

OPEN MEETING ITEM



0000158430

MEMORANDUM

RECEIVED

2014 DEC -3 A 11:55

ORIGINAL

TO: THE COMMISSION

FROM: Utilities Division

AZ CORP COMMISSION
DOCKET CONTROL

DATE: December 3, 2014

RE: IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR APPROVAL OF ELECTRIC SERVICE CONTRACTS WITH IO CAPITAL PRINCESS, LLC AND IO PHOENIX ONE, LLC (DOCKET NO. E-01345A-14-0350).

On September 25, 2014, Arizona Public Service Company ("APS" or "the Company") filed a request for approval of Electric Service Agreements ("ESA(s)") which it entered into with IO Capital Princess, LLC and IO Phoenix One, LLC (collectively, "IO"). The ESAs are contingent upon Arizona Corporation Commission ("Commission") approval. APS has requested that the price terms of the ESAs be deemed effective as of the date of the application. The ESAs were provided confidentially to Staff under a Protective Agreement. On October 8, 2014, APS filed a waiver of the timeclock to process the application.

Rationale for Proposed Rate Structure.

Load Factor. IO is a very high load factor customer [REDACTED] and, as such, provides operational and economic benefits to the APS distribution system by flattening the overall system load profile and reducing APS's average cost to serve customers. The experimental high load factor pricing structure described in the ESAs better aligns the price IO would pay with what it actually costs APS to serve IO. The experimental rate is also designed to facilitate IO's retention and growth as an APS customer.

Retention. Reduced kWh usage due to customer loss differs from reduced kWh due to energy efficiency. Although the loss of IO as a customer would decrease the number of kWh sold, it would also reduce the revenues that cover fixed costs. This lost fixed cost revenue would be in addition to the loss of the system advantages (discussed herein) associated with having a high load factor customer. The loss of IO as a customer would also strand the costs of infrastructure currently serving IO, such as the Polk substation, until another customer took over those facilities.

Economic Development. The APS application stated that the ESAs are justified as economic development, in accordance with Decision No. 73183 (May 24, 2014). APS believes that the experimental rate offered as part of the ESAs may assist APS in developing a permanent high load factor rate in its next general rate case that could attract more high load factor customers to Arizona.

Arizona Corporation Commission

DOCKETED

DEC 03 2014

DOCKETED BY [Signature]

Background

Current Tariff. APS has been supplying power to IO's two data centers under its E-35 Extra Large General Service Time of Use Rate Schedule. APS Service to IO under this rate schedule began in 2007 at IO's Scottsdale location ("IO Princess"), and in 2009 at its Phoenix ("Phoenix One") location.

The E-35 Rate has an energy charge of \$0.04076 per kWh during On-Peak hours, plus \$0.03219 per kWh during Off-Peak hours. The following Bundled Standard Offer Service rates also apply:

Basic Service Charge:		
For service through Self-Contained Meters:	\$1.183	Per day, or
For service through Instrument-Rated Meters:	\$1.795	Per day, or
For service at Primary Voltage	\$3.881	Per day, or
For service at Transmission Voltage:	\$26.574	Per day
Demand Charge:		
Secondary Service:	\$16.768	Per On-Peak kW,
	\$3.064	plus Per Off-Peak kW, or
Primary Service:	\$15.792	Per On-Peak kW,
	\$2.966	plus Per Off-Peak kW, or
Transmission Service:	\$10.755	Per On-Peak kW,
	\$2.462	plus Per off-Peak kW

Terms of the Contracts

The ESAs are not docketed because they include competitively confidential information, but have been reviewed by Staff pursuant to an executed Protective Agreement. The ESAs are discussed below.

