

METERING

Overview

This chapter focuses on DA (Direct Access) interval metering including meter installation, meter maintenance obligations, Meter Data Management Agent requirements (including procedures for meter ownership), meter reading and meter data access.

Within the context of this chapter, the term “meter” refers to an hourly, non-load profile meter, known as an “interval meter.”

Interval meters are required for DA customers whose maximum electrical demand is equal to or exceeds 50kW. Those DA customers whose demand is between 20-50kW may choose to have an interval data meter installed; however, meters already in place for customers whose demand is between 20-50kW already meet the requirements for DA load profile.

If any customer, including those with an electrical demand is 50kW or below, wishes to participate in PG&E’s hourly PX rate option, that customer is required to have an interval data meter installed.

Similarly, those customers on electric rate schedules A-10 and E19V will be required to have an interval meter installed if a “spike” of 80kW or over is reflected in their usage within the last 12 months.

PG&E’s Rule 22, Direct Access Service, describes the terms and conditions that apply to both PG&E customers and Electric Energy Service Providers who participate in Direct Access. Fees for Direct Access services are described in PG&E Schedules E-DASR, E-ESP and E-EUS. Refer to PG&E’s Web Tariff Book (see Information Websites at the end of Chapter 1 in this handbook).

Metering Services

While PG&E is hopeful this chapter provides the reader with basic information regarding DA Metering in PG&E’s service territory, we also strongly suggest contacting your PG&E assigned ESP Services Representative to arrange a meeting to discuss your metering plans, along with procedures and processes.

METER SERVICE PROVIDER RESPONSIBILITIES

While CPUC decisions refer to meter service providers (MSPs), the industry currently identifies Meter Installers and Meter Maintainers. ESPs may select approved Meter Installers and Meter Maintainers, including PG&E, to perform interval meter installations and maintenance.

Responsibilities for Meter Installers and Meter Maintainers include:

- meter installation
- meter operation and maintenance services
- meter testing and certification

METER INSTALLATION STANDARDS

Meter installations will be conducted according to the requirements specified in DASMMD. PG&E shall have no liability for any damage or injury caused by ESP-installed metering equipment.

EFFECTIVE DIRECT ACCESS DATE

The effective date and time of the switch to direct access are the time and date of the installation, unless the account is DA Ready (see the “DA Ready Meter” section). If the account is DA Ready, the switch date is the next meter read date. Also see the “Meter Work Not Completed Within 60 Days” section under the heading, “Return to Bundled Service from Direct Access and Meter Ownership – Bundled Safe Harbor.”

METER MAINTENANCE

The Meter Maintainer is responsible for the routine maintenance of all DA interval meters, including but not limited to, DA interval meter testing, record keeping to assure safe and proper operation of the DA interval meter, and timely repair in accordance with the CPUC’s (California Public Utilities Commission’s) and other applicable standards.

METER EQUIPMENT SPECIFICATIONS

All meters installed by ESPs or their Meter Installers shall meet all CPUC-approved Direct Access Standards for Metering and Meter Data (DASMMD) and shall be self-certified by the meter manufacturer with the CPUC.

PG&E retains the right to replace an existing meter regardless of ownership if that meter fails to meet the requirements specified in DASMMD. If PG&E replaces the meter, the installation terms, conditions and procedures below will apply:

- If the ESP does not elect to provide metering services, PG&E will provide those services at fees specified in PG&E's rate schedules to the DA customer.
- If PG&E removes the DA interval meter, PG&E will properly identify and return the meter to its owner in the same condition as found within 5 business days.

Obtaining Meter Equipment Information for Existing Customer Accounts

ESPs submit DASRs in accordance with guidelines provided in Chapters 2 and 3 of this handbook, "Processing Direct Access Service Requests." Those DASRs which either require or request meter installations become meter installation orders.

NOTE: No Direct Access metering services may be provided or started by an ESP, its Meter Installer or MDMA for any customer unless the ESP's DASR has been accepted by and the ESP's work has been scheduled with PG&E.

PG&E's Meter Equipment Information web site provides authorized and secure access to ESPs and their designees, generally their Meter Installer, Meter Maintainer or MDMA, for information on existing metering equipment by customer account. For general information and procedures, see the [Meter Equipment Information Web site](#).

WEB SITE TEST

ESPs are required to test the Meter Equipment Information web site to ensure their passwords are operational and meter information is easily downloaded. For further information on the Web Site Test, go to <http://meterinfo.pge.com/3rdparty/login.asp>.

