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BEFORE THE ARIZONA CORPORATION COMMISSION

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Commissioner

Arizona Corporation Commission

DOCKETED

MAY 21 2007

DOCKETED BY
NR

IN THE MATTER OF THE APPLICATION
OF ARIZONA PUBLIC SERVICE
COMPANY FOR APPROVAL OF
SCHEDULE 8 - BILL ESTIMATION

DOCKET NO. E-01345A-05-0711
DECISION NO. 69569
ORDER

Open Meeting
May 8 and 9, 2007
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. Arizona Public Service Company ("APS") is certificated to provide electric service as a public service corporation in the State of Arizona.

2. On October 7, 2005, APS filed for approval of a new bill estimation schedule ("Schedule 8") pursuant to Commission Decision No. 68112. APS' Schedule 8 filing contains procedures for estimating consumption, both kWh and kW, under a variety of circumstances. On April 20, 2007, APS filed a revised version of Schedule 8.

Commission Decision No. 68122

3. On September 9, 2005, Commission Decision No. 68112 approved a Settlement Agreement ("Settlement") in Docket Nos. E-01345A-03-0775 and E-01345A-04-0657 that contained, among other things, guidelines and procedures for establishing an Access Improvement Plan ("AIP") and the methods for estimating APS customers' energy (kWh) and demand (kW) consumption when actual meter reads are unattainable. The Access Improvement Plan is being addressed in Docket No. E-01345A-05-0883.

1 4. Commission Decision No. 68112 requires APS' estimation procedures for all rates
2 to be governed by a bill estimation tariff that is consistent with the conditions contained in the
3 Settlement and approved by the Commission in that decision. It was noted that "bill estimations"
4 are actually based on an estimate of customer usage, which is then used for calculating customers'
5 bills using Commission-approved rates, terms, and conditions.

6 5. Decision No. 68112 addresses methodologies to be used for estimating electric
7 usage when meter reads are unattainable. The discussions of these methodologies can be grouped
8 into two categories: 1) estimation of energy usage (kWh) and 2) estimation of demand (kW). The
9 parameters used for estimating each component are different. Estimating energy usage (kWh) for
10 billing purposes allows for a slightly wider "band of accuracy" when compared to estimating
11 billing demand (kW). For example, when energy use is estimated for billing in one month, the
12 next month's actual reading will be used to true-up and charge for actual energy usage. On the
13 other hand, to bill for demand usage, one must read and reset the demand meter each month. If
14 demand is estimated one month, there is no way to true-up the demand charge the following
15 month. Another distinction between estimating energy and estimating demand is that energy usage
16 can be averaged over a season to develop a seasonal per-day average usage. Data are not available
17 to develop a seasonal per-day demand unit for billing purposes. Therefore, APS has proposed a
18 different hierarchy of options for estimating energy versus estimating demand. Staff believes that
19 APS' approach adequately addresses the "averaging" distinction between kWh and kW. In other
20 words, average kW estimates cannot be determined because typical meter data are not available to
21 reconstruct prior hourly kW readings. Although Staff agrees with the estimation methodologies
22 proposed for kW, Staff does not agree with certain features of the estimation methodologies
23 proposed for kWh.

24 **APS Schedule 8 Bill Estimation Filing**

25 6. In Docket Nos. E-01345A-04-0657 and E-01345A-03-0775, APS asked for a
26 determination as to whether ten explicitly described situations constitute estimated bills. Staff
27 believes that APS has adopted Staff's recommendations and properly incorporated all ten
28 situations into the bill estimation procedures proposed by APS and filed as the revised Schedule 8.

1 **Section 1, General**

2 7. Section 1 contains six ground-rule guidelines that APS will follow when estimating
3 kWh and kW. Staff is in accord with the guidelines proposed by APS in Section 1.

4 **Section 2, Bill Estimation**

5 8. Section 2 describes the conditions that cause estimated bills and defines conditions
6 under which a bill is not considered to be an estimated bill. Staff is in accord with APS regarding
7 the bill estimation conditions proposed by APS in Section 2.