[CONFIDENTIAL MATERIAL BEGINS] Rates. Under the terms of the Experimental High Load Factor Pricing Structure set out in the Special Contracts, IO would pay bundled charges plus adjustments. In addition, the actual billed amount must equal at least the minimum (discussed herein) specified in the service agreements and includes a Load Factor Requirement of [REDACTED]

Adjustments. Under the terms of the proposed Special Contract, IO would pay the following adjustments under the terms of the proposed Special Contracts: (i) The Renewable Energy Standard charge, Adjustment Schedule REAC-1; (ii) The Power Supply Adjustment charges, Adjustment Schedule PSA-1; (iii) The Transmission Cost Adjustment charge, Adjustment Schedule TCA-1; (iv) The Environmental Improvement Surcharge, Adjustment Schedule EIS; (v) Direct Access

customers returning to Standard Offer service may be subject to a Returning Customer Direct Access charge, Adjustment Schedule RCDAC-1; (vi) The Demand Side Management Adjustment charge, Adjustment Schedule DSMAC-1; and (vii) the applicable taxes and governmental fees which are assessed on APS's revenues, prices, sales volume, generation volume, or other business metrics.

Rates. Under the terms of the proposed Special Contract, IO would pay [REDACTED] per kWh, depending on monthly kWh usage. Staff compared example bill rates under IO's existing rates and under the rates proposed in the Special Contracts and noted an overall bill decrease of approximately [REDACTED] for the IO Princess facility and [REDACTED] for the Phoenix One facility.

Minimum Bills. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Termination. The two APS-IO Electric Supply Agreements (one each for the IO Princess and Phoenix One locations) would replace IO's current E-35 TOU rate with the APS Experimental High Load Factor Pricing Structure. Both have a [REDACTED] term and allow termination for a number of reasons, [REDACTED]

[REDACTED]

[REDACTED]

[CONFIDENTIAL MATERIAL ENDS]

Marginal Costs

Staff compared the projected energy and capacity costs for serving IO with the proposed rates in the ESAs. Staff determined that the proposed rates cover APS's marginal costs for each year of the contract.

Retention and Alternatives to Buying Power from APS

Retention. APS describes the ESAs as “. . . appropriate and necessary to both retain IO's present load and to encourage IO to continue to grow in APS's service territory.” APS also notes that if IO moves, “a substantial amount of revenue requirement responsibility would be shifted to other APS customers.”

Alternatives. IO has a number of options relating to either eliminating or significantly reducing its load in APS's territory, as discussed below:

- Self-generation. Self-generation has become more economically feasible for data centers. Under this option, Combined Heat and Power (“CHP”) could be used for cooling (chillers) or to produce additional generation, thereby decreasing reliance on APS. APS confirmed in response to a data request that “[d]ue to the size of IO's load, IO could. . . choose to self-generate to meet their energy needs, either at an existing location or at a new location.”
- Cloud. Cloud technology would allow data centers to dynamically move workloads between data centers located in different areas. This option would allow IO to shift its IT load to other locations without physically moving its facility, or incurring the costs and disruption caused by a physical move. As APS stated in response to a data request from Staff: “IO could. . . virtualize the use at its data centers in APS territory and use them as primarily a backup site, shifting the workload and the electric usage to other data centers.”
- Relocation. APS states “IO has data centers in other jurisdictions and can choose to site their business at any location that has the appropriate infrastructure, chiefly power and fiber.”

In addition to its other data center-related activities, IO manufactures software-defined modular data centers at its Chandler facility and states that it has been granted key patents related to modular data centers and related technologies. IO has standardized deployment of software-defined modular data centers, along with designing them to use energy efficiently.

Because modular offices can be taken down and relocated, this would limit the disruptions associated with a move, making relocation more feasible for IO. Another factor making relocation more feasible is IO's high degree of expertise in transporting modular data centers.

- Backup Generation. IO has backup generation suitable for short-term use in the event of an outage. This generation would not be a feasible alternative to taking power from APS over the longer term.

Business and Economic Development.

APS believes the ESAs will not only retain IO's load, but may foster economic development by attracting more high load factor customers, particularly if an appropriate tariff is developed and approved in a rate case. Such growth would maximize use of existing APS infrastructure. (Decision No. 73183 states that "APS is authorized to pursue economic development opportunities through the use of Commission-approved special contracts.")