SELECTION OF THE METER INSTALLER

As described in the Meter Service Provider Responsibilities paragraph of this chapter, the ESP may select PG&E as its Meter Installer or Meter Maintainer or select another Meter Installer or Meter Maintainer to perform metering services. Those services include meter installation, meter operation, maintenance, testing and calibration. Generally the work also includes the removal of the existing meter.

PG&E metering services fees will be charged to the ESP in accordance with CPUC-filed tariffs. (See the filed document, E-ESP, located in the [Web Tariff Book](#).)

SCHEDULING METER REMOVALS AND INSTALLATIONS - PG&E AS METER INSTALLER

When PG&E is the meter installer, meter installation scheduling is based upon the following:

- Each DASR's renewable and non-renewable energy supply status

- PG&E's capacity to install meters which is dependent on its new construction volume, meter compliance, and meter data recovery work
- Date PG&E accepted the DASR on a first-come, first-served basis
- Site readiness
- Mutually agreed upon date

The ESP is responsible to ensure the meter site is ready for the meter installation. A meter site is considered ready when PG&E has ESP-provided meters on hand and the meter telecommunications are in place and working.

PG&E AS METER INSTALLER

If the site is DA Ready with an interval meter in place or PG&E, as Meter Installer, installs a customer-owned DA interval meter, the ESP is responsible for the meter cost, local sales tax, Service Base Charge, meter removal and installation charges and the programming and testing of the DA interval meter in accordance with the filed rate schedules. (See PG&E's [Web Tariff Book](#).)

METER SUPPLIED BY ESP

If PG&E, as Meter Installer, installs an ESP-provided DA interval meter, the ESP will be responsible for the Service Base Charge, the meter removal and the meter installation charges. Additionally, If the ESP has not performed meter programming and testing, PG&E will charge for that work in accordance with the provisions of PG&E's Direct Access Service Rule 22 and its filed rate schedules. (See PG&E's [Web Tariff Book](#).)

DA READY METER

A DA ready meter is an installed PG&E interval meter or a customer-owned meter that meets the CPUC's interim meter standards and is currently phone line read.

If an account has a PG&E DA ready meter, the ESP may elect to use this meter. Phone service account payment responsibility is described below in the paragraph entitled, "Responsibility - Phone Service Account Payment."

PHONE SERVICE NOTIFICATION - PG&E AS METER INSTALLER

The ESP notifies PG&E's MEG (Meter Event Group) by sending a "Phone Service Notification." [The Phone Service Notification](#) can be downloaded from the "[DA Documents](#)" link on the [ESP Resource Center Web site](#).

Upon receipt of the Phone Service Notification, PG&E then schedules the installations in accordance with its capacity to install meters and posts the scheduled date and order status update to its [Meter Equipment Information Web site](#).

If the ESPs want to coordinate a field meeting, they must notify the MEG by forwarding a "Field Meeting Request." Fees charged to the ESP for the field meeting will be in accordance with PG&E's rate schedules.

COMPLETED METER INSTALLS

PG&E will post completed meter removal and installation and maintenance work orders to PG&E's [Meter Equipment Information Web site](#).

RE-SCHEDULING METER INSTALLATIONS

Site Not Ready. If at the time of the scheduled installation PG&E determines the site is not ready, PG&E will notify the ESP.

Metering Equipment Not Available. If at the time of the scheduled installation, the metering equipment (meter, cellular phone, etc.) is not on hand, PG&E will notify the ESP.

Other Operational Reasons. PG&E will notify the ESP of other operational reasons including, but not limited to, regulatory compliance work, restoration of service, emergency response, new business work load and meter repair and data recovery.

Scheduling Meter Removals and Installations - ESP as Meter Installer

The CPUC's decision, "Opinion Regarding Direct Access Implementation Plans and Related Tariffs - 97-10-087," requires the ESP to provide UDCs with 5 business days advance notice of its meter installations. As part of PG&E's implementation process of the CPUC requirement, ESPs are asked to submit install schedules no later than 3 working days prior to the scheduled date. The statewide accepted form can be found on the [CPUC Web site](#) and includes such data fields as:

- UDC order number
- Customer Account number
- Customer name
- Install Date
- XREF ID
- Install Time - if one of first 20 installations

- Meter Installer - if one of first 20 installations

When an installation does not occur on the scheduled date, the ESP or its designee will notify PG&E's Meter Event Group and advise PG&E of the status, i.e., new install date, on hold pending site access, telecommunications not in place, etc.

Detailed Work Schedule - First Twenty Installations

In accordance with the CPUC's Decision Regarding Permanent Standards for Metering and Meter Data, 98-12-080, a Meter Installer new to the PG&E service territory is required to provide PG&E with a schedule of its first 20 installations, including a description of all the procedures it will follow for removing and installing the meter, and what safety precautions it will take during those procedures. Additionally, PG&E will exercise its right to meet with the Meter Installer for the first 20 installations performed.

