Pacific Gas and Electric Company

California Gas Transmission

OFO Report

Second Quarter 2000

July 31, 2000

Subject to Rule 51 of the CPUC Rules of Practice and Procedure, Rule 601 et seq. of the FERC Rules of Practice, Rule 408 of the Federal Rules of Evidence, and Section 1152 of the California Evidence Code

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I. BACKGROUND

A. Requirements for Report

PG&E is providing this first 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. 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." This Report covers the second quarter of 2000 – April 1 through June 30. The specific requirements per Section C.1.f. of the OFO Settlement are that these quarterly OFO reports will show the sources of system imbalance for each of the three (3) days prior to an Event, as follows:

1) Imbalance and gas scheduled for each entity responsible for managing imbalances as specified in C.3.b.(3). For Core Procurement Groups, the supply will be compared to their Determined Usage, which is their Cumulative Imbalance (except for OFO days when the 24-hour forecast will be used). Each such entity will be identified by a new and unique numerical identifier, and not by name.
2) Pipeline imbalances.
3) Net market center imbalances for the aggregate of parking, lending and storage services.
4) Pipeline balancing provided by allocated storage.
5) Beginning, ending and change in pipeline inventory.
6) Any proposed changes to any OFO and balancing procedures and/or methodology addressed in this Settlement.

This report includes detailed balancing and operations data for each OFO, and the three (3) days prior. In addition, it provides information and analysis to support discussion of issues by the OFO Forum. Finally, PG&E offers some alternatives to address several of the issues discussed in this report.

B. Criteria For Calling OFOs

OFOs are called when PG&E's pipeline inventory is forecast to exceed its upper and lower limits shown in Table 1. These limits were specified in Section C.2.d, page 7, of the OFO Settlement.

[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.

Table 1: Pipeline Inventory Limits, MMcf

Total Demand Forecast, MMcf		Lower	Upper
Low Demand:	1,500 to 2,800	3,900	4,500
High Demand:	2,800 to 3,900	4,000	4,600

The pipeline also uses assigned firm storage rights of 50 MMcf/day for injection, 70 MMcf/day for withdrawal and 2.2 Bcf of storage inventory to help manage imbalances. These imbalances may be due to differences in customers' supply and demand, market center imbalances, differences between forecast and actual demands, pipeline to pipeline imbalances, over/under collection of shrinkage, and other factors. Each of these imbalances is detailed in Appendix B of this report for the OFO day and the prior three days.

Customer-specific OFOs are called when (i) there are ten or less balancing entities each of whose forecast imbalance exceeds the OFO Tolerance Band percentage and exceeds 5,000 Dth, and (ii) the total forecast relief for these entities, multiplied by a Performance Factor, exceeds the relief needed by the pipeline.[2] Otherwise, a system-wide OFO is called.

II. OFO EVENTS DURIN G THE SECOND QUARTER 2000

A. OFO Event Summary

During the quarter ending June 30, 2000, PG&E called a total of eleven (11) OFO events. Four (4) of these were system-wide OFOs and seven (7) were customer-specific OFOs. During this quarter, all eleven OFO events were a result of high pipeline inventory. There were no EFO or "trimming" events during this quarter. Table 2 provides the specific parameters of each OFO event.

Table 2: OFO Event Summary

Date	Type	Cause / Comments
Friday **April 7, 2000**	**System-Wide** High Inventory Stage 1 at $0.25/Dth Tolerance Band: 3%	Projected beginning inventory of 4,534 MMcf and ending inventory of 4,601 MMcf exceeded upper limit of 4,500 MMcf. Customer-Specific OFO not called because targeted customers' forecast imbalance relief of -60,663 Dth was insufficient. Net customer imbalance: -99,018 Dth or -5.5% of usage
Wednesday **April 12, 2000**	**Customer-Specific** High Inventory Stage 1 at $0.25/Dth Tolerance Band: 3% Customers: 6	Projected beginning inventory of 4,569 MMcf and ending inventory of 4,676 MMcf exceeded upper limit of 4,500 MMcf. Net customer imbalance: -131,858 Dth or -7.6% of usage
Saturday **April 15, 2000**	**Customer-Specific** High Inventory Stage 1 at $0.25/Dth Tolerance Band: 5% Customers: 5	Projected beginning inventory of 4,470 MMcf and ending inventory of 4,575 MMcf exceeded upper limit of 4,500 MMcf. Net customer imbalance: +11,692 Dth or +0.8% of usage

[2] For more detail, see Section C.3, pages 7-9, of the OFO Settlement Agreement.

