

ORIGINAL

OPEN MEETING



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MEMORANDUM
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TO: THE COMMISSION

2008 SEP 10 P 12:47

FROM: Utilities Division

AZ CORP COMMISSION
DOCKET CONTROL

DATE: September 10, 2008

RE: IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR APPROVAL OF CONCENTRATING SOLAR POWER CONTRACT (DOCKET NO. E-01345A-08-0106)

Introduction

On February 21, 2008, Arizona Public Service Company ("APS") filed an application with the Arizona Corporation Commission ("ACC") for approval of a Purchase Power Agreement ("PPA"). Notice of the application was sent to customers between May 19 and June 17, 2008. A copy of the notice is included as Attachment I. The proposed PPA would be established with Arizona Solar One LLC ("Arizona Solar One") to purchase the full output of a proposed 280 megawatt ("MW") concentrating solar power ("CSP") facility ("Solana") over a 30 year period. Arizona Solar One would build, own, and operate the facility, and APS would contract with Arizona Solar One to purchase the energy produced by the facility and have rights to renewable energy credits ("RECs") associated with the generation. Arizona Solar One is a wholly owned subsidiary of Abengoa Solar Inc. which is a wholly owned subsidiary of Abengoa Solar S.A. Abengoa Solar S.A. is a wholly owned subsidiary of Abengoa S.A. ("Abengoa"). Abengoa is multi-national technology company with extensive experience in the solar industry.

The CSP facility would consist of an array of solar troughs covering a three square mile area near Gila Bend. The facility would include salt tanks for thermal storage that will allow dispatch of power at peak periods. The facility would be able to meet the electricity needs of approximately 70,000 Arizona homes. Generation through CSP trough technology has a substantial history and is a proven technology.

Power produced by the Solana facility would help APS meet requirements in the Renewable Energy Standard and Tariff ("REST") rules. The REST rules require utilities to obtain certain portions of the total energy they supply from renewable resources such as CSP. APS selected the Solana project as a potential source of renewable energy following a competitive process that involved the issuance of a request for proposal ("RFP") and an analysis of bids. APS calculates that the price proposed for energy supplied by the Solana facility would be approximately 19 percent greater than the cost of the conventional resource alternative, but is competitive with other renewable energy projects. This calculation assumes timely approval of an extension of a federal investment tax credit.

Arizona Corporation Commission

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The PPA that APS proposes to establish with Arizona Solar One for purchase of the output of the Solana facility includes safeguards for penalty payments to APS should Arizona Solar One fail to deliver energy to APS according to certain requirements. These measures would mitigate risks to APS such as delay of the facility's construction or a shortfall in anticipated output from the facility.

Some of the information contained in this document has been redacted as it is competitively confidential to APS. This appropriately protects APS' ability to enter into contracts and purchase power from the market without competitors knowing the terms of APS' existing agreements.

REST requirements

APS' original application in this matter sought Commission approval of a PPA with Arizona Solar One. The PPA would allow APS to procure the output of the Solana facility. The energy obtained from the Solana facility would meet certain requirements established in Article 18 of Arizona Administrative Code ("A.A.C."). Article 18 contains rules that establish the REST. The REST rules require that electric utilities procure energy from renewable resources such as solar, wind and geothermal generation. Solar resources prescribed by the rules may be either photovoltaic systems or solar thermal electric systems, such as the solar trough generation of the Solana facility. The following are excerpts from the rules that describe eligibility:

A.A.C. R14-2-1802(A)

"Eligible Renewable Energy Resources" are applications of the following defined technologies that displace Conventional Energy Resources that would otherwise be used to provide electricity to an Affected Utility's Arizona Customers.

A.A.C. R14-2-1802 (A)(10)

"Solar Electricity Resources" use sunlight to produce electricity by either photovoltaic devices or solar thermal electric resources.

The REST rules created a requirement that 1.25 percent of an electric utility's retail kilowatt-hours ("kWh") sold in 2006 be generated from renewable resources. The requirement for the portion of retail kWh that is generated through the use of renewable resources increases annually up to 15 percent in the year 2025. The rules allow utilities to meet the requirement through a combination of self generation, purchase of renewable energy, or purchase of RECs from other entities. The PPA that APS describes in this application would provide renewable energy to comply with the requirements of the REST rules. The Solana facility is expected to produce 900,000 megawatt-hours ("MWh") per year. If operational by 2011 the Solana facility, together with other existing and new renewable PPAs entered into by APS, could produce 5 percent of APS' annual retail energy needs in 2012. The REST rules require that 5 percent of annual retail energy needs shall be provided through renewable sources by 2015. The Solana

facility would help APS comply with the REST requirements upon becoming operational; however, following 2015, APS would likely need to acquire renewable energy from additional projects to meet the REST requirements.

Since energy produced from the Solana facility would be generated from CSP and because solar thermal electric resources are included as Eligible Renewable Energy Resources in the rules, Staff believes that the Solana PPA is an Eligible Renewable Energy Resource pursuant to R14-2-1802.

APS' original application and supplemental information

A.A.C. R14-2-1804(G) states that "An Affected Utility may ask the Commission to preapprove agreements to purchase energy or Renewable Energy Credits from Eligible Renewable Energy Resources."¹ The original application states that APS seeks approval and assurance of full cost recovery of the proposed PPA under this rule.² The original application also states that "the Company requests that the Commission find that it is prudent for APS to enter into the Solana Generating Station PPA, and that all costs of purchasing energy and RECs pursuant to the PPA, including the above-market costs, will be fully and timely recovered in retail electric rates."³ On April 18, 2008, APS filed in the Docket a document titled Supplemental Information regarding Arizona Public Service Company's Application for Approval of CSP Purchase Power Agreement. The letter of April 18, 2008, clarifies that "APS is not seeking a prudence determination in the Solana PPA docket nor any other pending docket." The letter is included as Attachment II.

Prudence reviews typically include complex analysis and are generally performed after a purchase has been made. As APS has clarified in its letter of April 18, 2008, that it was not seeking a prudence review at this time, Staff did not conduct a prudence review of the proposed PPA. Staff could not have performed a prudence review within APS' requested timeframe for processing this application. Staff's review in this matter is therefore limited to examining whether the Solana Proposal would be an appropriate component of APS' renewable energy portfolio and whether it would be compatible with APS' implementation plan as approved in Commission Decision No. 70313.

Staff's findings and recommendations in this matter are as follows:

1. Based on the information provided by APS, the Solana PPA was selected through a competitive bid procurement process. This item will be discussed in the section titled *Selection process used to solicit renewables contracts*.

¹ Proposed Amendments to the Environmental Portfolio Standard Rules, February 3, 2006. Pages 14 and 15.

² Application Page 1.

³ Application Page 7.

2. The energy provided through the Solana project is an application of “solar electricity resources” as that term is used in the REST Rules. The Solana Project, as described in the PPA, would displace conventional energy resources that would otherwise be used to provide electricity to APS’ customers. Under these circumstances, the Solana proposal would meet the requirements of an Eligible Renewable Energy Resource pursuant to R14-2-1802. This item has been discussed in the section titled *REST Requirements*.
3. Taking into account the alternative proposals available to the Company, the Solana PPA is a reasonable means of achieving the REST targets and will provide a means of complying with the long-term REST requirements. This item will be discussed in the section titled *Selection process used to solicit renewables contracts*.
4. For the above reasons, the Solana PPA is an appropriate component of APS’ renewable energy portfolio and is compatible with APS’ implementation plan as approved in Commission Decision No. 70313.

Consistent with the correspondence submitted by APS on April 18, 2008, Staff believes that APS is not seeking a prudence determination in this docket or any other pending docket. Staff’s recommendations in this matter in no way address the matter of prudence of the PPA.

5. Decision No. 67744 of April 2005 clarifies some aspects of the manner in which prudence findings may or may not be made in regard to APS’ acquisition of renewable energy. It declares the following: “And while the Settlement Agreement further stipulates that a renewable resource purchase shall not be found imprudent solely because the cost of the renewable resource exceeds market price, we stipulate conversely that a renewable resource purchase shall not be rendered prudent solely by virtue of the resource’s cost being below 125 percent of market price.”⁴ Therefore, in any subsequent inquiry into the prudence of the Solana PPA, the costs of renewable energy purchased under the PPA should not be deemed imprudent solely because the costs are greater than for conventional generation.

Detailed description of the PPA

APS has entered into a 30-year PPA with Arizona Solar One that is contingent upon several conditions, including Commission approval. Arizona Solar One will construct, own, and operate the Solana facility in order to generate energy to deliver under terms of the PPA. The PPA establishes that, by agreement, APS will take ownership of energy produced by the Solana facility at its Gila Bend 230kV Substation. The expected annual net output of the Solana facility is approximately 900,000 MWh. This figure is based on the nameplate capacity of the generating facility. [REDACTED]

⁴ Decision No. 67744. April 2005. Page 24.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The pricing of Solana energy is subject to the timing of approval of the Investment Tax Credit ("ITC") extension. The ITC is a federal tax credit available to generators of renewable energy. Its future availability is the subject of current Congressional debate. It is described in greater detail later in this document.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁵ Renewable Energy Purchase and Sale Agreement Between Arizona Public Service Company and Arizona Solar One LLC. February 8, 2008. Page 96.

⁶ Renewable Energy Purchase and Sale Agreement Between Arizona Public Service Company and Arizona Solar One LLC. February 8, 2008. Page 96.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

If these conditions were to apply, the PPA allows APS the opportunity to renegotiate the price.

[REDACTED]

Should APS elect to exercise any of the rights provided for in the PPA to negotiate price, APS could potentially negotiate a lower price than the pricing established by the PPA. Assuming all other terms of the PPA are held constant, a lower negotiated price would benefit ratepayers.

An amendment to the PPA establishes a time-based provision that would allow either party the right to terminate the agreement should APS not receive regulatory approval from the Commission by November 30, 2008. The amendment is included as Attachment III.

⁷ Renewable Energy Purchase and Sale Agreement Between Arizona Public Service Company and Arizona Solar One LLC. February 8, 2008. Page 101.

⁸ Renewable Energy Purchase and Sale Agreement Between Arizona Public Service Company and Arizona Solar One LLC. February 8, 2008. Page 101.

⁹ APS has communicated to Staff that, if price terms were negotiated to some level other than those contemplated by the pricing formulas in the PPA, it would seek Commission approval.

¹⁰ Renewable Energy Purchase and Sale Agreement Between Arizona Public Service Company and Arizona Solar One LLC. February 8, 2008. Page 23.

The PPA includes provisions that would mitigate harm caused to APS should the energy generated by the Solana facility not be available to APS for a variety of reasons.

[REDACTED]

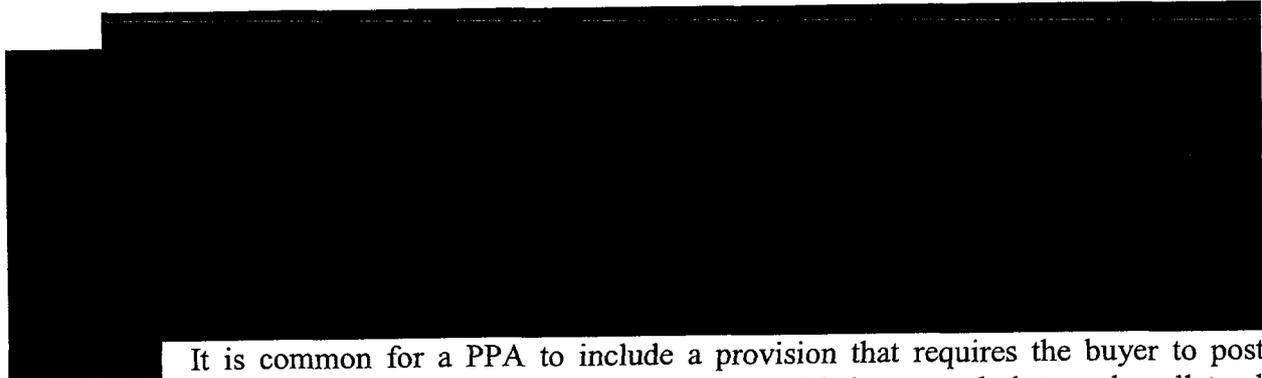
[REDACTED]

[REDACTED]

[REDACTED]

Staff recommends that, at any time APS collects damage payments pursuant to the terms of the PPA, that it include in the annual REST implementation plan filing information describing

the amount collected, cause for the collection, and how the amount was calculated. The filing should also make a recommendation for the disposition of the proceeds, and if applicable inform the Commission of the measures APS intends to take in order to comply with REST requirements in light of the existing circumstances. Information deemed competitively confidential may be redacted in the filing. Staff makes this recommendation in order to ensure proper use of such proceeds and to ensure that the Commission is sufficiently informed of the disposition of the Solana PPA and APS' efforts to comply with the requirements of the REST.



It is common for a PPA to include a provision that requires the buyer to post collateral in the event of a credit rating downgrade. APS has stated that such collateral provisions are conventional in its PPAs.

APS conducted an analysis of the PPA to estimate the value of the PPA compared to APS' projected cost of energy for a conventional resource alternative. This analysis concluded that Solana-generated energy is approximately 19 percent more costly than the conventional resource alternative. This analysis includes both an assumption of the cost of the conventional resource alternative and an assumption of the cost of energy generated by the Solana facility. As discussed previously, the cost of energy generated by the Solana facility is conditional upon factors such as the timing of approval of extension of the ITC and the level of the ITC approved. The analysis assumed passage of the ITC prior to 2009 and approval of a 30 percent tax incentive. As with the typical bill analysis, the presence of a combination of pricing variables creates numerous pricing scenarios that could be run when performing an avoided cost analysis. In response to a Staff request, APS additionally calculated the value of the PPA compared to APS' projected cost of conventional energy assuming that the projected cost of the conventional alternative varied as a result of both a higher and lower than expected cost of natural gas. Higher and lower than expected costs of gas are used as natural gas is the fuel predominantly used in meeting incremental load. APS also performed this analysis assuming that the ITC extension was approved in June of 2009 with a 30 percent incentive. The results of this additional analysis are as follows:

<u>Assumptions</u>	<u>Percentage Above Avoided Cost</u>
ITC approved in 2008 at 30 percent Avoided cost projections 20% less than expected	32%
ITC approved in 2008 at 30 percent Avoided cost projections 20% more than expected	8%
ITC approved June 2009 at 30 percent Avoided cost projections 20% less than expected	■
ITC approved June 2009 at 30 percent Avoided cost projections 20% more than expected	■

The percentage above avoided cost figures cited do not mean to say that, for instance, at 19 percent above avoided cost that a customer's bill would rise 19 percent. The above avoided cost figures indicate the relative cost of Solana energy alone, which would comprise only a small portion of energy from which bills are calculated. APS has indicated to Staff that it expects that in its first year of operation (2012) Solana generation would represent 2.52 percent of native load. APS also anticipates that Solana energy would represent 2.27 percent of 2016 load and 2.02 percent of 2021 load. Should Solana's cost prove to be 19 percent above market in 2012, 2.52 percent of customers' bills will be 19 percent more costly as a result of Solana generation.

National carbon tax legislation has been proposed that would place a tax on fuels that produce carbon dioxide when used. Generation of energy from fuels such as coal, natural gas and other fossil fuels that produce carbon dioxide would become more costly should such a tax be implemented. Cap-and-Trade legislation has also been proposed which would place limitations on the emission of a variety of greenhouse gases including carbon dioxide. Cap-and-trade legislation would make generation of electricity more expensive for generators needing to purchase credits in order to exceed emission caps. Overall, such measures would make generation of energy from fossil fuels more costly. The Solana facility would not produce carbon dioxide or other greenhouse gasses as a byproduct of generation of electricity. Implementation of carbon taxes or cap-and-trade measures if implemented would raise the cost of generation avoided by Solana generated energy. Such a scenario would dramatically change the value of Solana generated energy relative to conventional generation. APS estimates that the energy procured by the PPA will help to avoid carbon dioxide emissions by an average of approximately 475,000 tons per year.¹¹

¹¹ Application. Page 6.

Typical Bill Analysis

The following table demonstrates the bill impact to customers that would result from approval of the PPA in years 2012, 2016, and 2021. The pricing in this table assumes the ITC is approved in 2008 at a 30 percent level. In this table, residential customer impact is calculated having combined the E-10, E-12, and ET-1 customer classes. Residential customers in the E-10, E-12, and ET-1 classes collectively account for over 90 percent of all of APS' residential customers. For commercial and industrial customers less than 3 MW, the E-32 rate class was used. It accounts for over 93 percent of all small commercial and industrial customers. For commercial and industrial customers with demand greater than 3 MW, a combination of the E-34 and E-35 customer classes were used. These account for 100 percent of all large commercial and industrial customers. Note that the table includes bill impacts for both median and average customer kWh consumption. Also note that bill impact is described by both dollar increase and the increase as a percentage of the total bill.

Table I

Arizona Public Service Company
 REST - Solana Base Purchased Power Agreement Bill Impacts
 Residential, Small C/I and Large C/I Customer Classes

	2012 - 1st Full Year	2016 - 5th Year	2021 - 10th Year
<i>REST - Solana Above Market Costs¹</i>	-	-	
<i>Annual REST Collection by Class²</i>			
Residential			
Small C/I			
Large C/I			
Total			
<i>Increase in REST Charge and Caps³</i>			
per kWh	\$0.003155	\$0.002722	\$0.002362
Residential Cap	\$1.28	\$1.09	\$0.94
Small C/I Cap	\$45.96	\$40.45	\$35.10
Large C/I Cap	\$108.90	\$121.34	\$105.30

**REST Monthly Bill Impact \$
on Average Customer by Rate⁴**

E-10 / E-12 / ET-1	\$1.28	\$1.09	\$0.94
E-32	\$27.19	\$23.46	\$20.36
E-34 / E-35	\$108.90	\$105.30	\$105.30

**REST Monthly Bill Impact %
on Average Customer by Rate⁴**

E-10 / E-12	1.09%	0.93%	0.80%
E-32	3.44%	2.97%	2.57%
E-34 / E-35	0.04%	0.05%	0.04%

**REST Monthly Bill Impact \$
on Median Customer by Rate⁵**

E-10 / E-12 / ET-1	\$1.28	\$1.09	\$0.94
E-32	\$3.93	\$3.39	\$2.94
E-34 / E-35	\$108.90	\$121.34	\$105.30

**REST Monthly Bill Impact %
on Median Customer by Rate⁵**

E-10 / E-12	1.10%	0.94%	0.81%
E-32	0.50%	0.43%	0.37%
E-34 / E-35	0.04%	0.05%	0.04%

¹ Amount reflected is portion above market costs, which is not reflected in the PSA.