METER INSTALLATION/REMOVAL NOTIFICATION *

Within 3 business days of the meter removal and installation, the ESP shall return the MIRN (Meter Installation & Removal Notification) to PG&E. Additionally, PG&E will post all completed MIRNs to the [PG&E Web site](#).

RETURN OF PG&E METERS

Within 10 business days from meter removal, the ESP must return the meter to:

PG&E Gas & Electric Meter Plant
42100 Boyce Road
Fremont, CA 94538
Attention: Marcia Holloway

Service Upgrades

PG&E highly recommends that ESPs advise their customers to contact the ESPs as soon as customers know a service upgrade is in the planning stage. Generally, if the transfer of load to the new service is a gradual one, a new agreement must be set up to maintain DA service. After a DASR is automatically generated, the ESP is notified through the DASR notification process.

The coordination of a phone line installation (if applicable) and meter install and removal prior to the service being energized is critical. Please also contact your assigned PG&E Meter Event Group representative as soon as possible to ensure a smooth transition.

Return to Bundled Service from Direct Access and Meter Ownership

When a customer returns to bundled service from direct access and owns the interval meter, that meter may remain in service if:

- The meter meets the CPUC's interval meter design specifications and is compatible with PG&E's meter reading systems.
- And the customer:
 - Grants PG&E rights acceptable to PG&E to access, test, maintain and read the interval meter at any time.
 - Pays any costs that PG&E incurs in providing metering services using the interval meter to the extent those costs exceed the costs that PG&E would incur using a standard PG&E meter for bundled service.
 - Agrees that PG&E may, at its discretion and at the customer's expense, replace the interval meter if it malfunctions with a standard PG&E meter for bundled service.

If the meter is not compatible with PG&E meter reading systems, the meter will be replaced at customer expense with a standard PG&E meter.

TRANSITIONAL BUNDLED SERVICE (TBS), ALSO KNOWN AS SAFE HARBOR

On May 8, 2003 the CPUC issued Decision, D.03-05-034, the "Switching Order," in order to adopt rules to implement what is known as the "Switching Exemption." The new rules, implemented on February 19, 2004 are outlined as follows:

- A customer may return to Transitional Bundled Service (TBS) for a period of 80 days if the customer's intent is to find an ESP and continue on Direct Access Service. This period is also referred to as Safe Harbor. Customers selecting TBS will pay spot market rates for power for a certain period of time. **(??? Aimee, should we refer the reader to the Billing Chapter 7 or take out this last sentence about spot market rates?)**
- A customer may return to Bundled Service by providing six months advance notice of their decision to the utility. During the six months, the customer may switch from one Third Party ESP to another. Once returned to Bundled Service, the customer will have to remain on Bundled Service for three years. The three-year minimum Bundled Service Commitment is known as Bundled Portfolio Service (BPS).
- A customer may request to return to Bundled Service without providing six months advance notice to the utility. The customer will have to remain on Bundled Service for three years. Customers that return to Bundled Service without six months notice will pay spot market rates for power for a certain period of time. **(??? Aimee, should we refer the reader to the Billing Chapter 7 or take out this last sentence about spot market rates?)**

To summarize, if an ESP elects to discontinue service to a customer or a customer decides to contract with a different ESP for DA service, the customer enters TBS and then has 80 days to find a new ESP. If the customer does not find a new ESP within 80 days, they are automatically returned to PG&E Bundled Service for three years.

The following scenarios describe how customers may switch under the new guidelines.