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Date	Type	Cause / Comments
Sunday **April 16, 2000**	**Customer-Specific** High Inventory Stage 2 at $1.00/Dth Tolerance Band: 1% Customers: 5	Projected beginning inventory of 4,602 MMcf and ending inventory of 4,844 MMcf exceeded upper limit of 4,500 MMcf. Net customer imbalance: +21,721 Dth or +1.5% of usage
Wednesday **April 26, 2000**	**Customer-Specific** High Inventory Stage 1 at $0.25/Dth Tolerance Band: 2% Customers: 8	Projected beginning inventory of 4,540 MMcf and ending inventory of 4,539 MMcf exceeded upper limit of 4,500 MMcf. Net customer imbalance: -141,423 Dth or -8.1% of usage
Sunday **May 21, 2000**	**Customer-Specific** High Inventory Stage 1 at $0.25/Dth Tolerance Band: 2% Customers: 9	Projected beginning inventory of 4,573 MMcf and ending inventory of 4,806 MMcf exceeded upper limit of 4,500 MMcf. Net customer imbalance: +1,523 Dth or +0.1% of usage
Saturday **May 27, 2000**	**System-Wide** High Inventory Stage 2 at $1.00/Dth Tolerance Band: 2%	Projected beginning inventory of 4,727 MMcf and ending inventory of 5,029 MMcf exceeded upper limit of 4,500 MMcf. Customer-Specific OFO not called because targeted customers' forecast imbalance relief of -414,706 Dth was insufficient. Net customer imbalance: -89,408 Dth or -5.3% of usage
Sunday **May 28, 2000**	**System-Wide** High Inventory Stage 2 at $1.00/Dth Tolerance Band: 4%	Projected beginning inventory of 4,489 MMcf and ending inventory of 4,609 MMcf exceeded upper limit of 4,500 MMcf. Customer-Specific OFO not called because targeted customers' forecast imbalance relief of -48,871 Dth was insufficient. Net customer imbalance: -60,389 Dth or -3.6% of usage
Saturday **June 3, 2000**	**Customer-Specific** High Inventory Stage 1 at $0.25/Dth Tolerance Band: 12% Customers: 6	Projected beginning inventory of 4,334 MMcf and ending inventory of 4,548 MMcf exceeded upper limit of 4,500 MMcf. Net customer imbalance: +171,571 Dth or +9.4% of usage
Sunday **June 4, 2000**	**Customer-Specific** High Inventory Stage 2 at $1.00/Dth Tolerance Band: 6% Customers: 6	Projected e beginning inventory of 4,425 MMcf and ending inventory of 4,584 MMcf exceeded upper limit of 4,500 MMcf. Net customer imbalance: +165,205 Dth or +9.1% of usage
Monday **June 12, 2000**	**System-Wide** High Inventory Stage 2 at $1.00/Dth Tolerance Band: 1%	Projected beginning inventory of 4,682 MMcf and ending inventory of 4,647 MMcf exceeded upper limit of 4,500 MMcf. Customer-Specific OFO not called because targeted customers' forecast imbalance relief of -123,396 Dth was insufficient. Net customer imbalance: -267,555 Dth or -13.1% of usage

B. System-Wide OFO Reduction Objective

One objective of the OFO Settlement Agreement was to "significantly reduce the number of system-wide OFOs on the PG&E system."[3] The specific goal was to reduce, during the first six months of the Settlement, the number of system-wide OFOs by at least twenty-five (25) percent compared to the same six months in the prior year.[4] As shown in the following table, the number of system-wide OFOs has declined by 67% for the second quarter compared to the same quarter in the prior year. The total number of OFOs also declined from 14 to 11.

Table 3: Comparison of OFOs to Same Quarter in Prior Year

	Prior Year – 1999			Current Year – 2000			Reduced System OFOs
Quarter	System Wide	Customer Specific	Total	System Wide	Customer Specific	Total	
April – June	12	2	14	4	7	11	67%
July – Sept	18	0	18	---	---	---	
Oct. – Dec.	9	0	9	---	---	---	
Jan. – March	10	0	10	---	---	---	
Total	49	2	51	---	---	---	

C. Distribution of OFOs

The number of OFOs is relatively constant over the three months with a decline from the first month that the OFO Settlement was implemented.

Table 4: Distribution of OFOs by Month

	System	Customer	Total
April	1	4	5
May	2	1	3
June	1	2	3
Total	4	7	11

For the weekday–weekend distribution, there was a noticeably higher occurrence on weekends as shown in Table 5 below. While the customer demand generally drops over the weekend, frequently there is not a corresponding reduction in the gas supply. This weekend effect was first discussed in PG&E's Gas OII testimony.