8 **Section 3, Bill Estimation Methods**

9 9. Section 3 contains the estimation methodologies and guidelines for bill estimations.
10 The Section also describes hierarchical conditions for estimating energy (kWh) and demand (kW),
11 respectively. Staff separately addresses Subsections 3.1, Energy Estimation and 3.2, Demand
12 Estimation.

13 **3.1 Energy Estimation (kWh)**

14 10. Based upon analyses discussed in Docket Nos. E-01345A-04-0657 and E-01345A-
15 03-0775, a methodology that estimates usage based on the prior month's consumption per day
16 provides the most accurate kWh estimate of usage. The following quote from the Direct
17 Testimony of Perry L. Wheaton addresses the matter of kWh estimation methodologies:

18 We also reviewed selected customer information to determine if
19 kWh consumption was estimated more accurately using one of these
20 three kWh estimating methodologies – seasonal averages, same
21 month prior year, and previous month. Based on the analyses
22 completed, it appears that the use of prior month consumption per
23 day provides the most accurate kWh estimate, however, the use of
seasonal customer-specific consumption-per day results in the net
underestimation of kWh on average of only 1.9 percent for those
customers reviewed.

24 11. The estimation methodologies proposed by APS for energy (kWh) are summarized
25 in Table 1.

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**Table 1: Hierarchy of APS' Estimation Methodologies
For Energy (kWh)**

| Same Premise With Adequate Seasonal Usage History | | Same Premise Without Adequate Seasonal Usage History |
|---|--|---|
| 1. Daily average usage during previous six same season months | | 1. Same season, previous month daily average usage |
| | | 2. If the prior month is in a different season, use same month daily average usage from the prior year |
| Notes with History: A. Summer = May-October B. Winter = November-April C. Where applicable, on-peak kWh = premise actual history | | Notes without History: A. Summer = May-October B. Winter = November-April C. Where applicable, on-peak kWh = class allocations |

3.2 Demand Estimation (kW)

12. Based upon the Direct Testimony of Perry L. Wheaton, customers are likely to receive the most accurate estimate of demand when estimates are based upon customer specific kW from the prior month. Mr. Wheaton points out that other estimation methodologies (i.e., class average load factor) are more likely to produce underestimations of demand, which is an undesirable result. The estimation methodologies proposed by APS for demand (kW) are summarized in Table 2.

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**Table 2: Hierarchy of APS' Estimation Methodologies
For Demand (kW)**

| Same Customer With Adequate Demand History | | Same Premise Without Adequate Customer History |
|--|--|--|
| 1. Use the prior month's demand | | |
| 2. If the prior month's demand is unusable, use the same month prior year demand | | |
| | | 3. If the prior month and same month prior year customer demands are not usable, use the respective premise demands |
| | | 4. If customer and premise demands are unusable, apply the assigned rate schedule load factor to the appropriate kWh |

13. Section 3.2 also addresses "Demand Not Reset" conditions and the procedures that APS will follow under "not reset" circumstances. In addition, the following estimation-related procedures are addressed in APS' proposed Schedule 8: Initial Bill, Advanced Meter Infrastructure Meters, Dead or Failing Meter, Energy Diversion or Meter Tampering, Non-Customer Information System Estimates, and Re-bills of Previous Estimates. Excluding the exceptions subsequently noted, Staff agrees with APS' proposed Schedule 8, as revised.

Staff's Findings and Recommendations

14. Staff has recommended approval of APS' proposed Schedule 8, as revised, with the recommendations described below. Staff's findings and recommendations are grouped into the following categories: 1) Accuracy of Estimates, 2) Classifying May Billing Determinants, and 3) Estimation Methodologies and Procedures.

A. Accuracy of Estimates

15. The Settlement provides that in cases where estimates are required to render billings, the optimal goal is to use an estimation methodology that produces the most accurate billings. After reviewing APS' proposals in this matter, Staff is concerned that APS has not ranked its various estimation methods in a way that always gives preference to methods that will

1 yield the most accurate results. Staff believes that some of the Company's rankings are not
2 appropriate. Decision No. 68112 addresses the matter of kW accuracy as follows:

3 Based upon its analysis of five different demand estimation
4 methodologies, Staff concluded that the use of class average load
5 factors is the least accurate method of estimating demand, and that
6 the use of customer specific kW from the prior month is the most
7 accurate method of estimating demand.

