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BEFORE THE ARIZONA CORPORATION COMMISSION

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AZ CORP COMMISSION  
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Arizona Corporation Commission

**DOCKETED**

MAY 26 2004

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IN THE MATTER OF THE APPLICATION OF  
ARIZONA PUBLIC SERVICE COMPANY FOR  
A DECLARATORY ORDER REGARDING BILL  
ESTIMATION PROCEDURES

DOCKET NO. E-01345A-03-0775

**AMENDED APPLICATION**

Arizona Public Service Company ("APS" or "Company") hereby files an Amended Application requesting a declaratory order from the Arizona Corporation Commission ("Commission") finding that APS' past and present procedures for bill estimation either are exempt from or comply with the requirements of A.A.C. R14-2-210 ("Rule 210") and A.A.C. R14-2-1612 ("Rule 1612"), and that all estimated bills rendered using such procedures are valid and enforceable unless specifically found by this Commission to be incorrect in one respect or another through either a formal or informal complaint proceeding under A.A.C. R14-2-212 ("Rule 212"). Such an order is necessary in view of pending litigation in Superior Court that purports to ask the Court to determine the scope and effect of Rule 210, both without any input from this Commission on a subject clearly within the Commission's authority and expertise, and without consideration of the impact of its decision on other APS customers.

**I. INTRODUCTION AND BACKGROUND**

Rule 210 is one of the Commission regulations that address the subject of bill estimation. Although it is APS' goal to have every billing for metered service based on an accurate and timely meter reading, that is obviously not possible in every instance.

1 Meters fail (either by accident or as a result of tampering) or are destroyed. Company  
2 access to meters is obstructed by any number of circumstances outside the Company's  
3 control, and sometimes weather prevents APS personnel from even reaching the  
4 customer's property, let alone reading the meter. In such instances, it is not only  
5 appropriate but legally required that APS attempt to estimate as closely as possible the  
6 customer's actual usage for the month.<sup>1</sup>

7 Rule 210 (A) was amended in 1998 as part of the Commission's Electric  
8 Competition Rules to add the following provision:

- 9 5. A utility or billing entity may not render a bill based on estimated  
10 usage if:  
11 a. The estimating procedures employed by the utility or billing  
entity have not been approved by the Commission.

12 As part of that same rulemaking package, the Commission passed Rule 1612, which in  
13 relevant part states:

- 14 14. The Director, Utilities Division shall approve operating procedures  
15 to be used by the Meter Reading Service Provider for validating,  
editing, and estimating metering data.

16 Neither the 1998 amendments to Rule 210, including but not limited to the language  
17 quoted above, nor Rule 1612 were ever certified by the Arizona Attorney General under  
18 A.R.S. § 41-1044.

19 \_\_\_\_\_  
20 <sup>1</sup> The Commission has repeatedly held that utilities are under a statutory and constitutional duty to bill  
21 each customer for his or her usage in accordance with its Commission-approved tariff. *See, e.g.*, Decision  
Nos. 54972 (March 26, 1986), 54976 (April 21, 1986), and 55544 (April 23, 1987). Moreover, Rule 210  
(A)(2) specifically authorizes a utility to issue a bill based on estimated usage:

22 If the utility or Meter Reading Service Provider is unable to obtain an actual reading, the  
23 utility or billing entity may estimate the consumption for the billing period giving  
consideration [to] the following factors where applicable:

- 24 a. The customer's usage during the same month of the previous year,  
25 b. The amount of usage during the previous month.

1           On July 3, 2001, the Utilities Division Director issued a document entitled  
2 “Arizona Interval Data Validating, Editing, and Estimating (VEE) Rules and  
3 Procedures.” A copy is attached as **Exhibit A**. Although this document was in response  
4 to the requirements of Rule 1612, it did not apply, by its own terms, to non-interval kW  
5 and kWh meters.<sup>2</sup> Non-interval meters are used by all but seven of the Standard Offer  
6 customers served by APS. To this date, no new or different “operating procedures” (as  
7 compared to those then and presently in use by APS and other Affected Utilities) relative  
8 to these latter categories of meters have been approved by either the Commission or its  
9 designee, the Utilities Division Director.

10           On June 4, 2002, a class action complaint was filed against APS by Avis Read  
11 (“Complaint”). Ms. Read subsequently filed an amended class action complaint on  
12 December 1, 2003 (“Amended Complaint”), a copy of which is attached as **Exhibit B**  
13 **(REVISED)**.<sup>3</sup> The Amended Complaint alleges, in relevant part, that APS cannot issue  
14 estimated bills *for any reason* absent Commission “approval” of its estimation  
15 procedures, thus entitling those customers whose meters cannot be read with free  
16 electricity. On April 6, 2004, APS filed a Motion to Dismiss the Amended Complaint on  
17 grounds that these issues are within the primary jurisdiction of the Commission. That  
18 motion is set for oral argument in July of this year.

19           On October 22, 2003, APS filed its original Application in this matter.<sup>4</sup>  
20 Subsequently, the Company took this and other issues surrounding bills based on  
21 estimated consumption—some of which were also raised by the Complaint and Amended

22 <sup>2</sup> An interval meter records and stores electronically the customer’s energy usage in 15-minute time  
intervals throughout the entire billing cycle. Such meters also have electronic interrogation capability.

23 <sup>3</sup> Although not a named plaintiff, the Company believes that the real party in interest in such litigation is  
24 Mr. George Bien-Willner, who has filed a series of informal complaints with this Commission over the  
25 past several years, both against APS and others.

26 <sup>4</sup> By Procedural Order dated March 26, 2004, the Commission granted Avis Read intervention in APS’  
original Application in an individual capacity.

1 Complaint—to the Process Standardization Working Group (“PSWG”). The PSWG was  
2 created by the Commission pursuant to A.A.C. R14-2-1614 and provides  
3 recommendations to the Commission and the Commission’s Utilities Division Director  
4 concerning various implementation issues resulting from the Electric Competition Rules.  
5 For example, the estimation procedures for interval metering described in Exhibit A were  
6 originally developed by the PSWG. The PSWG also pursued a waiver of portions of Rule  
7 210, which resulted in issuance of Decision No. 64180 (October 15, 2002). The PSWG is  
8 composed of representatives from “Affected Utilities,” including APS, and non-  
9 jurisdictional entities, such as Salt River Project and the City of Mesa. Competitive  
10 electric service providers (“ESPs”) and Commission Staff also participate in the PSWG.

11 As a result of meetings by the PSWG, it became clear that several portions of  
12 amended Rule 210 require authoritative Commission interpretation to clarify whether the  
13 Commission intended the Electric Competition Rules to change the Affected Utilities’  
14 existing bill estimating procedures. For example, for bill estimation purpose, does the  
15 permissive language of Rule 210 (A) (2) allow for the use of data *other than* customer  
16 usage during the same month of the previous year and the usage from the preceding  
17 month of the same year? APS, like other utility participants of the PSWG, has always  
18 used and continues to use additional factors when estimating consumption in an effort to  
19 be as accurate in its estimations as possible, especially when one or both of the specific  
20 factors described in Rule 210 (A) (2) are unavailable or are believed not to fairly  
21 represent a customer’s usage for the current month.

22 Another issue requiring Commission interpretation is whether Rules 210 (A) (3)  
23 (c) and (A) (4)—which allow utilities to use estimated bills once the utilities have  
24 undertaken “reasonable alternatives to obtain a customer reading of the meter”—require  
25 utilities to secure a customer-obtained meter read under all circumstances prior to  
26 rendering a bill based on estimated consumption. APS has a policy of accepting

1 customer-obtained meter reads when it is reasonable and practical to do so. This policy is  
2 consistent with A.A.C. R14-2-209 (A) (1), which provides that “[e]ach utility... *may at*  
3 *its discretion* allow for customer reading of meters.” (Emphasis added.) Nevertheless,  
4 when it is neither reasonable nor practical to obtain a customer-obtained meter read, the  
5 Company must use estimated meter data to fulfill its obligation to timely bill customers.

6 Both APS and the other utility participants in the PSWG have also spent a  
7 significant amount of time on the issue of what constituted an “estimated bill” within the  
8 meaning of Rule 210. In addition to the most common bill estimation situation -- APS  
9 cannot access the customer’s meter to obtain a meter read (e.g., locked gate, dangerous  
10 dog, weather, etc.) -- APS identified the following ten separate situations involving  
11 customer bills where there could be a question as to whether the bill was “estimated”  
12 within the meaning of Rule 210.

13 Situation No. 1 is present every time an “estimated bill,” that is, a bill using  
14 estimated consumption, is issued. How do Arizona utilities characterize the bill covering  
15 the billing period *after* that billing period for which consumption was estimated? In other  
16 words, there is a valid meter read at the end of period one (e.g., May) but no read after  
17 period two (e.g., June), resulting in the issuance of an “estimated” bill for period two.  
18 The utility then obtains an accurate meter read for period three (e.g., July). Although  
19 there could be a question whether the billing for period three is “estimated,” it was  
20 unanimously agreed by the PSWG participants that period three’s bill was not  
21 “estimated” within the meaning of the Commission’s rules and regulations.

22 Situation No. 2 is likewise a common situation for any utility using cycle billing,  
23 that is, when meters are read throughout the calendar month in a series of billing  
24 “cycles.” Is a bill considered “estimated” if rates change in the middle of a customer’s  
25 billing cycle, which will happen for some customers regardless of the effective date of  
26 the rate change? The PSWG participants again unanimously concluded that this is

1 considered a non-estimated bill if the billing cycle's consumption was based on a valid  
2 meter read even though the usage was pro-rated to the appropriate number of days'  
3 consumption to apply the new and old rates.

4 Situation No. 3 results when a bill must be issued prior to obtaining a valid meter  
5 read. Amended Rule 210 (A) requires that bills reflect no more than 35 days'  
6 consumption. If a customer-read is late or the utility meter read is delayed beyond the 35  
7 day maximum by weather, lack of timely access to the meter, etc., this results in first an  
8 "estimated" bill, followed by a "corrected" bill. The PSWG participants concurred with  
9 APS' treatment of this situation.

10 Situation No. 4 is one involving total meter failure or malfunction under  
11 circumstances where there is no means of reading the meter or where it cannot be  
12 determined when and to what degree the meter has failed, either in whole or in part. (It is  
13 possible, for example, for a meter to record energy usage accurately but not demand, and  
14 vice versa, or to record both accurately in total but not record the time of use for billing  
15 purposes under time-differentiated rates.) All the PSWG participants agreed that these  
16 circumstances necessitated the issuance of an "estimated" bill.

17 Situation No. 5 also assumes meter malfunction. But in these instances, the time  
18 and impact of the malfunction can be precisely determined such that the usage recorded  
19 by the meter can be mathematically adjusted to produce the customer's actual usage for  
20 the billing period or periods in question. For example, if one leg of a three phase meter  
21 fails, you know that the usage has been under-recorded by exactly one-third. Other  
22 examples include use of the wrong meter multiplier, there is a current transformer error  
23 ratio, or the meter tests a consistent and constant percentage slow or fast. Under the  
24 circumstances posited, APS and other utility participants of the PSWG agreed that these  
25 did not constitute "estimated" bills.

26

1            Situation No. 6 assumes that the utility, using an electronic meter reading system  
2 (e.g., an Itron probe), cannot obtain an accurate read. However, the meter reader does  
3 visually read and manually records the customer's usage. Again, APS agreed with the  
4 utility participants of the PSWG that the resultant bill was not "estimated."

5            Situation No. 7 covers instances when the Commission-approved tariff itself calls  
6 for un-metered usage to bill the customer. This is common in certain street and private  
7 lighting services. There is also an extra-small General Service rate approved for APS that  
8 is for un-metered services. Neither APS nor other PSWG participants considered bills for  
9 these services to be "estimated" bills within the meaning of the Commission's  
10 regulations.

11           Situation No. 8 is unique to load-profiled direct access customers (below 20 kW).  
12 Because these under 20 kW customers are not required by the Retail Electric Competition  
13 Rules to use interval metering, their metered monthly usage is allocated to specific days  
14 and times based on class load profiles. This is then used to bill ESPs for transmission  
15 service and for generation settlement purposes (both are FERC-regulated services).  
16 Again, since load profiling has been specifically authorized by the Commission, and the  
17 services provided to ESPs are FERC-regulated, no PSWG participants concluded that  
18 load profiling constituted bill "estimation."<sup>5</sup>

19           Situation No. 9 is a meter tampering situation. Unless the tampered meter falls into  
20 the "known failure" (both as to time and extent) situation described in Situation No. 5, all  
21 the PSWG participants agree that this requires issuance of an "estimated" bill.

22           Situation No. 10 involves the rare instance of where there is an accurate electronic  
23 meter read, but the billing computer cannot, for some reason, download the read for  
24 billing purposes. The result is an "estimated" bill, as agreed to by the PSWG participants.

25 <sup>5</sup> Even if this were considered an "estimated" bill, it usually would be the ESP's bill that was "estimated"  
26 and not the APS bill to Direct Access customers for unbundled distribution service, which is generally not  
time-differentiated.

1           Whether or not the Commission agrees with APS' arguments as to the validity of  
2 Rules 210 and 1612, the applicability of the various provisions of these rules to  
3 "estimated" bills, or the Company's interpretation of such provisions, there must be a  
4 meeting of the minds on what constitutes an "estimated" bill in the first instance.  
5 Likewise, assuming *arguendo* that the Commission finds that APS' existing bill  
6 estimating procedures do not comply with the amended rules, the Commission must  
7 determine a remedy that is appropriate and fair for all involved, including the individual  
8 customer receiving an "estimated" bill, other APS customers, and the Company itself.

9                           **II. RULE 210 AND RULE 1612 ARE INVALID ABSENT  
10                           CERTIFICATON BY THE ATTORNEY GENERAL**

11           Rule 210 and Rule 1612 are invalid absent certification by the Attorney General.  
12 The Court of Appeals recently invalidated Rule 1612 in *Phelps Dodge Corp. v. Ariz.*  
13 *Elec. Power Coop.*, 207 Ariz. 95, \_\_\_, ¶ 86, 83 P.3d 573, 594-595 (App. 2004). That  
14 opinion affirmed *US WEST Communications, Inc. v. Arizona Corporation Commission*  
15 (*US WEST I*), in which the Court of Appeals held that Commission regulations dealing  
16 with utility billing practices require certification by the Attorney General. 197 Ariz. 16, 3  
17 P.3d 936 (App. 1999), *review denied*. The *Phelps Dodge* court applied this principle to  
18 Rule 1612—which addresses both billing and estimating procedures—and held that the  
19 rule was invalid absent the requisite Attorney General certification.

20           Given the holdings in *US WEST I* and *Phelps Dodge*, Rule 210 is also invalid until  
21 the Attorney General approves it. Rule 210—which also addresses billing and estimating  
22 procedures—falls squarely within the holdings of these two cases. Furthermore, by  
23 invalidating Rule 1612, the *Phelps Dodge* opinion also indirectly invalidated Rule 210.  
24 Rule 1612 expressly incorporates by reference Rule 210. *See* Rule 1612 (A) & (B)  
25 [incorporating by reference Rules 201, 203, 204, 205, 208 (A)-(D), 209, 210, 211, and  
26 212 except for Rule 212 (F) (1)]. The Court of Appeals could have held that Section (A)

1 of Rule 1612 was valid, while the rest of the rule was invalid. *See Phelps Dodge*, 207  
2 Ariz. at \_\_\_, ¶ 84, 83 P.3d 594 (holding that a court reviewing a regulatory scheme may  
3 consider the rules individually and invalidate only those portions of the rules that are  
4 subject to attorney general review); *see also US West I*, 197 Ariz. at 24-25, ¶¶ 30-37, 3  
5 P.3d at 944-45. The Court of Appeals did not draw this distinction. Instead, the court  
6 invalidated the entire rule and held that rules discussing the topics of billing and  
7 collection practices must be approved by the Attorney General. *Phelps Dodge*, 207 Ariz.  
8 at \_\_\_, ¶ 86, 83 P.3d at 594-95. The logical conclusion, then, is that both amended Rule  
9 210 and Rule 1612 are also invalid until they receive approval from the Attorney  
10 General.

11 **III. EVEN ASSUMING RULES 210 AND 1612 ARE VALID, THESE RULES**  
12 **DO NOT APPLY TO APS' STANDARD OFFER CUSTOMERS**

13 Both the amendatory language to Rule 210 and the new addition of Rule 1612's  
14 language were responses to the Commission's decision to open up metering and billing  
15 for electric services to competition from competitive ESPs. The competitive scheme  
16 raised the prospect of having multiple metering and billing entities within APS' service  
17 territory, as well as having two different billing entities for the same customer. The  
18 Commission adopted Amended Rule 210 and Rule 1612 to bring uniformity bill  
19 estimating procedures used by these different entities.

20 Under the historical regulatory scheme, it may be appropriate for electric utilities  
21 operating in different service territories—such as APS and Tucson Electric Power  
22 Company (“TEP”)—to have estimating procedures based on a different customer mix,  
23 different rate options, different climatology, or different metering schemes. The existing  
24 utilities customize their estimating procedures to reflect the individual circumstances of  
25 their service territories. For example, APS makes far wider use of demand metering and  
26 time-of-use rates than do other Arizona electric utilities. Under such a scheme,

1 Commission action is not necessary because a uniform set of estimating practices is used  
2 in a single service territory.

3 In contrast, under the electric competition scheme, there potentially could different  
4 sets of estimation practices within the APS and TEP service territories. Theoretically,  
5 each competitive meter reading service provider could have different estimation  
6 practices. Additionally, companies serving the same customer—such as APS and an  
7 ESP—could use different estimation procedures. It was logical for the Commission to  
8 adopt amended Rule 210 and Rule 1612 to bring uniformity to the estimating procedures  
9 used for direct access customers within a single service area.