² The collection by class corresponds with the proportionality requirement set in Paragraph 63 of the Settlement Agreement approved by A.C.C. Decision No 67744. The kWh charge and caps have been raised proportionally.

³ The compounded customer growth rate used in the calculation of the REST charge for the 9 year period (2012 - 2021) is 2.5%. The current REST energy rate and caps are: \$0.003288 per kWh, a \$1.32 cap for Residential, a \$48.84 cap for Small C&I, and a \$146.53 cap for Large C&I.

⁴ E-10 / E-12 / ET-1 avg. monthly kWh usage is 1,022 kWh. E-32 avg. monthly kWh usage is 8,619 kWh. E-34 / E-35 avg monthly kWh usage is 3,286,589 kWh.

Average and median usage is for 12 month ending September 2007.

⁵ E-10 / E-12 / ET-1 median monthly kWh usage is 875 kWh. E-32 median monthly kWh usage is 1,245 kWh. E-34 / E-35 median monthly kWh usage is 2,335,000 kWh.

Average and median usage is for 12 month ending September 2007.

Table II contains the same information as Table I except that it assumes a circumstance where the ITC is approved in June of 2009 with a 30 percent tax credit. The scenario represents the latest period for approval of the ITC contemplated by Schedule II.

Table II

Arizona Public Service Company
REST - Solana Purchased Power Agreement Bill Impacts
Delay in ITC Extension Percentage [REDACTED]
Residential, Small C/I and Large C/I Customer Classes

	2012 - 1st Full Year	2016 - 5th Year	2021 - 10th Year
<i>REST - Solana Above Market Costs¹</i>	[REDACTED]	[REDACTED]	[REDACTED]
<i>Annual REST Collection by Class²</i>	[REDACTED]	[REDACTED]	[REDACTED]
Residential	[REDACTED]	[REDACTED]	[REDACTED]
Small C/I	[REDACTED]	[REDACTED]	[REDACTED]
Large C/I	[REDACTED]	[REDACTED]	[REDACTED]
Total	[REDACTED]	[REDACTED]	[REDACTED]
<i>Increase in REST Charge and Caps³</i>			
per kWh	\$0.003487	\$0.003038	\$0.002663
Residential Cap	\$1.39	\$1.22	\$1.07
Small C/I Cap	\$51.81	\$45.13	\$39.56
Large C/I Cap	\$155.44	\$135.39	\$118.68
<i>REST Monthly Bill Impact \$</i>			
<i>on Average Customer by Rate⁴</i>			
E-10 / E-12 / ET-1	\$1.39	\$1.22	\$1.07
E-32	\$30.05	\$26.18	\$22.95
E-34 / E-35	\$155.44	\$118.68	\$118.68
<i>REST Monthly Bill Impact %</i>			
<i>on Average Customer by Rate⁴</i>			
E-10 / E-12	1.20%	1.05%	0.92%
E-32	3.81%	3.32%	2.91%
E-34 / E-35	0.06%	0.06%	0.05%
<i>REST Monthly Bill Impact \$</i>			
<i>on Median Customer by Rate⁵</i>			
E-10 / E-12 / ET-1	\$1.39	\$1.22	\$1.07
E-32	\$4.34	\$3.78	\$3.31
E-34 / E-35	\$155.44	\$135.39	\$118.68

**REST Monthly Bill Impact %
 on Median Customer by Rate⁵**

E-10 / E-12	1.21%	1.06%	0.93%
E-32	0.55%	0.48%	0.42%
E-34 / E-35	0.06%	0.05%	0.05%

¹ Amount reflected is portion above market costs, which is not reflected in the PSA.

² The collection by class corresponds with the proportionality requirement set in Paragraph 63 of the Settlement Agreement approved by A.C.C. Decision No 67744. The kWh charge and caps have been raised proportionally.

³ The compounded customer growth rate used in the calculation of the REST charge for the 9 year period (2012 - 2021) is 2.5%. The current REST energy rate and caps are: \$0.003288 per kWh, a \$1.32 cap for Residential, a \$48.84 cap for Small C&I, and a \$146.53 cap for Large C&I.

⁴ E-10 / E-12 / ET-1 avg. monthly kWh usage is 1,022 kWh. E-32 avg. monthly kWh usage is 8,619 kWh. E-34 / E-35 avg monthly kWh usage is 3,286,589 kWh.

Average and median usage is for 12 month ending September 2007.

⁵ E-10 / E-12 / ET-1 median monthly kWh usage is 875 kWh. E-32 median monthly kWh usage is 1,245 kWh. E-34 / E-35 median monthly kWh usage is 2,335,000 kWh.

Average and median usage is for 12 month ending September 2007.

Table III contains the same information as Table I and Table II except that it assumes a circumstance where the ITC is approved in June of 2009 with a 10 percent tax credit. The scenario represents the latest period for approval of the ITC contemplated by Schedule II combined with the lowest percentage of ITC contemplated by Schedule III. It is the most costly potential price combination that could occur.

Table III

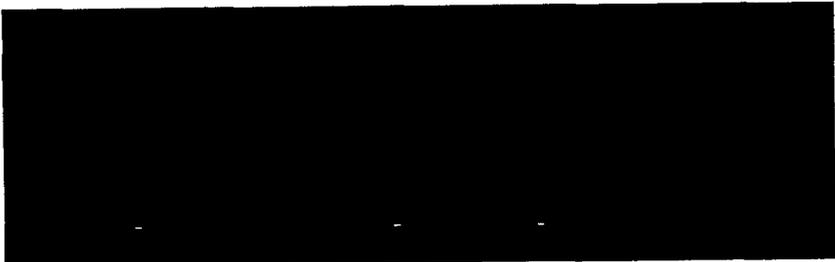
Arizona Public Service Company
REST - Solana Purchased Power Agreement Bill Impacts
Delay in ITC Extension and Variance in ITC
Percentage 
 Residential, Small C/I and Large C/I Customer Classes

2012 - 1st Full Year 2016 - 5th Year 2021 - 10th Year

REST - Solana Above Market Costs¹

Annual REST Collection by Class²

Residential
 Small C/I
 Large C/I
 Total



<i>Increase in REST Charge and Caps³</i>			
per kWh	\$0.005437	\$0.004913	\$0.004486
Residential Cap	\$2.17	\$1.97	\$1.79
Small C/I Cap	\$80.78	\$72.99	\$66.64
Large C/I Cap	\$242.33	\$218.96	\$199.93

<i>REST Monthly Bill Impact \$ on Average Customer by Rate⁴</i>			
E-10 / E-12 / ET-1	\$2.17	\$1.97	\$1.79
E-32	\$46.86	\$42.34	\$38.66
E-34 / E-35	\$242.33	\$218.96	\$199.93

<i>REST Monthly Bill Impact % on Average Customer by Rate⁴</i>			
E-10 / E-12	1.87%	1.70%	1.54%
E-32	5.93%	5.36%	4.90%
E-34 / E-35	0.10%	0.09%	0.08%

<i>REST Monthly Bill Impact \$ on Median Customer by Rate⁵</i>			
E-10 / E-12 / ET-1	\$2.17	\$1.97	\$1.79
E-32	\$6.77	\$6.11	\$5.58
E-34 / E-35	\$242.33	\$218.96	\$199.93

<i>REST Monthly Bill Impact % on Median Customer by Rate⁵</i>			
E-10 / E-12	1.89%	1.71%	1.56%
E-32	0.86%	0.77%	0.70%
E-34 / E-35	0.09%	0.08%	0.08%

¹ Amount reflected is portion above market costs, which is not reflected in the PSA.

² The collection by class corresponds with the proportionality requirement set in Paragraph 63 of the Settlement Agreement approved by A.C.C. Decision No 67744. The kWh charge and caps have been raised proportionally.

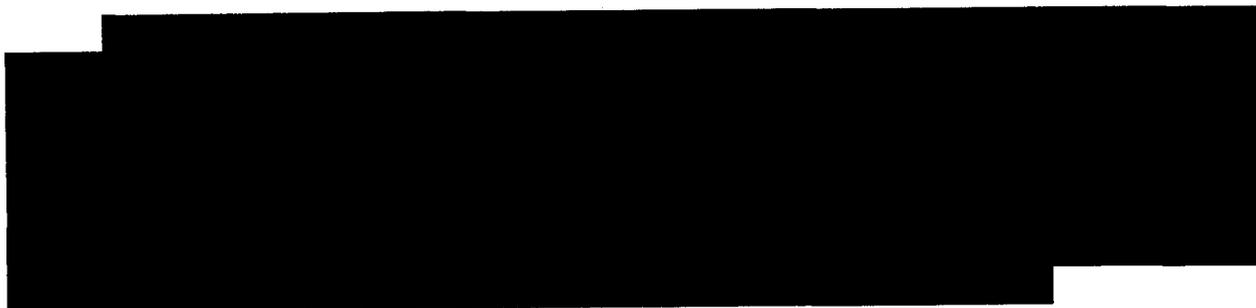
³ The compounded customer growth rate used in the calculation of the REST charge for the 9 year period (2012 - 2021) is 2.5%. The current REST energy rate and caps are: \$0.003288 per kWh, a \$1.32 cap for Residential, a \$48.84 cap for Small C&I, and a \$146.53 cap for Large C&I.

⁴ E-10 / E-12 / ET-1 avg. monthly kWh usage is 1,022 kWh. E-32 avg. monthly kWh usage is 8,619 kWh. E-34 / E-35 avg monthly kWh usage is 3,286,589 kWh.

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Average and median usage is for 12 month ending September 2007.



Selection process used to solicit renewables contracts

APS selected the Solana project as a result of Abengoa's response to a request for proposal ("RFP"). Based on Staff's review of APS' Renewable Energy Competitive Procurement Procedure ("Procedure"), the RFP, a report on the matter issued by Navigant Consulting, Inc. ("Navigant"), discussions with APS, and the quantitative and qualitative results of the selection process provided to Staff, Staff believes that the Solana PPA was selected through a competitive bid procurement process. APS issued an RFP to solicit bids for provision of renewable energy in order to obtain renewable energy to comply with the requirements of the REST rules. APS evaluated the responses to the RFP and selected the Abengoa proposal as a finalist for consideration. Three other offers were also selected; however, this application addresses only the Solana project at this time. Projects were evaluated and selected based on a number of qualitative and quantitative criteria. Navigant was hired by APS to monitor and audit the RFP and selection process. Navigant issued a report explaining the process used by APS and commenting on its observations and findings as an independent auditor. Navigant's audit also included a review of APS' Procedure. The Procedure is a guideline created by APS to govern the competitive procurement process used to solicit and evaluate renewables offers. Navigant's report is included as Attachment IV.

APS received 51 proposals from 28 different Respondents in response to the 2007 RFP. As some proposals included multiple product offers, a total of 73 product offers were received.

The evaluation and selection included a Proposal Evaluation and a Detailed Evaluation. The Proposal Evaluation included a Threshold Evaluation, Screening Evaluation, and a Short List Selection.

The Detailed Evaluation included a Transmission Review, Technical Evaluation, Additional Production Cost Modeling, a Financial Creditworthiness check, a Term Sheet Negotiation process, Risk Assessment, and Final Selection.

The Threshold Evaluation phase considered whether respondents had provided sufficient information to meet the criteria of the RFP. Nine offers were rejected on this basis.

The Screening Evaluation phase applied both a quantitative and qualitative evaluation to the offers. The quantitative evaluation calculated the delivered cost energy for each bid by adding to each bid cost any additional costs such as system integration, delivery, and imputed debt. Avoided costs were then calculated by determining the cost of the incremental energy avoided by the renewable resource. APS then determined the net present value of the annual bid cost and avoided cost for each offer and created a single table of comparative offers based on a ratio of total bid cost to avoided cost.

The qualitative evaluation gave consideration to each offer's project viability, technology, permitting considerations, and production risk. The qualitative evaluation was conducted by APS staff members from different relevant disciplines. Twelve offers were rejected in this process as a result of excessive technology risk.

The Short List Selection reduced the field of offers to 10 based on the best percentages above avoided cost as calculated in the quantitative evaluation.

The Detailed Evaluation then began with the Transmission Review. In the Transmission Review APS considered the transmission needs and system impact of each offer. One was eliminated from consideration in this phase as it depended on the construction of a nearby coal plant.

The Technical Evaluation phase considered the technical merits of each offer. Several offers were eliminated as a result of technical concerns.

The Additional Production Cost Modeling phase refined the avoided costs calculations by using more detailed data.

The Financial Creditworthiness phase examined the credit risk related to each offer. Two were eliminated as a result of matters related to credit risk.

The Term Sheet Negotiation phase involved establishment and negotiation of contractual terms that would be established with successful bidders. One bidder was eliminated as a result of being unresponsive in this process.

The Risk Assessment phase involved a qualitative assessment of risk related to transmission, credit, and technical considerations.

In the Final Selection phase APS chose four offers from four respondents. APS may seek contracts with each of the four finalists in order to meet the REST requirements.

APS met with Staff on two occasions to discuss the bidding and selection process. In these meetings APS provided Staff with information describing the quantitative and qualitative conclusions drawn in the selection process. Summary information provided to Staff in these meetings that lists the quantitative and qualitative results of the selection process is provided as Attachment V. The attachment also provides a descriptive rationale for the selection or rejection of offers. The information provided is deemed competitively confidential. Note that in Attachment V Abengoa is referred to as Solucar.

The Navigant report states that the Procedure is fair and unbiased.¹² The Navigant report states about the RFP process:

*...we conclude that the solicitation materials associated with the 2007 RFP were understandable, comprehensive and consistent with the requirements of the Procedure and with other requests for proposals for renewable power supply that we have reviewed. The terms of the various certification, confidentiality, creditworthiness and other form documents were reasonable and consistent with others we have reviewed. The submittal instructions and non-refundable bid fee were reasonable and the description of the evaluation process was clear. The presentations made at the pre-bid conference were clear and consistent with the Procedure and the RFP, and the questions and answers made available on the RFP website were also clear and consistent and valuable in further defining the solicitation. Although there were some minor shortcomings in the documents, there is no evidence that they caused any interested party not to respond to the 2007 RFP, nor that it advantaged or disadvantaged any given Respondent in the evaluation.*¹³

The Navigant report states about the evaluation process:

With respect to the evaluations, we conclude that the evaluation processes were performed on a logical, consistent, fair and reasonable basis, and were consistent with the requirements of the Procedure and with other power supply offer evaluation processes we have performed or observed. The threshold and screening processes were performed on a consistent and fair basis. All necessary and typical costs (integration, transmission, imputed debt) were included. The use of production cost modeling to determine avoided cost was thorough and accurate. The selection of shortlist based on lowest cost, qualified offers was reasonable. Respondents were given equal opportunity to meet with APS, provide additional information to improve their offers, and to negotiate a standard form

¹² Independent Auditor Report for the 2007 Renewable RFP Process. Navigant Consulting. March 2008. Page 3.

¹³ Independent Auditor Report for the 2007 Renewable RFP Process. Navigant Consulting. March 2008. Page 3.

*term sheet. APS endeavored to not provide more favorable term sheet terms to any one Respondent. The level of technical due diligence review was comprehensive and thorough. The transmission and credit reviews, and subsequent disqualification of some offers was reasonable. The price and non-price factors considered in selection of the Finalists was reasonable.*¹⁴

Navigant's report contains no findings or conclusions that indicate impropriety in the selection of the Solana project as a provider of renewable energy for APS. The Navigant report cites that the evaluation process was consistent with other power supply offer evaluation process that they have performed or observed.¹⁵

Staff believes, based on this review, that considering the alternative proposals available to APS, the Solana PPA is a reasonable means of achieving the REST targets and will provide a means of meeting APS' REST requirements.

Detailed description of proposed facility

The Solana Generating Station will consist of approximately three square miles of parabolic troughs, two steam turbines, and a six-hour thermal storage capability. The system will provide 280 MW of firm capacity. The Solana facility will provide approximately 900,000 MWh of renewable electricity each year.

Parabolic troughs work in a simple manner. Sunlight strikes long troughs of mirrors curved in a parabolic shape. This shape allows all the incoming sunlight to be reflected and focused onto long black receiver tubes holding a transfer fluid. The heated transfer fluid is pumped through a solar evaporator, which produces steam. This steam is used to run a conventional steam turbine, to produce electricity.

A unique feature of the Solana Generating Station is that during the day, some of the sun's heat is transferred to a Molten Salt Tank for use after the sun sets. This storage capability will allow the Solana Generating Station to more closely match the daily APS system peak electricity demand. The ability to provide electricity during non-sunny hours offers the Solana Generating Station a unique advantage over other solar electric systems that are limited to only daytime electricity output.

Parabolic trough solar collector systems have a long and interesting history. In 1913, F. Shuman and C. V. Boys built a large solar trough system near Cairo, Egypt, to run a 50 horsepower pump that pumped irrigation water from the Nile River.¹⁶ In the 1980's, approximately 354 MW of solar trough systems were built in the California desert near Daggett. The systems are still operational today, providing peak hour and non-peak hour renewable solar electricity.

¹⁴ Independent Auditor Report for the 2007 Renewable RFP Process. Navigant Consulting. March 2008. Page 3.

¹⁵ Independent Auditor Report for the 2007 Renewable RFP Process. Navigant Consulting. March 2008. Page 30.

¹⁶ Daniels, Farrington. Direct Use of the Sun's Energy, Ballantine Booles, 1964, Pages 6 and 7.

The Solana Generating Station, when operating at full output, will provide the electricity needs of 70,000 Arizona homes. The six-hour thermal storage capacity will allow the station to provide electricity during the key peak hours, from noon to 8:00 p.m. during the peak summer months of June through September. The system will operate at greater than 90 percent capacity factor during those hours.