- **Direct Access Switch to Transitional Bundled Service.** A DA customer returns to TBS while looking for a new ESP. Either the customer contacts PG&E to enter TBS or the ESP submits a Disconnect DASR, which automatically puts the customer in TBS for 80 days.
- **Direct Access Customer Gives Notice to Return to BPS.** A DA customer who is not in TBS wants to return to BPS. The customer gives PG&E six-months notice and remains a DA customer. During the six-month notice period, the customer can continue to switch between ESPs. At month 5, PG&E generates a connect DASR for the account to return to BPS.
- **Direct Access Customer Requests Switch to BPS ASAP.** A DA customer who is not in TBS requests a return to BPS and the account switches per DA switching rules.
- **Transitional Bundled Service Defaults to Bundled Portfolio Service.** A DA customer enters TBS while looking for a new ESP. The customer is unable to find a new ESP to generate a connect DASR within the 80-day TBS period, so the customer defaults to BPS for three years.
- **Transitional Bundled Service Switch to Direct Access.** A new ESP submits a connect DASR for a customer in TBS. The account switches to DA per DA switching rules.
- **Transitional Bundled Service Customer Gives Notice to Return to BPS.** A DA customer switches to TBS to look for a new ESP. While in TBS, the customer decides to switch back to BPS. When the customer gives 6 months notice, PG&E switches the account to BPS immediately instead of waiting 6 months to perform the switch.
- **ESP Wants Its Meter Back.** When an account switches from DA to TBS, the ESP may contact PG&E to request its meter back. PG&E also contacts the ESP to determine whether or not the ESP wants its meter returned. PG&E then makes arrangements to return the meter to the ESP.
- **Meter Work Not Completed Within 60 Days.** If meter work is not completed within 60 days of an account switch, PG&E contacts the ESP to find out if the ESP will complete the meter work. If the ESP has completed or will complete the meter work, PG&E updates its systems to record the meter work. If the ESP will not complete the meter work, PG&E schedules and performs the meter change. The account then switches to DA on the meter change date or the next read date (whichever occurs first).

ESP Inquiries

PG&E's Meter Event Group works with ESPs to ensure that metering inquiries described below are answered in a timely manner:

- Meter phone number

- Meter installations to include installation job forecasting
- Research on the status/tracking of meters
- Meter configuration data

To contact a MEG analyst, see [DA Contacts](#) on the ESP Web site.

For passwords, contact PG&E's Telemetry Support Center (TMSC) at 1-800-343-7013, Option 1.

In situations where the ESP intends to use phone-read meter technology and/or selects PG&E as its MDMA, the ESP is responsible for:

- Establishing phone service
- Ensuring the phone service billing in its name
- Ensuring its telephone service provider installs a phone line for electric meter reading
- Or ensuring it provides PG&E with an activated cellular phone upon meter install

"Metering Phone Service Providers," Appendix B of this handbook includes the names and telephone numbers of providers within PG&E's service territory.

When PG&E is the ESP's MDMA the requirements below for wired phone lines and wireless phones apply.

WIRED PHONE LINE REQUIREMENTS

The phone line shall be a dedicated phone line. If this is not feasible, the ESP should contact ESP Relations to discuss other alternatives. (See "[DA Contacts](#).")

Additionally the phone line shall be:

- Installed from the phone minimum point of entry (MPOE) to the meter location. The ESP should be aware that in some instances, the ESP may be required by the customer or phone service provider to install a conduit, trench, or penetrate a fire wall in order to accommodate the installation.
- A "measured business" line with blocking on long distance, collect, 900, and 976 calls
- Installed in accordance with applicable codes and standards
- Labeled to show:
 - "For Electric Meter Use Only"

- Telephone number
- Maintenance and repair telephone number
- Telephone service provider's name

For security reasons, a telephone network interface unit (NIU) shall be installed at the phone line termination point. A Joslyn telephone network interface model #7550, #7090 or equivalent should be used, following the requirements below.

Generally, the NIU should not be mounted on the switchboard, meter panels, poles or pedestals. If these are the only location choices, the mounting must be secure without compromising the safety aspects of the particular enclosure. In the case of pole mounted terminations, the NIU should be placed below the meter panel or otherwise not interfering with the pole climbing path.

The NIU should be installed within 5 circuit feet of the meter centerline and from a minimum of 18 inches to a maximum of 72 inches above finished grade. (A circuit foot is the length of wire or conduit that needs to be run along walls, etc., from the meter to the NIU. It is not a straight-line distance.)

WIRELESS PHONE INSTALLATION REQUIREMENTS

For situations in which it is not feasible for the telephone company to install a hardwired phone service, the ESP shall arrange for a cellular telemetry system to be installed and activated.

1. The cellular telemetry system shall meet the following specifications:
 - NEMA 3R weatherproof enclosure
 - Thermal shutoff protection
 - 5% to 95% relative humidity, non-condensing
 - Cellular radio with antenna connector
 - Capacity to operate in 120VAC, 50 watts maximum output power
 - User replaceable fuse
 - Transient and overcurrent protection for RJ11 connections
 - External ground lug
 - One RJ11 jack for data and one RJ45 jack for communications
 - Two wire, loop start

- Ring voltage, 25Hz, 60 VRMs 150Vp-p
 - 350 Hz/440 Hz square wave dial tone
2. RJ45 jack for cellular handset programming and testing
 3. The power supply for cellular telemetry system shall be outside any sealed section and on the load side of the meter. The power supply should further be on a dedicated circuit or otherwise connected so that it is energized at all times.
 4. Mounting of the cellular telemetry system shall be the same requirement as the installation of NIU as described above.
 5. The ESP shall ensure that any accessories to the cellular telemetry system, such as an antenna and a mounting bracket, are properly installed or attached.
 6. The ESP shall have the system activated and functionally tested prior to notifying PG&E that the site is ready.
 7. The cellular telemetry system unit shall be labeled to read, "For Electric Meter Use Only."
 8. The unit shall be further labeled to show:
 - Telephone number
 - Maintenance and repair telephone number, and
 - Cellular telephone service provider's name

The ESP is responsible for the maintenance, repair and replacement of the cellular telemetry unit.