[3] See page 1 of OFO Settlement.
[4] See Section B.2, page 2 of the OFO Settlement.

Table 5: Distribution of OFOs by Day-of-Week

	System	Customer	Total
Monday	1	0	1
Tuesday	0	0	0
Wednesday	0	2	2
Thursday	0	0	0
Friday	1	0	1
Saturday	1	2	3
Sunday	1	3	4
Total	4	7	11

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.[5] This includes the daily supply, usage and imbalance quantities based on billing data.[6] The three types of balancing entities and the data elements shown in the tables are also described. Appendix A also shows which entities were targeted for customer-specific OFOs and which entities met the following four criteria for significant contributors to each OFO event:

- 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.[7])
- Total imbalance on 3-prior days exceeds 5,000 Dth.
- Total imbalance on 3-prior days exceeds 10 percent of usage.
- Both the imbalance and the supply increase 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.[8] Also included is a full description of each data element shown in the tables.

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

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

7 This is one of the issues listed in the OFO Settlement to be explored by the OFO Forum.

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

IV. DISCUSSION AND R ECOMMENDATIONS

This section of the OFO Report provides PG&E's initial analysis and observations of the data presented, and also offers PG&E's recommendations for possible change.[9]

A. Drivers of OFO Events

In reviewing Appendix B, the operational data seems to indicate two conditions as the most prominent during the three days leading to an OFO. The first is that the pipeline inventory at the beginning of the three-day period was already at or near the upper pipeline inventory limit. The second is that large customer imbalances occurred sometime during these three days. The pipeline imbalances and the Market Center imbalances (see discussion below) did not promote OFO events during this quarter. This data supports prior analysis that customer imbalances are a primary driver pushing pipeline inventory to its limits and necessitating OFOs.

During the first five OFO events, all during April, the pipeline inventory was already at or above the upper limit by the beginning of the third-day-prior to the OFO. In these cases, imbalances created prior to the 3-day analysis period may also contribute to these OFOs. Furthermore, even with the OFOs, the pipeline was operating at the edge of its upper pipeline inventory limits for most of the month.

Using 100 Mdth as a measure,[10] in eight of the eleven OFOs there was at least one day where the Total Customer Imbalance exceeded this level during the days leading up to the OFO. Some of this can be injected into storage; however, the rest builds the pipeline inventory ("packs" the system). If the pipeline inventory is already high, then continued over deliveries of customer supply can rapidly lead to an OFO. This trend seemed the strongest at the end of the quarter. For example on the June 10 and 11 weekend, customer imbalances exceeded 300 Mdth on each day for a total net over supply of about 640 Mdth. This created a need to inject over 90 Mdth on June 11 to avoid severe operating problems, and then to call a very tight tolerance and high noncompliance charge – 1% and $1.00 per Dth – system-wide OFO on June 12, and almost led to "trimming" of receipts.

A last observation is that once in an OFO situation, customers often do not provide enough relief to prevent what becomes a series of OFOs. This happened during April 12-16 period and the May 27-June 4 period. The last period included the Memorial Day Holiday. Holiday periods seem to aggravate these rolling OFO events. A similar pattern was also observed prior to the OFO Settlement.

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[9] 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.

[10] The 100 Mdth is simply an assumption to provide a perspective. It does not represent any specific operating parameter or imbalance threshold.

Recommendation: PG&E suggests keeping the tolerance band and noncompliance charges at the levels agreed to in the OFO Settlement. However, PG&E recommends that the OFO Forum consider ways to prevent "rolling" OFOs which can be very disruptive to PG&E operations and the market.

B. Market Center Imbalances

As shown in Appendix B, the Market Center imbalances did not contribute to OFOs during the quarter. Market Center activity is managed on a daily basis utilizing available storage assets, and does not rely on either pipeline inventory or storage allocated to pipeline balancing.

A Market Center imbalance occurs when the net contractual Market Center activity exceeds the net physical storage capacity available to perform Market Center activity. The Market Center contractual net position is the sum of the Parks and Repays minus the sum of the Lend and Unparks. To calculate the imbalance, this net position is compared to the storage assets available for Market Center activity each day. For each OFO and the three prior days, the Market Center imbalance was zero, which is typical. This data is shown in Appendix B.

Recommendation: Continue to monitor Market Center imbalances as required by the OFO settlement.