10 A review of the Commission's rulemaking docket, the comments filed by the  
11 numerous parties, and the Commission's own description of the Electric Competition  
12 Rules reveal no intent to change the historic treatment of estimated billing for Standard  
13 Offer customers, i.e., those served entirely by their incumbent utility. Neither did it  
14 establish any procedure for such utilities to secure approval of their billing estimation  
15 procedures, even though such procedures had been and were clearly in place and being  
16 applied on a daily basis by incumbent utilities such as APS, which were serving literally  
17 hundreds of thousands of existing customers. In contrast, the Commission's certificate of  
18 convenience and necessity ("CC&N") application form for ESPs seeking to provide  
19 metering and billing services required a description of those same estimation procedures,  
20 which could then be approved or modified as part of their CC&N proceeding and, more  
21 importantly, prior to their being authorized to provide these services to any Arizona  
22 consumers. Also, as noted earlier, the only document issued by the Commission's  
23 Utilities Division Director under the provisions of Rule 1612 and that satisfies the  
24 requirements of Rule 210 pertains almost exclusively to direct access customers. Thus,  
25 the most reasonable and logical interpretation must be that the provisions of those rules  
26 discussed herein do not apply to APS Standard Offer customers.

1           **IV. EVEN ASSUMING RULES 210 AND 1612 ARE VALID, NEITHER RULE**  
2           **INVALIDATED APS' HISTORICAL BILL ESTIMATION PROCEDURES**

3           To the extent that the Commission does interpret amended Rule 210 and Rule  
4           1612 as applying to Standard Offer customers, there is still the critical issue of timing.  
5           Neither of these rules is self-executing, in that both require some subsequent Commission  
6           action, whether by the Commission itself or through its designee. Yet, as noted above,  
7           each of Arizona's Affected Utilities, including APS, already had bill estimation  
8           procedures in place, and at least in the case of APS, routinely had presented those  
9           procedures to Staff and the Commission in various informal and formal complaint  
10          proceedings over the years. It is simply unreasonable to now assume that the entire  
11          process of rendering estimated bills was to totally and immediately cease, as suggested by  
12          the Amended Complaint, until such time, if ever, as the Commission or its Utilities  
13          Division Director acted either to establish new procedures for existing and continuing  
14          Standard Offer customers or to re-validate those then existing procedures. This would fly  
15          in the face of the Commission's repeated statements that billing customers for their usage  
16          is a Constitutional and statutory obligation of the utility that cannot be abrogated by a  
17          damaged or obstructed meter. A far more compelling interpretation is that those  
18          incumbent utilities already utilizing estimation procedures within their service areas that  
19          were lawfully in effect prior to the adoption of amended Rule 210 and Rule 1612 could  
20          continue to use those procedures until such time as the Director issued new and different  
21          "operating procedures" under Rule 1612.

22                   **V. THE COMMISSION SHOULD RE-AFFIRM THE COMPANY'S**  
23                   **CURRENT BILL ESTIMATION PROCEDURES**

24          The Company previously submitted bill estimation procedures to the Commission  
25          for Staff review pursuant to Decision No. 64180 (October 15, 2002). A copy of those  
26          procedures was attached as Exhibit C to the original Application. An updated and more

1 comprehensive description of the Company's bill estimating procedures is attached  
2 hereto as **Exhibit C (REVISED)**.

3 To date, APS has not received any comment or criticism from Commission Staff  
4 concerning its estimation procedures, which basically have been in effect since prior to  
5 the enactment of amended Rule 210 and Rule 1612. Moreover, APS' estimation  
6 procedures have been before the Commission on several occasions since adoption of  
7 amended Rule 210 and Rule 1612 through both the formal and informal complaint  
8 process outlined in Rule 212. At no time has either Staff or the Commission suggested to  
9 APS that these procedures were, in any sense, invalid or that the Company should not  
10 have issued estimated bills under the circumstances presented in such complaint  
11 proceedings.

12 Should the Commission now both determine that amended Rule 210 and Rule  
13 1612 apply to Standard Offer customers and that the estimation procedures used by the  
14 Company need explicit Commission approval even though validly in effect as of the  
15 adoption of these Rules and even in the absence of the Utilities Division Director issuing  
16 contrary "operating procedures," APS would ask the Commission to re-affirm the  
17 attached bill estimation procedures for its Standard Offer customers and, to the extent  
18 necessary, for any future Direct Access customers for which APS is obligated to bill  
19 using estimated consumption. Because the procedures attached are fully consistent with  
20 both the existing provisions of amended Rule 210 (A) (2) and those approved by the  
21 Utilities Division Director for integral metering of customers, and also in light of the  
22 Company's Constitutional and statutory duty to bill customers for service provided, such  
23 reaffirmation should cover the entire period from the adoption of Rule 210 and Rule  
24 1612.

25 Even the best estimation procedures can be improved over time. Thus, in addition,  
26 and again only if the Commission rejects the Company's first two arguments herein, APS

1 would ask the Commission to approve a specific and pragmatic procedure by which APS  
2 can amend or refine its estimation procedures in the future as new information and  
3 perhaps new technology becomes available. That procedure would encompass a formal  
4 filing by APS with the Commission, similar to those used for determining tariffs, and  
5 would become effective thirty days after filing unless suspended or altered by the  
6 Commission. This would prevent an overly-literal reading of the language in amended  
7 Rule 210 from being used as an argument for requiring a continuous string of  
8 applications covering every new wrinkle proposed for the bill estimation process, while  
9 still providing the Commission with the ability to delay or even stop implementation of  
10 significant or controversial changes to estimation procedures.

11 **VI. APS' INTERPRETATION OF WHAT CONSTITUTES AN "ESTIMATED**  
12 **BILL" AND OF THE REQUIRMENTS OF RULE 210 ARE APPROPRIATE**

13 The Amended Application has previously described the distinction made between  
14 the use of "estimated" consumption for billing purposes in lieu of metered consumption  
15 and the arguably related concepts of pro-rated bills, corrected or adjusted bills, etc., in  
16 each of ten specific cases. Similarly, the practice of using the most accurate data for  
17 estimation purposes, including but not limited to the criteria mentioned in amended Rule  
18 210 (A) (2), where available, and the Company's present practice of accepting on a  
19 discretionary basis, customer-obtained readings (when APS is unable to obtain a read),  
20 either for the initial billing or for purposes of issuing a corrected or adjusted bill, are both  
21 reasonable practices and consistent with Rule 210.

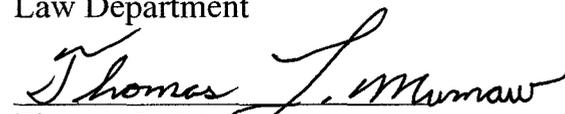
22 **VII. CONCLUSION**

23 The present Amended Application asks the Commission to clarify the application  
24 and import of two of its newer regulations. First, the Commission must determine  
25 whether either of these regulations have any continuing applicability after the *Phelps*  
26 *Dodge* decision. Assuming they are still applicable, by giving them common sense

1 interpretations, it will be established that these regulations do not provide a "free ride" to  
2 customers with damaged or obstructed meters and will help to put an end to frivolous  
3 litigation that seeks to take advantage of a mere technicality to avoid paying for the  
4 electric service they have received. Similarly, the Commission can achieve the same  
5 result if it simply reaffirms the Company's estimation procedures and its proposed  
6 process for subsequently amending and refining those same procedures. Finally, the  
7 Commission can promote uniformity in the determination of what is and what is not an  
8 "estimated" bill for purposes of its regulations by adopting the conclusions of the PSWG  
9 in that regard.

10 RESPECTFULLY SUBMITTED this 26th day of May 2004.

11 PINNACLE WEST CAPITAL CORP.  
12 Law Department

13   
14 Thomas L. Mumaw

15 Attorney for Arizona Public Service Company  
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filed this 26th day of May 2004, with:

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, and a copy was served on all parties of record by regular U.S. Mail.

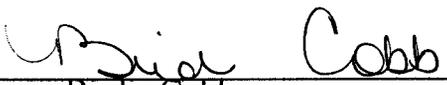
  
\_\_\_\_\_  
Birdie Cobb

EXHIBIT "A"

**ARIZONA  
INTERVAL DATA  
VALIDATING, EDITING,  
AND ESTIMATING  
(VEE)  
RULES AND  
PROCEDURES**

**Final  
July 3, 2001**

# ARIZONA INTERVAL DATA VALIDATING, POSTING, AND ESTIMATING (VEE)

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## Appendix A

- Interval Data VEE Technical Methods

# ARIZONA INTERVAL DATA VALIDATING, EDITING, AND ESTIMATING (VEE)

## 1. Introduction

This section defines the interval data validation, editing, and estimation techniques required to participate as an MRSP. Arizona VEE Rules will be reviewed periodically for any changes, adjustments or modifications.

## 2. Required Data Validation Checks

Data validation checks are designed to identify things that can go wrong at the meter/recorder and cause the data collected to not reflect actual usage.

These rules apply to both kWh and kVARh data, depending on the data required by the customer's tariff(s). If data is provided for informational purposes only (not used for billing purposes), validation is not required. Data that has not gone through the validation process is raw data.

General MRSP's and MSP's business practices should ensure that the meter is programmed correctly for the required revenue data and that the MRSP's system is set up to accurately maintain information such as interval size, meter constants, and what quantity is recorded by what channel. These VEE rules do not require or describe how the MRSP verifies that the meter is programmed correctly.

All validation checks must be run. Failure of one check does not preclude the MRSP from performing other validation checks.

## ARIZONA INTERVAL DATA VALIDATING, EDITING, AND ESTIMATING (VEE)

Several words are used to describe the quality of interval data.

- Raw data - data that has not gone through the VEE process
- Valid data - data that has gone through all required validation checks and either passed them all or been verified
- Invalid data – data that has gone through all required validation and has failed some or all checks or has not been verified.
- Verified data - data that failed at least one of the required validation checks but was determined to represent actual usage
- Estimated - data that has been calculated based on standard estimation rules because the raw data was not valid or available
- Adjusted – data that has been changed because of an incorrect pulse multiplier.
- Editing – process used to change raw data by estimation or adjustment to correct usage.
- Reasonable data - data closely resembling projected data modeled by historical data, or the customer's load profile.

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The following validation checks are required for interval kWh and kVARh data. They are described below in section 3

Check	Purpose	Requirement
Time check of meter reading device/system	Check for the following: <ul style="list-style-type: none"> <li>Time drift of meter reading device/system outside the Applicable Regulatory Authority standard</li> </ul>	Time of read
Meter identification check	Check for the following: <ul style="list-style-type: none"> <li>Meter ID was reported correctly</li> <li>Meter has not been changed out</li> <li>Data is being reported for the correct meter</li> </ul>	Time of read
Time check of meter clock device system	Check for the following: <ul style="list-style-type: none"> <li>Time drift of meter clock outside the Applicable Regulatory Authority standard</li> </ul>	Time of read
Pulse Overflow check	Check for the following: <ul style="list-style-type: none"> <li>Improper scaling factor in meter</li> <li>Improperly sized transformer</li> <li>Hardware problem</li> </ul>	Time of read
Test Mode check	Check for the following: <ul style="list-style-type: none"> <li>Data collected when meter was in test mode that represents test load rather than actual usage</li> </ul>	Time of read
Sum check	Check for the following in combination meter/recorder installations: <ul style="list-style-type: none"> <li>Crossed channels between meter and recorder</li> <li>Pulse relay problems</li> </ul> Check for the following for all installations: <ul style="list-style-type: none"> <li>Invalid VT and CT ratios,</li> <li>Invalid meter constants</li> </ul>	Monthly (Time of read Optional)
Spike check	Check for the following for all installations: <ul style="list-style-type: none"> <li>Transmission error</li> <li>Spike resulting from meter test.</li> </ul> Note that a spike can also occur after an outage - in this case the data is valid, but may or may not be used for peak billing depending on the tariff and company policy.	Time of Read (24-hour period)
kVARh check (for kWh data only if corresponding kVARh data available)	Check for the following: <ul style="list-style-type: none"> <li>KWh channels are correctly mapped to kVARh channel</li> <li>Meter is operating correctly</li> </ul>	Monthly
High/Low Usage check	Check for the following in all installations: <ul style="list-style-type: none"> <li>Dropped phases</li> <li>Inaccurate meter constants</li> <li>Energy diversion</li> <li>Fast/slow meters</li> </ul> Also check for the following in combination meter/recorder installations: erratic pulse input to recorder	Monthly

### 3. Interval Data Collection and Validation Rules

If interval data is read more often than required for billing, checks need to be performed at different times in the process. Some must be done as the data is read

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from the meter; some can be done anytime between when the data is collected from the meter and the end of the cycle, and others have to be done on a billing period basis at the end of the billing cycle. They are broken out that way in this description.

**3.1 Time check of meter reading device/system will be performed by the MRSP once every 24 hours to ensure that the collection device is synchronized to the national time standard**

**3.2 Collect data**

**3.3 As data is collected**

3.3.1 Check meter identification – verify that the meter’s identification matches what is expected. Any meter identification problem must be corrected prior to sending data.

3.3.2 Perform Time Tolerance check on meter and data.

The time tolerance check is performed to minimize and correct meter clock drift and to minimize and correct the data problems associated with meter clock drift.

### 3.3.2.1 Interval Check on data - How to do Time Tolerance check

To perform a time tolerance check on the data, compare the number of intervals retrieved from the meter to the number of intervals expected given the elapsed time.

#### Pass/Fail Criteria

- If the actual number of intervals is equal to the expected number, the data passes the time tolerance check.
- If the actual number of intervals differs from the expected number, the data fails the time tolerance (interval) check. The data to be corrected includes all intervals from the last time the meter time was determined to be good (i.e., within the 3-minute tolerance) and when it was discovered that the meter time was off by more than 3 minutes and the meter time was reset.

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### If data fails the Time Tolerance Check...

- 1) If the meter time was off by less than or equal to 15 minutes, a point to point linear interpolation shall be performed.
- 2) If the meter time was off by more than 15 minutes, the data must be estimated. See Estimation Rules – Section 4.

### 3.3.2.2 Synchronization Test - How to do Time Tolerance check on meter

To perform a time tolerance check on the meter, compare meter time to data collection device/system time. Note that depending on the communication technology used, network latency must be taken into account.

#### Pass/Fail Criteria

- If meter time is within 3 minutes of time standard, the meter passes the time tolerance check. (Note that if the meter time is within the 3-minute tolerance, the meter time may be corrected.)
- If meter time is off by more than 3 minutes, the meter time must be corrected. If the meter fails the time tolerance check for three consecutive months, the meter must be physically inspected/tested.

### **3.4 Either as data is collected or prior to publishing on MRSP Server**

#### **3.4.1 Perform Pulse Overflow check**

Inspect each interval for this condition. If any instance of a pulse overflow occurs, the meter requires physical meter test/maintenance. Intervals with pulse overflows must be estimated.

#### **3.4.2 Perform Test Mode check**

Anytime the meter is placed in test mode and the actual data is not available, the data must be estimated (see Estimation Rules, Section 4).

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### 3.4.3 Perform Sum Check

The sum check is performed on meters with encoded reads to ensure that the difference between the energy use recorded in the intervals and the energy use recorded in the meter over the same time period is within an acceptable range. This check may be done on either consumption or pulse data, provided the data scaling is consistent throughout the period.

#### How to do the Sum Check

- 1) Calculate the energy use recorded in the intervals by summing the intervals between the start and stop meter readings.
- 2) Calculate the energy use recorded by the meter by taking the difference between the start and stop readings accounting for possible rollover between start and stop readings. For example, if the start reading was 99968 and the stop reading was 00294, and the meter reading rolls over at 99999, the difference would be 326.
- 3) Compare the energy use recorded in the intervals to the energy use recorded by the meter. Note that the values must be in the same units for the comparison.

#### Pass/Fail Criteria

- If difference is  $\leq 1.5$  meter multipliers, the data passes the sum check. (meter multiplier =  $CTR \times VTR \times \text{Dial Constant}$ , where CTR is current transformer ratio, and VTR is voltage transformer ratio and Dial Constant is meter register multiplier)
- If difference is  $> 1.5$  meter multipliers, the data fails the sum check.

#### If data fails the Sum Check

- 1) Steps to resolve the sum check failure will include one or more of the following procedures:
  - (a) Reread the meter and redo the sum check from original start meter reading to new stop meter reading.
  - (b) Redo the sum check, taking into account the differences between the time of the start read and the start of the first interval, and the time of the stop read and the end of the last interval. See Appendix A for more information.

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- (c) Redo the sum check, taking into account missing or incomplete intervals. See Appendix A for more information.
  - (d) Additional checks may be performed, based on the technology used, to verify that the interval data is an accurate representation of usage as measured by the meter readings.
- 2) If sum check is not resolved, perform manual inspection of data.
- (a) Verify meter and pulse multipliers. If a multiplier was incorrect, redo the sum check using the correct multipliers.
  - (b) Check for a meter change between the start and stop meter readings. If the meter was changed, redo the sum check for each meter independently.
  - (c) Manually inspect data. If the data seems reasonable, it can be considered verified.
  - (d) If the data does not seem reasonable, perform physical meter test/inspection. If meter passes the physical test/inspection, the data can be considered verified. If a problem is found with the meter, the data must be estimated. (Note: if the problem existed prior to this billing period, previously posted data must be adjusted and re-posted.) If unable to visit site and perform meter test prior to posting the data, the data must be estimated.
  - (e) If interval data is available but meter readings are not available, manually inspect the data. Data that seems reasonable (compared with historical data) can be considered verified. Any data that does not seem reasonable must be estimated.

### 3.4.4 Perform Spike Check

The spike check is performed to identify intervals with questionably high usage relative to the surrounding intervals. This check may be done on either consumption or pulse data, provided the data scaling is consistent throughout the period.

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### How to perform daily Spike Check

- 1) For each 24-hour period, identify the highest and sixth highest peaks. (Normally the 24-hour period is from midnight to midnight. If the data is at the beginning of the span and doesn't start at midnight, use sufficient consecutive data from the next day of data to get 24 hours of data. If the data is at the end of the span and doesn't stop at midnight, use sufficient consecutive data from the previous day of data to get 24 hours.)
- 2) If the highest peak is less than or equal to the spike check threshold of 10 pulses, skip the spike check. (A spike check threshold is used to eliminate false spikes for meters with very low usage.)
- 3) If the highest peak is greater than the spike check threshold of 10 pulses, divide the highest peak by the sixth highest peak.

### Pass/Fail Criteria

- If highest peak divided by the sixth highest peak is  $\leq 1.8$ , the interval passes the spike check.
- If highest peak divided by the sixth highest peak is  $> 1.8$ , the interval fails the spike check.