Responsibility - Phone Service Account Payment

If an active phone line exists for a PG&E interval data meter and the ESP chooses to remove the meter and install its own, PG&E will advise the phone service provider to cancel the account.

Or in those cases where the ESP is installing phone-read technology, PG&E will change billing from PG&E to the ESP. Some review of phone account responsibility may be required for those sites where PG&E uses the data for load research.

Responsibility - Phone Service Operability and Maintenance

When PG&E is the ESP's MDMA, the ESP is ultimately responsible for the on-going phone line operability.

The ESP must ensure that phone service is not turned off due to late or lack of payments to the phone service provider. Monthly payments should be made directly to the phone service provider.

Phone lines and phone ancillary devices used for remote meter reading are part of DA meters. Therefore, the ESP must make certain that the phone line and any ancillary devices are maintained as required. Any failure caused by phone line or phone ancillary devices shall be considered as meter failure and must be corrected as required in [Rule 22](#), Section G, Metering Services.

Retention of Rights

PG&E may exercise its right to test its own meters or those owned by customers in accordance with [Rule 22](#), Section G, paragraph 2.

Meter Data Management Agent (MDMA) Requirements

This section addresses the major systems responsibilities and requirements that Meter Data Management Agents (MDMAs) are required to perform. An MDMA is an entity that takes raw meter outputs, validates them using validation, editing, and estimating rules, adds corollary information needed to characterize the customer, and makes complete customer information available to others for use in various applications. As some of the rules and requirements for interval and monthly (template data) are different, the two usage types will be addressed separately.

MDMA responsibilities and requirements were established in decision 97-12-048 and the Retail Settlement and Information Flow (RSIF) Workshops. Decision and workshop reports are available for those interested in obtaining comprehensive information on MDMA responsibilities at the [CPUC Web site](#).

MDMA Approval Process and Requirements

The CPUC Decision on the Meter and Data Communication Standards Workshop Report of December 3, 1997, directed the UDCs to develop a MDMA qualification/approval process for ESPs and MDMAs who wish to offer MDMA services.

The CPUC requires that potential MDMAs comply with current UDC standards in experience, education and training in order to perform the following functions of an MDMA:

- Manage the meter reading schedule
- Read and retrieve meter data
- Submit meter data to MDMA server using DES protocol
- Calculate usage
- Validate, edit and estimate meter data
- Format data

- Manage data on MDMA server
- Meter/device management

If the applicant is found to be compliant, the MDMA may immediately begin to serve accounts for which the ESP has identified the specific MDMA relationship through the submission of DASRs. Inception of MDMA service is also contingent upon the coordination between PG&E and the MDMA regarding read scheduling.

APPLICATION AND CHECKLIST

The potential MDMA must complete the Application for MDMA Approval and checklist which are available on the DA Documents link on the ESP Resource Center website at (see Information Websites at the end of Chapter 1 in this handbook). The name of the document is MDMA Qualification Instructions. The MDMA must forward the application and checklist per the specifications in the section below, Written Requirements.

WRITTEN REQUIREMENTS

The potential MDMA forwards the completed application, the checklist as well as all written requirements by mail or fax to:

Pacific Gas and Electric Company
Yolanda Lerma
P.O. Box 770000
M/C B19C
San Francisco, CA 94177

PG&E will review the submitted documentation of this test, determine if the potential MDMA is compliant with its standards and notify the MDMA via e-mail. PG&E has established a goal of 10 business days to review the documentation and respond to the potential MDMA. Omitted documentation of the submitted written requirements will result in PG&E requesting that additional information. If it is deemed after the UDC's review of the submitted written requirements that the potential MDMA's process is insufficient, the potential MDMA will fail the written requirements portion and will need to resubmit for qualification/approval.

SERVER ACCEPTANCE TEST

1. Subsequent to PG&E receiving the completed qualification documentation, the potential MDMA may contact PG&E to schedule the acceptance test.
2. PG&E will work with the applicant to ensure that it meets hardware and software requirements and will also send a sample test to the applicant prior to the test date.