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

During the quarter, PG&E called a customer-specific OFO every time the criteria outlined in the OFO Settlement was met.[11] Four system-wide OFOs were called because the total forecast imbalance relief from the identified balancing entities (i.e., ten or less entities with forecast imbalances that exceed both 5,000 Dth and the tolerance band) was less than the system imbalance relief needed to achieve a system inventory below the upper pipeline limit, which was typically 4,500 MMcf during this quarter (see Table 1).

Table 6 shows the aggregate OFO day imbalances for all balancing entities, using the Appendix A data. The total net imbalance on the OFO day represent a combination of events that include factors such as changes in noncore customer demand and electric generation load, changes in supply due to customer responses to OFOs or high or low pipeline inventory situations as posted on Pipe Ranger, and supply disruptions or constraints. All OFOs during the quarter were due to high inventory. Therefore, PG&E's objective in calling the OFO was to reduce the level of positive imbalances so that the pipeline inventory at the end of the OFO day was below the upper limit.

[11] Section C.3.b.(9), page 9, of the OFO Settlement requires PG&E to post an explanation if a system-wide OFO is called even though the conditions for a customer-specific OFO are met. This situation did not occur during the quarter.

Table 6: Net OFO Day Total Customer Imbalances

Customer-Specific OFOs		System-Wide OFOs	
Date	Total Net Imbalance, Dth	Date	Total Net Imbalance, Dth
April 12	-131,858	April 7	-99,018
April 15	11,692		
April 16	21,721		
April 26	-141,423		
May 21	1,523	May 27	-89,408
June 3	171,571	May 28	-60,389
June 4	165,205	June 12	-267,555
Average	**14,062**	**Average**	**-129,093**

This table reveals a substantially better response to system-wide OFOs compared to customer-specific OFOs. This result is expected to some degree since system-wide OFOs affect all customers.

The OFO Settlement established a Performance Factor as part of the criteria for determining whether to call a customer-specific or a system-wide OFO. The Performance Factor is "the system relief actually achieved by customer-specific OFOs divided by the forecast relief calculated" in determining whether to call a customer-specific OFO.[12] During this quarter, PG&E kept the Performance Factor at its initial 100% level set in the OFO Settlement; and up until June 3rd and 4th, the customer-specific OFOs seemed to be generally working. However, given the results of the customer-specific OFOs in June, a Performance Factor below 100% may be necessary, which in turn may lead to calling more system-wide OFOs in these situations.

Recommendation: PG&E recommends keeping the basic approach for calling customer-specific OFOs intact for now. Other alternatives are suggested below in Section E to deal with non-targeted customers increasing their imbalances on customer-specific OFO days.

D. Significant Contributors Leading Up To OFO Days

Within the total customer imbalance, certain entities are contributing more to packing (or drafting) the pipeline inventory than others. The OFO Settlement identified "significant contributors" as an issue for discussion in the OFO Forum. These are balancing entities which are creating adverse imbalances on the system. The purpose of defining significant contributors is to identify if there is any systematic behavior and to focus on possible corrective measures. Appendix A provides data to help this discussion.

[12] See Section C.3.b.(7), page 8, of the OFO Settlement.

The summary table in Appendix A indicates that the significant contributors per the Settlement definition[13] are NBAAs and a few of the larger NGSAs. None of CPG balancing entities (CTARGAS) were identified as a significant contributor under this definition.[14] The following table identifies balancing entities whose total imbalance on the three days prior to the OFO exceeded the 5,000 Dth and 10% of usage criteria for more than half the eleven OFOs called during this quarter.

Table 7: Significant Contributors per OFO Settlement Definition

		Number of OFOs	
Entity ID	Entity Type	Meeting Criteria	Targeted
1117	NBAA	8	3
1126	NBAA	7	3
1157	NBAA	7	5
2771	NBAA	7	5
51	NGSA	11	0
7604	NGSA	8	1

Looking at the two parts of the significant contributor test, some interesting patterns appear. One is that very large entities may often be within 10%, but have imbalances well above the 5,000 Dth level. On the other hand, most of the CPGs, which tend to be small entities, exceed the 10% imbalance measure, but are within the 5,000 Dth level.

Recommendation: PG&E recommends that the OFO Forum discuss what additional measures or criteria, if any, should be considered to discourage balancing entities from creating adverse imbalances leading up to an OFO.

E. Significant Contributors On OFO Days

As discussed above, customer-specific OFOs are notably less effective than system-wide OFOs. In fact, the customer-specific OFOs called on June 3rd and 4th were simply not effective as the total customer net imbalance increased by almost 250 Mdth over these two days. In other circumstances, this could have put the pipeline in extreme operational jeopardy. PG&E continues to be concerned that gas is being traded or sold to entities not targeted by the customer-specific OFO. This appears to be happening since the overall customer imbalance was largely a result of a significant increase in supply, and not a reduction in usage.