In addition, IO employs several hundred people, many of them in areas such as finance, legal, accounting, executive management and hardware and software engineering. (APS describes the IO positions as providing above average wages for the Phoenix area.) As a co-location facility, IO attracts approximately 100 visitors per day. Expansion by IO may also provide property tax base growth and sales tax revenues.

Impact of Special Contracts

APS utilized a cost based approach to the pricing structure proposed in its application. The proposed change in price only affects revenues to APS. Also, Staff recommends that the Commission specify in its Order that approval of the agreements at this time does not guarantee any future ratemaking treatment of the agreements with IO nor does it indicate whether the Commission will or will not approve a High Load Factor tariff in a future APS rate case.

Fair Value Implications

Staff has also analyzed this application in terms of whether there were fair value implications. In Decision No. 73183, issued on May 24, 2012, the Commission determined the fair value of the APS jurisdictional rate base to be \$8,167,126,000. That determination is appropriate for purposes of this analysis. Compared to APS's total revenues, any revenue impact from this agreement would be *de minimus*, and any impact on APS's fair value rate base and rate of return would also be *de minimus*.

Analysis

Staff believes that IO's high load profile provides significant benefits to the APS system and that the Experimental High Load Factor Pricing Structure described herein would be a more appropriate rate design for IO than the tariff under which IO is currently taking its power. Staff also believes that the Experimental High Load Factor Pricing Structure would be more reflective of the value of high load factor customers to the grid and, if approved, may provide information regarding the value of a generally available high load factor rate for consideration in APS's next general rate case. Based on such information, a High Load Factor rate could be designed and, if approved, could attract additional economic development to APS's territory. In addition, the proposed rate change in the ESAs do not shift costs to other APS customers. (Staff notes, however, that this may not be the case for a High Load Factor rate, if APS proposes one in the next rate case.)

THE COMMISSION

December 1, 2014

Page 6

IO has indicated that it has significant alternatives to maintaining and growing its electric load in the APS territory. Staff believes that the proposed ESAs would increase the likelihood of APS retaining IO as a customer, and may also promote the growth of IO's business in the APS territory. In terms of the impact on other ratepayers of non-retention, if IO departs, its contribution to fixed costs would be reallocated to other APS customers in APS's next general rate case, while the cost of the infrastructure dedicated to the two sites would be covered by other customers until the physical sites were re-purposed. Retention of IO as a customer would avoid these negative impacts.

Staff also believes that, at this time, it is better to address IO's rate concerns through special contracts rather than in the next APS rate case. Staff is unaware of when APS will file its next rate case and believes that, in the interim, the Experimental High Load Factor Pricing Structure set forth in the special contracts will assist APS in retaining IO as a customer. In addition, testing these special contract rates with a single customer will allow APS to gather data before it proposes a generally available High Load Factor rate for other similarly situated customers in a future rate case.

Recommendations

- Staff recommends that the Commission approve the Electric Service Agreements with IO Capital Princess, LLC and IO Phoenix One, LLC.
- Staff recommends that the Commission specify in its Order that approval of the agreements at this time does not guarantee any future ratemaking treatment of the agreements with IO nor does it indicate whether the Commission will or will not approve a High Load Factor tariff in a future APS rate case.