8 16. Staff's findings regarding accuracy are corroborated from a different perspective in
9 the direct testimony of Mr. Wheaton as follows:

10 Commission rules specify that electric utilities shall estimate usage
11 by considering, where applicable, the customer's usage during the
12 same month of the previous year and the customer's usage during
13 the preceding month.

14 17. Although Mr. Wheaton's comment quoted above was made in the context of
15 estimating energy (kWh) rather than demand (kW), Staff believes that the comment is appropriate
16 here for two reasons: 1) the quote reinforces the idea of estimating customer usage based upon
17 actual historical monthly customer-specific usage from either the same month of the previous year
18 or the previous month of the same year; and 2) the quote follows a discussion of a seasonal
19 customer consumption-per-day average methodology that Mr. Wheaton believes is reasonable, but
20 biased toward over-estimation in the month of May.

21 18. APS has proposed a variety of methods for estimating kWh, and APS has ranked
22 those methods in order of APS' preference. APS' first-ranked method is not customer specific and
23 is based on seasonal kWh history. Staff, however, believes that this method is biased and less
24 accurate, and should therefore not be ranked first among the various estimation methods under
25 consideration.

26 19. APS acknowledges that accuracy in meter reading and in estimation of kW and
27 kWh is an important public and regulatory policy. By placing seasonal-based kWh estimates
28 ahead of prior month-based kWh estimates, APS is choosing to relegate accuracy to a second place
29 position behind a procedure that is likely to produce underestimated kWh usage. As pointed out
30 by Mr. Wheaton, customers prefer accuracy over lower estimates, because underestimations can

1 make the next actual read higher than expected. APS also compounds the inaccuracy by giving
2 first priority for kWh estimations to premises usage rather than customer-specific usage. Although
3 the “true-up” nature of kWh readings still apply, the Settlement recognized that the general
4 characteristics of a previous customer could vary significantly from a current customer. This
5 qualifier can apply to both kW and kWh. Although seasonally-based averages are statistically
6 desirable, they have been found to be more likely to result in underestimations of kWh.
7 Mr. Wheaton concluded that the “use of seasonal customer-specific consumption per day”
8 methodology causes a slight underestimation of kWh.

9 20. Given the above discussion, Staff has recommended that kWh estimations be based
10 upon the following hierarchical changes: 1) in the second paragraph, first line of the proposed
11 Schedule 8, change the word “reasonable” to the word “accurate”; 2) if adequate data are
12 available, rank customer-specific kWh history over premise-specific kWh history; 3) if adequate
13 data are available, rank prior month kWh history over seasonal kWh history; and, 4) if adequate
14 data are available, rank same month, previous year kWh history over seasonal kWh history.

15 B. Classifying May Billing Determinants

16 21. For bill estimation purposes, and pursuant to the kWh bill estimation hierarchies
17 recommended by Staff, Staff agrees with APS that the month of May should remain classified as a
18 summer month. Decision No. 68112 required APS to conduct a study to determine the impact on
19 kWh billing estimates if May were reclassified as a winter month. APS found that the
20 reclassification of May to a winter month could be justified (APS Report dated December 30,
21 2005, p. 1, last paragraph), but APS concluded that kWh bill estimate improvements only applied
22 to customers billed early in the meter reading billing cycle (APS Report dated December 30, 2005,
23 p. 10, last paragraph). In light of these relatively minor improvements, and Mr. Wheaton’s finding
24 that the present seasonal customer-specific consumption per day methodology is 98 percent
25 accurate (Direct Testimony in Docket Nos. E-01345A-03-0775 and E-01345A-04-0657, p. 23,
26 lines 3-5), Staff has concluded that May should continue to be classified as a summer month for
27 kWh bill estimation purposes. In addition, the month of May is already classified as a summer
28

1 month for energy (kWh) and demand (kW) billing purposes, which should be a concept customers
2 already understand.