Unlike some of the newer renewable energy technologies, the solar trough technology has a history dating back almost 100 years. The large, 354-MW series of solar troughs installed in the California desert have 20 plus years of operational experience providing renewable energy to electric utilities.

Although new in this application, the use of molten-salt storage has a history dating back over 20 years and has been reviewed and tested by Sandia National Laboratory and the National Renewable Energy Laboratory. The ability to maintain electricity output after sunset will allow APS to avoid or reduce using peaking generators or purchasing high-cost peaking power during the hot summer season.

Staff believes that the track record of similar solar trough plants indicates that the Solana Generating Station will perform as expected, providing the renewable kWh needed by APS starting in 2011. The thermal storage system will help APS to meet its peak summer needs at the lowest possible cost.

Significant presence of solar generation in APS' resource mix adds supply diversity to APS' generation portfolio. Constraints to other fuels or to fossil fuels in general can be mitigated by the added generation the Solana facility would supply. Staff notes that fuel stock for the Solana facility, the sun's energy, would not be purchased from either foreign or domestic vendors, will not deplete, is not subject to supply or transportation constraints other than atmospheric conditions, and produces no waste product that is taxed or requires disposal.

Detailed description of Abengoa

Abengoa is a Spanish technology company engaged in the solar, bio-energy, environmental services, information technology, and industrial engineering and construction industries. The company was originally formed in 1941 as Sociedad Abengoa, S.L. Abengoa operates in approximately 70 countries and has more than 20,000 employees.

Abengoa deals with a variety of solar facilities including photovoltaic, CSP, space and water heating, and cooling using parabolic troughs. Abengoa generates power through a variety of CSP systems including solar trough, solar tower, and Stirling engine.

Abengoa has constructed a variety of large solar power generating facilities. Sevilla PF is a 1.2 MW photovoltaic facility near Seville. PS10 is an 11 MW solar tower near Seville. PS20 is a 20 MW solar tower under construction near Seville. Solnova 1 and 3 are 50 MW solar

trough facilities near Seville. Six other plants are in development stages.¹⁷ Abengoa is also involved in Integrated Solar Combined Cycle facilities in Morocco and Algeria. Abengoa has developed several solar heating and cooling systems in the United States including two in Arizona.

As a result of the size of the investment required for development of the Solana facility, Abengoa will finance the construction of the facility with capital from a third party lender. The application states that successful development of the project is contingent on several factors, including its ability to obtain acceptable third-party financing.¹⁸

Other regulatory matters

In addition to the issues already discussed, other factors must be resolved for the Solana project to be realized. Arizona Solar One must obtain a certificate of environmental compatibility ("CEC") to operate. Certain circumstances described in the PPA allow Arizona Solar One a right to terminate the agreement if not met. One of the circumstances is that Congress must approve an investment tax credit. Another is that Arizona Solar One must have a reasonable expectation that it will be able to finalize an interconnection agreement so that the Solana facility can interconnect with transmission lines.

The ITC, if extended in its present format, would provide a 30 percent tax credit to Arizona Solar One for its production of solar power. The tax credit was originally established in the Tax Relief and Health Care Act of 2006. After initial passage the tax credit was once extended until the end of 2008, but has not yet received a second extension to keep the tax credit in place beyond 2008. The fact that the ITC and CEC are still pending approval does not preclude the Commission from reviewing the PPA in the context of the REST Rules.

Staff Findings and Recommendations

Based on Staff's review of the Application and the REST requirements, Staff believes the Solana PPA is a reasonable means of achieving the REST targets and would provide a means of complying with the long-term REST requirements. However, Staff's recommendations in this matter do not address approval of the PPA, as the Commission does not typically approve wholesale rates; nor do Staff's recommendations address issues of prudence, as such issues are not present in this matter.

Based on Staff's review of APS' Renewable Energy Competitive Procurement Procedure, the RFP, a report on the matter issued by Navigant Consulting, Inc., discussions with APS, the quantitative and qualitative results of the selection process, and considering the alternative proposals available to APS, Staff concludes that the Solana PPA was selected through a competitive bid procurement process.

¹⁷ <http://www.abengoasolar.com>

¹⁸ Application. Pages 1 and 2.

Staff further believes that energy provided through the Solana project is an application of "solar electricity resources" as that term is used in the REST Rules. The use of the Solana project, as described in the PPA, would displace conventional energy resources that would otherwise be used to provide electricity to APS' customers. Under these circumstances, Staff finds that the Solana proposal would meet the requirements of an Eligible Renewable Energy Resource pursuant to R14-2-1802.

Staff further believes that consistent with the correspondence submitted by APS on April 18, 2008, APS is not seeking a prudence determination in this docket or any other pending docket. Staff's recommendations in this matter do not address the prudence of the PPA or otherwise address its ratemaking treatment.

Staff concludes that the Solana PPA is an appropriate component of APS' renewable energy portfolio and is compatible with APS' implementation plan as approved in Commission Decision No. 70313.

Staff recommends that, in any subsequent inquiry into the prudence of the Solana PPA, the expense of renewable energy purchased under the PPA should not be deemed imprudent solely because the costs are greater than for conventional generation.

Staff recommends that, at any time APS collects damage payments pursuant to the terms of the PPA, it include in the annual REST implementation plan filing information describing the amount collected, cause for the collection, and how the amount was calculated. The filing should also make a recommendation for the disposition of the proceeds, and if applicable inform the Commission of the measures APS intends to take in order to comply with REST requirements in light of the existing circumstances.



Ernest G. Johnson
Director
Utilities Division

EGJ:SPI:redJW

ORIGINATOR: Steve P. Irvine

Attachment I

**PUBLIC NOTICE OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR APPROVAL
OF A CONCENTRATING SOLAR POWER CONTRACT DOCKET NO. E-01345A-08-0106**

On February 21, 2008, Arizona Public Service Company ("APS") filed an application with the Arizona Corporation Commission ("Commission") for approval of a Purchase Power Agreement ("Agreement") to procure renewable energy for 30 years from a proposed solar power plant ("Solana Generating Station") planned to begin operation in late 2011. This Agreement would allow APS to help satisfy the Renewable Energy Standard and Tariff Rules that were approved by the Commission on November 14, 2006, requiring 15 percent of APS' energy be provided by a renewable resource by 2025. Today the cost associated with renewable energy is generally more expensive than generation from gas, nuclear, or coal resources; however this provides increased use of more environmentally friendly resources. These rules can be viewed on the Commission website at http://www.azsos.gov/public_services/Title_14/14-02.pdf. The Solana Generating Station is a concentrating solar power plant with storage capability that would be developed by Arizona Solar One, LLC and be located near Gila Bend, Arizona if approved by the Commission. For more information on the Solana Generating Station, please visit APS' website at www.aps.com/solana.

The application is available for review during regular business hours at the Commission's offices at 1200 West Washington Street, Phoenix, Arizona 85007, and on the internet via the Commission's website at www.azcc.gov using the eDocket function. While the date on which the Commission will consider this matter in an Open Meeting has not yet been established, the public may submit comments to the Commission on this matter or intervene in this proceeding under Docket number E-01345A-08-0106 by contacting the Commission's offices at 602-542-4251 or 1-800-222-7000.

05/2008

Attachment II

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AZ CORP COMMISSION
DOCKET CONTROL

DEBORAH R. SCOTT
Senior Regulatory Attorney
Telephone: (602) 250-5508
Facsimile: (602) 250-3393

April 18, 2008

RE: Further Clarification regarding Arizona Public Service Company's
Application for Approval of CSP Purchase Power Agreement;
Docket No. E-01345A-08-0106

Dear Parties of Record:

On February 21, 2008, Arizona Public Service Company ("APS" or "Company") filed an application for approval of a Purchase Power Agreement ("PPA") where APS would procure the full output from a 280 megawatt concentrating solar power ("CSP") plant ("Solana Generating Station" or "Solana"). Recognizing that some clarification of the application was needed regarding the specific approval that APS is seeking in this docket, on April 14th the Company filed a letter in the docket to provide that clarification for the Commission, the Staff and the parties.

As APS indicated in the earlier letter, the Company is seeking approval of the Solana PPA pursuant to the Renewable Energy Standard rules, specifically R14-2-1804(G), which provides for pre-approval of agreements to purchase energy or Renewable Energy Credits from Eligible Renewable Energy Resources. To address questions that have been raised since the filing of the April 14th letter, the Company is providing this letter to further clarify that APS is not seeking a prudence determination in the Solana PPA docket nor any other pending docket.

The Company hopes that this additional clarification will facilitate the timely resolution of this matter without the need for an evidentiary hearing. If you have any questions, or wish to discuss further, please call me at 602-250-5508.

Sincerely,

Deborah R. Scott
Deborah R. Scott

Arizona Corporation Commission
DOCKETED

APR 18 2008

cc. Parties of Record
Ernest Johnson
Janet Wagner
Charles Hains
Terri Ford
Steve Irvine
Docket Control

DOCKETED BY	NR
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APS • APS Energy Services • SunCor • El Dorado • Pinnacle West Marketing & Trading, Co., LLC

Law Department, 400 North Fifth Street, Mail Station 8695, Phoenix, AZ 85004-3992
Phone: (602) 250-3630 • Facsimile (602) 250-3393 • E-mail: Deb.Scott@pinnaclewest.com

Attachment III

**FIRST AMENDMENT
TO THE
RENEWABLE ENERGY PURCHASE AND SALE AGREEMENT
BETWEEN
ARIZONA PUBLIC SERVICE COMPANY
AND
ARIZONA SOLAR ONE LLC**

THIS FIRST AMENDMENT TO THE RENEWABLE ENERGY PURCHASE AND SALE AGREEMENT (this "Amendment"), effective as of July 16th, 2008, is entered into by and between Arizona Public Service Company, an Arizona corporation ("Buyer") and Arizona Solar One LLC, a Delaware limited liability company ("Seller"). In this Amendment, Seller and Buyer may be individually referred to as a "Party" or collectively as the "Parties".

RECITALS

WHEREAS, the Parties are also parties to that certain Renewable Energy Purchase and Sale Agreement, effective as of February 8, 2008 (the "PPA"); and

WHEREAS, the Parties desire to amend the PPA to reflect their agreement as to certain matters set forth below.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants and agreements contained in this Amendment and in the PPA, and intending to be legally bound hereby, the Parties agree as follows:

1. Defined Terms. Initially capitalized terms used but not defined in this Amendment shall have the meanings ascribed to them in the PPA.

2. Amendment to Section 2.02(a) of PPA. Section 2.02(a) of the PPA is hereby amended and restated in its entirety to read as follows:

"Timing of ACC Approval. Either Party shall have the right to terminate this Agreement if ACC Approval has not occurred on or before November 30th, 2008; provided that Notice of termination is given on or before December 10th, 2008."

3. No Other Amendments. Except where inconsistent with the express terms of this Amendment, all provisions of the PPA remain in full force and effect.

4. Entire Agreement; Amendment. This Amendment, taken together with the PPA, constitutes the entire agreement between the Parties with respect to the subject matter hereof. This Amendment and the PPA shall be considered for all purposes as prepared through the joint efforts of the Parties and shall not be construed against on Party or the other as a result of the preparation, substitution, submission or other event of negotiation, drafting or execution hereof or thereof. Except to the extent provided for in the PPA, no amendment or modification of this

Amendment or the PPA shall be enforceable unless reduced to writing and executed by both Parties.

5. Governing Law. This Amendment and the rights and duties of the Parties hereunder shall be governed by and construed, enforced and performed in accordance with the laws of the State of New York, without regard to principles of conflicts of law.

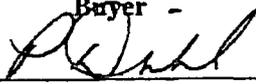
6. Execution of Amendment. This Amendment may be executed in counterparts and delivered in original form or by facsimile or .pdf transmission, each of which will be deemed an original and all of which will together constitute on and the same instrument.

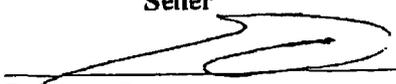
**[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]
[SIGNATURE PAGE FOLLOWS]**

IN WITNESS WHEREOF, the Parties hereto made and executed this Amendment, signed by their duly authorized officers or individuals, as of the day and year first above written.

ARIZONA PUBLIC SERVICE COMPANY

ARIZONA SOLAR ONE LLC

By: ^{Buyer} 
Name: Patrick Dinkel
Title: Director - Resource Acquisition and Renewable Energy

By: ^{Seller} 
Name: Emiliano Garcia
Title: General Manager and Treasurer

[SIGNATURE PAGE TO FIRST AMENDMENT - APS/ARIZONA SOLAR PPA]

Attachment IV

Independent Auditor Report for the 2007 Renewable RFP Process

Presented to



Arizona Public Service Company

March 4, 2008

Presented by

Navigant Consulting, Inc.
3100 Zinfandel Drive, Suite 600
Rancho Cordova, CA 95670
916.631.3200

www.navigantconsulting.com



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1. Executive Summary

The Arizona Public Service Company, Inc. ("APS") is a vertically-integrated electric utility that provides retail and wholesale electric service to most of the state of Arizona, with the major exceptions of about one-half of the Phoenix metropolitan area, the Tucson metropolitan area and Mohave County in northwestern Arizona.

In November 2006, the Arizona Corporation Commission (the "Commission") adopted new renewable Energy Standard and Tariff rules ("the RES Rules")¹. The RES Rules require APS and other affected utilities to satisfy an Annual Renewable Energy Requirement beginning in 2007 by obtaining Renewable Energy Credits from Eligible Renewable Energy Resources and to file implementation plans and compliance reports. The compliance reports must include a description of the affected utility's procedures for choosing Eligible Renewable Energy Resources and a certification from an independent auditor that those procedures are fair and unbiased and have been appropriately applied.²

In response to the RES Rules, and as part of its ongoing effort to acquire additional renewable resources for its supply portfolio, APS developed a plan to acquire additional renewable energy from Eligible Renewable Resources. This plan included development of a new Renewable Energy Competitive Procurement Procedure (the "Procedure")³ which identifies the policies and procedures that APS will use to procure renewable energy through both request for proposal and bi-lateral purchase approaches. The Procedure also identifies the scope of work for the independent auditor that is required under the RES Rules.

APS has retained Navigant Consulting Inc. ("NCI") to serve as its independent auditor under the Procedure. Navigant Consulting Inc. ("NCI", NYSE: NCI; www.navigantconsulting.com) is an international consulting firm providing dispute, investigative, operational, risk management and financial advisory solutions to legal counsel, government agencies and companies experiencing regulatory or structural challenges. Among many offerings, our Energy Practice has provided electric supply procurement and generation development services to investor-owned utility systems, local/state government organizations and large energy consumers for more than 20 years. Engagements have ranged from acting as independent evaluator/auditor of procurement, to preparation of RFPs and negotiation of power purchase agreements, to comprehensive operational, financial, and environmental due diligence on utility self-build and build-transfer projects.

In general, our scope of work to date has been divided into two tasks; 1) review the Procedure and certify that it is fair and unbiased and 2) monitor and evaluate the solicitation, evaluation

¹ Arizona Administrative Code ("A.A.C.") R14-2-1801 through -1816.

² Arizona Administrative Code ("A.A.C.") R14-2-1812, paragraph B.6.

³ Arizona Public Service Company, Renewable Energy Competitive Procurement Procedure, April 10, 2007.

and selection process for new renewable resources done through the 2007 Request for Proposals for Eligible Renewable Energy Resources (the "2007 RFP")⁴ including review of the solicitation materials, audit of the evaluations, preparation of a summary report to APS and certification that the Procedure was appropriately applied during the RFP process.⁵ Task 1 was completed in April 2007 after our review of the Procedure and our subsequent report to APS confirming that the Procedure is fair and unbiased.⁶ Subsequently, we began our monitoring and evaluation of the 2007 RFP process (Task 2). This document represents our summary report as described under Task 2 (the "2007 RFP Report" or "Report").

As a result of this work, we conclude that the solicitation materials associated with the 2007 RFP were understandable, comprehensive and consistent with the requirements of the Procedure and with other request for proposals for renewable power supply that we have reviewed. The terms of the various certification, confidentiality, creditworthiness and other form documents were reasonable and consistent with others we have reviewed. The submittal instructions and non-refundable bid fee were reasonable and the description of the evaluation process was clear. The presentations made at the pre-bid conference were clear and consistent with the Procedure and the RFP, and the questions and answers made available on the RFP website were also clear and consistent and valuable in further defining the solicitation. Although there were some minor shortcomings in the documents, there is no evidence that they caused any interested party not to respond to the 2007 RFP, nor that it advantaged or disadvantaged any given Respondent in the evaluation.

With respect to the evaluations, we conclude that the evaluation processes were performed on a logical, consistent, fair and reasonable basis, and were consistent with the requirements of the Procedure and with other power supply offer evaluation processes we have performed or observed. The threshold and screening processes were performed on a consistent and fair basis. All necessary and typical costs (integration, transmission, imputed debt) were included. The use of production cost modeling to determine avoided cost was thorough and accurate. The selection of shortlist based on lowest cost, qualified offers was reasonable. Respondents were given equal opportunity to meet with APS, provide additional information to improve their offers, and to negotiate a standard form term sheet. APS endeavored to not provide more favorable term sheet terms to any one Respondent. The level of technical due diligence review was comprehensive and thorough. The transmission and credit reviews, and subsequent disqualification of some offers was reasonable. The price and non-price factors considered in selection of the Finalists was reasonable.

⁴ Arizona Public Service Company, 2007 Request for Proposal for Renewable Energy Resources, March 5, 2007.

⁵ Arizona Public Service Company, Renewable Energy Competitive Procurement Procedure", March 28, 2007, paragraphs 5.1.1 through 5.1.4.

⁶ Renewable Energy Procurement Solicitation Certification, Final Report, Presented to the Arizona Public Service Company, April 10, 2007.

In performance of this review and Report, we have not attempted to influence the preparation of the solicitation documents, nor the performance of the evaluation by APS, nor the discussions between APS and the Respondents, nor the selection of offers by APS. We have not performed any independent alternate evaluation or selection of offers. This Report considers only the reasonableness and fairness of the solicitation and evaluation processes. It does not represent any endorsement of the offers selected by APS, nor any guarantee that the offers are valid or will be ultimately delivered, nor that the offers will satisfy the Annual Renewable Requirements of APS. This Report covers the 2007 RFP process only.