### If data fails the Spike Check

- 1) Reread the meter, when appropriate. If you get a different value from the reread, redo spike check.
  - a) If value is the same on reread or you cannot reread the meter, perform manual inspection of data.
  - b) Look for similar patterns on similar days. If a similar pattern is found and this seems reasonable, the data can be considered verified.
  - c) Check with customer for unusual conditions at the time of the spike. If a legitimate reason for spike is found, the data can be considered verified.
- 2) If no similar pattern or legitimate reason for spike is found, the interval with the spike must be estimated.
- 3) If there is a regular pattern of failing this check, the customer may be an irregular usage customer. See section on Irregular Usage Customers for additional information.

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### 3.4.5 If interval kVARh data is available, perform kVARh Check

The kVARh check is performed to identify intervals where reactive load (kVARh) is present and active load (kWh) is not, indicating a questionable usage pattern and possible meter malfunction. This check is only required when both kWh and kVARh are used for billing. If kVARh data is available but not used for billing, the check is optional. This check may be done on either consumption or pulse data, provided the data scaling is consistent throughout the period.

#### How to do the kVARh Check

- 1) If multiple kWh channels map to a single kVARh channel, or multiple kVARh channels map to single kWh channel, the appropriate channels must be totaled prior to this check.
- 2) If there are any kWh intervals with zero consumption, check the corresponding kVARh interval.

#### Pass/Fail Criteria

- If the corresponding kVARh interval is also zero or less than or equal to the kVARh check threshold of 10 pulses, the kWh data passes the kVARh check. (A kVARh check threshold is used to eliminate false errors for meters with very low usage.)
- If the corresponding kVARh interval is greater than the kVARh check threshold of 10 pulses, the kWh interval fails the kVARh check.

#### If data fails the kVARh Check

- 1) Steps to resolve the sum check failure will include one or more of the following procedures:
  - (a) Investigate to determine if this data represents actual customer usage, in which case the data can be considered verified.
  - (b) If multiple kWh channels map to a single kVARh channel, investigate to determine if the problem can be directly traced to specific kWh channels. If this is the case, only data for those channels must be estimated. If the problem is not attributable to specific channels, all kWh channels need to be estimated.
- 2) If no legitimate reason for the kVARh failure is found, the intervals with failures must be estimated.

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- 3) If there is a regular pattern of failing this check, the customer may be an irregular usage customer. See section on Irregular Usage Customers for additional information.

### 3.5 On the billing cycle for the meter

#### 3.5.1 High/Low Usage Check

This test must be performed on the data that has passed or been verified for previous checks, with no estimated values included. This identifies metered usage that is questionably high or low relative to historical usage. It may be performed on all data (valid and estimated) to provide a reasonableness check on the estimates derived using the standard estimation techniques.

This check must be done on consumption data, not pulses.

#### How to do the High/Low Usage Check

- 1) If last year's data is available, calculate average daily usage for same billing month last year; use summed VEE or historical billing interval data if available, if not use VEE or historical billing usage (i.e., difference between register readings).
- 2) If last year's data is not available, calculate average daily usage for the previous billing month; use summed VEE or historical billing interval data if available, if not use VEE or historical billing usage (i.e., difference between register readings).
- 3) If last year's data and last month's data are not available, skip the high/low usage check.
- 4) Calculate average daily usage for this billing month using either summed VEE data (if check includes estimated data) or sum of all intervals not requiring estimation (if check does not include estimated data). If not all intervals are included in the sum, prorate the sum accordingly.

#### Pass/Fail Criteria

- If this month's daily average is within 75 to 125% of the historical daily average, the data passes the high/low usage check. Any value outside this parameter fails.

#### If data fails the High/Low Usage Check

1. Check to see if there has been a meter exchange.

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2. Check to ensure that the meter and pulse multipliers are correct.
3. Perform manual inspection of data.
  - (a) Look at recent history for the meter. If monthly usage has been on a trend in the appropriate direction and this appears reasonable, the data can be verified.
  - (b) Optionally check with customer for changed usage patterns. If changed usage patterns match change in data, the data can be verified.
  - (c) Check to see if some of the data appears reasonable. For example: it may be possible that a meter failed sometime during a month, so that the data from the beginning of the month is valid, while data after the meter failure is invalid.
  - (d) If the data does not seem reasonable, perform physical meter test/inspection. If meter passes the physical meter test/inspection, the data can be verified. If a problem is found with the meter, the data must be estimated. (Note: if the problem existed prior to this billing period, previously posted data must be adjusted and re-posted.) If unable to visit site and perform meter test prior to posting the data, the data must be estimated.
- 4) If the data is investigated and found to be accurate, the data is verified.
- 5) If the data fails the high/low usage check, suspect data must be estimated.
- 6) If there is a regular pattern of failing this check, the customer may be an irregular usage customer. See section on Irregular Usage Customers for additional information.

**3.6 After all validation checks have been performed and required data has been estimated, the MRSP must rerun all validation checks to ensure reasonableness of estimates. If data fails validation after estimation, it needs to be manually verified for reasonableness.**

**3.7 Record Keeping Requirements**

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The data and the logs must be kept for a period of three years. If data failed one or more validation checks, the specific checks that the data failed must be recorded on an interval level, and:

- 1) If the data was manually verified, that information must be recorded on an interval level. Verified data represents actual usage.
- 2) If the validation failure(s) were not resolved through accepted methods, the data must be recorded as estimated.

For each interval that is estimated, the MRSP must record the estimation algorithm used. Interval data estimation algorithms include:

- less than 2 hours (4.1)
- greater than 2 hours (4.2) – scaled based on usage
- intervals adjusted
- intervals manually estimated
- intervals estimated due to meter interval programmed incorrectly

### 3.8 Irregular Usage Customers

An irregular usage customer is one whose usage pattern does not follow normal usage patterns and consistently fails the spike check, kVARh check, or high/low usage check. An MRSP can identify a customer as an irregular usage customer if:

- 1) the customer's data fails the standard validation check for three consecutive months and the MRSP verifies that the data represents the actual customer usage, OR
- 2) the MRSP is notified by the customer's ESP or previous MRSP of the irregular usage pattern.

The data used to identify an irregular usage customer could be data collected by the MRSP, or historical data provided by the previous ESP or MRSP. An MRSP may modify the spike check and/or high/low usage check, and skip the kVARh check if an irregular usage customer consistently fails the check. The MRSP must notify both the customer's ESP and UDC of the customer's irregular usage status and what modified checks will be performed immediately.

The goal of the modified checks is to automate the manual procedures the MRSP would perform to verify that this is the customer's normal usage pattern. An MRSP may use a variation of the spike check or high/low usage check based on the actual usage pattern. Note that the MRSP may not skip the spike check or high/low usage check. If the data passes the

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modified check, the data is valid and does not need to be marked as verified.

- Examples of modifications for the spike check include modifying the spike check value (180%) or the pulse threshold value (10 pulses).
- Examples of modifications for the high/low usage check include changing the percentages (+/- 50%), using the year's average instead of one billing period's average, or comparing to the minimum and maximum values for the past year.

For some customers, irregular usage patterns are symptomatic of the business and will always be present, such as co-generation customers. For other customers, irregular usage patterns may be a temporary condition, such as when a factory adds a second shift and fails the high/low usage check for the first 12 months. The MRSP must determine whether a customer is a permanent or temporary irregular usage customer. Temporary irregular usage customers must be reviewed annually to determine if they are still irregular usage customers or should be returned to the normal checks.

#### 4. Interval Data Estimation Rules

A customer's bill is considered estimated when 10% or more of intervals are estimated in a billing period. (NOTE: It is the responsibility of the MRSP to flag each instance of an estimated interval on the Arizona 867 data file.)

Estimate intervals needing estimation using the following estimation rules;

- 4.1 **If section of data needing estimation is 2 hours or less in length, use point-to-point linear interpolation to estimate the data. Intervals containing a power failure cannot be used as end points for interpolation.**

##### How to apply Point-to-Point Linear Interpolation

- 1) If the section occurs in the middle of the data, the "first point" is the last valid interval before the section, and the "second point" is the first valid interval after the section.
- 2) If the section 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 valid. Otherwise, use the second point (the first valid interval after the section) as the first point – this will cause the load to be estimated as a flat load.
- 3) If the section occurs at the end of the span, use the first point (the last valid interval before the section) as the

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second point – this will cause the load to be estimated as a flat load.

- 4.2 **If the section of data needing estimation is more than 2 contiguous hours, use a scaling methodology to spread the kWh over selected reference days to estimate the data.**

### **Determine the amount of kWh (X) for the section of data needing estimation.**

- If the dial reads are good for the bill cycle, use them to compute the total kWh for the bill cycle. To compute the amount of kWh (X) for the section of data needing estimation:  $X = \text{total kWh for the billing cycle} - \text{sum of kWh for the good intervals}$
- If the dial reads do not include enough kWh to include the missing portion of the interval data, then the kWh for the missing portion or the section needing estimation should be estimated.
- If the timeframe of data needing estimation exceeds 24 hours, then check with the UDC (*if applicable*) to be sure there wasn't an outage, and/or check with the MSP to find out what happened to the meter and check with the customer to be sure that they were operating normally during the time when the interval data is missing or needs estimation.
- Estimate the kWh for the missing data or timeframe needing estimation using the average daily kWh from the current bill cycle if available or the average daily kWh for the billing cycle from the previous year, same bill month or the average daily kWh for the billing cycle from the same year, previous month or one of these values modified to account for current weather conditions and customer operating patterns.

### **Determine the reference days.**

- The goal is to select reference days whose load shapes will most closely resemble the timeframe needing estimation.
- Select days closest in time. If none are available that would be appropriate, try the same seasonal group of months. If none are available that would be appropriate, try the same time frame in the previous year.
- Seasonal months are:
  - Fall (September 15 through November 15)
  - Winter (November 16 through February 15)
  - Spring (February 16 through May 15)
  - Summer (May 16 through September 14)

**These seasonal dates are for the purpose of conducting VEE and are not intended to supersede any dates established for customer billing**

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purposes. These dates do not supercede any dates established by the ACC.

- Select "same weekdays" (Mondays for Mondays, Tuesdays for Tuesdays) when possible. If not enough are available, use "like days" (weekdays for weekdays, weekends for weekends).
- If a holiday falls in the estimation period and the customer observes that holiday, then use a holiday load shape as a reference day. If no holidays are available and the customer's holiday usage is similar to his Sunday usage, substitute a Sunday for the holiday. If the customer does not observe the holiday, use the appropriate "same weekday".
- If the estimation period exceeds one week, try to have at least one week of reference days.

**Allocate the kWh for the estimation period.**

- If the reference period includes multiples of the "same weekdays", average them together to create an average Monday, Tuesday etc.
- Place the reference days into the portion of the file to be estimated.
- Sum the kWh (Y) of the estimated (reference days) portion of the file.
- Take the kWh calculated for the section needing estimation and divide it by the sum of the kWh in the reference days. **Scale factor=X/Y**
- Multiply every interval in the estimation period by the scale factor.

**The maximum demand for the bill cycle should not be estimated, unless the entire cycle is estimated. In this case, use historical data to define the maximum demand.**

### 4.3 Correcting data problems attributable to metering problems

Rules for assigning the file status and individual interval status

If on investigation the cause of the data problem is determined to be a problem with the meter or meter installation use the following rules to correct the data by scaling or estimating the intervals or the meter reads.

4.3.1 In the case of an incorrect pulse or meter constant being applied to the data, the MRSP will be notified of the following:

1. The time period requiring action.
2. The correct pulse or meter constant.

Without prior knowledge of a problem

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- For the Original data file, if the intervals were sent prior to having any knowledge that the meter data was incorrect, the intervals would be marked as Actual.
- Any subsequent corrections will result in the new file being marked as Corrected and each affected interval marked as Adjusted.

### With prior knowledge of a problem

- For the Original file, if there was prior knowledge that the meter interval was incorrect and corrections are made by applying the correct pulse constant to each of the affected intervals and the intervals would be marked as Actual.
- Any subsequent corrections will result in the new file being marked as Corrected and each affected interval being marked as Adjusted.

- 4.3.2 In the case of the meter being programmed incorrectly, wired incorrectly causing the meter to run fast or slow or one or more phase being dropped, the MRSP will be notified of the time period requiring action.

### Without prior knowledge of a problem

- For the Original file, if the intervals were sent prior to having any knowledge that the meter intervals were incorrect, the data would be marked as Actual.
- For any subsequent corrections the new file will be marked as Corrected and each affected interval will be marked as Estimated.

### With prior knowledge of a problem

- For the Original file, if there was prior knowledge that the meter data was incorrect the file will be marked as Original and each affected interval will be marked as Estimated.
- For the Original file, if there was prior knowledge that the meter data was incorrect and corrections result in less than 10% of the total intervals being estimated, the file will be marked as Original and each affected interval marked as Estimated.
- For any subsequent corrections which result in the sum of the original and subsequent estimated intervals the exceeding 10% of the total intervals being estimated the new file will be marked as Correct and each affected interval marked as Estimated.

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### 4.3.3 Interval in meter doesn't match tariff or settlement requirements

If the meter programming and the MRSP requirements are inconsistent, the data is calculated as follows and the meter program must be corrected immediately:

- 1) The meter is programmed to collect data at a smaller interval than required by its tariffs, and the meter's interval evenly divides into the interval required by the tariff – for example, the meter was programmed to collect 5-minute data, and the tariff requires 15-minute data. Sum the 5-minute intervals into 15-minute intervals on even 15-minute boundaries. If the data passed all the other validation checks, it is valid and does not need to be marked as estimated or verified.
- 2) The meter is programmed to collect data at a larger interval than required by the meter's tariff. For example, the meter is programmed to collect 60-minute intervals, but the tariff requires 15-minute intervals. Prorate the data by assuming an even load distribution during the interval. In this example, the usage in the 60-minute interval is divided by 4 to estimate the usage in a 15-minute interval. The data is marked as estimated. **The meter must be reprogrammed to the correct interval.**
- 3) The meter is programmed to collect data at a smaller interval than required by its tariff, but the meter's interval doesn't evenly divide into the interval required by the tariff. For example, the meter is programmed to collect 10-minute intervals, and the tariff requires 15-minute intervals. The data is estimated and marked as estimated. To estimate data, all collected intervals that are contained within the required reporting interval are included in the appropriate reporting interval. Collected intervals that cross the boundaries of required reporting intervals are included proportionally in both reporting intervals. In this example, if there are three 10-minute intervals containing 10 kWh, 20 kWh, and 30 kWh, the corresponding estimated 15-minute intervals contain 20 kWh ( $10 + 0.5*20$ ) and 40 kWh ( $0.5*20 + 30$ ). This is similar to the prorating technique discussed in Appendix A. **The meter must be reprogrammed to the correct interval.**

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5. **Re-posting Data**

The MRSP will be required to re-post actual or corrected data regardless of the amount of usage or time that has elapsed since the posting of the original file.

It will be up to the discretion of the biller and/or settlement whether the data is used for rebilling.

6. **Totalized Meter Data**

The MRSP must post validated data for each sub-meter. It will be the responsibility of the UDC, or billing party, to totalize for billing purposes if this is required for the tariff. The MRSP will read the recorder and run all channels (sub-meter and totalized loads) through the Arizona Interval Data VEE Rules and Procedures process. Contact the UDCs for Terms and Conditions protocols regarding totalized meters.

# ARIZONA INTERVAL DATA VALIDATING, EDITING, AND ESTIMATING (VEE)

## Appendix A: Interval Data VEE Technical Methods

### 1. Sum Check Failure Troubleshooting Techniques

The objective of the sum check is to compare the energy use recorded by the meter to the energy use recorded by the pulse recorder over the same time period. Due to data collection methods, often the period represented by the meter reads does not correspond exactly to the period represented by the interval data. For example, the period of data collection may span from 5/1/98 01:12 AM to 6/1/98 01:22 AM, with the meter readings corresponding exactly to this time period. With 15-minute interval data, the interval data for this same period of data collection would begin at 5/1/98 01:00 AM and end at 6/1/98 01:15 AM. The difference of 12 minutes from the start meter reading and 7 minutes from the end meter reading could be the source of error in the failure of the sum check.

#### 1.1 Account for Start and End Time Differences

The following technique enables the MRSP to resolve sum check failures by taking into account time differences between the meter readings and the interval data.

Redo the sum check, taking into account the differences in time between the time of the start read and the start of the first interval, and the time of the stop read and the end of the last interval:

- A. Calculate a prorated start meter reading to be used in this check by doing the following:
  - (i) Calculate the percentage of an interval that has elapsed between the start time of the first interval and the time of the start meter reading. For example, if the meter was read at 3:30 PM, the first interval in an hourly interval data stream would start at 3:00 PM. The percentage of time elapsed is  $(30 \text{ min.}/60 \text{ min.}) = 50\%$ .
  - (ii) Multiply the usage from the first interval by the percentage from the previous step. For example, if the usage in the first interval is 240 kWh, the percentage usage is  $(240 * 0.50) = 120 \text{ kWh}$ .
  - (iii) Determine how many meter increments are represented by the percentage usage from the previous step. For a meter multiplier of one, the usage is equal to the

## ARIZONA INTERVAL DATA VALIDATING, EDITING, AND ESTIMATING (VEE)

number of meter increments, so 120 kWh is equal to 120 meter increments. For a meter multiplier of 80, 120 kWh is equal to 1 meter increment (i.e., 120 divided by 80 and rounded down to the nearest integer).

(iv) Calculate a prorated start meter reading by subtracting the number of meter increments from the previous step from the actual start meter reading. For example, if the start meter reading is 55555, and the number of meter increments is equal to 120, the prorated start meter reading would be  $(55555 - 120) = 55435$ .

B. Calculate an allowable margin of error to be used in this check by doing the following:

(i) Calculate the percentage of an interval that has elapsed between the end time of the last interval and the time of the stop meter reading. For example, if the meter was read at 11:15 AM, the last interval in an hourly interval data stream would start at 11:00 AM. The percentage of time elapsed is  $(15 \text{ min.} / 60 \text{ min.}) = 25\%$ .

(ii) Multiply the usage from the last interval by the percentage from the previous step. For example, if the usage in the last interval is 120 kWh, the percentage usage is  $(120 * 0.25) = 30 \text{ kWh}$ .

(iii) Determine how many meter increments are represented by the percentage usage from the previous step. For a meter multiplier of one, the usage is equal to the number of meter increments, so 30 kWh is equal to 30 meter increments. For a meter multiplier of 80, 30 kWh would result in .375 meter increments.