3. PG&E will then provide the potential MDMA with data for the server acceptance test. The purpose of the server acceptance test is for the potential MDMA to demonstrate that it can calculate usage, validate, estimate and edit usage; format the usage in the Electronic Data Interchange (EDI) format; post the data to the potential MDMA's server; and provide the UDC with access to the server. Detailed steps are outlined in the MDMA Server Acceptance Testing document.
4. The acceptance test is then performed. The UDC's have established a 48 hour turn-around time requirement for the completion of this test.
5. If the potential MDMA fails the server acceptance test the first time, they can reschedule for re-test. However, if a failure occurs twice, the potential MDMA must wait three months before re-testing will be allowed.
6. In addition, re-testing will be required if new software is installed or if new technology is implemented by the potential MDMA and their use of the server.

BACK-UP READING PROCESS

If the potential MDMA's primary source of reading meters is a method other than the manual process, the potential MDMA, in addition to submitting documentation on its primary method must also demonstrate that it has a capable back-up process in place. Details of the backup process is also outlined on the checklist.

DATA FORMAT

MDMA data format requirements for each UDC is included with the application and checklist.

SECURITY AND CONFIDENTIALITY

Data security and confidentiality requirements are outlined in more detail by PG&E. However in general, data must be located in a secure facility and have firewall or equivalent protection.

HELP DESK

The CPUC decision requires that a technical help desk be provided by the UDCs as well as MDMA's. Each UDC must have toll free numbers available. The potential MDMA's must provide a technical support number as well. This phone must be answered immediately during normal business hours. However, after hour calls regarding the server must be returned within one hour. All other after hour calls can be deferred to the next business day.

Validating and Editing Data

The MDMA will be responsible for performing approved quality checks to the raw data retrieved from the meters as described in the CA VEE Rules. The quality checks include validating and editing the usage data. Upon completion of the validation and editing processes, an estimation will be performed on the data, if necessary. Data estimations are summarized in the subsequent section “Estimating Data”. A comprehensive description of the rules for validating, editing, and estimating is also addressed within the CA VEE Rules document.

Below are the basic quality checks for interval and monthly data.

INTERVAL DATA

The interval data validations are summarized below. For a complete description of the rules, refer to the CA VEE Rules (see Information Websites at the end of Chapter 1 in this handbook).

Spike Check. The highest interval recorded in a 24 hour calendar day cannot exceed the third highest interval for that day by more than 180%. When a spike is identified, the usage for that interval is flagged as missing and the estimation rules are used to fill the missing intervals.

High Low Average Daily Usage Check. An average daily total consumption is calculated from the current month’s usage data and is compared to the average daily consumption calculated from the previous year’s data for the same billing month, if last years data is not available. If the current month’s average consumption is outside of plus or minus 50% of the historical average consumption, then the MDMA must verify the usage (i.e., re-polling, meter test, etc.). If the data is verified, the usage is flagged as verified and continues on the data flow path.

Sum Check. The energy use recorded by the meter is compared to the energy use recorded by the pulse recorder. If the difference is greater than two meter multipliers (constant used to convert meter read to kWh), the data must be verified by the MDMA (i.e., repolling, meter test, etc.). If the data is verified, the usage is flagged as verified and continues on the data flow path.

Hardware Checks. The MDMA must ensure that the polling device is synchronized to the national time standard before data collection begins. The MDMA must verify that the time difference in the meter device is within 180 seconds for a 30-day time period. An interval tolerance check comparing the number of expected data intervals to the number intervals received is performed to ensure the time drift is less than 5 intervals. See the CA VEE Rules for a complete description of how to correct the time drift.

Kilovolt-Ampere-Reactive hours (KVARH) Checks (if collected). If the kWh channel has zero consumption and for the corresponding time the kVARh channel has registered consumption, the kWh data must be treated as missing. The kWh data should be estimated using the estimation rules described in the CA VEE Rules.

Estimating Data

Following the validation and editing (flagging usage as missing) of the usage data, the estimation routines are performed to ensure that complete usage data will be provided for the given billing period. Where raw data is available with incomplete entries, the MDMA will estimate the data gaps using approved and documented algorithms. After performing the estimation the MDMA will be responsible for providing the usage to the UDC and ESP. The following are the estimation rules for interval data.