This Report summarizes our review and conclusions as of the date of this Report. In preparing this Report, we have relied on documents, correspondence, analyses and information provided to us by APS. While we believe these source documents to be reliable, they have not been independently verified for either accuracy or validity, and no assurances are offered with respect thereto. We make no representations, warranties or opinions concerning the enforceability or legality of the laws, regulations, rules, contracts or other similar documents reviewed as part of this evaluation. We express no recommendation, opinion, or advice as to the wisdom, desirability, or prudence of contracting with the Respondents, or to the action any person should take in connection with the offer, issuance, purchase, or sale of securities or contracts related to APS or the Respondents. NCI and its employees are independent contractors providing professional services to APS and are not officers, employees, or agents of APS.

2. Review of Solicitation Materials

2.1. *The 2007 RFP*

The Procedure requires that each RFP issued by APS must define the specific products(s) that APS is soliciting, the milestone dates for the solicitation process, and bid submittal requirements.⁷

2.1.1. Product Descriptions

The Procedure requires that at a minimum, each product solicited by APS include a description of 1) the timeframe for delivery, 2) the type of Eligible Renewable Technologies desired, 3) the capacity and energy requirements, 4) the system deliverability requirements and 5) the term and ownership structure of the purchase.

⁷ Arizona Public Service Company, Renewable Energy Competitive Procurement Procedure", March 28, 2007, paragraphs 4.1 through 4.3.3.

Review of the 2007 RFP reveals that the majority of this product description requirement is satisfied. Product Description (paragraph 1.2) identifies 2 desired products. Product 1 is a short term product with a final delivery date no later than 12/31/2008. Product 2 is a long term product with a minimum term of 5 years and a maximum term of 30 years. Product Description also identifies that the products may be supplied from biogas, landfill gas, biomass, geothermal, solar, wind, hybrid wind and solar, fuel cells that use only renewable fuels and hydropower technologies as defined under the RES Rules. Product Description also specifies that APS is not seeking renewable energy credits only (energy also must be supplied), demand side management related products or products from research and development projects. Minimum annual energy (20,000 MWh), targeted annual energy (from 125,000 MWh in 2007 to 736,000 MWh in 2011) and 2007 targeted capacity (30 MW) is also specified.

Deliverability is also specified (firm energy to any point on the APS transmission or distribution system). The deliverability specification includes Attachment 1 to the RFP, which is a schematic diagram of delivery points on the APS high voltage transmission system. A series of internal delivery points is also listed on the Attachment. There is also a commitment that APS will provide more detailed transmission information at the bidder's conference.

The 2007 RFP goes beyond the minimum product specification requirements of the Procedure by also identifying a preferred pricing pattern (fixed or escalating at a fixed rate) and identifying that the product must include all environmental attributes (renewable energy credits, greenhouse gas or carbon credits, and any other emission attributes).

One area of the product specification that appears to be missing is the preferred hours of delivery (peak, off-peak, both, or as available). This lack of definition may have been due to the fact that wind and solar resources are intermittent by nature and cannot be "dispatched" for delivery with the level of certainty that other resources can. However, solar, geothermal and biomass resources can be designed to favor energy production during certain hours. APS did recognize this and solicited revised energy profiles from solar resource during the Detailed Evaluation phase (see Detailed Evaluation below).

Also, use of the term "firm energy" when describing the deliverability requirement is somewhat confusing. It is also in conflict with paragraph 3.3.2.3.1 of the 2007 RFP. That paragraph states that resources need not provide a firm fixed amount of capacity (MW). It is apparent that the deliverability requirement should have used the term "firm transmission" to reflect APS' willingness to accept non-firm energy.

Another product description requirement that appears to be missing is ownership structure. There is no specification as to whether or not APS is interested in owning the renewable resource as an alternative to just power purchase. A request for an ownership option is becoming more commonplace in utility RFP processes today. Ownership may allow the utility

to directly enjoy the production tax credits and accelerated depreciation available to renewable plants rather than indirectly through the PPA.

Although these product specifications were missing or confusing, there is no evidence that this caused any interested party not to respond to the 2007 RFP, nor that it advantaged or disadvantaged any given Respondent in the evaluation.

2.1.2. Milestone Dates

The Procedure requires that an RFP include milestone dates for RFP issuance, the bidder's conference, submittal of the Notice of Intent to bid, the response itself, shortlist notification and final selection.

Paragraph 2.5 of the 2007 RFP sufficiently specifies all of these dates for both products. These dates and days from RFP issuance are shown in Table 1 below.

Table 1 – Milestone Dates in the 2007 RFP

<u>Event</u>	<u>Date</u>	<u>Day</u>
Issue RFP	5-Mar	0
Bidders Conference	14-Mar	9
Submit Notice of Intent to Bid	21-Mar	16
Product 1		
Submit Response and Fee	9-Apr	35
Shortlist Notification	2-May	58
Final Selections	29-Jun	116
Product 2		
Submit Response and Fee	15-May	71
Shortlist Notification	11-Jun	98
Final Selections	15-Aug	163

These dates and resulting durations between them are reasonable. They provided a reasonable time frame for interested parties with well defined resources/projects to respond. Product 1 response and selection was scheduled to occur on a shorter timeframe than Product 2, which is consistent with the fact that the delivery period was more near term and the decision timeframe for APS would need to be shorter.

2.1.3. Proposal Submittal Requirements and Instructions

The Procedure requires that an RFP include all of the terms and conditions for bidders to be eligible, including a signed Confidentiality Agreement, a Proposal Certification and Summary Agreement, and a Statement of Financial Conditions and Creditworthiness Qualifications.

These instructions and requirements were specified in Paragraph 2 of the 2007 RFP. These are summarized and discussed below.

2.1.3.1. General Requirements

Respondents were directed to an RFP Web Site to obtain all necessary RFP documents and updates. Respondents were instructed to review and advise APS of conflicting requirements, omissions or clarifications needed prior to response submittal. Respondents were also advised that APS could disqualify a party for failing to provide requested information or demonstrate satisfaction of all requirements. Respondents were also instructed to communicate with APS via the APS Official Contact through a special RFP email address. Responses from APS would be either directly to the party or to all parties through a website posting, depending upon the nature and frequency of the questions.

2.1.3.2. Confidentiality Agreement

Each respondent was required to submit an executed Confidentiality Agreement between itself and APS with its proposal. Respondents were also advised to label confidential information as "PROPRIETARY AND CONFIDENTIAL". The Confidentiality Agreement is bilateral, requiring each party not to disclose information it may receive from the other party with respect to the 2007 RFP process, except to its own board, staff and consultants for purposes of evaluation only. It does specify that APS may disclose the information to the Commission and other regulatory agencies for the purposes of regulatory filings, but only after giving the Respondent prior notice and an opportunity to protect the information. Specific performance or injunctive relief is allowed in cases of unauthorized disclosure by either party, but no consequential damages are allowed. The term of the Confidentiality Agreement is either 1 year from the date of power purchase execution or 2 years from execution of the Confidentiality Agreement, whichever occurs first.

2.1.3.3. Proposal Certification and Summary

The Proposal Certification and Summary document (the "Proposal Summary") included a certification page to be executed by the Respondent. The Respondent was required to certify that the proposal was submitted by a person authorized to bind the Respondent, that the Respondent agreed to be bound by the requirements of the RFP, that information in the proposal is true, accurate and complete, and does not mis-lead APS as to any material fact, and

that APS staff and consultants would review the proposal, and Commission staff may review the proposal.

The Proposal Summary also required the Respondent to describe their technology experience, O&M experience and list of other completed projects and capacity/energy information.

The Proposal Summary also contained a detailed form to be completed by the Respondent, including such information as:

- Name and address of the related project or facility;
- Renewable technology to be used;
- Product to be supplied (firm, as available, existing/new facility, etc.);
- Commercial operation date;
- Nameplate and net capacity at the APS delivery point;
- Projected annual capacity factor, energy and delivered energy;
- Project interconnection point and the APS delivery point.

Respondents were also required to provide written statements to specific questions including the existing power sale commitments from the generating resource (if any), the commercial viability and expected life and history of all major components, a description of all necessary permits and licenses and status thereof, a detailed description of the transmission arrangements to provide firm delivery to the APS system, a description of facilities and estimate of cost for interconnection with the grid, and a description of all fuel sources (if applicable).

Respondents were also required to provide a list of key milestone dates for the project. Respondents also had to submit a 1-2 page "Risk-Assessment Plan" that addresses risks to project schedule, budget, output or performance, how these risks would be mitigated, and "options" to increase the value of the project.

Respondents were also asked to specify Asset Purchase information including proposed purchase price, O&M costs and expected capacity and forced outage rates.

Power purchase information was also requested including delivery term, expected equivalent forced outage rate, summer versus annual availability, and the proposed power prices. Tables were provided for the Respondent to enter its proposed, as delivered, energy prices. Energy prices had to be submitted in two forms, a single price for all hours and a summer

differentiated price (one price for summer peak, one for all other hours) for the first year. Annual escalation rates and escalation start years also had to be specified. Finally, this pricing had to be submitted under two scenarios, one where the federal Production Tax Credit (PTC) or Investment Tax Credit (ITC) was available, and another where it was not. For dispatchable resources, there was also a requirement to enter a proposed capacity price (\$/kw-mo) for the first year of the purchase, with an annual fixed escalation rate. A proposed availability guarantee and penalty structure was also required.

Finally, Respondents that were intending to submit an offer from a wind or solar resource were required to submit a Wind/Solar generation profile, which was a large table of estimated average delivered energy (MWh) for each hour of a typical day in a typical month in a typical year.

2.1.3.4. Statement of Financial Conditions and Creditworthiness Qualifications

The Statement of Financial Conditions and Creditworthiness Qualifications document (the "Financial Statements") included a form for the Respondent to enter specific information about itself and related entities. Information to be submitted included type of business (corporation, partnership, etc.), legal corporate name and address, name and contact information, name and address of parent company. The Respondent was also required to submit audited financial statements for the most recent 2 years, and breakout information pertaining to the Respondent. Detail on any bankruptcies, claims or judgments had to be provided, along with credit ratings from the major credit rating agencies and bank reference information. Finally, project-specific financial information was required including owners, ownership percentage, sources of equity and debt financing, and terms of the financing and willingness to provide additional credit support. The Financial Statements had to be certified and executed by an authorized official of the Respondent.

2.1.3.5. Submittal Instructions

The RFP includes a section describing submission instructions (section 2.6). Respondents were required to provide a single \$3,000 non-refundable submission fee covering all of their proposals. One hard copy and one electronic copy of each response was required, including the executed Confidentiality Agreement, Proposal Certification and Summary (with a "wet" signature) and the Statement of Financial Conditions and Creditworthiness. Respondents were advised that APS would not accept late proposals, or proposals delivered only by email or fax or other electronic means. APS could also reject a proposal for any reason, or accept a proposal that was not "lowest cost". Submission of a proposal would not make APS liable for rejection of the proposal or for failure to enter an agreement with the Respondent. The proposal would become the property of APS.

2.1.4. Description of the Evaluation Process

The Procedure includes a description of the evaluation process that APS will use to evaluate proposals in response to an RFP, consisting of threshold, screening and detailed evaluation stages. The 2007 RFP also includes a description of the evaluation process, even though the Procedure does not require that such a description be provided in the RFP.

2.1.4.1. Proposal Threshold Requirements

The Procedure states that APS will review each Proposal's compliance with the following threshold requirements;

- General – Administrative compliance of the bid submittal
- Operating – Performance characteristics of the proposed unit
- Transmission – Deliverability Requirements
- Financial – Creditworthiness of Bidder

The 2007 RFP goes into more detail than the Procedure, stating that each proposal will first be evaluated against certain threshold requirements, including 1) that the proposal was received on time, 2) that the proposal includes the submission fee and the Confidentiality Agreement, the Proposal Summary and the Financial Statements, and 3) the product(s) proposed are compliant with the Product Description.⁸

The threshold requirements description goes on to specify the transmission interconnection information that must be submitted with the proposal. Either a copy of a completed Generator Interconnection Study or a copy of an interconnection request for study must be included with the proposal, depending on which is available at the time. If neither is available, the Respondent is advised that it is responsible for completing an Application for Generator Interconnection with APS if the project will be located on the APS system. A contact name is provided for a person that is with the transmission business at APS.

The transmission related threshold requirements described in the RFP are much more detailed than those described in the Procedure. They are also somewhat out of place. They should be stated under the Proposal Submission Instructions so a Respondent does not overlook them. Nevertheless, the requirements are reasonable. Interconnection impacts and costs must be evaluated by the impacted electric utilities or transmission operator through a separate FERC regulated interconnection process. APS is reasonable in its requirement that all interconnection

⁸ Arizona Public Service Company, 2007 Request for Proposal for Renewable Energy Resources, March 5, 2007, paragraphs 3.2.1.1 through 3.2.1.3.

study information that is available must be submitted with the proposal, and that the Respondent must be responsible for obtaining the required studies and subsequent transmission service.

One other threshold criteria from the Procedure that appears to be missing from the RFP is Financial Creditworthiness of Bidder. Although the RFP requires submission of the Financial Statements, it does not appear to describe when and how the Financial Statements will be evaluated. APS did review the Financial Creditworthiness of Bidders during the detailed evaluation stage described below.

2.1.4.2. Screening Process

The Procedure states that APS will perform quantitative and qualitative analyses on those bids meeting or exceeding the initial threshold requirements. Quantitative analysis would consist of comparing the Respondent's total bid cost to APS' Market Cost of Comparable Generation. Total bid cost would equal the bid price plus the cost of system integration, delivery of resource to load and imputed debt (the "Bid Cost"). Market Cost of Comparable Generation is further defined as the cost of energy from a conventional resource that would be avoided if energy is purchased under the proposal. Finally, the Procedure states that a shortlist of proposals for further consideration would be developed at the end of the screening process.

The description of the screening process provided in the 2007 RFP is consistent with, and more detailed than the description provided in the Procedure. The RFP goes on to specify that system integration costs are the costs of additional regulating reserves required to compensate for output intermittency and uncertainty from the renewable resource. The RFP also specifies that the proposed resource would not need to provide a firm fixed amount of capacity, but that APS would take firmness into consideration when assigning a capacity value.

Finally, the 2007 RFP states that the APS qualitative analysis would be composed of a high level risk assessment considering financial, regulatory, counterparty credit, transmission, operations and project development risk.

It is interesting to note that neither the Procedure nor the RFP state that production cost modeling would be used in the screening process. APS did use production cost modeling to determine the Market Cost of Conventional Generation during the screening process as described under the "Screening Process" section below.

2.1.4.3. Detailed Evaluation Process

With respect to the detailed evaluation phase of the process, the Procedure states that APS would use production cost models in its final evaluation to simulate the resource in the APS portfolio. It also states that APS would perform due diligence review of proposed facilities,

and negotiate with bidders to establish acceptable operating, performance and financial terms and conditions.

The detailed evaluation description in the RFP is consistent with the Procedure. The RFP also states that detailed evaluation is similar to the screening evaluation, except: (1) it incorporates bid information into the production cost model, and (2) relies on a more detailed risk assessment.

The RFP also states that based on an acceptable outcome of the Evaluation Process and APS management approval, APS would select proposals for contract development and regulatory approval, as required.

2.1.4.4. Contracts and Regulatory Approval

The Procedure states that the Respondent whose proposal is selected for contracting will be responsible for acquiring all necessary permits for implementation of their project, and must support APS' regulatory requirements with the proposed power purchase or acquisition.

The RFP successfully identifies these requirements for the Respondents. It goes on to specify that APS expects the selected Respondent(s) to execute a definitive Asset Purchase Agreement or Master Renewable Energy Purchase and Sale Agreement, whichever is appropriate, based on APS' form of each of those agreements. It also requires that any executed contract would be binding through the Regulatory Approval Process. The RFP also states that a Respondent may expressly identify and include proposed changes to the agreement during contract negotiations, but not such that the evaluation results and final proposal selection is impacted. Finally, the respondents are advised that any final negotiated contract may be conditioned upon actions and/or approvals by regulatory authorities.

2.2. Pre-Bid Conference Documents

APS held the pre-bid conference on March 14, 2007. Approximately 42 persons attended the conference, and another 31 persons attended via teleconference. Three presentations were made at the conference; one providing an overview of the process ("Overview Presentation"), another providing an update of the APS transmission system ("Transmission Presentation"), and a third describing the APS generator interconnection process ("Interconnect Presentation"). Each of these is a form of solicitation documentation, and is therefore reviewed and discussed below.

2.2.1. Overview Presentation

The Overview Presentation first covered the type of technologies allowed to bid. These included solar, wind/hybrid wind, biomass/biogas/landfill gas, geothermal, hydrogen (other

than natural gas), hydro, and renewable fuels. This list is somewhat different than what was presented in the RFP, in that the RFP refers to a hybrid wind and solar, and fuel cells that use only renewable fuels.

The presentation also described the products being solicited. The information presented was again consistent with what was published in the 2007 RFP. The only difference was clarification of the *firm energy* issue. The presentation stated that *firm delivery* was required to meet the deliverability requirement, instead of *firm energy* as was stated in the 2007 RFP.

The presentation also covered the milestone dates, the bid submittal requirements (statements and agreements to be filed), and the evaluation process as stated in the 2007 RFP. It also covered the role of the independent auditor, the contracts to be offered to the short listed bidders, the respondent next steps (to submit a bid) and APS contact information.

Information that was apparently not carried over from the 2007 RFP is when the shortlist would be selected (after the screening step). Also, there is no mention in the Overview Presentation about the requirement that if an interconnection request had been made, a Respondent must include a copy of the request with its proposal (a requirement for the threshold evaluation, paragraph 3.2.1.5 of the RFP).

2.2.2. Transmission Presentation

The Transmission Presentation included an overview of the transmission system in and around Arizona, including the Available Transmission Capability (ATC) for 5 significant paths onto the APS system. Most importantly, the presentation indicated that no or very little ATC currently exists on the paths, except from Palo Verde (230 MW) and Moenkopi (244 MW). The presentation showed the situation is expected to improve in 2009, when the ATC increases to 418 MW from Palo Verde and 122 MW from Mead. The presentation concluded with capital cost estimates for new transmission line and substation construction for various voltages provided as a guide to the Respondents.