(iv) Calculate the allowable margin of error by adding 2 to the value calculated in the previous step.

(v) Redo the sum check using the prorated start and original stop meter readings and the allowable margin of error instead of the two multipliers.

### 1.2 Account for Missing or Incomplete Intervals

With some metering and data collection technologies, it is possible for the meter or cumulative usage register to reflect accurate usage even when the interval data is missing or incomplete. The following technique enables the MRSP to resolve the sum check failure for those intervals that were successfully collected.

## ARIZONA INTERVAL DATA VALIDATING, EDITING, AND ESTIMATING (VEE)

If some intervals are missing or incomplete, redo the sum check after scaling the difference between the adjusted start read and the stop read by the percentage of good intervals:

- A. Count the number of good intervals in the data stream.
- B. Calculate the percentage of good intervals by dividing the count from the previous step by the number of intervals elapsed between start time and stop time.
- C. Multiply the percentage by the difference between the start reading and the stop reading. (Note that you may use the actual start and stop readings or the prorated start and stop readings from 1.1 in this step.)
- D. Compare the new difference with the sum of the usage in the good intervals. Note that the values must be in the same units for the comparison.
- E. If the difference is less than or equal to the allowable margin from 1.1, the good intervals pass the sum check. The missing or incomplete intervals need to be estimated.

### 2.0 Scaling estimated data using good meter readings

If start and stop meter readings are available and are known to be good, they may optionally be used to scale the estimated interval data as follows:

1. Determine the total usage for the time period based upon the meter readings.

$$\text{Total Usage} = ((\text{Stop Reading} - \text{Start Reading}) * \text{Meter Multiplier})$$

2. Sum together the valid intervals.
3. Subtract the sum of the valid intervals from the total usage to determine the total estimated usage.

$$\text{Total Estimated Usage} = \text{Total Usage} - \text{Sum of Valid Intervals}$$

4. Sum together the previously estimated intervals.
5. Calculate the scaling factor by dividing the total estimated usage by the sum of the estimated intervals.

ARIZONA INTERVAL DATA VALIDATING, EDITING, AND  
ESTIMATING (VEE)

Scaling Factor = Total Estimated Usage/Sum of Estimated  
Intervals

6. Multiply each estimated interval by the scaling factor.

Exhibit "B"  
"Revised"

1 Barry G. Reed  
2 ZIMMERMAN REED P.L.L.P.  
3 14646 N. Kierland Boulevard, Suite 145  
4 Scottsdale, AZ 85254  
5 (480) 348-6400  
6 (480) 348-6415 Facsimile  
7 AZ Bar No. 020906

8 David A. Rubin  
9 LAW OFFICES OF DAVID A. RUBIN  
10 3550 N. Central Avenue, Suite 1201  
11 Phoenix, AZ 85012-2111  
12 (602) 235-9525  
13 AZ Bar No. 004856

14 Jeffrey M. Proper  
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17 Phoenix, AZ 85012-2111  
18 (602) 235-9555  
19 (602) 235-9223 Facsimile  
20 AZ Bar No. 003099

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IN THE SUPERIOR COURT OF THE STATE OF ARIZONA  
IN AND FOR THE COUNTY OF MARICOPA

AVIS READ; and,  
PAUL SCHAEFFER and LINDA SCHAEFFER,  
husband and wife; on Behalf of Themselves and  
All Others Similarly Situated,

Plaintiffs,

vs.

ARIZONA PUBLIC SERVICE COMPANY,

Defendant.

No: CV 2002-010760

**FIRST AMENDED  
CLASS ACTION COMPLAINT FOR:**

1. Consumer Fraud (A.R.S. § 44-1522, *et seq.*);
2. Violation of Arizona Administrative Code R14-2-210;
3. Unjust Enrichment;
4. Breach of Fiduciary Duty;
5. Breach of Contract;
6. Breach of Express Warranty;
7. Violation of A.R.S. § 40-361;
8. Violation of A.R.S. § 40-367;
9. Negligence; and,
10. Negligent Misrepresentation.

(Assigned to the Honorable  
Rebecca A. Albrecht)

Plaintiffs, on behalf of themselves and all other similarly situated, alleges as follows:

1 **NATURE OF THE ACTION**

2 1. This is a class action brought against Arizona Public Service Company ("APS" or  
3 the "Company") on behalf of the Plaintiff and a class consisting of all current and former residential  
4 and business APS customers in Arizona who have been, or in the future will be, subject to improper  
5 estimation and billing procedures by APS (the "Class").

6 2. APS has systematically deceived and overcharged Plaintiffs and the class in the sale of  
7 electricity to them, by systematically failing to follow legally required practices and procedures  
8 regarding meter reading, estimating and billing; over-estimating electric consumption and demand; and  
9 by billing estimated demand readings as if they were actual readings of demand for the month being  
10 billed; and by sending bills to the class that have used estimating procedures not approved by the  
11 Arizona Corporation Commission as required by law, but arbitrarily invented by APS employees..

12 **JURISDICTION AND VENUE**

13 3. This Court has jurisdiction over this dispute pursuant to A.R.S. § 12-123.

14 4. Venue is proper under A.R.S. § 12-401; A.R.S. § 40-334, *et seq.*; and pursuant to Qwest  
15 Corporation v. Kelly, 204 Ariz. 25, 59 P.3d 789 (2002); review denied, April 22, 2003.

16 **PARTIES**

17 5. Plaintiff Avis Read ("Read") is a resident of Arizona, and is an APS electric customer.

18 6. Defendant APS was incorporated in Arizona in 1920 and is headquartered at 400  
19 North Fifth Street, Phoenix, Arizona 85072. It is Arizona's largest utility, with approximately 827,000  
20 customers. It provides retail electric service to the entire state of Arizona, with the exception of Tucson  
21 and about one-half of the Phoenix area.

22 **GENERAL ALLEGATIONS**

23 7. APS is Arizona's largest electric utility. APS is a public service company and is  
24 regulated and bound by the laws of the State of Arizona.

25 8. APS is required to bill its electric customers on a monthly basis.. The total amount of  
26 electricity consumed, or the number of kilowatt hours (kWh) used during the billing period, is the initial  
27 factor in the amount of the bill receded by APS's residential and business customers. Electric meters  
28 must be read every month in order to properly assess the number of kilowatt hours consumed by APS's

1 customers. The actual energy used or consumed during a monthly billing period is determined by the  
2 difference between the meter reading for the prior month and the reading for the current month.

3 9. Some of the rate plans offered by APS also take into account when and how much  
4 energy is used at one time, or "demand." The demand portion of the bill is a charge based on the  
5 highest average electricity used in any 60-minute period for residences or 15-minute period for  
6 businesses during a billing period (i.e., the average kilowatt (kW) supplied during the 60 or 15-minute  
7 period of maximum use). This structure is designed to encourage customers to spread out electricity  
8 usage. For electric customers with a demand component on their bill, the electric meter must be read  
9 every month, because the demand read must be billed as it is read and is not cumulative (unlike the total  
10 kWh read which measures the total amount of electricity consumed and is cumulative). The meter  
11 reader must reset the demand read back to zero every month after the meter has been read. If the meter  
12 is not read, and the demand read on the meter is not reset to zero, the actual kW demand for that  
13 customer during the monthly billing cycle cannot be determined. Regardless of whether the customer  
14 has a digital meter or a meter with dials, the meter must be reset every month.

15 10. In order to accurately assess the electricity consumption (kWh) and the electricity  
16 demand (kW) (if the customer is on a rate plan with a demand component), electric meters must be read  
17 and reset every month. If the meters are not read every month, the bill will not reflect actual  
18 consumption and demand during the monthly billing period, and the amount billed will not be accurate.  
19 It is impossible to retroactively determine the "demand" component for any month if the meter is not  
20 read and reset for that month. When a demand meter that has been estimated is finally read, the  
21 "demand" reading will represent the highest peak demand for the entire period from the time the meter  
22 was last physically read and reset until the time of the next meter read. Likewise, the "demand" reading  
23 cannot, with any certainty, represent the demand only for the last unread period. Instead, it represents  
24 the peak demand for the entire period that the meter was not read. Any bill that includes such a reading  
25 and represents it as anything but an estimate is thus false.

26 11. Those within APS's service territories are reliant on APS for electricity, a necessary  
27 service. Moreover, in large part because of APS's opposition to proposed deregulation of electrical  
28 service providers in Arizona, Arizonans who fall within APS's service territories have no choice as to

1 the provider of their electricity. Because most APS customers are ignorant of how electric meters are  
2 read or how APS calculates the amount of their bills, they depend on APS, as a fiduciary that owns and  
3 controls the reading of the meter, to properly bill them for the actual amount of electricity they have  
4 consumed and demanded.

5 12. APS has failed to make the arrangements necessary and required by State law and  
6 Regulation to read the electric meters of Plaintiffs and the members of the Class on a monthly basis,  
7 and has billed estimated sums for such use without following the procedures provided for in Arizona's  
8 Regulatory scheme, resulting in massive over-utilization of estimated, inaccurate bills at great cost and  
9 expense to consumers. APS has repeatedly estimated the consumption and demand in ways that are  
10 inconsistent with Arizona law and result in overcharges to consumers.

11 13. Due to the foregoing, APS has violated various laws, including Arizona Administrative  
12 Code R14-2-210 governing electrical utilities, which provides:

13 A. Frequency and estimated bills

- 14 1. Unless otherwise approved by the Commission, the utility or billing  
15 entity shall render a bill for each billing period to every customer in  
16 accordance with its applicable rate schedule and may offer billing  
17 options for the services rendered. Meter Readings shall be scheduled for  
18 periods of not less than 25 days Or more than 35 days without customer  
19 authorization. If the Utility or Meter Reading Service Provider changes  
20 a meter reading route or schedule resulting in a significant a alteration  
21 of billing cycles, notice shall be given to the affected customers.
- 22 2. Each billing statement rendered by the utility or billing entity shall be  
23 computed on the actual usage during the billing cycle. If the utility or  
24 Meter Reading Service Provider is unable to obtain an actual reading,  
25 the utility or billing entity may estimate the consumption for the billing  
26 period giving consideration to the following factors where applicable:  
27 a. The customer's usage during the same month  
28 of the previous year.  
b. The amount of usage during the preceding month.
3. Estimated bills will be issued only under the following conditions unless  
otherwise approved by the Commission:  
a. When extreme weather conditions, emergencies, or work  
stoppages prevent actual meter readings.  
b. Failure of a customer who reads his own meter to deliver his  
meter reading to the utility or Meter Reading Service provider in  
accordance with the requirements of the utility or Meter Reader  
Service Provider billing cycle.  
c. Provider is unable to obtain access to the customer's premises  
for the purpose of reading the meter, or in situations where the  
customer makes it unnecessarily difficult to gain access to the

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meter, that is, locked gates, blocked meters, vicious or dangerous animals. If the utility or Meter Reader Service Provider is unable to obtain an actual reading for these reasons, it shall undertake reasonable alternative to obtain a customer reading of the meter.

- d. Due to customer equipment failure, a 1-month estimation will be allowed. Failure to remedy the customer equipment condition will result in penalties for Meter Service Providers as imposed by the Commission.
- e. To facilitate timely billing for customers using load profiles.

4. After the 3<sup>rd</sup> consecutive month of estimating the customer's bill due to lack of meter access, the utility or Meter Reading Service Provider will attempt to secure an accurate reading of the meter. Failure on the part of the customer to comply with a reasonable request for meter access may lead to discontinuance fo service.

5. A utility or billing entity may not render a bill based on estimated usage if;

- a. The estimating procedures employed by the utility or billing entity have not been approved by the Commission.
- b. The billing would be the customer's 1<sup>st</sup> or final bill for service
- c. The customer is a direct-access customer requiring load data.
- d. The utility can obtain customer-supplied meter readings to determine usage.

6. When a utility or billing entity renders an estimated bill in accordance with these rules it shall:

- a. Maintain accurate records for the reasons therefor and efforts made to secure an actual reading;
- b. Clearly and conspicuously indicate that it is an estimated bill and note the reason for its estimation.

(emphasis added).

14. In contravention of the foregoing rules, APS has continued to render estimated bills to class members far beyond the three month limit without having in place any procedure to comply fully with Section 4 above or Section 5d above to obtain actual readings.

15. Additionally, despite the rule requiring APS to specify on the billing statement the reason for its estimation, APS has not abided by the rule consistently.

16. Further, the estimating procedures employed by APS pursuant to which APS rendered estimated bills, including estimated demand bills, have been created on an *ad hoc* basis by APS employees, without adequate notice to and approval by the public and the Arizona Corporation

1 Commission. APS's estimating procedures regarding demand estimation blatantly contradict relevant  
2 Regulations and have never been approved by the Arizona Corporation Commission, and do not take  
3 into consideration the factors required by Section 2a and 2b, above.

4 17. APS's practices pertaining to meter reads have not complied with the binding State laws  
5 and Regulations, and its practices have been systematic and widespread, resulting in massive  
6 overcharges to its customers, and the unlawful mailing of unauthorized estimated bills.

7 18. APS has submitted misleading and incomplete reports regarding its estimating and  
8 billing practices to the Arizona Corporation Commission notwithstanding its obligations to fairly and  
9 accurately report to the Commission.

10 19. On information and belief, APS fraudulently fails to label bills as "estimated" in the  
11 event that its billing system automatically "system" estimates a bill for such invalid reasons as meter  
12 readers being unable to complete their routes within their allotted time frames.

13 20. APS claims to currently employ only 134 meter readers. On information and belief, this  
14 constitutes a grossly inadequate number of meter readers to accurately read each of its customer's  
15 meters in accordance with Arizona law and Regulations. In reports to analysts and investors, APS  
16 actually boasts of its decrease in personnel notwithstanding its increase in customers.

17 21. APS continuously and systematically estimates meter reads in violation of Arizona law  
18 and the Regulations. Customer's electric meters are estimated for months at a time using illegal  
19 estimating procedures. This occurs notwithstanding the fact that APS may, at its option, according to  
20 the terms and conditions of its service, change the customer's rate plan to a plan that does not require  
21 a monthly, manual reset.

22 22. APS has implemented software systems that have resulted in customer bills being  
23 estimated for periods longer than allowed by the Regulations. Despite knowledge of such illegal  
24 activities, Defendant APS never informed the public or Arizona Corporation Commission about its  
25 software-related estimating problems and never took steps to remunerate its customers for damages  
26 caused by its negligent implementation of software that did not conform to Arizona law and regulations.

27 23. Apart from its obligation to follow Arizona law and regulations, APS warrants, as a term  
28 and condition of its service agreement with its customers, that it follows all applicable Regulations.

1 It does not do so.

2 **INDIVIDUAL PLAINTIFF ALLEGATIONS**

3 24. Plaintiff Read was overcharged by APS for electricity through unauthorized and  
4 unlawful estimated billing that extended beyond three consecutive months. One of Read's meters  
5 (meter # A93326) was almost never read by APS. Indeed, in violation of the law, APS estimated  
6 Read's meter for more than three months in a row while making no arrangements to read the meter  
7 pursuant to Regulation. True and accurate copies of Read's bills, along with those for meter #906893,  
8 are attached hereto as Exhibit "A".

9 25. Read's bills show that APS's estimations of her energy consumption were erratic and  
10 tended to result in higher bills. Indeed, for the billing periods December 17, 1999 through February 17,  
11 2000, Read received two sets of bills from APS for meter #A93326, one set of which indicated that her  
12 meter was read, and the other indicating that her meter was estimated.

13 26. Another one of Read's meters (meter #906893), with demand as a component of the rate  
14 plan, was also estimated for months at a time. True and accurate copies of her bills, along with those  
15 for meter #A93326, are attached hereto as Exhibit "B".

16 27. Plaintiffs Paul and Linda Schaeffer formerly resided at 3688 West Carribean Lane in  
17 Phoenix, Arizona. They complained to the Arizona Corporation Commission and to APS when they  
18 received excessive energy bills. Upon investigation, it was learned that their meter had not been read  
19 in months, and upon information and belief, for years.

20 28. The estimates far exceeded in number those permitted under the controlling statutes and  
21 represented involuntary interest free loans granted to APS by reason of their continued over-estimation  
22 of the Schaeffer's energy bills.

23 29. When the meter was finally read, the Schaeffers had accumulated so much overpayment  
24 through estimates that they received no energy bills at all for several months. They received no  
25 payment from APS for the use of their funds.

26 30. Due to the estimated meter readings and purported actual readings where the energy  
27 consumption and demand were simply concocted or estimated, but represented by APS to be readings  
28 of actual usage and demand, the monthly bills rendered by APS did not approximate actual usage and

1 demand of electricity by its customers such as Read, were higher than they should have been, and were  
2 rendered in a manner inconsistent with binding Regulations.

3 31. Despite this actual knowledge and awareness of their wrongful and illegal conduct,  
4 Defendant continues to engage in the improper and deceptive billing practices.

5 32. As a result of the Defendant's deceptive business practices and unconscionable  
6 commercial practices, which include the making of false and misleading statements on electric bills,  
7 Plaintiffs and the other members of the Class paid excessive amounts for electricity, or made interest  
8 free, involuntary loans to APS, or received and paid bills that could not have been lawfully sent to them,  
9 and thereby suffered actual damages.

10 33. Plaintiffs and the other members of the Class have and will continue to suffer irreparable  
11 damage unless the Defendant is enjoined from continuing their unconscionable and deceptive  
12 unauthorized, and illegal estimating and billing practices..

13 34. Plaintiffs, both individually and for the Class, seek equitable relief and economic and  
14 punitive damages on behalf of all Class members, including reimbursement for any and all economic  
15 damage sustained as a result of the practices described above.

#### 16 CLASS ACTION ALLEGATIONS

17 35. This action is brought and may properly be maintained as a class action pursuant to Rule  
18 23 of the Arizona Rules of Civil Procedure. Plaintiffs bring this action on behalf of themselves and all  
19 residential and/or business customers of APS in Arizona who received estimated bills that resulted from  
20 the failure of APS to follow mandated practices and procedures before sending estimated bills.

21 36. The Class for whose benefit this action is brought is so numerous that joinder of all Class  
22 members is impracticable. While the exact number and identities of individual Class members are  
23 unknown at this time, and can only be ascertained through appropriate discovery, Plaintiffs are informed  
24 and believe that tens of thousands of individuals have been, and continue to be, subjected to these  
25 practices by APS.