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[13] There are balancing entities with total imbalances over the three days prior to the OFO which exceed 5,000 Dth and 10% of usage.

[14] In previous testimony and other forums, PG&E provided calculations of which customer classes were significant contributors to OFOs. The classes included core, electric generation and noncore customers. These calculations are not used in this Report since the focus is on individual balancing entity contributors to OFOs.

To explore this issue, PG&E calculated which non-targeted balancing entities increased both their imbalance and their supply by more than 5,000 Dth on the OFO day compared to the prior day.[15] Then the total amount of the supply increase was calculated. The presumption is that these non-targeted balancing entities are purchasing supplies from the targeted balancing entities. The following table summarizes these results.

Table 8: Non-Targeted Entities Increasing OFO-Day Imbalances

Customer-Specific OFO Date	Number of Non-Targeted Entities	Increased Supply (Dth)
April 12	4	47,929
April 15	3	87,331
April 16	4	52,673
April 26	2	28,637
May 21	1	14,060
June 3	6	192,811
June 4	3	46,410

No entity met these criteria during system-wide OFOs, most likely due to the significant noncompliance penalties if they are not within the OFO tolerance band. Similarly, no targeted entity during a customer-specific OFO met these criteria. While other criteria are possible, this analysis clearly shows a small number of balancing entities are acting contrary to the pipeline's announced needs to reduce supplies for the OFO day. This also explains in part the general lack of effectiveness of customer-specific OFOs.

Recommendation: PG&E suggests the following options to remedy this situation for discussion at the OFO Forum.

1) Publish the company name of those entities meeting this or a similar predetermined screening criteria. Publishing identities would allow the market to make choices about who they contract with for balancing services. It may also lead to more severe measures if the problem continues.
2) Add those entities meeting the screening criteria (or those with multiple occurrences) to the "targeted" customer group during future customer-specific OFOs. By including these entities in future customer-specific OFOs they would be subject to the OFO noncompliance charges and, thereby, have a financial incentive to not purposefully create an imbalance adverse to the OFO.
3) Do not announce customer-specific OFOs to the market, and only notify the targeted entities.

[15] All OFOs during the quarter were called prior to 8:00 a.m. on the day prior to the OFO day. Therefore, all balancing entities know what the pipeline situation and their own supply situation are on that prior day.

V. CONCLUSIONS

As shown in this Report, there has been a reduction in the total number of OFOs and in the number of system-wide OFOs since the implementation of the OFO Settlement. All of the OFOs during this quarter were for high inventory. From the detailed balancing entity and operational data provided and discussed in this report, the following conclusions are drawn:

There are a number of factors that lead to the operational conditions which resulted in an OFO being called. Customer imbalances from many NBAAs and a couple NGSAs were identified as significant contributors on numerous occasions. For this quarter, there was little or no significant imbalance contribution from PG&E's Market Center or from Core Procurement Groups.

High inventory OFOs tend to occur more frequently on the weekend as declines in demand are not matched by reduced supplies.

System-wide OFOs are clearly more effective than customer-specific OFOs.

The customer-specific OFOs were somewhat effective during April and May. However, they were not effective in June.

The data shows non-targeted balancing entities actually adversely increasing their imbalances during announced customer-specific OFOs. This contributes to the low or non-effectiveness of customer-specific OFOs.

These findings indicate that some of the pre-OFO Settlement concerns remain. PG&E has provided some recommendations for discussion in the Gas OFO Forum.

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.

The number of Balancing Entities varies from month to month, with an average of about eighty during the quarter. Table A-1 shows the approximate number of each balancing entity type and their average OFO day volume for the quarter.

Table A-1: Balancing Entity Types

Balancing Entity Type	Number of Entities	Average. OFO Day Volume, (Mdth)
Core Procurement Groups	17	540
NBAA Groups	23	1,055
Individual NGSAs	40	125
Total	**80**	**1,720**

Of the 40 NGSAs, only about 10-15 were significantly active during this quarter. About one-half are seasonal accounts with little or no usage, and another approximate one-quarter did not take service under the listed account.

1. Balancing Entity Imbalance Data Elements

The data in this Appendix is organized by each of the eleven 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.

Appendix A – Detailed OFO Imbalance Report by Balancing Entity

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-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 that 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.[16] 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.

[16] OFO Settlement, Section B.3.b, page 3.

Appendix B: Detailed OFO Imbalance Report for Pipeline

2. 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 be lower 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.

3. 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

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 (-) 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.