Steven M. Olea
Director
Utilities Division

SMO:JMK:sms\CHH

ORIGINATOR: Julie McNeely-Kirwan

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

BEFORE THE ARIZONA CORPORATION COMMISSION

- BOB STUMP
Chairman
- GARY PIERCE
Commissioner
- BRENDA BURNS
Commissioner
- BOB BURNS
Commissioner
- SUSAN BITTER SMITH
Commissioner

IN THE MATTER OF THE APPLICATION)
 OF ARIZONA PUBLIC SERVICE)
 COMPANY FOR APPROVAL OF)
 ELECTRIC SERVICE CONTRACTS WITH)
 IO CAPITAL PRINCESS, LLC AND IO)
 PHOENIX ONE, LLC)

DOCKET NO. E-01345A-14-0350
 DECISION NO. _____
ORDER

Open Meeting
 December 18, 2014
 Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. Arizona Public Service Company ("APS" or "Company") is certificated to provide electric service as a public service corporation in the State of Arizona.
2. On September 25, 2014, APS filed a request for approval of Electric Service Agreements ("ESA(s)") which it entered into with IO Capital Princess, LLC and IO Phoenix One, LLC (collectively, "IO"). The ESAs are contingent upon Arizona Corporation Commission ("Commission") approval. APS has requested that the price terms of the ESAs be deemed effective as of the date of the application. The ESAs were provided confidentially to Staff under a Protective Agreement. On October 8, 2014, APS filed a waiver of the timeclock to process the application.

...
 ...
 ...

1 **Rationale for Proposed Rate Structure**

2 3. Load Factor. IO is a very high load factor customer and, as such, provides operational
3 and economic benefits to the APS distribution system by flattening the overall system load profile and
4 reducing APS's average cost to serve customers. The experimental high load factor pricing structure
5 described in the ESAs better aligns the price IO would pay with what it actually costs APS to serve
6 IO. The experimental rate is also designed to facilitate IO's retention and growth as an APS
7 customer.

8 4. Retention. Reduced kWh usage due to customer loss differs from reduced kWh due to
9 energy efficiency. Although the loss of IO as a customer would decrease the number of kWh sold, it
10 would also reduce the revenues that cover fixed costs. This lost fixed cost revenue would be in
11 addition to the loss of the system advantages (discussed herein) associated with having a high load
12 factor customer. The loss of IO as a customer would also strand the costs of infrastructure currently
13 serving IO, such as the Polk substation, until another customer took over those facilities.

14 5. Economic Development. The APS application stated that the ESAs are justified as
15 economic development, in accordance with Decision No. 73183 (May 24, 2014). APS believes that
16 the experimental rate offered as part of the ESAs may assist APS in developing a permanent high load
17 factor rate that could attract more high load factor customers to Arizona.

18 **Background**

19 6. Current Tariff. APS has been supplying power to IO's two data centers under its E-35
20 Extra Large General Service Time of Use Rate Schedule. APS Service to IO under this rate schedule
21 began in 2007 at IO's Scottsdale location ("IO Princess"), and in 2009 at its Phoenix ("Phoenix One")
22 location.

23 7. The E-35 Rate has an energy charge of \$0.04076 per kWh during On-Peak hours, plus
24 \$0.03219 per kWh during Off-Peak hours. The following Bundled Standard Offer Service rates also
25 apply:

Basic Service Charge:		
For service through Self-Contained Meters:	\$1.183	Per day, or
For service through Instrument-Rated Meters:	\$1.795	Per day, or
For service at Primary Voltage	\$3.881	Per day, or

1	For service at Transmission Voltage:	\$26.574	Per day
2	Demand Charge:		
3	Secondary Service:	\$16.768	Per On-Peak kW,
4		\$3.064	plus
5			Per Off-Peak kW,
6			or
7	Primary Service:	\$15.792	Per On-Peak kW,
8		\$2.966	plus
9			Per Off-Peak kW,
10			or
11	Transmission Service:	\$10.755	Per On-Peak kW,
12		\$2.462	plus
13			Per off-Peak kW

9 Terms of the Contracts

10 8. The ESAs are not docketed because they include competitively confidential
11 information, but have been reviewed by Staff pursuant to an executed Protective Agreement.

12 Marginal Costs

13 9. Staff compared the projected energy and capacity costs for serving this customer with
14 the proposed rates in the ESAs. Staff determined that the proposed rates cover APS's marginal costs
15 for each year of the contract.