26 37. There are questions of law and fact common to the Class which predominate over  
27 any questions affecting only individual Class members.

28 38. Among the questions of fact common to the Class are the following:

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- a. whether APS's estimating and billing practices were and/or remain to the present contrary to controlling State law and Regulations;
- b. whether according to Defendant's regularly kept business records, APS read the electric meters of its utility customers on a monthly basis consistent with controlling Regulations;
- c. whether APS's customers were being billed for the amount of electricity they actually consumed;
- d. whether APS's customers were being billed for the amount of electricity they actually demanded;
- e. whether APS's bills were false and misleading;
- f. whether APS overcharged customers for electricity;
- g. whether APS concealed the illegality of its actions from the consuming public; and,
- h. whether Plaintiffs and the other members of the Class have been damaged by way of the aforementioned actions of the Defendant.

39. Among the questions of law common to the Class are the following:

- a. whether Defendant has perpetrated consumer fraud in violation of A.R.S. § 44-1522, *et seq*;
- b. whether Defendant, by reason of its alleged conduct, has violated Arizona Administrative Code R14-2-210;
- c. whether Defendant, by reason of its alleged conduct, has been unjustly enriched;
- d. whether Defendant, by reason of its alleged conduct, has breached its fiduciary duties to Plaintiffs and the Class;
- e. whether APS, by reason of its alleged conduct, has breached contracts entered with Plaintiff and the Class;
- f. whether Defendant, by reason of its alleged conduct, proximately caused injury to Plaintiff and the members of the Class and, if so, what is the proper measure of such damages; and,

1 g. whether injunctive relief is appropriate to curtail said actions of the Defendant  
2 and require it to send estimated bills only upon following the procedures set  
3 forth in controlling Regulations.

4 40. Plaintiffs' claims are typical of the claims of the other members of the Class, in that they  
5 arise out of APS's failure to follow the requirements of Arizona law and clearly stated, unambiguous  
6 regulations. Plaintiffs have no interests antagonistic to the interests of the other members of the Class.

7 41. Plaintiff is committed to the vigorous prosecution of this action and have retained  
8 competent counsel experienced in the prosecution of class actions and consumer litigation.  
9 Accordingly, Plaintiff is an adequate representative of the Class and will fairly and adequately protect  
10 the interests of the Class.

11 42. A class action is superior to other available methods for the fair and efficient  
12 adjudication of the controversy. Because the amount of each individual Class member's claim is small  
13 relative to the complexity of the litigation and the financial resources of the Defendant, few, if any,  
14 Class members could afford to seek legal redress individually for the wrongs complained of herein, or  
15 seek the necessary injunctive relief. Therefore, absent a class action, the Class members will continue  
16 to suffer losses and the Defendant's violations of law will proceed without remedy.

17 43. Plaintiff knows of no difficulty which will be encountered in the management of this  
18 litigation which would preclude its maintenance as a class action.

19 **FIRST CAUSE OF ACTION**

20 **[Against Defendant for Violation of Arizona Administrative Code R14-2-210]**

21 44. Plaintiffs, on behalf of themselves and all others similarly situated, hereby incorporates  
22 by reference the allegations contained in the paragraphs within this Complaint as if fully set forth  
23 herein.

24 45. APS engaged in practices in violation of Arizona Administrative Code R14-2-210.

25 46. The bills rendered by APS were not computed based on the actual usage and demand  
26 during the billing period, as APS engaged in a systematic and continuous practice of improperly  
27 estimating or arbitrarily inventing meter readings to the detriment of its business and residential electric  
28 customers.



1 **THIRD CAUSE OF ACTION**

2 **[Against Defendant for Unjust Enrichment]**

3 55. Plaintiffs, on behalf of themselves and all others similarly situated, hereby incorporates  
4 by reference the allegations contained in the paragraphs within this Complaint as if fully set forth  
5 herein.

6 56. As a result of the illegal conduct described above and the relationship between the  
7 parties, Defendant has been, and continue to be, unjustly enriched at the expense of Plaintiffs and all  
8 others similarly situated. Specifically, Defendant has been, and continues to be, unjustly enriched by  
9 its continued practice of over-billing customers. Had Plaintiffs and other members of the Class known  
10 that they were being overcharged, they would not have paid the amount they were overbilled.  
11 Defendant will be unjustly enriched if it is allowed to retain these funds and not required to refund such  
12 funds to the people it wrongfully overbilled.

13 **FOURTH CAUSE OF ACTION**

14 **[Against Defendant for Breach of Fiduciary Duty]**

15 57. Plaintiffs, on behalf of themselves and all others similarly situated, hereby incorporate  
16 by reference the allegations contained in the paragraphs within this Complaint as if fully set forth  
17 herein.

18 58. By virtue of Plaintiff's position as an electric customer of APS, and APS's position as  
19 a monopoly providing electricity for Plaintiff and the members of the Class, and because Plaintiff and  
20 the Class reposed trust and confidence in it, Defendant owed to Plaintiff and the members of the Class  
21 fiduciary and other common law duties.

22 59. In taking the wrongful actions heretofore alleged, Defendant violated its fiduciary  
23 obligations to Plaintiff.

24 60. As a proximate result of Defendant's conduct, Plaintiff and the Class suffered damages  
25 in amount to be determined at the time of trial.

26 **FIFTH CAUSE OF ACTION**

27 **[Against Defendant for Breach of Contract]**

28 61. Plaintiff, on behalf of herself and all others similarly situated, hereby incorporates by



1 rules and regulations and has demanded and received payment for services that are unjust and  
2 unreasonable, within the meaning of A.R.S. §40-361.

3 73. Because of the Defendant's unlawful conduct in violation of the Statute, Plaintiffs and  
4 members of the Class overpaid APS for their electricity and provided unlawful, involuntary interest free  
5 loans to APS.

6 74. Because of the Defendant's unlawful conduct in violation of the Statute, Plaintiff and  
7 the other members of the Class have suffered losses in amounts to be determined at the time of trial and  
8 will continue to do so absent injunctive relief.

9 75. Defendant's conduct was undertaken in deliberate disregard for the interests of Plaintiffs  
10 and Class.

11 **EIGHTH CAUSE OF ACTION**

12 **[Against Defendant for Violation of A.R.S. § 40-367]**

13 76. Plaintiffs, on behalf of themselves and all others similarly situated, hereby incorporate  
14 by reference the allegations contained in the paragraphs within this Complaint as if fully set forth  
15 herein.

16 77. This cause of action is brought pursuant to the Arizona Revised Statutes § 40-367.

17 78. In violation of A.R.S. §40-367, Defendant APS, a public service company, has made  
18 changes in its rule, regulations, rates, fares and tolls without providing thirty days notice to the public  
19 and the Arizona Corporation Commission as required by A.R.S. §40-361.

20 79. Because of the Defendant's unlawful conduct in violation of the Statute, Plaintiff and  
21 members were damaged by unapproved, unrevealed, unfair and unjust billing and estimating practices  
22 by defendant APS.

23 80. Because of the Defendant's unlawful conduct in violation of the Statute, Plaintiff and  
24 the other members of the Class have suffered losses in amounts to be determined at the time of trial and  
25 will continue to do so absent injunctive relief.

26 81. Defendant's conduct was undertaken in deliberate disregard for the interests of  
27 Plaintiff and Class.

28 82. Plaintiffs are authorized to seek redress for such damages in this Court by virtue of

1 A.R.S. §40-423, as Defendant APS has.

2 **NINTH CAUSE OF ACTION**

3 **[Against Defendant for Negligence]**

4 83. Plaintiffs, on behalf of themselves and all others similarly situated, hereby incorporate  
5 by reference the allegations contained in the paragraphs within this Complaint as if fully set forth  
6 herein.

7 84. Defendant APS owes a duty to Plaintiffs and its customers to act reasonably and  
8 prudently in preparing bills for its services and to follow applicable laws and regulations governing its  
9 conduct.

10 85. By negligently implementing software, information and billing systems that have failed  
11 to follow Arizona law and Regulations have resulted in unjust, artificially-inflated bills, and are a result  
12 of a lack of reasonable care by APS in preparing such bills. Defendant APS has breached and continues  
13 to breach such duties.

14 86. Defendant APS's conduct was the factual and legal cause for such breach of duty.

15 87. As a result of the foregoing, Plaintiff and other members of the Class have suffered, and  
16 will continue to suffer harm.

17 **TENTH CAUSE OF ACTION**

18 **[Against Defendant for Negligent Misrepresentation]**

19 88. Plaintiffs, on behalf of themselves and all others similarly situated, hereby incorporate  
20 by reference the allegations contained in the paragraphs within this Complaint as if fully set forth  
21 herein.

22 89. APS owed a duty to its customers to act reasonably, prudently, and in accordance with  
23 controlling law in estimating usage and demand for billing purposes.

24 90. By failing to put into place procedures, practices, oversight, and management review  
25 policies regarding compliance with such duties, APS negligently caused inaccurate and unlawful bills  
26 to be sent to consumers, which bills were paid in reliance upon the inaccurate and unlawful bills and  
27 estimates contained in such bills.

28 91. As a result of such negligent misrepresentations regarding the amounts owed by

1 customers to APS, consumers have overpaid APS to their detriment and financial damage.

2 **PRAYER FOR RELIEF**

3 WHEREFORE, Plaintiff, on behalf of herself and all others similarly situated, prays for  
4 judgement against Defendant as follows:

5 A. For an Order certifying the Class and any appropriate subclasses thereof and  
6 appointing Plaintiff and her counsel to represent the Class;

7 B. For an Order:

- 8 1. Determining and declaring the rights of Plaintiff and the other members of  
9 the Class and the corresponding responsibilities of Defendant;
- 10 2. Requiring Defendant to follow all procedures requiring arranged meter readings,  
11 customer meter readings and estimating before sending estimated bills;
- 12 3. Requiring the Defendant to read meters on a monthly basis and to cease  
13 overcharging customers for their electricity; and
- 14 4. Requiring that Defendant disgorge, for the benefit of the Class, their ill-gotten  
15 profits received from Plaintiff and the Class and/ or to make full restitution to  
16 Plaintiff and the other members of the Class, including all funds received by  
17 reason of estimated billings sent out without following the pre-conditions for  
18 sending such bills as provided by Regulation.

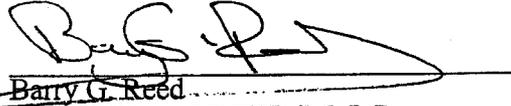
19 C. For pre- and post-judgement interest;

20 D. For costs and disbursements incurred in connection with this action, including  
21 reasonable attorneys' fees and expert fees and costs advanced; and,

22 E. For such other and further relief as the Court deems just and proper.  
23  
24  
25  
26  
27  
28

1 DATED this 1<sup>st</sup> day of December, 2002.

2 ZIMMERMAN REED, P.L.L.P.

3 

4 ~~Barry G. Reed~~  
5 ZIMMERMAN REED P.L.L.P.  
6 14646 N. Kierland Boulevard, Suite 145  
7 Scottsdale, AZ 85254  
8 (480) 348-6400  
9 (480) 348-6415 Facsimile

10 David A. Rubin  
11 LAW OFFICES OF DAVID A. RUBIN  
12 3225 N. Central Avenue, Suite 1610  
13 Phoenix, AZ 85012-2413  
14 (602) 235-9525

15 Jeffrey M. Proper  
16 LAW OFFICES OF JEFFREY M. PROPER  
17 3550 N. Central Avenue, Suite 1200  
18 Phoenix, AZ 85012-2111  
19 (602) 235-9555  
20 (602) 235-9223 Facsimile

21  
22  
23  
24  
25  
26  
27  
28

# Exhibit A & B



Post Office Box 2907  
Phoenix, AZ 85062-2907

AVIS READ

Your Account Number  
361330282

March:  
199

Service  
Established

You are on the DEMAND ADVANTAGE RATE

Your Meter Number 906893

On Jan 22 your total kWh read was 75829  
On Dec 22 your total kWh read was 72645  
Your total kWh usage is 3184

Your kW demand read was 8.6

Basic service charge 10.00  
Charge for kWh used 110.04  
Charge for kW demand 66.05  
Sales tax 10.63  
Regulatory assessment 0.35  
Sub Total 197.07

Service Address  
6702 E MCDONALD DR

You are on the DEMAND ADVANTAGE RATE

Your Meter Number 906893

On Feb 19 your total kWh read was 78689  
On Jan 22 your total kWh read was 75829  
Your total kWh usage is 2860

This month's read was estimated - LOCKED GATE

Your kW demand read was 8.7

Basic service charge 10.00  
Charge for kWh used 98.84  
Charge for kW demand 66.82  
Sales tax 10.03  
Regulatory assessment 0.33  
Sub Total 186.02

Service Address  
6702 E MCDONALD DR

You are on the DEMAND ADVANTAGE RATE

Your Meter Number 906893

Continued on next page

Please return lower portion with payment. When paying in person, bring entire bill.



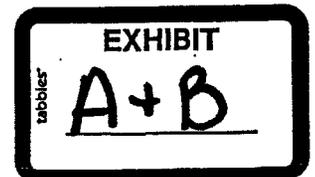
Billing Date  
Mar 31, 1999

Account Number  
361330282

Account  
38131

Billing  
Mar 31, 1

Your prompt payment is appreciated. Thank you!



If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
\$2,134.24

KEEP THIS  
PORTION  
YOUR RECORD

15 R

00000003613302824019990331000076020300021342462 000



Post Office Box 2907  
Phoenix, AZ 85062-2907

**AVIS READ**

Your Account Number  
361330282

March 31, 1999

Service Address  
6702 E MCDONALD DR

You are on the DEMAND ADVANTAGE RATE

Your Meter Number 906893

On Nov 20 your total kWh read was 69043  
On Oct 21 your total kWh read was 66143  
Your total kWh usage is 2900

Your kW demand read was 9.7

Basic service charge	10.00
Charge for kWh used	100.22
Charge for kW demand	74.50
Sales tax	10.18
Regulatory assessment	0.36
<b>Sub Total</b>	<b>195.26</b>

Service Address  
6702 E MCDONALD DR

You are on the DEMAND ADVANTAGE RATE

Your Meter Number 906893

On Dec 22 your total kWh read was 72645  
On Nov 20 your total kWh read was 69043  
Your total kWh usage is 3602

Your kW demand read was 9.5

Basic service charge	10.00
Charge for kWh used	124.49
Charge for kW demand	72.96
Sales tax	11.43
Regulatory assessment	0.40
<b>Sub Total</b>	<b>219.28</b>

Service Address  
6702 E MCDONALD DR

Continued on next page  
Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Mar 31, 1999

Account Number  
361330282

Acco  
36  
Bill  
Mar 3

Your prompt payment is appreciated. Thank you!

15 R

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
\$2,134.24

KEEP TI  
PORTION  
YOUR RI

00000003613302824019990331000076020300021342462 000



Post Office Box 2907  
Phoenix, AZ 85062-2907

AVIS READ

Your Account Number  
361330282

Mar 31, 1999

Please see b  
additional inf

DO BUSINESS WITH  
US ONLINE AT  
www.aps.com

Once you have a password  
you can perform the  
following activities  
on-line with APS 24 hours  
a day, seven days a week:

- \* connect service
- \* disconnect service
- \* check your account  
balance
- \* transfer service to  
another APS location  
5 a.m. to 8 p.m. only:
- \* make payment  
arrangements
- \* signup for Equalizer

To receive your password,  
visit the customer  
service section of our  
website and complete an  
on-line registration  
form.

We appreciate your business. Thank you!

**THIS MONTH'S ELECTRIC BILLING INFORMATION**

**Service Address**  
6826 E SOLCITO LN

You are on the **STANDARD RATE**

Your Meter Number A93326

On Mar 19 your meter read was  
On Mar 03 your meter read was  
Your total kWh usage is

96665  
96063  
602

Basic service charge  
Charge for kWh used

4.00  
48.44

Service establishment charge  
Sales tax  
Regulatory assessment  
Sub Total

25.00  
4.43  
0.15  
82.02

**Service Address**  
6702 E McDONALD DR

You are on the **DEMAND ADVANTAGE RATE**

Your Meter Number 906893

On Oct 21 your total kWh read was  
On Sep 22 your total kWh read was  
Your total kWh usage is

66143  
62510  
3633

Your kW demand read was

9.9

Basic service charge  
Charge for kWh used  
Charge for kW demand  
Sales tax  
Regulatory assessment  
Sub Total

10.00  
151.31  
106.03  
14.73  
0.52  
282.59

DEPT X  
067

Continued on next page



Post Office Box 2907  
Phoenix, AZ 85062-2907

**AVIS READ**

Your Account Number  
361330282

March 31,

On Mar 19 your total kWh read was  
On Feb 19 your total kWh read was  
Your total kWh usage is

82266  
78689  
3577

Your kW demand read was

11.9

Basic service charge  
Charge for kWh used  
Charge for kW demand  
Sales tax  
Regulatory assessment  
Sub Total

10.00  
123.62  
91.39  
12.85  
0.42  

---

238.28

**Billing Summary**

Previous Billing as of 11/06/1998  
Payment 11/19/1998  
Total Current Month Billing

1,228.17  
-494.45  
1,400.52

**Total Amount Due**

**\$2,134.24**

**THANK YOU FOR YOUR PAYMENT**

If we can help please call (602)371-7171  
Para servicio en español llame al (602)371-6861

**Total billing amount due on presentation**

Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Mar 31, 1999

Account Number  
361330282

Account  
3613

Billing  
Mar 31,

Your prompt payment is appreciated. Thank you!

15 R

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
\$2,134.24

**KEEP THIS  
PORTION IN  
YOUR RECI**

000000003613302824019990331000076020300021342462 000



Post Office Box 2907  
Phoenix, AZ 85062-2907

AVIS READ

Your Account Number  
361330282

**DO BUSINESS WITH US ONLINE AT**  
www.apsc.com

Once you have a password you can perform the following activities on-line with APS 24 hours a day, seven days a week:

- \* connect service
- \* disconnect service
- \* check your account balance
- \* transfer service to another APS location

5 a.m. to 8 p.m. only:

- \* make payment arrangements
- \* signup for Equalizer

To receive your password, visit the customer service section of our website and complete an on-line registration form.

We appreciate your business. Thank you!