3 C. Estimation Methodologies and Procedures

4 22. APS' proposed Schedule 8 contains three allocation data sets for estimating kWh
5 and kW as follows: 1) Summer and Winter on-peak energy usage percentages by customer
6 classifications (Section 3.1.3), 2) Load Factor percentages by customer classifications (Section
7 3.2.6), and 3) Energy Usage kWh per day by customer classifications (Section 3.3.1).

8 23. Staff has recommended that the Commission require APS to update these allocation
9 data through general rate case or tariff filings, whichever occurs first, within three months of any
10 changes in these data that are greater than 5 percent as determined by APS' annual Load Research
11 data. Staff believes that it is appropriate to apply the most current allocation factors to bill
12 estimation procedures, because it improves the likelihood that customers will receive more
13 accurate estimates, and APS is increasing its customer base at a relatively fast pace compared to
14 slower growth periods in the past. Staff's concern is that if the number of APS customers is
15 growing at an increasingly faster pace, it may translate into faster changes to customers' usage
16 profiles. Annual Load Research data can be used to identify changes to usage profiles, and if in
17 fact significant changes have occurred, the changes should be incorporated into bill estimation
18 procedures filed with the Commission.

19 Implementation

20 24. Staff has recommended that APS implement the demand (kW) estimation
21 methodologies, as approved, within three months of a Decision in this matter, and the energy
22 (kWh) estimation methodologies, as approved, within seven months of a Decision in this matter.

23 25. In addition, Staff has recommended that APS file tariff pages for Schedule 8
24 consistent with the terms of this Decision within 15 days from the effective date of the Decision.

25 26. Staff also analyzed this application in terms of whether there were fair value
26 implications. Compared to APS' total revenues, any impact from this agreement would be de
27 minimus, and any impact on APS' fair value rate base and rate of return would also be de
28 minimus.

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CONCLUSIONS OF LAW

1. Arizona Public Service Company is a public service corporation within the meaning of Article XV, Section 2, of the Arizona Constitution.

2. The Commission has jurisdiction over Arizona Public Service Company and the subject matter of the application.

3. Approval of APS' proposed Schedule 8, as modified, does not constitute a rate increase as contemplated by A.R.S. Section 40-250.

4. The Commission, having reviewed the revised application and Staff's Memorandum dated April 25, 2007, concludes that it is in the public interest to approve Schedule 8, as modified.

ORDER

IT IS THEREFORE ORDERED that Arizona Public Service Company's revised Schedule 8, filed April 20, 2007, as modified herein, be and hereby is approved.

IT IS FURTHER ORDERED that Schedule 8 be modified by the recommendations contained in Finding of Fact No. 20.

IT IS FURTHER ORDERED that allocation data be updated as described in Finding of Fact No. 23.

IT IS FURTHER ORDERED that APS shall implement the demand (kW) and energy (kWh) estimation methodologies, as approved by the Commission in this proceeding, by December 31, 2007. The Company shall docket (as a compliance item in this matter) a letter, within 15 days of the implementation, stating that the implementation is complete.

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IT IS FURTHER ORDERED that APS shall docket, as a compliance item in this matter, tariff pages for Schedule 8 consistent with the terms of this Decision within 15 days from the effective date of this Decision.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION



CHAIRMAN



COMMISSIONER

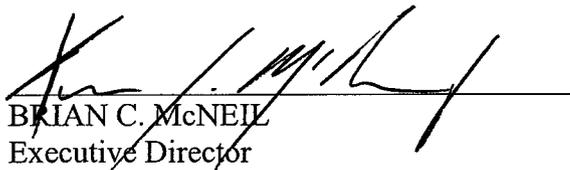


COMMISSIONER



COMMISSIONER

IN WITNESS WHEREOF, I BRIAN C. McNEIL, Executive Director of the Arizona Corporation Commission, have hereunto, set my hand and caused the official seal of this Commission to be affixed at the Capitol, in the City of Phoenix, this 21st day of May, 2007.


BRIAN C. McNEIL
Executive Director

DISSENT: _____

DISSENT: _____

EGJ:WHM:lhmlJFW

1 SERVICE LIST FOR: Arizona Public Service Company
DOCKET NO. E-01345A-05-0711

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