INTERVAL DATA ESTIMATION RULES

Greater than two continuous hours of missing interval data:

1. Compute the average daily profile by using the days from the current usage period and as much historical data (up to 90 days) as required to select three complete days (which were not estimated) corresponding to the day of week or holiday with missing data. See the CA VEE Rules for additional details on how to select historical data when three complete days worth of data are not available.
2. If no historical holidays exist, use Sundays.
3. The historical data used should be that data immediately preceding the usage period, regardless of seasonal crossover.
4. Estimate the missing data by applying the appropriate average daily profile to fill the missing intervals.

Two hours or less of continuous missing interval data:

1. Use the point to point linear interpolation method to estimate the missing data where there is a gap in the data.
2. If the gap occurs at the beginning of the span, use the last interval from the historical data as the first point, if the historical data is available and the interval data is not estimated. Otherwise, use the second point (the nearest good interval data) as the first point (i.e., a flat load). If the gap occurs at the end of the span, use the first point as the second point (i.e., a flat load).

Accuracy and Timeliness of Usage Data

All usage data will be accurate unless otherwise indicated. Data known to be inaccurate or missing will be estimated and flagged as estimated data. The following accuracy and timeliness standards for interval and monthly data must be followed by MDMA's. The accuracy and timeliness requirements stated below were adopted by the CPUC in decision 97-12-048.

INTERVAL DATA

Accuracy. Either no more than 10% of the accounts will contain estimated data, or no more than 1% of all the data will be estimated.

Timeliness. Assuming that the meter read date is time zero:

- 80% of all usage data will be made available within 1 calendar day of the scheduled read date of the meter
- 90% of all usage data will be made available within 2 calendar days of the scheduled read date of the meter
- 99.99% of all usage data will be made available within 5 calendar days of the scheduled read date of the meter

MONTHLY DATA

Accuracy. Either no more than 10% of the accounts will contain estimated data, or no more than 1% of the data will be estimated.

Timeliness

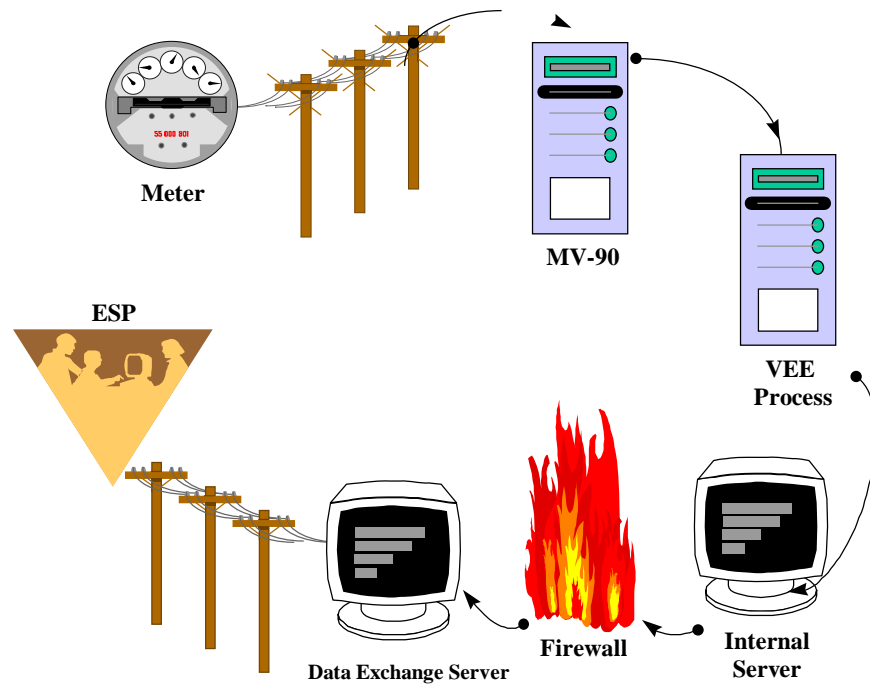
- 85% of all the monthly meter reads will be made available by 6:00 am on the 1st working day after the scheduled meter read date.
- 95% of all the monthly meter reads will be made available by 6:00 am on the 2nd working day after the scheduled meter read date.
- 99.99% of all monthly meter reads will be made available by 6:00 am on the 5th working day after the scheduled meter read date.

Data retention period

On a monthly basis, the MDMA will provide interval data for the billing period in 27 to 33 measured usage intervals. The interval may or may not be equal to a twenty four hour period depending upon the meter read cycle and scheduling. Once the interval data or the monthly usage is posted to the MDMA server it will remain available for 3 business days. Upon request, this data will be available after the three-day business period. The MDMA must also store 36 months of historical consumption data.

Electronic exchange of metering data

The diagram below illustrates the flow of metering information from the meter to the ESP.