**THIS MONTH'S ELECTRIC BILLING INFORMATION**

Please see back additional info

**Service Address**  
6826 E SOLCITO LN

You are on the **STANDARD RATE**

Your Meter Number A93326

On Apr 21 your meter read was **98453**  
On Mar 19 your meter read was **96665**  
Your total kWh usage is **1788**

Basic service charge	7.50
Charge for kWh used	143.88
Sales tax	8.64
Regulatory assessment	0.28
<b>Sub Total</b>	<b>160.30</b>

**Service Address**  
6702 E McDONALD DR

You are on the **DEMAND ADVANTAGE RATE**

Your Meter Number 906893

On Apr 21 your total kWh read was **85622**  
On Mar 19 your total kWh read was **82266**  
Your total kWh usage is **3356**

This month's read was estimated - **BLOCKED METER**

Your kW demand read was **10.2**

Basic service charge	10.00
Charge for kWh used	115.98
Charge for kW demand	78.34
Sales tax	11.67
Regulatory assessment	0.38
<b>Sub Total</b>	<b>216.37</b>

*[Handwritten signature]*  
*Mc*

Continued on next page  
Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Apr 23, 1999

Account Number  
361330282

Account I  
361331

Billing  
Apr 23, 19



AVIS READ  
6826 E SOLCITO LN  
SCOTTSDALE AZ 85253-5345

CA CK GC MO TC  
ENTER AMOUNT ENCLOSED

ENTER S.H.A.R.E. AMOUNT

TOTAL CURRENT BILLING  
PAST DUE AFTER  
05/06/1999

MAKE CHECK  
Arizona Public

Check No. \_\_\_\_\_

Date paid \_\_\_\_\_

Amount \_\_\_\_\_

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
**\$2,510.91**

**KEEP THIS PORTION OF YOUR RECO**



Post Office Box 2907  
Phoenix, AZ 85062-2907

AVIS READ

Your Account Number  
361330282

**Billing Summary**

Previous Billing as of 03/31/1999	2,134.24
Total Current Month Billing	376.67
<b>Total Amount Due</b>	<b>\$2,510.91</b>

If we can help please call (802)371-7171  
Para servicio en español llame al (802)371-6861

**Total billing amount due on presentation**

Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Apr 23, 1999

Account Number  
361330282

Account No  
36133028

Billing Date  
Apr 23, 1999

Your prompt payment is appreciated. Thank you!

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
\$2,510.91

**KEEP THIS 81  
PORTION FOR  
YOUR RECORD!**



Post Office Box 2907  
Phoenix, AZ 85062-2907

AVIS READ

Your Account Number  
361330282

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19

We appreciate your business. Thank you!

Please see back  
additional information

**LEARNING ABOUT  
DEREGULATION  
CAN BE FUN**

As Arizona readies itself for electric industry competition, you can learn more about deregulation and have a little fun in the process.

You can become deregulation savvy and have a chance to win Arizona Diamondback tickets by playing Deregulation Dynamo on APS' website, [www.apsc.com](http://www.apsc.com).

While on the web, also download the "Consumer Guide to Deregulation" - a comprehensive look at the road ahead. You can also get a copy of the guide - available in English and Spanish - by calling APS' Deregulation Hotline at (602) 371-8816 or 1-800-253-9405.

**THIS MONTH'S ELECTRIC BILLING INFORMATION**

Service Address  
6826 E SOLCITO LN

You are on the STANDARD RATE

Your Meter Number A93328

On May 20 your meter read was 1495  
On Apr 21 your meter read was 98453  
Your total kWh usage is 3042

Basic service charge	7.50
Charge for kWh used	369.48
Sales tax	21.52
Regulatory assessment	0.71
<b>Sub Total</b>	<b>399.21</b>

Service Address  
6702 E McDONALD DR

You are on the DEMAND ADVANTAGE RATE

Your Meter Number 906893

On May 20 your total kWh read was 89244  
On Apr 21 your total kWh read was 85622  
Your total kWh usage is 3622

This month's read was estimated

Your kW demand read was 11.0

Basic service charge	10.00
Charge for kWh used	150.86
Charge for kW demand	117.81
Sales tax	15.91
Regulatory assessment	0.52
<b>Sub Total</b>	<b>295.10</b>

Continued on next page

When meter is present, bring entire bill



Post Office Box 2907  
Phoenix, AZ 85062-2907

AVIS READ

Your Account Number  
361330282

Mc

**Billing Summary**

Previous Billing as of 04/23/1999	2,510.91
Payment 04/29/1999	-82.02
Total Current Month Billing	694.31

**Total Amount Due** \$3,123.20

THANK YOU FOR YOUR PAYMENT

If we can help please call (802)371-7171  
Para servicio en español llame al (802)371-8881

Total billing amount due on presentation

Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
May 24, 1999

Account Number  
361330282

Account  
3613

Billing  
May 24,

Your prompt payment is appreciated. Thank you!

15 R

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
\$3,123.20

KEEP THIS  
PORTION OF  
YOUR RECO

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Post Office Box 2907  
Phoenix, AZ 85062-2907

AVIS READ

A933 P

Your Account Number  
361330282

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1<sup>c</sup>

Please see 1  
additional in

**PAY YOUR APS BILL ANYTIME WITH OUR NEW AUTOMATED PAYMENT TERMINALS.**

The APS Offices located at 17th Ave. & Bell and 12th St. & Northern now have automated payment terminals (similar to ATM machines) that make it convenient for you to pay your APS bill anytime: 7 days a week, 24 hours a day.

The terminals are easy to use -- you'll receive on-screen, step-by-step instructions (in English or Spanish) to "walk" you through the payment process.

You can pay with cash, check or money order and you'll receive a receipt for your payment.

Note: Be sure to bring your bill.

We appreciate your business. Thank you!

**THIS MONTH'S ELECTRIC BILLING INFORMATION**

Service Address  
6826 E SOLCITO LN

You are on the STANDARD RATE

Your Meter Number A93326

On May 20 your meter read was 1495  
On Apr 21 your meter read was 98453  
Your total kWh usage is 3042

Basic service charge	7.50
Charge for kWh used	369.48
Sales tax	21.52
Regulatory assessment	0.71
<b>Sub Total</b>	<b>399.21</b>

Service Address  
6826 E SOLCITO LN

You are on the STANDARD RATE

Your Meter Number A93326

On Jun 21 your meter read was 4988  
On May 20 your meter read was 1495  
Your total kWh usage is 3493

This month's read was estimated - LOCKED GATE

Basic service charge	7.50
Charge for kWh used	428.34
Sales tax	24.89
Regulatory assessment	0.82
<b>Sub Total</b>	<b>461.55</b>

Service Address  
6702 E MCDONALD DR

You are on the DEMAND ADVANTAGE RATE

Continued on next page

Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Jul 22, 1999

Account Number  
361330282

Account  
3813

Billing  
Jul 22, 11

MAKE CHEC  
Arizona Publ

Check No. \_

Date paid \_

Amount \_

KEEP THIS  
PORTION F  
YOUR RECC



AVIS READ  
6826 E SOLCITO LN  
SCOTTSDALE AZ 85253-5345

CA CK GC MO TC  
ENTER AMOUNT ENCLOSED

ENTER S.H.A.R.E. AMOUNT

TOTAL CURRENT BILLING  
PAST DUE AFTER  
08/04/1999

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
\$3,849.08

15 R

00000003613302824019990722000232478800038490811 000



Post Office Box 2907  
Phoenix, AZ 85082-2907

**AVIS READ**

Your Account Number  
361330282

On Jun 21 your total kWh read was 93392  
On May 20 your total kWh read was 89244  
Your total kWh usage is 4148

This month's read was estimated - BLOCKED METER

Your kW demand read was 12.0

Basic service charge	10.00
Charge for kWh used	172.76
Charge for kW demand	128.52
Sales tax	17.77
Regulatory assessment	0.58
<b>Sub Total</b>	<b>329.63</b>

Service Address  
6702 E MCDONALD DR

You are on the DEMAND ADVANTAGE RATE

On Jun 21 your total kWh read was 93392  
On May 20 your total kWh read was 89244  
Your total kWh usage is 4148

This month's read was estimated - BLOCKED METER

Your kW demand read was 12.0

Basic service charge	0.00
Charge for kWh used	0.00
Charge for kW demand	0.00
Sales tax	0.00
Regulatory assessment	0.00
<b>Sub Total</b>	<b>0.00</b>

Service Address  
6702 E MCDONALD DR

You are on the DEMAND ADVANTAGE RATE

Continued on next page  
Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Jul 22, 1999

Account Number  
361330282

Account  
361

Bill  
Jul 22,

Your prompt payment is appreciated. Thank you!

15 R

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE

\$3,849.08

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PORTION  
YOUR RE

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Post Office Box 2907  
Phoenix, AZ 85062-2907

**AVIS READ**

Your Account Number  
361330282

On Jul 08 your total kWh read was	97808
On Jun 21 your total kWh read was	93392
Your total kWh usage is	4416
 Your kW demand read was	 23.6
Basic service charge	5.00
Charge for kWh used	183.93
Charge for kW demand	126.38
Sales tax	18.01
Regulatory assessment	0.59
Sub Total	<u>333.91</u>

**Billing Summary**

Previous Billing as of 05/24/1999	3,123.20
Payment 06/07/1999	-399.21
Adjustment to prior	-399.21
Total Current Month Billing	1,524.30
 <b>Total Amount Due</b>	 <b>\$3,849.08</b>

**THANK YOU FOR YOUR PAYMENT**

If we can help please call (602)371-7171  
Para servicio en español llame al (602)371-6861

**Total billing amount due on presentation**

Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Jul 22, 1999

Account Number  
361330282

Account  
3813:

Billing  
Jul 22, 11

Your prompt payment is appreciated. Thank you!

15 R

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
\$3,849.08

**KEEP THIS  
PORTION!  
YOUR REC**

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Post Office Box 2907  
Phoenix, AZ 85062-2907

AVIS READ

Your Account Number  
361330282

July 23

**PAY YOUR APS BILL ANYTIME WITH OUR NEW AUTOMATED PAYMENT TERMINALS**

The APS Offices located at 17th Ave. & Bell and 12th St. & Northern now have automated payment terminals (similar to ATM machines) that make it convenient for you to pay your APS bill anytime: 7 days a week, 24 hours a day.

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You can pay with cash, check or money order and you'll receive a receipt for your payment.

Note: Be sure to bring your bill.

We appreciate your business. Thank you!

**THIS MONTH'S ELECTRIC BILLING INFORMATION**

Please see additional I

Service Address  
6826 E SOLCITO LN

You are on the STANDARD RATE

Your Meter Number A93326

On Jul 21 your meter read was 8213  
On Jun 21 your meter read was 4988  
Your total kWh usage is 3225

This month's read was estimated - LOCKED GATE

Basic service charge	7.50
Charge for kWh used	393.36
Sales tax	22.89
Regulatory assessment	0.75
<b>Sub Total</b>	<b>424.50</b>

**Billing Summary**

Previous Billing as of 07/22/1999	3,849.08
Total Current Month Billing	424.50

**Total Amount Due \$4,273.58**

If we can help please call (602)371-7171  
Para servicio en español llame al (602)371-6861

**Total billing amount due on presentation**

Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Jul 23, 1999

Account Number  
361330282

Account  
36133

Billing  
Jul 23, 1999



AVIS READ  
6826 E SOLCITO LN  
SCOTTSDALE AZ 85253-5345

CA CK GC MO TC  
ENTER AMOUNT ENCLOSED

ENTER S.H.A.R.E. AMOUNT

TOTAL CURRENT BILLING  
PAST DUE AFTER  
08/05/1999

MAKE CHECK  
Arizona Public

Check No. \_\_\_\_\_

Date paid \_\_\_\_\_

Amount \_\_\_\_\_

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
**\$4,273.58**

**KEEP THIS PORTION FOR YOUR RECORDS**

15 R

0000000036133028240199907230003849081000427358-3 000



Post Office Box 2907  
Phoenix, AZ 85062-2907

AVIS READ

Your Account Number  
361330282

**OUR BILLING ENVELOPES ARE CHANGING**

Our brownish-green envelopes made from recycled telephone book yellow pages are no longer available.

So, to continue our strong commitment to the environment, we're changing to envelopes made from recycled undeliverable bulk business mail from the U.S. Postal Service. These envelopes are white with black specks.

Until our current stock of green envelopes is depleted, you may see a mix of green and white envelopes.

---

**YOU CAN HELP PREVENT CHILD ABUSE ...** by checking off a box on your Arizona Tax Return and contributing to the Child Abuse Prevention Fund. This special fund supports community programs that have proven to be effective in educating parents and keeping children safe.

We appreciate your business. Thank you!

**THIS MONTH'S ELECTRIC BILLING INFORMATION**

Please see additional

**Service Address**  
6826 E SOLCITO LN

**Service Number** 8665S10281

You are on the **STANDARD RATE**

**Your Meter Number** A93326

On Sep 17 your meter read was **13330**  
On Aug 18 your meter read was **10924**  
Your total kWh usage is **2406**

This month's read was estimated - LOCKED GATE

Basic service charge	7.50
Charge for kWh used	286.48
Sales tax	16.79
Regulatory assessment	0.55
<b>Sub Total</b>	<b>311.32</b>

**Service Address**  
6826 E SOLCITO LN

**Service Number** 8665S10281

You are on the **STANDARD RATE**

**Your Meter Number** A93326

On Oct 18 your meter read was **16822**  
On Sep 17 your meter read was **13330**  
Your total kWh usage is **3492**

This month's read was estimated - LOCKED GATE

Basic service charge	7.50
Charge for kWh used	424.02
Sales tax	24.63
Regulatory assessment	0.81
<b>Sub Total</b>	<b>456.96</b>

Continued on next page  
Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Feb 24, 2000

Account Number  
361330282

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Feb 24,



AVIS READ  
6826 E SOLCITO LN  
SCOTTSDALE AZ 85253-5345

CA CK GC MO TC  
ENTER AMOUNT ENCLOSED

MAKE CHE  
Arizona Put  
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ENTER S.H.A.R.E. AMOUNT

Date paid

TOTAL CURRENT BILLING  
PAST DUE AFTER  
03/08/2000

Amount

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
**\$6,336.46**

**KEEP THI  
PORTION  
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00000003613302824020000224000461430100063364640 000



Post Office Box 2907  
Phoenix, AZ 85062-2907

**AVIS READ**

Your Account Number  
361330282

Service Address  
6826 E SOLCITO LN

Service Number 8865S10281

You are on the STANDARD RATE

Your Meter Number A93326

On Nov 17 your meter read was 19723  
On Oct 18 your meter read was 16822  
Your total kWh usage is 2901

This month's read was estimated - LOCKED GATE

Basic service charge	7.50
Charge for kWh used	229.53
Sales tax	13.53
Regulatory assessment	0.44
<b>Sub Total</b>	<b>251.00</b>

Service Address  
6826 E SOLCITO LN

Service Number 8865S10281

You are on the STANDARD RATE

Your Meter Number A93326

On Dec 17 your meter read was 22623  
On Nov 17 your meter read was 19723  
Your total kWh usage is 2900

This month's read was estimated - LOCKED GATE

Basic service charge	7.50
Charge for kWh used	229.45
Sales tax	13.53
Regulatory assessment	0.44
<b>Sub Total</b>	<b>250.92</b>

Continued on next page  
Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Feb 24, 2000

Account Number  
361330282

Account  
36133

Billing  
Feb 24, 2000

Your prompt payment is appreciated. Thank you!



Post Office Box 2907  
Phoenix, AZ 85062-2907

AVIS READ

Your Account Number  
361330282

Service Address  
6826 E SOLCITO LN

Service Number 8665S10281

You are on the STANDARD RATE

Your Meter Number A93326

On Jan 19 your meter read was	25814	
On Dec 17 your meter read was	22623	
Your total kWh usage is		3191

This month's read was estimated - LOCKED GATE

Basic service charge	7.50
Charge for kWh used	252.47
Sales tax	14.84
Regulatory assessment	0.52
Sub Total	<u>275.33</u>

Service Address  
6826 E SOLCITO LN

Service Number 8665S10281

You are on the STANDARD RATE

Your Meter Number A93326

On Feb 17 your meter read was	27827	
On Jan 19 your meter read was	25814	
Your total kWh usage is		2013

This month's read was estimated - LOCKED GATE

Basic service charge	7.50
Charge for kWh used	159.27
Price decrease credit	-12.04
Sales tax	8.85
Regulatory assessment	0.31
Sub Total	<u>163.89</u>

Continued on next page  
Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Feb 24, 2000

Account Number  
361330282

Acco  
36  
Bill  
Feb 2

Your prompt payment is appreciated. Thank you!



Post Office Box 2907  
Phoenix, AZ 85062-2907

AVIS READ

Your Account Number  
361330282

**Billing Summary**

Previous Billing as of 08/23/1999 4,627.04  
Total Current Month Billing 1,709.42

**Total Amount Due \$6,336.46**

If we can help please call (602)371-7171  
Para servicio en espanol llame al (602)371-6861

**Total billing amount due on presentation**

Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Feb 24, 2000

Account Number  
361330282

Account  
36133

Billing  
Feb 24, 2

Your prompt payment is appreciated. Thank you!

15 R 1

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
\$6,336.46

KEEP THIS  
PORTION F  
YOUR RECC

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Post Office Box 2907  
Phoenix, AZ 85062-2907

**AVIS READ**

Your Account Number  
361330282

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M  
2

We appreciate your business. Thank you!

Please see back  
additional inform

**IMPORTANT NOTICE**

This month's energy usage was calculated based on a meter read obtained either before or after the meter read date shown on this bill.

**IMPORTANT NOTICE**

Installation of the Automated Payment Terminal at our North Valley Customer Office, 4812 E. Bell Road, is delayed to April 1st. Please see this month's Outlets newsletter for more Automated Payment Terminal information.