2.2.3. Interconnection Presentation

The Interconnection Presentation began with an overview of the Large Generator Interconnection Process and the Small Generator Interconnection Process of APS as required under FERC rules. The key steps, costs for the relevant studies, and advice as to how to initiate an interconnection request with APS or other interconnecting utility (if any).

2.3. Respondent Q&A

After issuance of the RFP, APS began receiving questions from potential Respondents. The questions and related responses from APS were posted to the RFP website, and last updated on

April 23 (the "Q&A"). Questions were grouped into three categories; General (25 questions), Evaluation (7 questions) and Transmission (5 questions). The Q&A represents a form of solicitation material, and therefore is reviewed and discussed below.

Review of the Q&A reveals that nearly all of the responses were consistent with information in the 2007 RFP and the Procedure. The Q&A did serve to clarify or expand on the 2007 RFP requirements in several areas. For example, APS clarified that;

- *Permits are not required to be in place when the proposal is submitted, but respondents should list key project permits that are in place or anticipated to be received (Proposal Certification and Summary document, Section 2.3.2.3).*
- *The fee for bidding is \$3,000 per respondent not on a per proposal basis. Therefore, one respondent may submit multiple proposals for the \$3,000 fee.*
- *APS does not have a preference for a particular technology. However, the value of the capacity and energy associated with each resource will be considered in the bid evaluation in order to compare proposals involving different technologies.*
- *APS would consider selecting multiple projects that meet or exceed their energy or capacity targets, if the proposals are reasonably priced and have acceptable risk.*
- *APS prefers proven technologies. Final contract with unproven technologies will include the necessary performance guarantees.*
- *APS will consider landfill waste to energy projects depending on the process respondent plans to employ. Municipal solid waste may fall under the definition of Eligible Renewable Energy Resources under the REST Section R14-2-1802 A.1. To qualify the landfill waste must be gasified through a digester process, an oxidation process, or other gasification process.*
- *APS will not consider multiple projects that aggregate to 20,000 MWh/yr from different locations to meet that requirement for this 2007 Renewable RFP.*
- *The APS 2007 Renewable RFP is not intended to include projects that fall within the definition of Distributed Generation in the RES. Although, if a party proposes a project that delivers both energy and RECs to APS, it would be considered provided the project meets the minimum production of 20,000 MWh/yr.*
- *APS will consider asset purchases as well as purchase power agreements, but APS does not have a preference. The selection will be based on which proposals provide the lowest cost and risk to APS' customers.*
- *Projects proposed under the RFP should be scheduled to be in service on or before 12/31/2011.*

- *Site control required is not required in order to bid into the RFP. However, if a project does not have site control that should be identified in the project risk assessment. Such project risk factors will be considered by APS in the evaluation of bid.*
- *A Respondent should be prepared to determine, and indicate to APS, the point in time that an application for interconnection would need to be submitted in order to ensure project is completed according to the in service schedule being proposed.*
- *APS will generally require some level of construction security (Letter of Credit etc) during development of the project. In terms of the operational period APS evaluation of proposals includes an assessment of the counterparty creditworthiness and ability to perform during the term of the PPA.*
- *APS would consider a renewable proposal that involved the use of APS' existing plant sites or equipment for either an asset sale or long-term PPA, providing the new proposed equipment does not jeopardize or inhibit the operation of the existing facility in anyway. If a Respondent intends to utilize an APS facility, APS prefers an asset ownership structure due to the potential risks and the need to closely manage the operations and maintenance of the facilities. APS will consider other contract structures if the benefits outweigh the risks.*
- *For the imputed debt methodology, APS will use the most recent information from Standard & Poor's (S&P), and the cost of capital from the most current rate case filing with the annual payments are discounted at APS' embedded cost of debt.*
- *The preliminary results of the wind integration study being performed by NAU for APS will be used for the initial evaluation, and the final wind integration results will be taken into account in the final evaluation.*
- *The risk analysis performed in the initial screening will be a high level risk assessment of project viability which includes such factors as financial, counterparty credit, transmission, operations and project risk. A more in-depth analysis of these factors will be done before a final decision and contracting are complete.*
- *APS will not divulge its market cost of comparable generation. APS' avoided capacity and energy values are considered to be proprietary data and will not be provided for that reason. Additionally, the avoided capacity and energy costs will be different for each proposal because they will be based upon the unique production profile and characteristics of each proposal.*
- *APS does not have a specific time of day multiplier. However, our methodology is such that generation production characteristics will be considered in valuing the resource.*

- *With respect to firm power versus firm delivery path, the proposed renewable generator must not provide a stipulated amount of firm power, but the energy must be delivered to the APS system utilizing firm transmission.*
- *APS' transmission evaluation will consider the additional costs of delivering the energy to load within APS' transmission system.*
- *APS can take delivery where there is no available transmission capacity (ATC) on the APS system. However, additional transmission costs will be added to a proposal so that a proposal receives the maximum value of avoided capacity. In addition APS will value the proposal by assuming no transmission upgrades while lowering the amount of capacity value assigned to that project.*
- *With respect to conditional firm transmission as proposed under FERC 890, FERC 890 has not been finalized so APS will proceed under the current FERC requirements and rules. If the rules are finalized during this process, APS will include the impacts or requirements of FERC 890.*

3. Review of the Evaluation and Selection

3.1. The Proposal Evaluation

On May 15 2007, APS received 51 proposals from 28 different Respondents in response to the 2007 RFP. Considering that some proposals included multiple pricing offers, 73 total product offers were received. Throughout this Report, we differentiate between a proposal and an offer. A proposal may contain one or more offers. Each offer was individually evaluated by APS. APS immediately began its threshold evaluation.

3.1.1. Threshold Evaluation

Nine (9) of the offers did not provide any specificity as to resource type, or generally lacked sufficient information, or proposed a commercial operation after 12/31/2011. Therefore, these offers were deemed by APS to not meet the threshold requirement for Product Definition. The nine offers were dropped from further consideration and the nine Respondents were notified via email and telephone.

Four (4) of the remaining Respondents did not provide energy prices as-delivered to the APS transmission system as required per the RFP. On May 25th, APS contacted these four Respondents via email, requesting them to re-submit their energy prices by May 30th, including all transmission and interconnection costs including wheeling to APS' transmission or distribution system. They were also requested to include a written description of all transmission and interconnection related costs, including any wheeling costs, separately

identified and broken out and any major assumptions related to these costs. All four Respondents submitted the required information.

Therefore, APS carried 64 offers forward into the screening phase of evaluation. All of the offers were for delivery of Product 2 (long term) under a PPA arrangement with energy payments (no capacity prices were proposed). No conforming offers were received for Product 1. A summary of the 64 offer types is shown in Table 2 below.

Table 2 – Summary of Offers Meeting Threshold Requirements

Resource Type	Number of Offers
Biomass/Biogas	4
Geothermal	5
Wind	25
Solar	30
Total	64

3.1.2. Screening Evaluation

As required under the Procedure for the screening process, APS performed quantitative and qualitative analyses on the offers that met the threshold requirements. The quantitative analysis included a comparison of the Respondent's total bid cost versus APS' Market Cost of Comparable Conventional Generation. The qualitative analysis was comprised of a high level risk assessment considering risk factors. These quantitative and qualitative analyses are reviewed and discussed below.

3.1.2.1. Quantitative Analysis

3.1.2.1.1. Bid Cost

As defined in the Procedure, the Bid Cost is comprised of several components. These include the bid price plus costs associated with system integration, delivery of resource to load and imputed debt.

3.1.2.1.1.1. Bid Price Component

The bid price component of Bid Cost was calculated by forecasting the stream of energy available in each year of the proposed offer term, along with the associated annual energy price stream (including escalation) and resulting annual energy cost in dollars.

3.1.2.1.1.2. System Integration Component

The system integration component of Bid Cost was calculated and applied to wind resource based offers only. It is generally accepted in the power industry that power systems incur additional operation costs due to the variability (stochastic nature vs. predictable) and uncertainty (inaccuracy in prediction) of wind power. APS forecasted this integration cost by applying a fixed \$3.25/MWH charge (the "Wind Integration Charge") to the annual energy delivered. The Wind Integration Charge was determined from a comprehensive production cost simulation of the APS system that had been previously performed by APS and the Northern Arizona University.⁹

3.1.2.1.1.3. Delivery to Load Component

Costs associated with delivery of resource to load on the APS system are intended to capture the cost to APS of installing new or upgraded transmission and interconnection facilities to accept power from the PPA to the APS load. These are known as "network upgrade costs" and are determined through the FERC mandated Large Generator Interconnection Process that would be run by the interconnecting utility (APS Transmission or other relevant transmission provider) for each new resource. Network upgrade costs differ from "direct assignment costs" which are paid for by the generator requesting interconnection. Unfortunately, none of the offers included a Generator Interconnection Study or other detailed information on network upgrades. Therefore, APS developed its own estimates of network upgrade costs for each offer. These were converted to annual fixed charge (\$/kw-yr) and applied based on the capacity available under the PPA for those PPAs that would require network upgrades.

3.1.2.1.1.4. Imputed Debt Component

Credit rating agencies such as Standard & Poor's ("S&P") view power supply agreements in the utility sector as creating fixed, debt-like, financial obligations that represent substitutes for debt-financed capital investments in generation capacity. Execution by APS of one or more of the offers proposed would be viewed by rating agencies as an increase to the amount of long-term debt on the APS balance sheet ("imputed debt"). This would have a negative impact on the credit rating of APS which may result in increased borrowing costs. To compensate, APS would need to "rebalance" by adding additional equity to its capital structure. The cost of this equity rebalancing is the difference between the cost of debt and equity on the calculated obligations. This difference must be added to the cost of the PPA for evaluation purposes.

As described in the Q&A, APS used the most recent methodology from Standard & Poor's (S&P) to calculate the imputed debt component. Since prices are expressed as an all in (energy) price, a proxy annual capacity payment was first calculated based on the capacity and expected

⁹ Presentation entitled APS Wind Integration Cost Study Stakeholder Meeting #3, July 19, 2007.

capacity factor under the offer, and the cost of capacity from a new, generic combustion turbine based plant as a proxy capacity value. This capacity cost stream was then discounted by 65% to reflect the risk factor adjustment that S&P would apply to APS. The net present value of this resulting annual capacity cost stream was then calculated as an estimate of the additional debt added to the APS balance sheet in that year. Finally, APS added the amount of shareholder equity that must be added (and debt that must be retired) to return to the target equity capitalization, assuming a certain pre-tax cost of equity and a cost of debt.

3.1.2.1.2. *Market Price of Comparable Conventional Generation*

As defined under the Procedure, the Market Price of Comparable Conventional Generation (the "Avoided Cost") means APS' energy and capacity cost of producing or procuring the incremental electricity from a conventional resource that would be avoided by the resources used to meet the annual renewable energy requirement, taking into account hourly, seasonal, and long-term supply and demand circumstances, including avoided transmission and distribution costs if any, and any avoided environmental compliance costs.

3.1.2.1.2.1. Energy Component

To forecast the energy component of the Avoided Cost for each offer, APS utilized a software program ("PROMOD") to perform a multi-year production cost simulation of the APS generation system. PROMOD is a detailed chronological model that simulates hourly operation of generation resources. Production costs are calculated based upon heat rate, fuel cost, and other costs that vary with the operating hours of the resources serving load.

For each of the short-listed offers, APS ran PROMOD under two different scenarios. The first scenario was the base case scenario reflecting APS' projected resource plan. For the second case, the potential energy purchase was modeled based upon the production profiles provided by each Respondent. A comparison of these two cases yields the avoided energy costs for the renewable projects.

In addition to fuel and other variable operating costs, APS included the cost of SO₂ and Hg emissions in the avoided cost energy calculations. Fuel prices were based on a long term forecast from May 2007.

3.1.2.1.2.2. Capacity Component

To forecast the capacity component of the Avoided Cost, APS first forecast the stream of annual fixed costs for a new LMS100 based simple cycle combustion turbine plant over the term of the offer. The LMS-100 is a popular combustion turbine based plant, and would likely form the basis of any new incremental capacity addition that APS would purchase or build to meet system load growth. Fixed costs included debt service, property taxes, fixed O&M and

other non-variable costs. APS also forecast the annual fixed cost of gas pipeline transportation and electric transmission necessary to serve such a CT resource. The resulting total annual capacity cost was then multiplied by a "capacity value" for that particular offer. The capacity value represented the percentage of hours during the year in which energy from the resource was expected to coincide with the peak energy demands of APS. The capacity value ranged from 12% to 20% for the wind resource based offers. It equaled 60% for solar resource based offers, except for those with thermal storage capability where it equaled 100%. It equaled 100% for the geothermal and biomass/biogas based offers.

3.1.2.1.3. *Net Present Value of Costs*

APS calculated the net present value of the annual Bid Cost and Avoided Cost for each offer by discounting the cost streams from 2007 through the end of the proposed term (2007 dollars) at a specific discount rate. These values were then presented in a single comparison table, sorted by the ratio of total Bid Cost/Avoided Cost, or "percent above avoided cost" ("PAAC"). The PAAC was greater than 100% (Bid Cost was higher than Avoided Cost) for all offers.

3.1.2.2. **Qualitative Evaluation**

APS developed a review process to perform the qualitative evaluation of each offer. First, a matrix of key risk factors was developed. These factors are listed below.

- Project Viability
 - Resource quality, quantity, consistency, access
 - Production projections - resource matching the production projections
 - Site Environmental Risk - Site rights, access, ownership, potential for encroachment, sensitive lands
 - Construction Schedule - Likelihood of timely completion
 - Construction Budget - Materials and market pressures
 - Constructability - Construction Procurement and major component sourcing
 - Experience with Construction - Developer, prime contractors, primary subs
 - Construction Team Experience - Experience with technology, industry, utilities
 - O&M - Team experience, difficulty
- Technology
 - Proven operational track record - major components
 - Proven operational track record - system
 - Technical difficulty and complexity

- Permitting
 - Construction Permits - EIA, ACC, Construction
 - Operational Permits - Air, water, disposal
- APS Existing Asset Impact/Risk
 - MWh Production Negative Impact Potential

APS staff members from different disciplines (power generation, transmission, commercial, etc.) were selected to review each of the offers (the “Qualitative Reviewers”). The Qualitative Reviewers evaluated each offer relative to all other offers along each key risk factor described above. They then met and discussed their qualitative reviews with each other and with other members of APS staff. Finally, an overall recommendation was made as to whether or not the offer should be advanced to the short list.

As a result of the qualitative evaluation, twelve (12) offers were not recommended for advancement to the shortlist of offers. All were not recommended due to excessive technology risk.

3.1.3. Short List Selection

After completing the quantitative and qualitative evaluations on June 11th, APS selected 10 offers from 9 Respondents for further detailed evaluation (the “Short List”). As stated in the Procedure, price was a major factor in the decision-making. The offers selected had the lowest PAAC values among all of the offers. APS selected a quantity of offers sufficient to allow for fallout during the subsequent detailed evaluation process. Each Respondent was notified of the outcome of its offer(s). A summary of the Short List is provided in Table 3 below.

Table 3 – Summary of Short List

Technology	Respondents	MW	GWh
Biogas	2	6	49
Wind	5	725	2,022
Solar	2	483	1,411
Total	9	1,214	3,482

Each of the Respondents was notified of their status of each of their offers (either Shortlisted or dropped) via email and telephone on June 11th. For offers that were dropped, the reason given was simply “quantitative results” or “qualitative results” (or both).

3.2. Detailed Evaluation

After selection of the Shortlist, APS began its detailed evaluation. Per the Procedure, the detailed evaluation included additional production cost modeling of each shortlisted offer, a more detailed engineering review of the related facilities, and negotiation of acceptable operating, performance and financial terms and conditions with the Respondents.

APS began by hosting introductory meetings with each of the Respondents with offers on the Shortlist. These meetings were held from mid-June through early July. Before each introductory meeting, APS provided to the Respondent an agenda for the meeting, a list of outstanding questions concerning the offer, a standard form term sheet for discussion at the meeting, and a copy of the then current APS schedule for offer review and final selection. This pre-meeting package was nearly identical for each respondent. The agenda for each meeting included:

- Project overview and status (Respondent)
- APS Topics
 - Additional information to support APS Economic and Financial Modeling (Hourly production profiles, historical resource data)
 - Transmission review
 - Technical Evaluation of Project
 - Review project risk identification and mitigation strategies
 - Financial/Creditworthiness Review
- Pro-forma Term sheet review (APS and Respondent)
- Review process and project schedule (APS)
- Other items

APS prepared meeting notes and an action item list for both APS and the Respondent after each meeting. APS held additional meetings and/or conference calls with each Respondent to follow up on the action items. Based on additional information provided by the Respondents during this process, APS performed additional transmission review, production cost modeling, technical review and creditworthiness review. APS also worked with the Respondent to negotiate and complete the term sheet.

3.2.1. Transmission Review

APS did a more detailed evaluation of the transmission system impacts and upgrades necessary to deliver energy from the short-listed offers.

One offer was dropped based on this more detailed review. Construction of the transmission lines necessary to deliver the power to the APS system was contingent on construction of a large nearby coal project. Therefore, the offer was not recommended for further consideration.

APS also reviewed the estimated cost of Network Upgrades. As discussed above under Screening Process, APS estimated the annual capital cost for Network Upgrades to deliver energy from each offer to the APS load (the Delivery to Load Component of Avoided Cost). Estimated Network Upgrade costs were generally zero or very low, except for offers that were for delivery along the Four Corners to Phoenix area of the APS system. APS does not have any ATC to accept capacity at Four Corners. This was communicated to Respondents in the Transmission Presentation at the pre-bid conference. Nevertheless, APS received more than 500 MW of wind resource based offers for delivery at Four Corners. The estimated network upgrade costs for each of these offers was very high since each would require an allocated share of new network upgrades to provide firm delivery to APS.

New Mexico is strong wind resource areas. The energy prices proposed for offers from this area delivered at Four Corners were some of the lowest received by APS. As a result, APS advanced the two lowest cost wind offers from this area to the Short List and did a more detailed evaluation of the transmission impacts and costs.