5.1 - METERING CONFIGURATION CHANGES AND METERING CHANGE OUTS

Currently, ESPs submit metering configuration changes and metering change-out requests by fax and not by DASR. PG&E anticipates that electronic submission of these requests will be feasible by early 1998.

Metering configuration changes and metering change outs should be faxed to the MEG (see the DA Contacts link on the ESP Resource Center website).

INTERVAL AND TIME-OF-USE (TOU) DATA

Interval data, which represents regular interval energy usage information (i.e. 5 minute, 15 minute, hourly), is submitted via the DES in EDI 867 record format type.

Time-Of-Use data, which is characterized by consumption reads at different time periods, is also represented by using the DES in EDI 867 record format type.

Field definitions and requirements for the EDI 867 record format types are provided in the the EDI 867 Guidelines located at PG&E's EDI website <http://www.pge.com/edi>.

Meter Reading

METER READING DATA OBLIGATIONS

1. Meter data for DA Customers shall be read, validated, edited, and transferred pursuant to CPUC-approved standards.
2. Regardless of whether the ESP or PG&E perform Meter reading services, both PG&E and the ESP shall have access to the server containing the data, including at a minimum the following data:
 - a) Customer account number;
 - b) Customer location;
 - c) Starting and ending read, date and time if available;
 - d) Usage data (e.g.; kWh, kW, interval use, kVArh if measured);
 - e) Estimated usage and adjustment flag or adjustment code;
 - f) Meter identification number;
 - g) ESP identification number;
 - h) Identity of metering agent, if any, employed by ESP or PG&E;
 - i) Load Profile ID (if applicable);
3. PG&E and the ESP shall provide reasonable and timely access to Meter data to the ISO, Scheduling Coordinators (or their designated agents), and each other as required to allow the proper performance of billing, settlement, scheduling, forecasting and other functions.
4. Until future notice, load point information will need to be communicated manually.
5. The Party providing Meter reading services is required to keep the most recent 12 months of Customer consumption data for each DA Customer. Such data must be retained for a period of 36 months. Such data must be released on request to any ESP, or to PG&E, if authorized by the Customer.

PG&E METER READING

1. PG&E will read DA interval meters for DA customers on PG&E's read schedule for each service account provided that the meter is compatible with PG&E's meter reading systems and processes. The ESP will be responsible for any meter reading costs for this service as set forth in DA Rule 22.

2. PG&E, or its metering and data management agent (MDMA), will be required to install and maintain a data server in accordance with standards approved by the CPUC.

ELECTRIC ESP METER READING

General Requirements.

1. No ESP may perform meter reading services for its own or any affiliated entity's use of DA Services.
2. No meter reading service may be provided by the ESP until that ESP has been approved by PG&E.
3. The ESP must keep PG&E notified at all times of the identity of the ESP's agent, if any, conducting Meter reading.

Schedule for ESP Meter reading. If the ESP or its agent perform meter reading, it must do so on PG&E's meter read schedule for that service account as specified by PG&E, unless a different schedule is mutually agreed to by PG&E and ESP.

Metered Usage Rates

Metered usage rates are determined by end-use customers' electric rate schedules. Electric rate schedule information is available on PG&E's [Web Tariff Book](#) Web site.

Life Support Customers and Medical Baseline Quantities

Life Support customers are residential end-use customers who have a medical disability necessitating the use of a medical device(s) powered by utility supplied gas and/or electricity. These customers may qualify for a Standard Medical Baseline Quantity in addition to their regular baseline quantity (i.e., gas and/or electricity at the lowest Tier 1 residential rate). The Standard Medical Baseline Quantity is 500 kWh of electricity and/or 25 therms of gas per month year-round.

Additional amounts of gas and electricity (Medical Baseline Quantities) are available at the Tier 1 rate to customers when a full-time member of the household is:

- dependent upon a medical life-support device used in the home.
- a paraplegic, hemiplegic, or quadriplegic person or a multiple sclerosis patient with special heating and/or cooling needs.

- a person being treated for a life-threatening illness or a person with a compromised immune system with special heating and/or cooling needs to sustain the life of the person or prevent deterioration of the person's medical condition.
- a scleroderma patient with special heating needs.

ESPs who have identified end-use customers which require Standard and/or additional Medical Baseline Quantities should refer to Electric Rule 14 for information concerning commodity service continuity and Rule 19 for details on end-use customer qualifications. These rules can be found within PG&E's [Web Tariff Book](#).

For information on additional DASR requirements when submitting DASRs for Life Support customers, see the subsection, "Electric ESP evaluates customer DA elections and obtains customer information" in Chapter 3: Processing Direct Access Service Requests.