Service Address 6826 E SOLCITO LN

Service Number 8665S10281

Your Service Plan STANDARD RATE

Your Meter Number A93326 Your meter is read in cycle 15

On Dec 17 your meter read was 24756  
On Nov 17 your meter read was 19723  
Your total kWh usage is 5033

Basic service charge	7.50
Charge for kWh used	398.21
Regulatory assessment	0.76
Sales tax	23.17
<b>Sub Total</b>	<b>429.64</b>

Service Address 6826 E SOLCITO LN

Service Number 8665S10281

Your Service Plan STANDARD RATE

Your Meter Number A93326 Your meter is read in cycle 15

On Jan 19 your meter read was 30292  
On Dec 17 your meter read was 24756  
Your total kWh usage is 5536

Basic service charge	7.50
Charge for kWh used	438.01
Regulatory assessment	0.89
Sales tax	25.44
<b>Sub Total</b>	<b>471.84</b>

Service Address 6826 E SOLCITO LN

Service Number 8665S10281

Continued on next page



Post Office Box 2907  
Phoenix, AZ 85062-2907

**AVIS READ**

Your Account Number  
361330282

*Marc  
200*

Your Service Plan STANDARD RATE

Your Meter Number A93328 Your meter is read in cycle 15

On Feb 17 your meter read was **35157**  
On Jan 19 your meter read was **30292**  
Your total kWh usage is **4865**

Basic service charge	7.50
Charge for kWh used	384.92
Adjustment to prior	-236.95
Adjustment to prior	-259.97
Adjustment to prior	-166.77
Regulatory assessment	-0.51
Sales tax	-15.49
<b>Sub Total</b>	<b>-287.27</b>

**Billing Summary**

Previous Billing as of 02/24/2000 **6,336.46**  
Total Current Month Billing **614.21**

**Total Amount Due** **\$6,950.67**  
**Total billing amount due on Presentation**

If you have questions please call (602)371-7171  
Para servicio en español llame al (602)371-6861

When making payments, please indicate bill



Post Office Box 2907  
Phoenix, AZ 85062-2907  
www.apsc.com

**AVIS READ**

Your Account Number  
361330282

Bill  
Ma  
2

**OUR BILLING ENVELOPES ARE CHANGING**

Our brownish-green envelopes made from recycled telephone book yellow pages are no longer available.

So, to continue our strong commitment to the environment, we're changing to envelopes made from recycled undeliverable bulk business mail from the U.S. Postal Service. These envelopes are white with black specks.

Until our current stock of green envelopes is depleted, you may see a mix of green and white envelopes.

We appreciate your business. Thank you!

Please see back additional inform:

Service Address 6826 E SOLCITO LN  
Service Number 8665S10281  
Your Service Plan STANDARD RATE  
Your Meter Number A93328 Your meter is read in cycle 15

On Mar 21 your meter read was 36399  
On Feb 17 your meter read was 35157  
Your total kWh usage is 1242

This month's read was estimated - LOCKED GATE:

Basic service charge	7.50
Charge for kWh used	98.27
Regulatory assessment	6.21
Sales tax	6.04
<b>Sub Total</b>	<b>112.02</b>

**Billing Summary**

Previous Billing as of 03/07/2000	6,956.67
Payment 03/20/2000	-471.84
<b>Total Current Month Billing</b>	<b>112.02</b>

**Total Amount Due**  
**Total billing amount due on Presentation**

**\$6,590.85**

THANK YOU FOR YOUR PAYMENT

If you have questions please call (802)371-7171  
Para servicio en español llame al (802)371-6861

112.02  
Pd  
3/30/01  
CKH

When meter is present, when meter is present, bring entire bill



Post Office Box 2907  
Phoenix, AZ 85062-2907  
www.apsc.com

**AVIS READ**

Your Account Number  
361330282

20

Please see ba  
additional info

**CELEBRATING OUR  
CUSTOMERS**

New advertisements from  
APS feature what we  
value most - our  
customers. The new ads  
celebrate the values,  
culture and history APS  
shares with the people  
of Arizona.

**HELP PREVENT  
CHILD ABUSE**

Thanks to a partnership  
between APS, The Arizona  
Republic, Fry's and the  
Governor's Division for  
Children, you can help  
put an end to child abuse  
in Arizona by purchasing  
a CHILD ABUSE  
PREVENTION LICENSE  
PLATE for \$25.

The entire amount will  
support primary  
prevention programs  
throughout the state  
-- programs that will  
stop the pain before it  
starts.

Order your license plate  
online at [azcentral.com](http://azcentral.com).

We appreciate your business. Thank you!

Service Address 6826 E SOLCITO LN

Service Number 8665S10281

Your Service Plan STANDARD RATE

Your Meter Number A93326 Your meter is read in cycle 15

On Apr 18 your meter read was  
On Mar 21 your meter read was  
Your total kWh usage is

38187  
36399  
1788

This month's read was estimated - LOCKED GATE

Basic service charge  
Charge for kWh used  
Regulatory assessment  
Sales tax  
Sub Total

7.50  
141.47  
0.30  
8.50  

---

157.77

**Billing Summary**

Previous Billing as of 03/27/2000  
Payment 03/31/2000  
Total Current Month Billing

6,590.85  
-112.02  
157.77

**Total Amount Due**  
**Total billing amount due on Presentation**

\$6,636.60

THANK YOU FOR YOUR PAYMENT

If you have questions please call (602)371-7171  
Para servicio en español llame al (602)371-8861

pd 5/2/01  
\$157.77  
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Post Office Box 2907  
Phoenix, AZ 85062-2907  
www.apsc.com

**AVIS READ**

Your Account Number  
361330282

**B**  
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**NEW OFFICE HOURS**

Beginning on July 24, the APS Customer Office located at 7824 N 12th Street will have new business hours. The new hours are 8:30 a.m. to 5 p.m., Monday through Friday.

For your convenience, the Automated Payment Terminal at this location will remain open 24 hours a day, seven days a week.

Also, through BillMatrix, you can pay your APS bill online (www.apsc.com) or via phone (1-800-511-2385). Using the FREE check service, your credit card or Star System ATM card, you can pay your bill from the convenience of your home or business.

A fee, which is detailed on the Website, is charged by BillMatrix for credit or ATM card usage.

We appreciate your business. Thank you!

Please see back additional inform

Service Address 6826 E SOLCITO LN

Service Number 8665S10281

Your Service Plan STANDARD RATE

Your Meter Number A93326 Your meter is read in cycle 15

On May 18 your meter read was	41229	
On Apr 18 your meter read was	38187	
Your total kWh usage is		3042

This month's read was estimated - LOCKED GATE

Basic service charge	7.50
Charge for kWh used	363.28
Regulatory assessment	0.74
Sales tax	21.18
<b>Sub Total</b>	<b>392.70</b>

**Billing Summary**

Previous Billing as of 04/26/2000	6,636.60
Payment 05/04/2000	-157.77
Payment 05/11/2000	-6,478.83
<b>Total Current Month Billing</b>	<b>392.70</b>

<b>Total Amount Due</b>	<b>\$392.70</b>
<b>Total billing amount due on Presentation</b>	

**THANK YOU FOR YOUR PAYMENTS**

If you have questions please call (802)371-7171  
Para servicio en español llame al (802)371-8861



Post Office Box 2907  
Phoenix, AZ 85062-2907  
www.apsc.com

**AVIS READ**

**Your Account Number**  
361330282

**BILL PAYMENT  
REMINDER**

A 1.5 percent late payment fee is charged if APS does not receive your payment within 25 days of the billing date.

An easy way to assure that your payment is received on time and avoid paying the late fee is to sign up for SurePay.

With SurePay your bank automatically pays your APS bill for you - and your money stays in the bank until the day your payment is due.

You'll find a signup form on our website (www.apsc.com) or we'll be happy to mail a form to you. Just give us a call at 602-371-7171 (metro Phoenix area) or 800-253-9405 (other areas).

We appreciate your business. Thank you!

Please see additional i

**Service Number** 8685S10281      **Service Address** 6826 E SOLCITO LN

**Your Service Plan** STANDARD RATE

**Your Meter Number** A93326      **Your meter is read in cycle** 15

**On Aug 18 your meter read was** 60333  
**On Jul 19 your meter read was** 57429  
**Your total kWh usage is** 2904

**This month's read was estimated - LOCKED GATE**

Basic service charge	7.50
Charge for kWh used	339.75
Regulatory assessment	0.69
Sales tax	19.84
<b>Sub Total</b>	<b>367.78</b>

**Billing Summary**

Previous Billing as of 07/25/2000	1,688.10
Payment 08/25/2000	-1,688.10
<b>Total Current Month Billing</b>	<b>367.78</b>

**Total Amount Due** \$367.78  
**Total billing amount due on Presentation**

**Questions? Call 602-371-7171. We're open 24 hours, 7 days a week.**  
**Para servicio en español llame al 602-371-6861.**

Please return lower portion with payment. When paying in person, bring entire bill.



**Billing Date**  
Sep 11, 2000

**Account Number**  
361330282

**Account**  
361

**Bill**  
Sep 11,



**AVIS READ**  
6826 E SOLCITO LN  
SCOTTSDALE AZ 85253-5345

CA CK GC MO TC  
ENTER AMOUNT ENCLOSED

**MAKE CHECK**  
Arizona Pu

**Check No.**

ENTER S.H.A.R.E. AMOUNT

**Date paid**

TOTAL CURRENT BILLING  
PAST DUE AFTER  
09/22/2000

**Amount**

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

**TOTAL AMOUNT DUE**  
\$367.78

**KEEP THE  
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Post Office Box 2907  
Phoenix, AZ 85062-2907  
www.aps.com

AVIS READ

Your Account Number  
361330282

*SEP 22/2*

**BILL PAYMENT  
REMINDER**

A 1.5 percent late payment fee is charged if APS does not receive your payment within 25 days of the billing date.

An easy way to assure that your payment is received on time and avoid paying the late fee is to sign up for SurePay.

With SurePay your bank automatically pays your APS bill for you -- and your money stays in the bank until the day your payment is due.

You'll find a signup form on our website (www.aps.com) or we'll be happy to mail a form to you. Just give us a call at 602-371-7171 (metro Phoenix area) or 800-253-9405 (other areas).

We appreciate your business. Thank you!

Please see additional in

Service Number 8665S10281 Service Address 6826 E SOLCITO LN

Your Service Plan STANDARD RATE

Your Meter Number A93326 Your meter is read in cycle 15

On Sep 18 your meter read was 70188  
On Aug 18 your meter read was 68333  
Your total kWh usage is 9855

Basic service charge 7.58  
Charge for kWh used 1,216.69  
Regulatory assessment 2.44  
Sales tax 69.92  
Sub Total 1,296.55

**Billing Summary**

Previous Billing as of 09/11/2000 367.78  
Total Current Month Billing 1,296.55

**Total Amount Due \$1,664.33**  
**Total billing amount due on Presentation**

Questions? Call 602-371-7171. We're open 24 hours, 7 days a week.  
Para servicio en español llame al 602-371-6861.

Continued on next page

Please return lower portion with payment. When paying in person, bring entire bill.



Billing Date  
Sep 22, 2000

Account Number  
361330282

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AVIS READ  
6826 E SOLCITO LN  
SCOTTSDALE AZ 85253-5345

CA CK GC MO TC  
ENTER AMOUNT ENCLOSED

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Arizona I

Check No

ENTER S.H.A.R.E. AMOUNT

Date paid

TOTAL CURRENT BILLING  
PAST DUE AFTER  
10/05/2000

Amount

If contributing to S.H.A.R.E.  
please enter amount in S.H.A.R.E.  
box and add to your total

TOTAL AMOUNT DUE  
\$1,664.33

KEEP 1  
PORTION  
YOUR #

# Exhibit C

## Contract Provisions and Warranty

APS offers a selection of rate schedules applicable to certain classes of service. Customers have the option of selecting the APS rate schedule they want to be effective initially or after service has been established. Customers who elect to go with an alternate rate schedule after service has been established must submit their request in writing to APS. Billing under the new, alternate rate will become effective from or after the next meter reading, or when the appropriate metering equipment is in place. No further changes, however, may be made within the succeeding twelve-month period. Where the rate schedule or contract pursuant to which customer is provided services specifies a set term, the customer may not exercise the option to select an alternate rate schedule until expiration of that term.

Any APS customer who chooses a Direct Access service provider may return to APS full service in accordance with the rules, regulations, and orders of the Arizona Corporation Commission (ACC). However, if the customer returns to APS full service, they will not be eligible to choose to switch back to Direct Access for the succeeding twelve (12) month period. If a customer returning to APS full service, in accordance with the rules, regulations and orders of the ACC, was not given the required notification in accordance with the rules and regulations of the ACC, by their Load Serving ESP of its intent to cease providing competitive services, then the above provision will only apply if the customer fails to select another ESP within sixty (60) days of returning to APS full service.

If the Load Serving ESP, customer, and/or its agent request a joint site meeting for removal of APS metering and associated equipment and/or lock ring, a base charge will be assessed of \$30.00 per site for the Phoenix metropolitan area and \$75.00 per site for all other areas. APS may assess an additional charge of \$30.00 per hour for joint site meetings that exceed thirty (30) minutes. In the event APS must temporarily replace the ESP's meter and/or associated metering equipment as necessary during emergency situations or to restore power to a customer, the above charges may also apply.

The customer and APS each shall save the other harmless from and against all claims for injury or damage to persons or property occasioned by or in any way resulting from the services being provided by APS or the use thereof on their respective sides of the point of delivery. APS shall, however, have the right to suspend or terminate service in the event APS should learn of service use by customer under hazardous conditions. Customer shall exercise all reasonable care to prevent loss or damage to APS property installed on customer's premise for the purpose of supplying service to customer. The customer shall be responsible for payment for loss or damage to APS property on customer's premise arising from neglect, carelessness or misuse and shall reimburse APS for the cost of necessary repairs or replacements. The customer shall be responsible for payment for any equipment damage and/or estimated unmetered usage resulting from unauthorized breaking of seals, interfering, tampering or by-passing the meter. Customer shall be responsible for notifying APS of any failure in APS' equipment.

APS shall not be liable to customer for any damages occasioned by Load Serving ESP's equipment or failure to perform, fluctuations, interruptions or curtailment of electric service except where due to APS' willful misconduct or gross negligence. APS may, without incurring any liability therefore, suspend customer's electric service for periods reasonably required to permit APS to accomplish repairs to or changes in any of APS' facilities. The customer needs to protect his/her own sensitive equipment from harm caused by variations or interruptions in power supply.

There are no understandings, agreements, representations or warranties, express or implied (including warranties regarding merchantability or fitness for a particular purpose), not specified herein or in the applicable rules of the ACC concerning the sale and delivery of services by APS to customer. These terms and conditions and the applicable rules of the ACC state the entire obligation of APS in connection with such sales and deliveries.

APS operations are in compliance with all applicable regulations pursuant to the rules of electric competition (Article 2 Electric Utilities R14-2-201 through R14-2-212 and Article 16 Retail Electric Competition R14-2-1601 through R14-2-1618) except where APS has been granted ACC waivers.

1 The ORIGINAL and two (2) copies of  
2 the foregoing was filed by U.S. Mail  
3 this 17 day of December, 2003.

3 Clerk of the Court  
4 MARICOPA COUNTY SUPERIOR COURT  
5 101 W. Jefferson  
6 Phoenix, AZ 85003

6 Copies of the foregoing were sent  
7 by facsimile & U.S. Mail  
8 this 17 day of December, 2003 to:

8 Debra A. Hill  
9 OSBORN MALEDON  
10 2929 N. Central Avenue, Suite 2100  
11 Phoenix, Arizona 85012  
12 Attorney for Defendant

11 David A. Rubin  
12 LAW OFFICES OF DAVID A. RUBIN  
13 3550 N. Central Avenue, Suite 1201  
14 Phoenix, Arizona 85012-2111  
15 Attorney for Plaintiff

14 Jeffrey M. Proper  
15 LAW OFFICES OF JEFFREY M. PROPER  
16 3550 N. Central Avenue, Suite 1200  
17 Phoenix, Arizona 85012-2111  
18 Attorney for Plaintiff

17   
18 Stacy A. Bethea

19  
20  
21  
22  
23  
24  
25  
26  
27  
28

1 Barry G. Reed  
ZIMMERMAN REED P.L.L.P.  
2 14646 N. Kierland Boulevard, Suite 145  
Scottsdale, AZ 85254  
3 (480) 348-6400  
(480) 348-6415 Facsimile  
4 AZ Bar No. 020906

5 David A. Rubin  
LAW OFFICES OF DAVID A. RUBIN  
6 3550 N. Central Avenue, Suite 1201  
Phoenix, AZ 85012-2111  
7 (602) 235-9525  
AZ Bar No. 004856

8  
9 Jeffrey M. Proper  
LAW OFFICES OF JEFFREY M. PROPER  
3550 N. Central Avenue, Suite 1200  
10 Phoenix, AZ 85012-2111  
(602) 235-9555  
11 (602) 235-9223 Facsimile  
AZ Bar No. 003099  
12

13  
14 **IN THE SUPERIOR COURT OF THE STATE OF ARIZONA**  
**IN AND FOR THE COUNTY OF MARICOPA**  
15

16 AVIS READ,  
Individually and on Behalf of Herself and All Others  
17 Similarly Situated,

18 Plaintiffs,

19 vs.

20 ARIZONA PUBLIC SERVICE COMPANY,

21 Defendant.

No: CV 2002-010760

**[Proposed] ORDER**

(Assigned to the Honorable  
Rebecca A. Albrecht)

22 IT IS SO ORDERED that Plaintiff's Motion for Leave to File her First Amended Class Action  
23 Complaint is hereby GRANTED.  
24

25 \_\_\_\_\_  
The Honorable Rebecca A. Albrecht  
26  
27  
28

1 The ORIGINAL and two (2) copies of  
2 the foregoing were filed by U.S. Mail  
3 this 10 day of December, 2003.

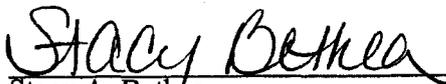
4 Clerk of the Court  
5 MARICOPA COUNTY SUPERIOR COURT  
6 101 W. Jefferson  
7 Phoenix, AZ 85003

8 Copies of the foregoing were sent  
9 by facsimile & U.S. Mail  
10 this 10 day of December, 2003 to:

11 Debra A. Hill  
12 OSBORN MALEDON  
13 2929 N. Central Avenue, Suite 2100  
14 Phoenix, Arizona 85012  
15 Attorney for Defendant

16 David A. Rubin  
17 LAW OFFICES OF DAVID A. RUBIN  
18 3550 N. Central Avenue, Suite 1201  
19 Phoenix, Arizona 85012-2111  
20 Attorney for Plaintiff

21 Jeffrey M. Proper  
22 LAW OFFICES OF JEFFREY M. PROPER  
23 3550 N. Central Avenue, Suite 1200  
24 Phoenix, Arizona 85012-2111  
25 Attorney for Plaintiff

26   
27 Stacy A. Bethea

28

Exhibit "C"  
"Revised"  
ARIZONA PUBLIC SERVICE COMPANY

Methodologies for Estimating Customer Usage Without Meter Reads  
April 21, 2004

**BACKGROUND**

Arizona Public Service Company ("APS" or "the Company") regularly encounters situations in which APS cannot obtain a complete and valid meter read. This could result from, among other reasons, the fact that a customer has not provided APS access to the meter or has diverted energy, the meter is broken, or weather conditions have made it impossible to read the meter. Without a valid meter read, the customer's energy usage must be estimated in order to render the bill for the missing-read-period.

