called Gas Energy Service Providers. These are indicated as 'CTARGAS'.

The second type is an agent or gas marketer managing a Noncore Balancing Aggregation Agreement (NBAA). These are indicated as "NBAA." An NBAA aggregates a group of noncore end-use customers into one entity for balancing purposes. An NBAA group can range from several customers up to over one hundred individual end-use customers. The NBAA agent is financially responsible for all imbalance charges, including OFO noncompliance charges.

The third type is an individual noncore end-use customer. These individual customers maintain an imbalance account under their Natural Gas Service Agreement, indicated as "NGSA." Sometimes the balancing for these NGSAs is managed by the end-use customer, and sometimes by an agent or marketer; however, each is required to balance individually during an OFO event.

2. Imbalance Data Elements

The data in this Appendix is organized by each of the OFO events during the quarter. This includes the daily supply, usage and imbalance quantities for the OFO Day and 3-days-prior for each balancing entity. Also, targeted entities during customer-specific OFOs and various calculations of significant contributor are included, along with a summary of these by balancing entity for all OFOs combined.

The following describes the data elements in the Appendix A tables:

Balancing Entity ID #: Each balancing entity is identified by a numerical identifier and the type of balancing entity, and not by name. If a customer operates two separate balancing entity accounts (e.g. an NBAA and a CPG (or CTARGAS)), the same numerical identifier is used for each entity.

Balancing Entity Type: (See discussion above.)

Supply Scheduled Volume: The quantity of gas supply, in decatherms (Dths), received into the PG&E system for delivery to the end-use customer(s) for that balancing entity. This quantity is the result of the gas supply nomination process. This process is the same for all types of balancing entities.

Usage: The quantity of gas, in decatherms (Dths), that is delivered off the PG&E system to the end-use customer(s) for that balancing entity. This is the demand deemed to be used, in order to determine the daily imbalance. For noncore customers (i.e., NBAA or NGSA), the usage is equal to the actual daily meter reading quantities. For core customers (i.e. CTARGAS) the usage is equal to the Determined Usage for all non-OFO days and is equal to the 24-Hour Forecast for all OFO Days. It is important to note that both the Determined Usage and the 24-

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Appendix A – Detailed OFO Imbalance Report by Balancing Entity

Hour Forecast are forecasts that are made 24-hours and 48-hours prior to the end of the gas day, respectively.

Daily Imbalance: This is simply the *Supply Scheduled Volume* minus the *Usage*. A positive number indicates an over-delivery of supply (more supply than demand) and a negative number indicates an under-delivery of supply (less supply than demand).

3-Day Prior Net Imbalance: The sum of the *Daily Imbalances* for the three days prior to the OFO Day.

3-Day Prior Percentage Imbalance: The *3-Day Prior Net Imbalance* divided by the total *Usage* for the three days prior to the OFO Day. This represents the average percentage imbalance for these three days.

Targeted under Customer-Specific OFO: This column indicates those balancing entities that were targeted under each customer-specific OFO.

Significant Contributor: Two significant contributor columns are shown. The first indicates those balancing entities with total imbalances greater than 5,000 Dth and 10 percent of its usage in the three days leading up to each system-wide or customer-specific OFO, as defined in the OFO Settlement.⁸ The second significant contributor column identifies those balancing entities which increased both their supply and imbalance by more than 5,000 Dth on the OFO day, during a customer-specific OFO.

⁸ OFO Settlement, Section B.3.b, page 3.

Appendix B: Detailed Pipeline Operating Data

1. Data Background:

All data in this Appendix related to gas volumes are expressed in thousands of decatherms (Mdth) and are for the gas day, which begins at 7:00 AM on the date and ends at 7:00 AM on the following day. This is operating data that is compiled approximately 4 hours after the end of the gas day and represents the best information about flows, volumes, and inventories available at that time.

The ending inventory on the OFO day will often not exceed the criteria for an OFO. OFOs are called using the forecast of the ending inventory on the OFO day, and for this reason, the actual ending inventory will likely be different than the forecast ending inventory if the OFO has been effective.

The following sign convention has been employed in the spreadsheet. Any activity that decreases the pipeline system inventory such as a negative customer imbalance or a storage injection is shown with a (-) sign. Activities that increase the pipeline system inventory are positive and are shown without a sign.

2. Data Elements

Beginning Inventory: The calculated volume of gas in the PG&E pipeline system at the beginning of the gas day.

Ending Inventory: The calculated volume of gas in the PG&E pipeline system at the end of the gas day. This forecast of ending inventory is used to determine whether an OFO is called, and is forecast and reported on the Pipe Ranger 5 times each day.

Pipeline Storage Balancing: The PG&E storage that was used to reduce the affect of imbalances on changes in the pipeline system inventory. This value is calculated by subtracting the scheduled storage activity including core, noncore, and GGMC Park/Lend activity from the net PG&E storage activity. There is 50 MMcf of daily storage injection and 70 MMcf of daily storage withdrawal assigned to the pipeline storage balancing activity.

Total Customer Imbalance: The total customer imbalance is the total supply scheduled for on-system customers minus the total on-system customer usage. The usage for noncore customers is based on operational meters. The usage for core customers is based on the Determined Usage. The Core Determined Usage is derived from the core load forecast prepared at approximately 7:30 AM at the beginning of the gas day.

Pipeline Imbalance Detail: This calculation is provided to show the contribution of core load forecast error on the day of gas flow to the total pipeline imbalance.

Due to Core Forecast Differences: This is the difference between the Core Determined Usage which is forecast at the beginning of the gas day and the Core calculated usage. The Core usage is calculated approximately four hours after the end of the gas day using daily data on interconnect and storage volumes, noncore

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Appendix B – Detailed Pipeline Operating Data

daily usage volumes from the Automatic Meter Reading (AMR) system, and the change in the pipeline system inventory.

All Other Causes: This represents the sum of all the other contributors to pipeline imbalances including imbalances with interconnecting pipelines and storage facilities (other than PG&E), imbalance in California Gas Well production, shrinkage over or under collection.

GGMC Net Scheduled Pack Draft: This value is the net sum of the scheduled nominations for PG&E storage activity for scheduled GGMC Parks, Repays, Lends, and Unparks for the gas day. When the value is a negative (-) it means that storage injection is required to offset a net Pack (Park or Repay) position.

GGMC Net Pack Allocated: This is the PG&E storage injection capacity available to GGMC to facilitate their daily parking (Parks and Repays) activity. The amount of daily parking is limited to this quantity so that this activity does not adversely increase the pipeline system inventory and represents one of the measures to determine whether there was an imbalance created by the GGMC on any given day.

GGMC Net Draft Allocated: This is the PG&E storage withdrawal capacity available to GGMC to facilitate their daily lending activity. The amount of daily lending is limited to this quantity so that this activity does not adversely decrease the pipeline system inventory and represents one of the measures to determine whether there was an imbalance created by the GGMC on any given day.

GGMC Imbalance: This is determined by calculating the amount the *GGMC Scheduled Pack Draft* is outside the *Allocated Pack-Draft* range. These values represent the impact of the GGMC on the pipeline system inventory on any given day.