16 Retention and Alternatives to Buying Power from APS

17 10. Retention. APS describes the ESAs as “. . . appropriate and necessary to both retain
18 IO's present load and to encourage IO to continue to grow in APS's service territory.” APS also
19 notes that if IO moves “a substantial amount of revenue requirement responsibility would be shifted
20 to other APS customers.”

21 11. Alternatives. IO has a number of options relating to either eliminating or significantly
22 reducing its load in APS's territory, as discussed below:

- 23 • Self-generation. Self-generation has become more economically feasible for data
24 centers. Under this option, Combined Heat and Power (“CHP”) could be used for
25 cooling (chillers) or to produce additional generation, thereby decreasing reliance
26 on APS. APS confirmed in response to a data request that “[d]ue to the size of
27 IO's load, IO could. . . choose to self-generate to meet their energy needs, either at
28 an existing location or at a new location.”

- 1 • Cloud. Cloud technology would allow data centers to dynamically move
2 workloads between data centers located in different areas. This option would
3 allow IO to shift its IT load to other locations without physically moving its
4 facility, or incurring the costs and disruption caused by a physical move. As APS
5 stated in response to a data request from Staff: "IO could . . . virtualize the use at
6 its data centers in APS territory and use them as primarily a backup site, shifting
7 the workload and the electric usage to other data centers."
- 8 • Relocation. APS states "IO has data centers in other jurisdictions and can choose
9 to site their business at any location that has the appropriate infrastructure, chiefly
10 power and fiber."

11 In addition to its other data center-related activities, IO manufactures software-
12 defined modular data centers at its Chandler facility and states that it has been
13 granted key patents related to modular data centers and related technologies. IO
14 has standardized deployment of software-defined modular data centers, along with
15 designing them to use energy efficiently.

16 Because modular offices can be taken down and relocated, this would limit the
17 disruptions associated with a move, making relocation more feasible for IO.
18 Another factor making relocation more feasible is IO's high degree of expertise in
19 transporting modular data centers.

- 20 • Backup Generation. IO has backup generation suitable for short-term use in the
21 event of an outage. This generation would not be a feasible alternative to taking
22 power from APS over the longer term.

23 **Business and Economic Development.**

24 12. APS believes the ESAs will not only retain IO's load, but may foster economic
25 development by attracting more high load factor customers, particularly if an appropriate tariff is
26 developed and approved in a rate case. Such growth would maximize use of existing APS
27 infrastructure. (Decision No. 73183 states that "APS is authorized to pursue economic development
28 opportunities through the use of Commission-approved special contracts.")

1 13. In addition, IO employs several hundred people, many of them in areas such as
2 finance, legal, accounting, executive management and hardware and software engineering. (APS
3 describes the IO positions as providing above average wages for the Phoenix area.) As a co-location
4 facility, IO attracts approximately 100 visitors per day. Expansion by IO may also provide property
5 tax base growth and sales tax revenues.

6 Impact of Special Contracts

7 14. APS utilized a cost based approach to the pricing structure proposed in its application.
8 The proposed change in price only affects revenues to APS. Also, Staff recommends that the
9 Commission specify in its Order that approval of the agreements at this time does not guarantee any
10 future ratemaking treatment of the agreements with IO.

11 Fair Value Implications

12 15. Staff has also analyzed this application in terms of whether there were fair value
13 implications. In Decision No. 73183, issued on May 24, 2012, the Commission determined the fair
14 value of the APS jurisdictional rate base to be \$8,167,126,000. That determination is appropriate for
15 purposes of this analysis. Compared to APS's total revenues, any revenue impact from this agreement
16 would be *de minimus*, and any impact on APS's fair value rate base and rate of return would also be *de*
17 *minimus*.