APS uses various methods to estimate electrical usage -- depending on the circumstances -- to ensure that APS obtains the most accurate usage estimate. When APS is unable to obtain an actual meter read, the Company follows the estimation methods and procedures described below.

**SUMMARY OF ESTIMATING METHODOLOGIES**

There are two measures of electric usage that may be estimated: the amount of energy used (kWh) during the billing period and maximum demand (kW) during the billing period. To estimate energy usage (kWh), APS' preferred approach is to use the customer's average daily usage for the same season. If there is insufficient information to do so, APS then uses the customer's usage from the previous month, if it is in the same season, or the customer's usage from the same month of the previous year. For recently connected customers, APS uses the previous usage for the same premises. Because the number of days in the customer's billing period varies from one month to another, APS calculates estimated energy usage on a daily basis and multiplies this number by the number of days in the period. To estimate demand (kW), APS applies the applicable class average load factor to the estimated energy use.

The estimating methods employed by APS to estimate a meter read are listed below:

- A. Estimates for Active Accounts, Including Initial and Final Bills
  - 1. Estimating Energy Usage (kWh)
    - a. Existing Meter With Account History
      - i. Seasonal Average Method
      - ii. Previous Month Method
      - iii. Same Month Previous Year Method
      - iv. Time-of-Use Energy Allocation
    - b. New Meter Set Without Account History
  - 2. Estimating Demand (kW)
    - a. Residential Time-of-Use Demand Service Plan
    - b. Residential Non-Time-of-Use Demand Service Plan
    - c. Non-residential Demand Estimates
- B. Adjusting Estimated Usage Based on Subsequent Actual Read
- C. Estimating When Customers Divert Energy
- D. Estimating for Meter Failure
  - 1. Complete Meter Failure ("dead meters")
  - 2. Slow/Fast Meters

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**A. Estimates for Active Accounts, Including Initial and Final Bills**

APS uses the following methods for estimating electrical usage for active monthly bills, including initial and final bills, when the Company is not able to obtain a meter read.

1. ESTIMATING ENERGY USAGE (kWh)

a. Existing Meter With Account History

These situations usually occur because a customer has not provided APS personnel safe and unassisted access to the meter to obtain a read. When there is energy usage history available for the site, the Customer Information System ("CIS") or a Billing Associate will estimate the kWh usage using one or more of the following three methodologies.

- i. Seasonal Average Method. This method calculates the average usage per day for the entire season that includes the period for which there is a missing read. The resulting per day usage is multiplied by the number of days in the missing-read billing period to yield the estimate of usage for that period.

This method requires retrieval of the customer's total kWh and the total number of days for the most recent six months for the season of the missing read from CIS. The months in the two billing seasons are:

<u>Season</u>	<u>Residential</u>	<u>Business</u>
Winter	November-April	November-May
Summer	May-October	June-October

Then, using the seasonal account history, CIS or a Billing Associate will follow these steps:

- 1) Total the number of days from each of the previous six months for the appropriate season to yield Seasonal Total Days.
- 2) Total the kWh from each of the previous six months for the appropriate season to yield the Seasonal Total kWh.
- 3) Divide Seasonal Total kWh by Seasonal Total Days to yield the Seasonal Per Day Usage.
- 4) Multiply the Seasonal Per Day Usage by the number of days in the missing-read billing period to yield the kWh for the missing-read billing period.

Example of Seasonal Per Day Calculation

Assume the missing-read month is May 2003 (a summer month) and that there are 32 days in the billing period. Thus, the appropriate seasonal energy is from the six summer months of the previous year. For this example:

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<u>Month</u>	<u>Usage</u>	<u>Days</u>
May 2002	995	30
June 2002	1,532	29
July 2002	1,796	31
Aug 2002	2,098	29
Sep 2002	1,919	31
Oct 2002	<u>1,629</u>	<u>28</u>
Totals	9,969	178

Total Seasonal Usage = 9,969 kWh

Total Seasonal Days = 178 days

Missing-read Period = 32 days

Therefore:

$9,969 \div 178 = 56.01$  kWh per day

$56.01 \times 32 = 1,792$  kWh

Estimated consumption for May is 1,792 kWh.

If the account is a time-of-use rate plan, the missing-read month usage is allocated to on-peak and off-peak periods by the class average time-of-use percentages for the applicable season.

- ii. Previous Month Method. This method is used when there is not sufficient account history to use the Seasonal Average Method, but there is account history for the previous month in the same season as the missing-read month. This method calculates the estimated daily energy usage (kWh) from the previous month and multiplies it by the number of days in the missing-read billing period.

The steps in this method are as follows:

- 1) Retrieve from CIS the customer's usage and the number of days in the previous month.
- 2) Divide the previous month's usage by the number of days in the previous month to yield the per day usage.
- 3) Multiply the previous month's per day usage by the number of days in the missing-read billing period.

Example of Previous Month Per Day Calculation

Assume the missing-read month is January and the January billing period contains 32 days. For this example:

December usage = 2,369

December number of days = 27

January number of days = 32

$2,369 \div 27 = 87.74$  kWh per day previous month

$87.74 \times 32 = 2,807$  kWh for the missing-read month

January estimated usage is 2,807 kWh.

- iii. Same Month Previous Year Method. This method is used when there is insufficient account history to use the Seasonal Average Method and the previous month is in a

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different season than the missing-read month. This method is identical to the Previous Month Usage Method (see ¶ A.1.ii. above), except that usage and number of days from the same month in the previous year is used to estimate the energy usage for the missing-read period, rather than usage and number of days from the previous month in the same year.

- iv. Time-of-Use Energy Allocation. If the account is currently on a time-of-use service plan, but was not on time-of-use a year ago, the estimated usage is allocated to on-peak and off-peak based on the class average split for on-peak and off-peak energy.

Example of Same Month Previous Year Method, Time-of-Use Service Plan

Assume the same estimated energy in the previous example. The class average energy split for a time-of-use service plan in the summer months is 40% on-peak and 60% off-peak, and in the winter months it is 30% on-peak and 70% off-peak. Using these averages, the on-peak and off-peak energy calculations for this example are as follows:

Summer Month	<u>Total</u>	<u>40% On-Peak</u>	<u>60% Off-Peak</u>
	2,807 kWh	1,123	1,684
Winter Month	<u>Total</u>	<u>30% On-Peak</u>	<u>70% Off-Peak</u>
	2,807 kWh	842	1,965

b. New Meter Set Without Account History

This method is used when APS is unable to obtain a meter read at the first read of a new account. When this occurs, CIS flags the account as an "exception" and the account is routed to a Billing Associate, who estimates the usage as follows:

- i. If the number of days between the meter set and read date is less than the established threshold required to estimate usage (currently 10 days), the Billing Associate uses zero usage. Thus, the customer's first bill is only a prorated Basic Service Charge.
- ii. If the number of days is greater than the current required threshold, the Billing Associate estimates a read using a "minimum usage estimate" of kWh per day (currently 20 kWh per day) multiplied by the number of days between the original meter set and read date. For those new accounts on a time of-use rate, the "minimum usage estimate" is split at 40% on-peak during the summer and 30% on-peak during the winter. This is consistent with the methodology described in ¶ A.1.a.iv above. If the new account also has a demand meter, the demand is estimated using the same load factor methodology as mentioned in ¶ A.2 below.

2. ESTIMATING DEMAND (kW)

In general, to estimate a customer's maximum demand without an actual read, CIS or a Billing Associate estimates demand (kW) by applying the applicable class average load factor to actual or estimated energy usage (kWh). The Billing Associate may also give consideration to the customer's demand during the same month of the previous year or the demand during the preceding month to verify the estimated demand using the average load factor.

- a. Residential Time-of-Use Demand Service Plan. For those customers on a time-of-use demand service plan, APS first calculates the estimated on-peak kWh using the appropriate

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kWh estimating methodology. APS then calculates the total number of on-peak hours during the missing-read billing period by multiplying the on-peak hours per day times the estimated number of weekdays in the missing-read billing period. APS next calculates the on-peak demand by dividing the on-peak energy usage by the number of on-peak hours and the time-of-use class average on-peak load factor. Residential demands are estimated and billed to the nearest tenth of a kW. Non-residential demands are estimated and billed to the nearest whole kW.

Example of Estimating Demand for Time-of-Use Service Plan

For this example, assume the following:

Estimated on-peak energy usage = 842 kWh  
Number of weekday on-peak hours = 12<sup>1</sup>  
Number of days in the missing-read billing period = 31  
Number of weekdays in the missing-read billing period =  $5/7 \times 31 = 22$   
Class average on-peak load factor = 42%<sup>2</sup>

Then:

$22 \times 12 = 264$  on-peak hours  
 $842 \div (264 \times 0.42) = 7.6$  kW

The estimated on-peak demand for the missing-read period is 7.6 kW.

- b. Residential Non-Time-of-Use Demand Service Plan. To estimate demand for the residential non-time-of-use service plan, APS calculates the kWh usage for the missing-read billing period. APS then calculates the total number of hours in the missing-read billing period by multiplying the number of days by 24. APS calculates the monthly peak demand by dividing the estimated energy usage by the total number of hours figure multiplied by the class average load factor. Residential demands are estimated to the nearest tenth of a kW.

Example of Estimating Demand for Non-Time-of-Use Service Plan

For this example, assume the following:

Estimated energy usage = 1,160 kWh  
Number of days in missing-read billing period = 29  
Class average load factor = 35%<sup>3</sup>

<sup>1</sup> Currently, the monthly on-peak hours for ECT-1R accounts are 12 hours for each weekday. Until April 2004, the monthly on-peak hours were overstated as 13 hours for all days (based on a superceded rate schedule).

<sup>2</sup> 42% is the current average monthly on-peak load factor used to estimate demand for ECT-1R customers. From approximately March 1999 until August 2002, APS used a 50% load factor to estimate such demand; from August 2002 until April 2004, APS used a 35% figure to estimate demand for these types of accounts. These changes were based on APS' analysis of average load factors by customer classification.

<sup>3</sup> Since August 2002, APS has used a 35% average load factor to estimate demand for EC-1 customers. From approximately March 1999 until August 2002, APS used a 50% load factor to estimate demand for EC-1 customers.

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Then:

$$29 \times 24 = 696 \text{ hours}$$

$$1,160 \div (696 \times 0.35) = 4.8 \text{ kW}$$

The estimated monthly maximum demand is 4.8 kW.

- c. Non-Residential Demand Estimates. All non-residential services that must be estimated are calculated using the same methods as the residential methods above, except the average load factors for the respective class of non-residential customers are used in the calculations.

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**B. Adjusting Estimated Usage Based on Subsequent Actual Read**

When APS obtains an actual read following a previously estimated meter read that does not fall within the bounds of APS' normal "high-low" energy usage criteria for the previous month, CIS creates an exception. A Billing Associate evaluates the exception to determine if the new read indicates that the prior estimated read now appears to be significantly high or low. If the Billing Associate determines that the estimated read is either high or low, taking into account normal seasonal usage changes, then the Billing Associate will adjust the previous month's estimated read taking into account the subsequent actual read.

The amount of energy usage (kWh) can be estimated for Final and Active Monthly Bills by comparing a subsequent actual read with the last prior actual read and determining the difference to get the adjusted missing read. The difference between the last actual read prior to the estimated read, and the new actual read subsequent to the estimated read are used to calculate the per day usage. The per day usage is multiplied by the number of days for the bill to yield the total energy used in the billing periods.

*Example of Reallocation of Energy Usage Based On Subsequent Actual Read*

Assume on May 15 APS had an actual read of 19886.  
On June 16, APS estimated energy usage for 32 days (May 15 to June 16).  
On July 14 APS obtained an actual read of 23210 for 28 days (June 16 to July 14).

Total number of days:  $28 + 32 = 60$   
Total Usage:  $23210 - 19886 = 3,324$  kWh for 60 days  
Per day usage:  $3,324 \div 60 = 55.4$  kWh  
Estimated June usage:  $32 \times 55.4 = 1,773$  kWh  
Estimated June read:  $19886 + 1773 = 21659$

An estimated demand (kW) may be reduced later when a subsequent actual demand read is lower than the estimated demand read for the previous missing-read billing period. When CIS finds this circumstance, it produces a billing exception. The Billing Associate who receives the exception notice reduces the previously estimated demand to the actual read (or lower if warranted), and credits the customer's account balance for the difference in the demand charge.

*Example of Adjusting Previously Estimated Demand Based on Subsequent Actual Read*

Assume that May demand is an actual read of 6.4 kW and the demand register is reset to zero at the time of the read.  
June demand is estimated at 7.3 kW and demand register was not reset (no access).  
July is an actual read of 6.9 kW and the demand register is reset to zero at the time of the read.

The July CIS billing will produce a billing exception because the actual demand is less than the estimated demand for the previous month. The Billing Associate will reduce the June demand to 6.9 kW or, perhaps, to a lower demand using other available information such as historical data.

Methodologies for Estimating Customer Usage Without Meter Reads  
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In instances in which a customer diverts his energy use, one or more of the methods described above may be used to estimate the usage for the period of suspected energy diversion. If there is insufficient usage history because tampering has occurred over an extended period of time, the Degree Day Method may be used.

The Degree Day Method consists of determining the customer's non-weather-sensitive "base load" (as metered during a period that is determined to be free from tampering or diversion) and adding to that usage the estimated usage of the customer's inventory of weather-sensitive appliances, adjusted for actual weather conditions as measured by "degree days."

APS estimates the base load as an average of the electric usage with little or no heating or cooling, which represents a customer's basic electric usage for lighting and non-weather-sensitive appliances, such as washer, dryer, television and refrigerator. April and November are normally base load months requiring minimal heating or cooling.

Next, APS adds to the base load the customer's estimated electrical requirements for heating or cooling needs. APS inventories the customer's weather sensitive equipment, such as evaporative cooler, refrigerated air conditioner, heat pump, heat strips, and gas furnace. Using APS' database of the electric usage of such equipment, APS estimates the customer's electric usage for heating and cooling.

The additional electric usage for heating or cooling is calculated by using temperature information received from the National Weather Service. APS retrieves the historical daily temperature during the back-billing period from the National Weather Service to calculate the customer's degree days. To determine how many hours of heating or cooling were needed, the high and low temperatures for each day are averaged. In the summer, if the daily average temperature is over 80 degrees, then the difference between the daily average and 80 degrees represents the number of hours needed for cooling to maintain an inside temperature of 80 degrees that day. In the winter, the high and low temperatures are again averaged and if the daily average high temperature is under 65 degrees, then the difference between the daily average temperature and 65 degrees represents the number of hours needed for heating to maintain an inside temperature of 65 degrees that day.

Once the number of heating or cooling hours is determined, the electric usage of the customer-specific equipment to meet that heating or cooling requirement is calculated. APS uses its current engineering estimates for the kW demand for the heating and cooling equipment and multiplies those factors by the actual degree day hours to yield the kWh for both heating and cooling requirements.

**Summary of the Degree Day Calculations:**

1. Estimate base load using actual averaged data in base load months.
2. Calculate the number of heating or cooling degree day hours for the billing cycle.
3. Multiply customer specific heating and cooling equipment by the appropriate kW factor. The current average electric usage factor is as follows:
  - a. Heat pump heating = 0.771 kW per ton
  - b. Gas furnace = 0.955 kW per hour
  - c. Refrigerated cooling = 1.266 kW per ton
  - d. Evaporative cooling = 0.955 kW per each ¾ horse power cooler
4. Multiply the total heating or cooling hours in the billing cycle (calculated in number 2 above) by the total kW (calculated in number 3 above).
5. Add the product from number 4 above to the base load in number 1 above to determine total kWh for the billing cycle.

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Example of Bill Estimation for Energy Usage Using Degree Day Method

Assume:

1. An all-electric, 2,000 square foot home with a three-ton heat-pump.
2. November usage for this home is 700 kWh.
3. National Weather Service temperatures in December as shown in the following table:

Day of the Month	Daily High Temp	Daily Low Temp	Average	Inside temperature of 65° degrees - required heating hours per day
December 1	66	50	58	65 - 58 = 7 heating hours
December 2	70	50	60	65 - 60 = 5 heating hours
December 3	78	56	67	65 - 67 = 0 heating hours
***	***	***	***	***
December 31	68	52	60	65 - 60 = 5 heating hours

Assume for this example:

1. December is the billing period
2. Base load = 700 kWh
3. Total heating hours for the billing period = 7 + 5 + 0 + . . . + 5 = 196 degree hours
4. 3 tons of heating x 0.771 kW per hour per ton = 2.313 kWh per heating degree hour
5. 196 x 2.313 = 453 kWh, total heating requirement
6. 700 + 453 = 1,153 kWh, total estimated usage for the billing period

If it is necessary to estimate demand, the demand is determined as set forth in ¶ A.2 above.

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**D. Estimating for Meter Failure**

1. Complete Meter Failure ("dead" meters). Occasionally an actual meter read will indicate very little or no energy usage and CIS will generate a billing exception. A Billing Associate will compare the low or zero consumption to the customer history. If a Billing Associate suspects that the meter is no longer working, the Associate will attempt to determine if there is any activity at the site. The Associate will request a field check to determine whether the meter has failed or the site is vacant and using no energy.

When a meter has failed, the usage is estimated by applying the methods described in Section A above or by applying the actual per day usage (less three percent) of the new replacement meter, whichever is lower. When the new meter period usage is the basis for the estimate, APS adjusts for the typical differences in weather-related usage between the new meter month and the failed meter period.

2. Slow/Fast Meters. If a meter shop test of the suspected failed meter determines that the meter is registering a consistent percentage (either fast or slow) on tests of both full and light load, APS increases or decreases the actual historical usage in proportion to the percentage of error determined by the meter test. The account is rebilled for the period of meter error and the customer's account is credited or debited accordingly.