Upon review of historical utilization and forecast future expected use of the Four Corners to Phoenix path, APS determined that future transmission congestion would likely occur during only certain peak hours during the spring and summer months. APS then developed a revised energy price requirement for consideration by the affected Respondents. Under this revised preference, APS would be required to purchase only certain amounts of energy generated (the "Constrained Generation") during certain hours of the year (the "Potential Constraint Hours"). Energy above these levels could be sold by the seller to a third party. If actual conditions at the time would allow APS to purchase all available energy above these levels (limited or no congestion), then APS would purchase all available energy during those hours at a flat price (the "Constrained Energy Price").

The number of Potential Curtailment Hours per year would be limited. This pricing structure prevents APS from having to purchase energy that cannot be delivered. It also recognizes the fact that the energy above the specified levels is delivered using non-firm transmission, and therefore should be sold at a deep discount to the contract price. This structure in general reflects the provision of conditional firm transmission service by APS for delivery from the resource.

The revised pricing requirement was forwarded to the two affected Respondents. Both Respondents provided revised pricing as required.

3.2.2. Technical Evaluation and Additional PV Offers

APS continued to review the technical feasibility of the proposed renewable energy facilities backing each offer. A sample of the issues and questions that were raised by APS during the review of the offers is provided below.

- *The proposed turbine generator nameplate capacity is not consistent with the vendor specification and does not appear to be adjusted for the proposed site conditions (temperature and elevation). Please provide updated site specific capacity information.*
- *Will an EPC contractor be utilized for the project, and, if so, when will this selection be made? When the decision is made for the method of construction, APS will request a detailed construction schedule.*
- *Recognizing that filtration and processing will be a part of the gas recovery, what long term effects on the turbine generator and air quality components from the processed gas is expected? What are the projections for maintenance outage periodicity and duration over the long term?*
- *The wind turbine generators (WTGs) that are being proposed have limited operating history. While we have the general data about performance features for this model, we would like to have any information available concerning demonstrated performance for any of this model WTG that is installed along with any known generic issues that are in need of or have been addressed since its introduction.*
- *How close will the proposed new project be to the existing wind project, how long before the property can be under site control, would there be additional studies or effects to consider, etc.*
- *The warranty period on the Wind Turbine Generators (WTGs) are vague (2 to 5 years). What was used in the Pro Forma and what changes would cause changes to the pricing?*
- *The WTGs are not yet procured nor is there any promissory evidence from the vendor for this procurement. What are the alternatives and the probability of obtaining the WTGs per the schedule provided?*
- *Per the Transmission Feasibility Study there are two other wind projects planned for the vicinity. What is the position of proposed project in the queue compared to the other two projects? The information provided would indicate that the proposed project would be second in the queue with the first position already having an Interconnect Agreement, but the names are*

vague enough in the interconnect queue sheet that we can't match up with the diagram in the studies. Could you confirm?

- The orientation of the solar panels directly impacts the production versus time profile. The current orientation was selected to maximize energy production without regard to peak power production profile. Please provide alternative orientations consistent with APS peak load scenarios so that the energy would be available at the "highest value" for APS.*
- Earlier A-Si panels have had material stability issues resulting in the decline of production over time. Although improvements have been made to address these issues, the improvements are new. Please provide information including performance data curves and studies to substantiate or demonstrate performance improvements with the new designs and substantiate the capability to perform to the PPA proposal over the term.*
- The scale up (size increase over current PV facilities) is significantly more than you currently have operating or under construction. Please provide information on the risks associated with this scale up as it might affect the offer terms.*
- Please provide the plans and current activities to acquire the rights to the BLM and State Trust lands including the proposed schedule of activities and milestones to completion.*
- Since the EPC selection process has not yet started, please provide a summary schedule of engineering, procurement, and construction which could be based on other projects you've completed (major milestones expected).*
- Discuss your intent of methodology for providing generation forecast during the operation of the facility. Please provide an overview of your plans for operating, maintaining, and performance monitoring for the facility post COD.*

The technical review process identified significant construction (land acquisition) and scale up concerns with some of the offers. Therefore, these offers were not recommended for further consideration.

As noted in the questions above, one respondent had submitted offers from several proposed new fixed axis PV based resources. The offers were based on a PV panel orientation that would maximize the amount of average annual energy production from each project. However, APS realized that the offers might be more beneficial to APS if the panel orientation was changed to provide more energy during the expected APS summer peak demand hours. Therefore, APS requested that the Respondent submit alternative solar energy profile information for its offers based on alternative PV panel orientations. The Respondent submitted four alternative orientation offers with higher energy generation during summer peak hours.

3.2.3. Additional Production Cost Modeling

During the screening process described above, APS estimated the avoided energy cost of each offer using the average production profiles provided by each respondent. During the Detailed Evaluation process for the shortlisted wind and solar offers, APS utilized the more detailed annual energy estimates provided in the Wind/Solar generation profile that was submitted with each offer. In particular, the revised generation profiles for the additional PV fixed array offers were modeled. APS also factored in the revised pricing for the wind offers from Four Corners.

These changes resulted in a more accurate estimate of total annual energy and therefore PACC for each offer. The PACC for some of the offers increased, while others decreased. However, all offers remained low cost relative to the non-shortlisted offers.

3.2.4. Financial Creditworthiness

APS evaluated the creditworthiness of each Respondent based on information in the Financial Statements that were provided and on information or demands made during the term sheet negotiations. APS staff members from the finance and credit risk disciplines were selected to review each of the short-listed offers (the "Credit Reviewers"). The Credit Reviewers scored each offer relative to the other short-listed offers along the following key risk factors:

- Financial health of Respondent and Guarantors – stability of income, credit rating, current or pending bankruptcies, judgements, etc.
- Finance Capacity – Size of proposed financing relative to asset value of Respondent and/or Guarantor.
- Development Fee – size and type of collateral (cash or Letter of Credit) and credit quality of issuing Bank.
- Financing Contingencies – Early termination due to inability to obtain financing, or due to downgrade of APS.

Offers were scored at low, medium or high risk based on the outcome of the credit review. One Respondent was judged to be high risk due to its demand for an "out" clause on financing failure. Another Respondent was judged high risk due to a pending lawsuit. These offers were not recommended for further consideration.

3.2.5. Term Sheet Negotiation

During the Detailed Evaluation phase, APS continued to negotiate and complete the standard form term sheet that was provided to each Respondent. Key terms from the standard term sheet are summarized below. These do not represent final terms negotiated with each party, but merely the "starting point".

Table 5 – Condensed Summary of Key Term Sheet Terms

Key Term	Description
Product	The product provided will be Unit Contingent. Failure to deliver is excused if due to 1) a forced outage; or 2) a circumstance that was not anticipated and not within the reasonable control of, or the result of the negligence of, the Seller.
Contract Quantity:	APS will purchase at the Delivery Point all energy produced by the Project, net of any Transmission Losses, up to the contract capacity and estimated annual contract quantity, and including all Renewable Energy Credits (“RECs”). The Seller cannot substitute energy from sources without the prior written consent of APS.
Development Fee:	The Seller must post cash or a Letter of Credit in an agreed dollar amount (the “Development Fee”). One-half must be posted within 30 days following execution of the Agreement, with the remainder posted within 30 days of an agreed Project completion milestone. APS may liquidate the fee for payment of delay liquidated damages. Amounts not liquidated would be returned to the Seller after commercial operation of the Project.
Project Milestones:	Agreed milestone dates are established for completion of the Project, including 1) rights to fuel supply and right to develop land secured, 2) attainment of material construction, environmental and operational permits, 3) major equipment ordered, 4) major contracts executed, 5) transmission interconnection agreements executed, 6) gas interconnection agreement executed [if applicable], and 7) construction commencement. If Seller fails to achieve any of the Project Milestones within an agreed number of days, APS may terminate the Agreement and would be entitled to Termination Damages from the Seller.
Extension of Commercial Operation Date; Daily Delay Payments:	If the Project does not achieve commercial operation by an agreed date, then the Seller will owe Delay Liquidated Damages of an agreed amount per day of delay. APS may elect to either deduct the Delay Liquidated Damages directly from the Development Fee or to apply the Delay Liquidated Damages as a credit against future payments to be paid by APS pursuant to the Agreement.
Force Majeure Extension of Commercial Operation Date:	The Commercial Operation Date may be extended beyond the agreed date due to Force Majeure, provided that the Commercial Operation Date must occur by a later agreed date (the “Outside Commercial Operation Date”), or APS may terminate the Agreement without penalty to Seller.
Performance Guarantee/ Availability Guarantee:	On a monthly basis during the term of the Agreement, the Seller must provide documentation of the production and/or Availability of the Project for the preceding month. If the Project fails to produce an agreed minimum amount of energy from the Project over an agreed period of time and/or if the Project fails to achieve an agreed level of Availability over an agreed period of time, then the Seller is in default and APS shall be entitled to terminate the Agreement, subject to the Seller submitting a Cure Plan acceptable to APS.
Termination Damages:	The Seller must pay Termination Damages to APS from the Development Fee, with the amount of damages as a percentage of the fee increasing through the pre-commercial operation phase of the Project (for example, X% prior to agreed date 1, Y% after agreed date 2, etc.).

One of the short-listed Respondents was unresponsive during the term sheet negotiation. It failed to comment on or negotiate the term sheet offered by APS. Because of this, its offers were not recommended for further consideration.

3.2.6. Risk Assessment

As part of its Detailed Evaluation, APS also performed a more detailed qualitative risk assessment of each short-listed offer. This was focused on transmission, credit and technical areas (resource performance, equipment availability, etc.). Three staff specialists, each with relevant experience, reviewed and rated each shortlisted offer either low, medium or high risk for their respective area of expertise.

3.2.7. Final Selection

After completing the detailed evaluation on August 15th, APS selected 4 offers from 4 Respondents for final contracting and regulatory approval (the "Finalists"). Each Respondent was notified of the outcome of its offers(s) (either selected as a Finalist or not). Detail concerning these final 4 offers and the Respondents is confidential at this time.

The resulting portfolio of renewable energy purchases, if consummated, would allow APS to exceed their Annual Renewable Energy Requirement beginning in 2009. .

4. Conclusions

Based on our review of the Procedure, the solicitation documents, the APS correspondence and evaluation data and results provided to us, we have reached the following conclusions.

4.1.1. Conclusions Regarding the Solicitation Documents

The 2007 RFP was understandable, comprehensive and consistent with the requirements of the Procedure and with other request for proposals for renewable power supply that we have reviewed. The milestone dates, durations and sequencing described for the solicitation and evaluation processes were reasonable. The terms of the Confidentiality Agreement were reasonable. The type and level of information required for both the Proposal Certification and Summary form and the Statement of Financial Conditions and Creditworthiness Qualifications form was reasonable. The submittal instructions including the non-refundable bid fee of \$3,000 per Respondent were reasonable. The description of the evaluation process was generally clear. Although there were shortcomings in the area of product definition, the requirements for transmission studies and the timing of credit review in the RFP, there is no evidence that this caused any interested party not to respond to the 2007 RFP, nor that it advantaged or disadvantaged any given Respondent in the evaluation.

The presentations made at the pre-bid conference were clear and consistent with the Procedure and the RFP, and served to provide additional valuable information to the interested parties.

The questions and answers made available on the RFP website were also clear and consistent and valuable in further defining the solicitation.

4.1.2. Conclusions Regarding the Evaluation Process

The offer evaluation process performed by APS was logical, comprehensive and consistent with the requirements of the Procedure and with other power supply offer evaluation processes we have performed or observed. The threshold and screening processes were performed on a consistent and fair basis. All necessary and typical costs (integration, transmission, imputed debt) were included. The use of production cost modeling to determine avoided cost was thorough and accurate. The selection of shortlist based on lowest cost, qualified offers was reasonable.

The detailed evaluation process was also performed on a consistent and fair basis. Respondents were given equal opportunity to meet with APS, provide additional information to improve their offers, and to negotiate a standard form term sheet. APS endeavored to not provide more favorable term sheet terms to any one Respondent. The revised pricing requirements for wind offers from Four Corners was reasonable. The level of technical due diligence review was comprehensive and thorough. The transmission and credit reviews, and subsequent disqualification of some offers was reasonable. The price and non-price factors considered in selection of the Finalists was reasonable.

END OF REPORT

ATTACHMENT V

THIS ATTACHMENT IS REDACTED

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BEFORE THE ARIZONA CORPORATION COMMISSION

MIKE GLEASON
Chairman
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
KRISTIN K. MAYES
Commissioner
GARY PIERCE
Commissioner

IN THE MATTER OF THE APPLICATION)
OF ARIZONA PUBLIC SERVICE)
COMPANY FOR APPROVAL OF)
CONCENTRATING SOLAR POWER)
CONTRACT)

DOCKET NO. E-01345A-08-0106
DECISION NO. _____
ORDER

Open Meeting
September 23 and 24, 2008
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

Introduction

1. On February 21, 2008, Arizona Public Service Company ("APS") filed an application with the Arizona Corporation Commission ("ACC") for approval of a Purchase Power Agreement ("PPA"). Notice of the application was sent to customers between May 19 and June 17, 2008. A copy of the notice is included as Attachment I to the Staff Memorandum. The proposed PPA would be established with Arizona Solar One LLC ("Arizona Solar One") to purchase the full output of a proposed 280 megawatt ("MW") concentrating solar power ("CSP") facility ("Solana") over a 30 year period. Arizona Solar One would build, own, and operate the facility and APS would contract with Arizona Solar One to purchase the energy produced by the facility, and have rights to renewable energy credits ("RECs") associated with the generation. Arizona Solar One is a wholly owned subsidiary of Abengoa Solar Inc. which is a wholly owned subsidiary of Abengoa Solar S.A. Abengoa Solar S.A. is a wholly owned subsidiary of Abengoa

1 S.A. ("Abengoa"). Abengoa is multi-national technology company with extensive experience in
2 the solar industry.

3 2. The CSP facility would consist of an array of solar troughs covering a three square
4 mile area near Gila Bend. The facility would include molten salt tanks for thermal storage that
5 will allow dispatch of power at peak periods. The facility would be able to meet the electricity
6 needs of approximately 70,000 Arizona homes. Generation through CSP trough technology has a
7 substantial history and is a proven technology.

8 3. Power produced by the Solana facility would help APS meet requirements in the
9 Renewable Energy Standard and Tariff ("REST") rules. The REST rules require utilities to obtain
10 certain portions of the total energy they supply from renewable resources such as CSP. APS
11 selected the Solana project as a potential source of renewable energy following a competitive
12 process that involved the issuance of a request for proposal ("RFP") and an analysis of bids. APS
13 calculates that the price proposed for energy supplied by the Solana facility would be
14 approximately 19 percent greater than the cost of the conventional resource alternative, but is
15 competitive with other renewable energy projects. This calculation assumes timely approval of an
16 extension of a federal investment tax credit.

17 4. The PPA that APS proposes to establish with Arizona Solar One for purchase of the
18 output of the Solana facility includes safeguards for penalty payments to APS should Arizona
19 Solar One fail to deliver energy to APS according to certain requirements. These measures would
20 mitigate risks to APS such as delay of the facility's construction or a shortfall in anticipated output
21 from the facility.

22 5. APS provided some information to Staff under a confidentiality agreement. This
23 appropriately protects APS' ability to enter into contracts and purchase power from the market
24 without competitors knowing the terms of APS' existing agreements.

25 **REST Requirements**

26 6. APS' original application in this matter sought Commission approval of a PPA with
27 Arizona Solar One. The PPA would allow APS to procure the output of the Solana facility. The
28 energy obtained from the Solana facility would meet certain requirements established in Article 18

1 of Arizona Administrative Code ("A.A.C."). Article 18 contains rules that establish the REST.
2 The REST rules require that electric utilities procure energy from renewable resources such as
3 solar, wind and geothermal generation. Solar resources prescribed by the rules may be either
4 photovoltaic systems or solar thermal electric systems, such as the solar trough generation of the
5 Solana facility. The following are excerpts from the rules that describe eligibility:

6 A.A.C. R14-2-1802(A)

7 *"Eligible Renewable Energy Resources" are applications of the following defined*
8 *technologies that displace Conventional Energy Resources that would otherwise be*
9 *used to provide electricity to an Affected Utility's Arizona Customers.*

10 A.A.C. R14-2-1802 (A)(10)

11 *"Solar Electricity Resources" use sunlight to produce electricity by either*
12 *photovoltaic devices or solar thermal electric resources.*

13 7. The REST rules created a requirement that 1.25 percent of an electric utility's retail
14 kilowatt-hours ("kWh") sold in 2006 be generated from renewable resources. The requirement for
15 the portion of retail kWh that is generated through the use of renewable resources increases
16 annually up to 15 percent in the year 2025. The rules allow utilities to meet the requirement
17 through a combination of self-generation, purchase of renewable energy, or purchase of RECs
18 from other entities. The PPA that APS describes in this application would provide renewable
19 energy to comply with the requirements of the REST rules. The Solana facility is expected to
20 produce 900,000 megawatt-hours ("MWh") per year. If operational by 2011 the Solana facility,
21 together with existing and new renewable PPAs entered into by APS, could produce 5 percent of
22 APS' annual retail energy needs in 2012. The REST rules require that 5 percent of annual retail
23 energy needs shall be provided through renewable sources by 2015. The Solana facility would
24 help APS comply with the REST requirements upon becoming operational; however, following
25 2015 APS would likely need to acquire renewable energy from additional projects to meet the
26 REST requirements.

27 8. Since energy produced from the Solana facility would be generated from CSP and
28 because solar thermal electric resources are included as Eligible Renewable Energy Resources in

1 the rules, Staff believes that the Solana PPA is an Eligible Renewable Energy Resource pursuant to
2 R14-2-1802.