18 Analysis

19 16. Staff believes that IO's high load profile provides significant benefits to the APS
20 system and that the Experimental High Load Factor Pricing Structure described herein would be a
21 more appropriate rate design for IO than the tariff under which IO is currently taking its power. Staff
22 also believes that the Experimental High Load Factor Pricing Structure would be more reflective of
23 the value of high load factor customers to the grid and, if approved, may provide information
24 regarding the value of a generally available high load factor rate for consideration in a future rate case.
25 Based on such information, a High Load Factor rate could be designed and, if approved, could attract
26 additional economic development to APS's territory. In addition, the proposed rate change in the
27 special contracts does not shift costs to other APS customers. (Staff noted, however, that this may
28 not be the case for a High Load Factor rate, if APS proposes one in the next rate case.)

1 17. IO has indicated that it has significant alternatives to maintaining and growing its
2 electric load in the APS territory. Staff believes that the proposed ESAs would increase the likelihood
3 of APS retaining IO as a customer, and may also promote the growth of IO's business in the APS
4 territory. In terms of the impact on other ratepayers of non-retention, if IO departs, its contribution
5 to fixed costs would be reallocated to other APS customers in APS's next general rate case, while the
6 costs of the infrastructure dedicated to the two sites would be covered by other customers until the
7 physical sites were re-purposed. Retention of IO as a customer would avoid these negative impacts.

8 18. Staff also believes that, at this time, it is better to address IO's rate concerns through
9 special contracts rather than in the next APS rate case. Staff is unaware of when APS will file its next
10 rate case and believes that, in the interim, the Experimental High Load Factor Pricing Structure set
11 forth in the special contracts will assist APS in retaining IO as a customer. In addition, testing these
12 special contract rates with a single customer will allow APS to gather data before it proposes a
13 generally available High Load Factor rate for other similarly situated customers in a future rate case.

14 Recommendations

15 Staff has recommended that:

- 16 • the Commission approve the Electric Service Agreements with IO Capital Princess,
17 LLC and IO Phoenix One, LLC.
- 18 • the Commission specify in its Order that approval of the agreements at this time does
19 not guarantee any future ratemaking treatment of the agreements with IO nor does it
20 indicate whether the Commission will or will not approve a High Load Factor tariff in
21 a future APS rate case.

22 CONCLUSIONS OF LAW

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

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

27 ...

28 ...

3. The Commission, having reviewed the application and Staff's Memorandum dated December 3, 2014, concludes that it is in the public interest to approve the APS Special Contracts as discussed herein.

ORDER

IT IS THEREFORE ORDERED that Arizona Public Service Company's Electric Service Agreements with IO Capital Princess, LLC and IO Phoenix One, LLC be, and hereby are, approved.

IT IS FURTHER ORDERED that approval of the agreements at this time does not guarantee any future ratemaking treatment of the agreements with IO nor does it indicate whether the Commission will or will not approve a High Load Factor tariff in a future Arizona Public Service Company rate case.

IT IS FURTHER ORDERED that this Order shall take effect immediately.

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRMAN

COMMISSIONER

COMMISSIONER

COMMISSIONER

COMMISSIONER

IN WITNESS WHEREOF, I, JODI JERICH, 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 _____ day of _____, 2014.

JODI JERICH
EXECUTIVE DIRECTOR

DISSENT: _____

DISSENT: _____

SMO:JMK:sms\CHH

1 SERVICE LIST FOR:
2 DOCKET NO. E-01345A-14-0350

3 Thomas Mumaw
4 Arizona Public Service Company
5 400 N. Fifth Street
6 M.S. 8695
7 Phoenix, Arizona 85004

8 C. Webb Crockett
9 Patrick Black
10 Fennemore Craig
11 2394 East Camelback Road, Ste. 600
12 Phoenix, AZ 85016-3429

13 Mr. Steven M. Olea
14 Director, Utilities Division
15 Arizona Corporation Commission
16 1200 West Washington Street
17 Phoenix, Arizona 85007

18 Ms. Janice M. Alward
19 Chief Counsel, Legal Division
20 Arizona Corporation Commission
21 1200 West Washington Street
22 Phoenix, Arizona 85007

23
24
25
26
27
28