3 **APS' original application and supplemental information**

4 9. A.A.C. R14-2-1804(G) states that "An Affected Utility may ask the Commission to
5 preapprove agreements to purchase energy or Renewable Energy Credits from Eligible Renewable
6 Energy Resources."¹ The original application states that APS seeks approval and assurance of full
7 cost recovery of the proposed PPA under this rule.² The original application also states that "the
8 Company requests that the Commission find that it is prudent for APS to enter into the Solana
9 Generating Station PPA, and that all costs of purchasing energy and RECs pursuant to the PPA,
10 including the above-market costs, will be fully and timely recovered in retail electric rates."³ On
11 April 18, 2008, APS filed in the Docket a document titled Supplemental Information regarding
12 Arizona Public Service Company's Application for Approval of CSP Purchase Power Agreement.
13 The letter of April 18, 2008, clarifies that "APS is not seeking a prudence determination in the
14 Solana PPA docket nor any other pending docket." The letter is included as Attachment II to the
15 Staff Memorandum.

16 Prudence reviews typically include complex analysis and are generally performed after a
17 purchase has been made. As APS has clarified in its letter of April 18, 2008, that it was not
18 seeking a prudence review at this time, Staff did not conduct a prudence review of the proposed
19 PPA. Staff could not have performed a prudence review within APS' requested timeframe for
20 processing this application. Staff's review in this matter is therefore limited to examining whether
21 the Solana Proposal would be an appropriate component of APS' renewable energy portfolio and
22 whether it would be compatible with APS' implementation plan as approved in Commission
23 Decision No. 70313.

24 Staff's findings and recommendations in this matter are as follows:

- 25 1. Based on the information provided by APS, the Solana PPA was selected
26 through a competitive bid procurement process. This item will be discussed in

27 ¹ Proposed Amendments to the Environmental Portfolio Standard Rules, February 3, 2006. Pages 14 and 15.

² Application Page 1.

28 ³ Application Page 7.

- 1 the section titled Selection process used to solicit renewables contracts.
- 2 2. The energy provided through the Solana project is an application of “solar
3 electricity resources” as that term is used in the REST Rules. The Solana
4 project, as described in the PPA, would displace conventional energy resources
5 that would otherwise be used to provide electricity to APS’ customers. Under
6 these circumstances, the Solana proposal would meet the requirements of an
7 Eligible Renewable Energy Resource pursuant to R14-2-1802. This item has
8 been discussed in the section titled REST Requirements.
- 9 3. Taking into account the alternative proposals available to the Company, the
10 Solana PPA is a reasonable means of achieving the REST targets and will
11 provide a means of complying with the long-term REST requirements. This
12 item will be discussed in the section titled Selection process used to solicit
13 renewables contracts.
- 14 4. For the above reasons, the Solana PPA is an appropriate component of APS’
15 renewable energy portfolio and is compatible with APS’ implementation plan as
16 approved in Commission Decision No. 70313.
17 Consistent with the correspondence submitted by APS on April 18, 2008, Staff
18 believes that APS is not seeking a prudence determination in this docket or any
19 other pending docket. Staff’s recommendations in this matter in no way
20 address the matter of prudence of the PPA.
- 21 5. Decision No. 67744 of April 2005 clarifies some aspects of the manner in which
22 prudence findings may or may not be made in regard to APS’ acquisition of
23 renewable energy. It declares the following: “And while the Settlement
24 Agreement further stipulates that a renewable resource purchase shall not be
25 found imprudent solely because the cost of the renewable resource exceeds
26 market price, we stipulate conversely that a renewable resource purchase shall
27 not be rendered prudent solely by virtue of the resource’s cost being below 125
28 percent of market price.”⁴ Therefore, in any subsequent inquiry into the
prudence of the Solana PPA, the costs of renewable energy purchased under the
PPA should not be deemed imprudent solely because the costs are greater than
for conventional generation.

Detailed description of the PPA

10 APS has entered into a 30-year PPA with Arizona Solar One that is contingent on
several conditions, including Commission approval. Arizona Solar One will construct, own, and
operate the Solana facility in order to generate energy to deliver under terms of the PPA. The PPA
establishes that, by agreement, APS will take ownership of energy produced by the Solana facility
at its Gila Bend 230kV Substation. The expected annual net output of the Solana facility is
approximately 900,000 MWh. This figure is based on the nameplate capacity of the generating
facility.

⁴ Decision No. 67744. April 2005. Page 24.

1 11. The pricing of Solana energy is subject to the timing of approval of the Investment
2 Tax Credit ("ITC") extension. The ITC is a federal tax credit available to generators of renewable
3 energy. Its future availability is the subject of current Congressional debate.

4 12. The PPA provides an opportunity for APS to renegotiate the contract price should
5 certain conditions occur.

6 13. Should APS elect to exercise any of the rights provided for in the PPA to negotiate
7 price, APS could potentially negotiate a lower price than the pricing established by the PPA.
8 Assuming all other terms of the PPA were held constant, a lower negotiated price would benefit
9 ratepayers.

10 14. An amendment to the PPA establishes a time-based provision that would allow
11 either party the right to terminate the agreement should APS not receive regulatory approval from
12 the Commission by November 30, 2008. The amendment is included as Attachment III.

13 15. The PPA includes provisions that would mitigate harm caused to APS should the
14 energy generated by the Solana facility not be available to APS for a variety of reasons. Certain
15 provisions would require Arizona Solar One to make damage payments to APS.

16 16. Staff recommends that, at any time APS collects damage payments pursuant to the
17 terms of the PPA, that it include in the annual REST implementation plan filing information
18 describing the amount collected, cause for the collection, and how the amount was calculated. The
19 filing should also make a recommendation for the disposition of the proceeds, and if applicable
20 inform the Commission of the measures APS intends to take in order to comply with REST
21 requirements in light of the existing circumstances. Information deemed competitively
22 confidential may be redacted in the filing. Staff makes this recommendation in order to ensure
23 proper use of such proceeds and to ensure that the Commission is sufficiently informed of the
24 disposition of the Solana PPA and APS' efforts to comply with the requirements of the REST.

25 17. The PPA also places certain requirements on APS as described in Staff's
26 unredacted Open Meeting memorandum.

27 18. APS conducted an analysis of the PPA to estimate the value of the PPA compared
28 to APS' projected cost of energy for a conventional resource alternative. This analysis concluded

1 that Solana-generated energy is approximately 19 percent more costly than the conventional
 2 resource alternative. This analysis includes both an assumption of the cost of the conventional
 3 resource alternative and an assumption of the cost of energy generated by the Solana facility. As
 4 discussed previously, the cost of energy generated by the Solana facility is conditional upon
 5 factors such as the timing of approval of extension of the ITC and the level of the ITC approved.
 6 The analysis assumed passage of the ITC prior to 2009 and approval of a 30 percent tax incentive.
 7 As with the typical bill analysis, the presence of a combination of pricing variables creates
 8 numerous pricing scenarios that could be run when performing an avoided cost analysis. In
 9 response to a Staff request, APS additionally calculated the value of the PPA compared to APS'
 10 projected cost of conventional energy assuming that the projected cost of the conventional
 11 alternative varied as a result of both a higher and lower than expected cost of natural gas. Higher
 12 and lower than expected costs of gas are used as natural gas is the fuel predominantly used in
 13 meeting incremental load. APS also performed this analysis assuming that the ITC extension was
 14 approved in June of 2009 with a 30 percent incentive. The results of this additional analysis
 15 include the following:

<u>Assumptions</u>	<u>Percentage Above Avoided Cost</u>
ITC approved in 2008 at 30 percent Avoided cost projections 20% less than expected	32%
ITC approved in 2008 at 30 percent Avoided cost projections 20% more than expected	8%

19. The percentages above avoided cost figures cited do not mean to say that, for
 21 instance, at 19 percent above avoided cost that a customer's bill would rise 19 percent. The above
 22 avoided cost figures indicate the relative cost of Solana energy alone, which would comprise only
 23 a small portion of energy from which bills are calculated. APS has indicated to Staff that it
 24 expects that, in its first year of operation (2012) Solana generation would represent 2.52 percent of
 25 native load. APS also anticipates that Solana energy would represent 2.27 percent of 2016 load
 26 and 2.02 percent of 2021 load. Should Solana's cost prove to be 19 percent above market in 2012,
 27 2.52 percent of customers' bills will be 19 percent more costly as a result of Solana generation.

28

1 20. National carbon tax legislation has been proposed that would place a tax on fuels
2 that produce carbon dioxide when used. Generation of energy from fuels such as coal, natural gas
3 and other fossil fuels that produce carbon dioxide would become more costly should such a tax be
4 implemented. Cap-and-trade legislation has also been proposed which would place limitations on
5 the emission of a variety of greenhouse gases including carbon dioxide. Cap-and-trade legislation
6 would make generation of electricity more expensive for generators needing to purchase credits in
7 order to exceed emission caps. Overall, such measures would make generation of energy from
8 fossil fuels more costly. The Solana facility would not produce carbon dioxide or other
9 greenhouse gasses as a byproduct of generation of electricity. Implementation of carbon taxes or
10 cap-and-trade measures if implemented would raise the cost of generation avoided by Solana
11 generated energy. Such a scenario would dramatically change the value of Solana generated
12 energy relative to conventional generation. APS estimates that the energy procured by the PPA
13 will help to avoid carbon dioxide emissions by an average of approximately 475,000 tons per
14 year.⁵

15 **Typical Bill Analysis**

16 21. The following table demonstrates the bill impact to customers that would result
17 from approval of the PPA in years 2012, 2016, and 2021. The pricing in this table assumes the
18 ITC is approved in 2008 at a 30 percent level. In this table, residential customer impact is
19 calculated having combined the E-10, E-12, and ET-1 customer classes. Residential customers in
20 the E-10, E-12, and ET-1 classes collectively account for over 90 percent of all of APS' residential
21 customers. For commercial and industrial customers less than 3 MW, the E-32 rate class was
22 used. It accounts for over 93 percent of all small commercial and industrial customers. For
23 commercial and industrial customers with demand greater than 3 MW, a combination of the E-34
24 and E-35 customer classes were used. These account for 100 percent of all large commercial and
25 industrial customers. Note that the table includes bill impacts for both median and average
26
27

28 ⁵ Application. Page 6.

1 customer kWh consumption. Also note that bill impact is described by both dollar increase and
 2 the increase as a percentage of the total bill.

Table I**Arizona Public Service Company****REST - Solana Base Purchased Power Agreement Bill Impacts**

Residential, Small C/I and Large C/I Customer Classes

	2012 - 1st Full Year	2016 - 5th Year	2021 - 10th Year
<i>Increase in REST Charge and Caps³</i>			
per kWh	\$0.003155	\$0.002722	\$0.002362
Residential Cap	\$1.28	\$1.09	\$0.94
Small C/I Cap	\$45.96	\$40.45	\$35.10
Large C/I Cap	\$108.90	\$121.34	\$105.30
<i>REST Monthly Bill Impact \$</i>			
<i>on Average Customer by Rate⁴</i>			
E-10 / E-12 / ET-1	\$1.28	\$1.09	\$0.94
E-32	\$27.19	\$23.46	\$20.36
E-34 / E-35	\$108.90	\$105.30	\$105.30
<i>REST Monthly Bill Impact %</i>			
<i>on Average Customer by Rate⁴</i>			
E-10 / E-12	1.09%	0.93%	0.80%
E-32	3.44%	2.97%	2.57%
E-34 / E-35	0.04%	0.05%	0.04%

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**REST Monthly Bill Impact \$
on Median Customer by Rate⁵**

E-10 / E-12 / ET-1	\$1.28	\$1.09	\$0.94
E-32	\$3.93	\$3.39	\$2.94
E-34 / E-35	\$108.90	\$121.34	\$105.30

**REST Monthly Bill Impact %
on Median Customer by Rate⁵**

E-10 / E-12	1.10%	0.94%	0.81%
E-32	0.50%	0.43%	0.37%
E-34 / E-35	0.04%	0.05%	0.04%

¹ Amount reflected is portion above market costs, which is not reflected in the PSA.

² The collection by class corresponds with the proportionality requirement set in Paragraph 63 of the Settlement Agreement approved by A.C.C. Decision No 67744. The kWh charge and caps have been raised proportionally.

³ The compounded customer growth rate used in the calculation of the REST charge for the 9 year period (2012 - 2021) is 2.5%.

The current REST energy rate and caps are: \$0.003288 per kWh, a \$1.32 cap for Residential, a \$48.84 cap for Small C&I, and a \$146.53 cap for Large C&I.

⁴ E-10 / E-12 / ET-1 avg. monthly kWh usage is 1,022 kWh. E-32 avg. monthly kWh usage is 8,619 kWh. E-34 / E-35 avg monthly kWh usage is 3,286,589 kWh.

Average and median usage is for 12 month ending September 2007.

⁵ E-10 / E-12 / ET-1 median monthly kWh usage is 875 kWh. E-32 median monthly kWh usage is 1,245 kWh. E-34 / E-35 median monthly kWh usage is 2,335,000 kWh.

Average and median usage is for 12 month ending September 2007.

22. Table II contains the same information as Table I except that it assumes a circumstance where the ITC is approved in June of 2009 with a 30 percent tax credit. The scenario represents the latest period for approval of the ITC contemplated by Schedule II.

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Table II

Arizona Public Service Company

REST - Solana Purchased Power Agreement Bill Impacts

Residential, Small C/I and Large C/I Customer Classes

	2012 - 1st Full Year	2016 - 5th Year	2021 - 10th Year
<i>Increase in REST Charge and Caps³</i>			
per kWh	\$0.003487	\$0.003038	\$0.002663
Residential Cap	\$1.39	\$1.22	\$1.07
Small C/I Cap	\$51.81	\$45.13	\$39.56
Large C/I Cap	\$155.44	\$135.39	\$118.68
<i>REST Monthly Bill Impact \$ on Average Customer by Rate⁴</i>			
E-10 / E-12 / ET-1	\$1.39	\$1.22	\$1.07
E-32	\$30.05	\$26.18	\$22.95
E-34 / E-35	\$155.44	\$118.68	\$118.68
<i>REST Monthly Bill Impact % on Average Customer by Rate⁴</i>			
E-10 / E-12	1.20%	1.05%	0.92%
E-32	3.81%	3.32%	2.91%
E-34 / E-35	0.06%	0.06%	0.05%
<i>REST Monthly Bill Impact \$ on Median Customer by Rate⁵</i>			
E-10 / E-12 / ET-1	\$1.39	\$1.22	\$1.07
E-32	\$4.34	\$3.78	\$3.31
E-34 / E-35	\$155.44	\$135.39	\$118.68

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**REST Monthly Bill Impact %
on Median Customer by Rate⁵**

E-10 / E-12	1.21%	1.06%	0.93%
E-32	0.55%	0.48%	0.42%
E-34 / E-35	0.06%	0.05%	0.05%

¹ Amount reflected is portion above market costs, which is not reflected in the PSA.

² The collection by class corresponds with the proportionality requirement set in Paragraph 63 of the Settlement Agreement approved by A.C.C. Decision No 67744. The kWh charge and caps have been raised proportionally.

³ The compounded customer growth rate used in the calculation of the REST charge for the 9 year period (2012 - 2021) is 2.5%.

The current REST energy rate and caps are: \$0.003288 per kWh, a \$1.32 cap for Residential, a \$48.84 cap for Small C&I, and a \$146.53 cap for Large C&I.

⁴ E-10 / E-12 / ET-1 avg. monthly kWh usage is 1,022 kWh. E-32 avg. monthly kWh usage is 8,619 kWh. E-34 / E-35 avg monthly kWh usage is 3,286,589 kWh.

Average and median usage is for 12 month ending September 2007.

⁵ E-10 / E-12 / ET-1 median monthly kWh usage is 875 kWh. E-32 median monthly kWh usage is 1,245 kWh. E-34 / E-35 median monthly kWh usage is 2,335,000 kWh.

Average and median usage is for 12 month ending September 2007.

23. Table III contains the same information as Table I and Table II except that it assumes a circumstance where the ITC is approved in June of 2009 with a 10 percent tax credit. The scenario represents the latest period for approval of the ITC contemplated by Schedule II combined with the lowest percentage of ITC contemplated by Schedule III. It is the most costly potential price combination that could occur.

Table III

**Arizona Public Service Company
REST - Solana Purchased Power Agreement Bill Impacts
Residential, Small C/I and Large C/I Customer Classes**

	2012 - 1st Full Year	2016 - 5th Year	2021 - 10th Year
Increase in REST Charge and Caps³			
per kWh	\$0.005437	\$0.004913	\$0.004486
Residential Cap	\$2.17	\$1.97	\$1.79
Small C/I Cap	\$80.78	\$72.99	\$66.64
Large C/I Cap	\$242.33	\$218.96	\$199.93

1	REST Monthly Bill Impact \$			
2	on Average Customer by Rate⁴			
	E-10 / E-12 / ET-1	\$2.17	\$1.97	\$1.79
	E-32	\$46.86	\$42.34	\$38.66
3	E-34 / E-35	\$242.33	\$218.96	\$199.93
4	REST Monthly Bill Impact %			
5	on Average Customer by Rate⁴			
	E-10 / E-12	1.87%	1.70%	1.54%
6	E-32	5.93%	5.36%	4.90%
7	E-34 / E-35	0.10%	0.09%	0.08%
8	REST Monthly Bill Impact \$			
9	on Median Customer by Rate⁵			
	E-10 / E-12 / ET-1	\$2.17	\$1.97	\$1.79
10	E-32	\$6.77	\$6.11	\$5.58
11	E-34 / E-35	\$242.33	\$218.96	\$199.93
12	REST Monthly Bill Impact %			
13	on Median Customer by Rate⁵			
	E-10 / E-12	1.89%	1.71%	1.56%
14	E-32	0.86%	0.77%	0.70%
15	E-34 / E-35	0.09%	0.08%	0.08%

¹ Amount reflected is portion above market costs, which is not reflected in the PSA.

² The collection by class corresponds with the proportionality requirement set in Paragraph 63 of the Settlement Agreement approved by A.C.C. Decision No 67744. The kWh charge and caps have been raised proportionally.

³ The compounded customer growth rate used in the calculation of the REST charge for the 9 year period (2012 - 2021) is 2.5%.

The current REST energy rate and caps are: \$0.003288 per kWh, a \$1.32 cap for Residential, a \$48.84 cap for Small C&I, and a \$146.53 cap for Large C&I.

⁴ E-10 / E-12 / ET-1 avg. monthly kWh usage is 1,022 kWh. E-32 avg. monthly kWh usage is 8,619 kWh. E-34 / E-35 avg monthly kWh usage is 3,286,589 kWh.

Average and median usage is for 12 month ending September 2007.

⁵ E-10 / E-12 / ET-1 median monthly kWh usage is 875 kWh. E-32 median monthly kWh usage is 1,245 kWh. E-34 / E-35 median monthly kWh usage is 2,335,000 kWh.

Average and median usage is for 12 month ending September 2007.

24. The pricing in each of these tables, Tables I, II, and III, include certain assumptions as described in the Staff's unredacted memorandum.

Selection process used to solicit renewables contracts

25. APS selected the Solana project as a result of Abengoa's response to a request for proposal ("RFP"). Based on Staff's review of APS' Renewable Energy Competitive Procurement

1 Procedure ("Procedure"), the RFP, a report on the matter issued by Navigant Consulting, Inc.
2 ("Navigant"), discussions with APS, and the quantitative and qualitative results of the selection
3 process provided to Staff, Staff believes that the Solana PPA was selected through a competitive
4 bid procurement process. APS issued an RFP to solicit bids for provision of renewable energy in
5 order to obtain renewable energy to comply with the requirements of the REST rules. APS
6 evaluated the responses to the RFP and selected the Abengoa proposal as a finalist for
7 consideration. Three other offers were also selected; however, this application addresses only the
8 Solana project at this time. Projects were evaluated and selected based on a number of qualitative
9 and quantitative criteria. Navigant was hired by APS to monitor and audit the RFP and selection
10 process. Navigant issued a report explaining the process used by APS and commenting on its
11 observations and findings as an independent auditor. Navigant's audit also included a review of
12 APS' Procedure. The Procedure is a guideline created by APS to govern the competitive
13 procurement process used to solicit and evaluate renewables offers. Navigant's report is included
14 as Attachment IV to the Staff Memorandum.

15 26. APS received 51 proposals from 28 different Respondents in response to the 2007
16 RFP. As some proposals included multiple product offers, a total of 73 product offers were
17 received.

18 27. The evaluation and selection included a Proposal Evaluation and a Detailed
19 Evaluation. The Proposal Evaluation included a Threshold Evaluation, Screening Evaluation, and
20 a Short List Selection.

21 28. The Detailed Evaluation included a Transmission Review, Technical Evaluation,
22 Additional Production Cost Modeling, a Financial Creditworthiness check, a Term Sheet
23 Negotiation process, Risk Assessment, and Final Selection.

24 29. The Threshold Evaluation phase considered whether respondents had provided
25 sufficient information to meet the criteria of the RFP. Nine offers were rejected on this basis.

26 30. The Screening Evaluation phase applied both a quantitative and qualitative
27 evaluation to the offers. The quantitative evaluation calculated the delivered cost of energy for
28 each bid by adding to each bid cost any additional costs such as system integration, delivery, and

1 imputed debt. Avoided costs were then calculated by determining the cost of the incremental
2 energy avoided by the renewable resource. APS then determined the net present value of the
3 annual bid cost and avoided cost for each offer and created a single table of comparative offers
4 based on a ratio of total bid cost to avoided cost.

5 31. The qualitative evaluation gave consideration to each offer's project viability,
6 technology, permitting considerations, and production risk. The qualitative evaluation was
7 conducted by APS staff members from different relevant disciplines. Twelve offers were rejected
8 in this process as a result of excessive technology risk.

9 32. The Short List Selection reduced the field of offers to 10 based on the best
10 percentages above avoided cost as calculated in the quantitative evaluation.

11 33. The Detailed Evaluation then began with the Transmission Review. In the
12 Transmission Review APS considered the transmission needs and system impact of each offer.
13 One was eliminated from consideration in this phase as it depended on the construction of a nearby
14 coal plant.

15 34. The Technical Evaluation phase considered the technical merits of each offer.
16 Several offers were eliminated as a result of technical concerns.

17 35. The Additional Production Cost Modeling phase refined the avoided costs
18 calculations by using more detailed data.

19 36. The Financial Creditworthiness phase examined the credit risk related to each offer.
20 Two were eliminated as a result of matters related to credit risk.

21 37. The Term Sheet Negotiation phase involved establishment and negotiation of
22 contractual terms that would be established with successful bidders. One bidder was eliminated as
23 a result of being unresponsive in this process.

24 38. The Risk Assessment phase involved a qualitative assessment of risk related to
25 transmission, credit, and technical considerations.

26 39. In the Final Selection phase APS chose four offers from four respondents. APS
27 may seek contracts with each of the four finalists in order to meet the REST requirements.

28 40. APS met with Staff on two occasions to discuss the bidding and selection process.

1 In these meetings APS provided Staff with information describing the quantitative and qualitative
2 conclusions drawn in the selection process. Summary information provided to Staff in these
3 meetings that lists the quantitative and qualitative results of the selection process is provided as
4 Attachment V of the Staff Memorandum. The attachment also provides a descriptive rationale for
5 the selection or rejection of offers. The information provided is deemed competitively
6 confidential. Note that in Attachment V Abengoa is referred to as Solucar.

7 41. The Navigant report states that the Procedure is fair and unbiased.⁶ The Navigant
8 report states about the RFP process:

9 *...we conclude that the solicitation materials associated with the 2007 RFP were*
10 *understandable, comprehensive and consistent with the requirements of the*
11 *Procedure and with other requests for proposals for renewable power supply that*
12 *we have reviewed. The terms of the various certification, confidentiality,*
13 *creditworthiness and other form documents were reasonable and consistent with*
14 *others we have reviewed. The submittal instructions and non-refundable bid fee*
15 *were reasonable and the description of the evaluation process was clear. The*
16 *presentations made at the pre-bid conference were clear and consistent with the*
17 *Procedure and the RFP, and the questions and answers made available on the RFP*
18 *website were also clear and consistent and valuable in further defining the*
19 *solicitation. Although there were some minor shortcomings in the documents, there*
20 *is no evidence that they caused any interested party not to respond to the 2007*
21 *RFP, nor that it advantaged or disadvantaged any given Respondent in the*
22 *evaluation.*⁷

23 42. The Navigant report states about the evaluation process:

24 *With respect to the evaluations, we conclude that the evaluation processes were*
25 *performed on a logical, consistent, fair and reasonable basis, and were consistent*
26 *with the requirements of the Procedure and with other power supply offer*
27 *evaluation processes we have performed or observed. The threshold and screening*
28 *processes were performed on a consistent and fair basis. All necessary and typical*
costs (integration, transmission, imputed debt) were included. The use of
production cost modeling to determine avoided cost was thorough and accurate.
The selection of shortlist based on lowest cost, qualified offers was reasonable.
Respondents were given equal opportunity to meet with APS, provide additional
information to improve their offers, and to negotiate a standard form term sheet.
APS endeavored to not provide more favorable term sheet terms to any one
Respondent. The level of technical due diligence review was comprehensive and
thorough. The transmission and credit reviews, and subsequent disqualification of

⁶Independent Auditor Report for the 2007 Renewable RFP Process. Navigant Consulting. March 2008. Page 3.

⁷Independent Auditor Report for the 2007 Renewable RFP Process. Navigant Consulting. March 2008. Page 3.

1 *some offers was reasonable. The price and non-price factors considered in*
2 *selection of the Finalists was reasonable.*⁸

3 43. Navigant's report contains no findings or conclusions that indicate impropriety in
4 the selection of the Solana project as a provider of renewable energy for APS. The Navigant
5 report cites that the evaluation process was consistent with other power supply offer evaluation
6 processes that they have performed or observed.⁹

7 44. Staff believes, based on this review, that considering the alternative proposals
8 available to APS, the Solana PPA is a reasonable means of achieving the REST targets and will
9 provide a means of meeting APS' REST requirements.

10 **Detailed description of proposed facility**

11 45. The Solana Generating Station will consist of approximately three square miles of
12 parabolic troughs, two steam turbines, and a six-hour thermal storage capability. The system will
13 provide 280 MW of firm capacity. The Solana facility will provide approximately 900,000 MWh
14 of renewable electricity each year.

15 46. Parabolic troughs work in a simple manner. Sunlight strikes long troughs of
16 mirrors curved in a parabolic shape. This shape allows all the incoming sunlight to be reflected
17 and focused onto long black receiver tubes holding a transfer fluid. The heated transfer fluid is
18 pumped through a solar evaporator, which produces steam. This steam is used to run a
19 conventional steam turbine, to produce electricity.

20 47. A unique feature of the Solana Generating Station is that during the day, some of
21 the sun's heat is transferred to a Molten Salt Tank for use after the sun sets. This storage
22 capability will allow the Solana Generating Station to more closely match the daily APS system
23 peak electricity demand. The ability to provide electricity during non-sunny hours offers the
24 Solana Generating Station a unique advantage over other solar electric systems that are limited to
25 only daytime electricity output.

26 48. Parabolic trough solar collector systems have a long and interesting history. In
27 _____

28 ⁸ Independent Auditor Report for the 2007 Renewable RFP Process. Navigant Consulting. March 2008. Page 3.

⁹ Independent Auditor Report for the 2007 Renewable RFP Process. Navigant Consulting. March 2008. Page 30.

1 1913, F. Shuman and C. V. Boys built a large solar trough system near Cairo, Egypt, to run a 50
2 horsepower pump that pumped irrigation water from the Nile River.¹⁰ In the 1980's,
3 approximately 354 MW of solar trough systems were built in the California desert near Daggett.
4 The systems are still operational today, providing peak hour and non-peak hour renewable solar
5 electricity.

6 49. The Solana Generating Station, when operating at full output, will provide the
7 electricity needs of 70,000 Arizona homes. The six-hour thermal storage capacity will allow the
8 station to provide electricity during the key peak hours, from noon to 8:00 p.m. during the peak
9 summer months of June through September. The system will operate at greater than 90 percent
10 capacity factor during those hours.

11 50. Unlike some of the newer renewable energy technologies, the solar trough
12 technology has a history dating back almost 100 years. The large, 354-MW series of solar troughs
13 installed in the California desert have 20 plus years of operational experience providing renewable
14 energy to electric utilities.

15 51. Although new in this application, the use of molten-salt storage has a history dating
16 back over 20 years and has been reviewed and tested by Sandia National Laboratory and the
17 National Renewable Energy Laboratory. The ability to maintain electricity output after sunset will
18 allow APS to avoid or reduce using peaking generators or purchasing high-cost peaking power
19 during the hot summer season.

20 52. Staff believes that the track record of similar solar trough plants indicates that the
21 Solana Generating Station will perform as expected, providing the renewable kWh needed by APS
22 starting in 2011. The thermal storage system will help APS to meet its peak summer needs at the
23 lowest possible cost.

24 53. Significant presence of solar generation in APS' resource mix adds supply diversity
25 to APS' generation portfolio. Constraints to other fuels or to fossil fuels in general can be
26 mitigated by the added generation the Solana facility would supply. Staff notes that fuel stock for
27

28 ¹⁰ Daniels, Farrington. Direct Use of the Sun's Energy, Ballantine Booles, 1964, Pages 6 and 7.

1 the Solana facility, the sun's energy, would not be purchased from either foreign or domestic
2 vendors, will not deplete, is not subject to supply or transportation constraints other than
3 atmospheric conditions, and produces no waste product that is taxed or requires disposal.

4 **Detailed description of Abengoa**

5 54. Abengoa is a Spanish technology company engaged in the solar, bio-energy,
6 environmental services, information technology, and industrial engineering and construction
7 industries. The company was originally formed in 1941 as Sociedad Abengoa, S.L. Abengoa
8 operates in approximately 70 countries and has more than 20,000 employees.

9 55. Abengoa deals with a variety of solar facilities including photovoltaic, CSP, space
10 and water heating, and cooling using parabolic troughs. Abengoa generates power through a
11 variety of CSP systems including solar trough, solar tower, and Stirling engine.

12 56. Abengoa has constructed a variety of large solar power generating facilities.
13 Sevilla PF is a 1.2 MW photovoltaic facility near Seville. PS10 is an 11 MW solar tower near
14 Seville. PS20 is a 20 MW solar tower under construction near Seville. Solnova 1 and 3 are 50
15 MW solar trough facilities near Seville. Six other plants are in development stages.¹¹ Abengoa is
16 also involved in Integrated Solar Combined Cycle facilities in Morocco and Algeria. Abengoa has
17 developed several solar heating and cooling systems in the United States including two in Arizona.

18 57. As a result of the size of the investment required for development of the Solana
19 facility, Abengoa will finance the construction of the facility with capital from a third party lender.
20 The application states that successful development of the project is contingent on several factors,
21 including its ability to obtain acceptable third-party financing.¹²

22 **Other regulatory matters**

23 58. In addition to the issues already discussed, other factors must be resolved for the
24 Solana project to be realized. Arizona Solar One must obtain a certificate of environmental
25 compatibility ("CEC") to operate. Certain circumstances described in the PPA allow Arizona
26 Solar One a right to terminate the agreement if not met. One of the circumstances is that Congress

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28 ¹¹ <http://www.abengoasolar.com>

¹² Application. Pages 1 and 2.

1 must approve an investment tax credit. Another is that Arizona Solar One must have a reasonable
2 expectation that it will be able to finalize an interconnection agreement so that the Solana facility
3 can interconnect with transmission lines.

4 59. The ITC, if extended in its present format, would provide a 30 percent tax credit to
5 Arizona Solar One for its production of solar power. The tax credit was originally established in
6 the Tax Relief and Health Care Act of 2006. After initial passage the tax credit was once extended
7 until the end of 2008, but has not yet received a second extension to keep the tax credit in place
8 beyond 2008. The fact that the ITC and CEC are still pending approval does not preclude the
9 Commission from reviewing the PPA in the context of the REST Rules.

10 **Staff Findings and Recommendation**

11 60. Based on Staff's review of the Application and the REST requirements, Staff
12 believes the Solana PPA is a reasonable means of achieving the REST targets and would provide a
13 means of complying with the long-term REST requirements. However, Staff's recommendations
14 in this matter do not address approval of the PPA, as the Commission does not typically approve
15 wholesale rates; nor do Staff's recommendations address issues of prudence, as such issues are not
16 present in this matter.

17 61. Based on Staff's review of APS' Renewable Energy Competitive Procurement
18 Procedure, the RFP, a report on the matter issued by Navigant Consulting, Inc., discussions with
19 APS, the quantitative and qualitative results of the selection process, and considering the
20 alternative proposals available to APS, Staff concludes that the Solana PPA was selected through a
21 competitive bid procurement process.

22 62. Staff further believes that energy provided through the Solana project is an
23 application of "solar electricity resources" as that term is used in the REST Rules. The use of the
24 Solana project, as described in the PPA, would displace conventional energy resources that would
25 otherwise be used to provide electricity to APS' customers. Under these circumstances, Staff finds
26 that the Solana proposal would meet the requirements of an Eligible Renewable Energy Resource
27 pursuant to R14-2-1802.

28 63. Staff further believes that consistent with the correspondence submitted by APS on
29 April 18, 2008, APS is not seeking a prudence determination in this docket or any other pending

1 docket. Staff's recommendations in this matter do not address the prudence of the PPA or
2 otherwise address its ratemaking treatment.

3 64. Staff concludes that the Solana PPA is an appropriate component of APS'
4 renewable energy portfolio and is compatible with APS' implementation plan as approved in
5 Commission Decision No. 70313.

6 65. Staff recommends that, in any subsequent inquiry into the prudence of the Solana
7 PPA, the expense of renewable energy purchased under the PPA should not be deemed imprudent
8 solely because the costs are greater than for conventional generation.

9 66. Staff recommends that, at any time APS collects damage payments pursuant to the
10 terms of the PPA, it include in the annual REST implementation plan filing information describing
11 the amount collected, cause for the collection, and how the amount was calculated. The filing
12 should also make a recommendation for the disposition of the proceeds, and if applicable inform
13 the Commission of the measures APS intends to take in order to comply with REST requirements
14 in light of the existing circumstances.

15 CONCLUSIONS OF LAW

16 1. Arizona Public Service Company is a public service corporation within the meaning
17 of Article XV of the Arizona Constitution.

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

20 3. The Commission, having reviewed the application and Staff's Memorandum dated
21 September 10, 2008, concludes that the Solana PPA is a reasonable means of achieving the REST
22 targets, would provide a means of complying with the long-term REST requirements, is an
23 appropriate component of APS' renewable energy portfolio, and is compatible with APS'
24 implementation plan as approved in Decision No. 70313.

25 4. The Commission, having reviewed the application and Staff's Memorandum dated
26 September 10, 2008, concludes that it is in the public interest to adopt Staff's recommendations as
27 contained in Findings of Fact Nos. 65 and 66.

28 5. The Commission concludes that this decision is not intended to address approval of
the PPA.

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ORDER

IT IS THEREFORE ORDERED that the Solana PPA is an appropriate component of APS' energy portfolio and is compatible with APS' implementation plan as approved in Commission Decision No. 70313.

IT IS FURTHER ORDERED that the Solana proposal would meet the requirements of an Eligible Renewable Energy Resource pursuant to R14-2-1802.

IT IS FURTHER ORDERED that in any subsequent inquiry into the prudence of the Solana PPA, the expense of renewable energy purchased under the PPA should not be deemed imprudent solely because the expense is greater than for conventional generation.

IT IS FURTHER ORDERED that this decision is not intended to address the prudence of the PPA or its ratemaking treatment.

IT IS FURTHER ORDERED that this decision is not intended to address approval of the PPA.

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1 IT IS FURTHER ORDERED that at any time APS collects damage payments pursuant to
 2 the terms of the PPA that it include in the annual REST implementation plan filing information
 3 describing the amount collected, cause for the collection, and how the amount was calculated. The
 4 filing should also make a recommendation for the disposition of the proceeds, and if applicable
 5 inform the Commission of the measures APS intends to take in order to comply with REST
 6 requirements in light of the existing circumstances.

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

8

9 **BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**

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CHAIRMAN

COMMISSIONER

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COMMISSIONER

COMMISSIONER

COMMISSIONER

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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 ____ day of _____, 2008.

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 BRIAN C. McNEIL
 EXECUTIVE DIRECTOR

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DISSENT: _____

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DISSENT: _____

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EGJ:SPI:red:JW

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