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1 Timothy M. Hogan (004567)
2 ARIZONA CENTER FOR LAW
3 IN THE PUBLIC INTEREST
4 202 E. McDowell Rd., Suite 153
5 Phoenix, Arizona 85004
6 (602) 258-8850

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Attorneys for Western Resource Advocates

BEFORE THE ARIZONA CORPORATION COMMISSION

7 BOB STUMP, Chairman
8 GARY PIERCE
9 BRENDA BURNS
10 BOB BURNS
11 SUSAN BITTER SMITH

12 IN THE MATTER OF ARIZONA PUBLIC
13 SERVICE COMPANY REQUEST FOR
14 APPROVAL OF UPDATED GREEN POWER
15 RATE SCHEDULE GPS-1, GPS-2, AND GPS-3.

Docket No. E-01345A-10-0394

16 IN THE MATTER OF THE APPLICATION OF
17 ARIZONA PUBLIC SERVICE COMPANY FOR
18 APPROVAL OF ITS 2013 RENEWABLE
19 ENERGY STANDARD IMPLEMENTATION FOR
20 RESET OF RENEWABLE ENERGY ADJUSTOR.

Docket No. E-01345A-12-0290

21 IN THE MATTER OF THE APPLICATION OF
22 TUCSON ELECTRIC POWER COMPANY FOR
23 APPROVAL OF ITS 2013 RENEWABLE
24 ENERGY STANDARD IMPLEMENTATION PLAN
25 AND DISTRIBUTED ENERGY
ADMINISTRATIVE PLAN AND REQUEST FOR
RESET OF RENEWABLE ENERGY ADJUSTOR.

Docket No. E-01933A-12-0296

IN THE MATTER OF THE APPLICATION OF
UNS ELECTRIC, INC. FOR APPROVAL OF ITS
2013 RENEWABLE ENERGY STANDARD
IMPLEMENTATION PLAN AND DISTRIBUTED
ENERGY ADMINISTRATIVE PLAN AND
REQUEST FOR RESET OF RENEWABLE
ENERGY ADJUSTOR.

Docket No. E-04204A-12-0297

**NOTICE OF FILING DIRECT
TESTIMONY OF DAVID BERRY ON
BEHALF OF WESTERN RESOURCE
ADVOCATES**

1 Western Resource Advocates ("WRA"), through its undersigned counsel, hereby
2 provides notice that it has this day filed the direct testimony of David Berry in this matter.
3

4 DATED this 24th day of April, 2013

5 ARIZONA CENTER FOR LAW IN
6 THE PUBLIC INTEREST

7 By 
8 Timothy M. Hogan
9 202 E. McDowell Rd., Suite 153
10 Phoenix, Arizona 85004
11 Attorneys for Western Resource Advocates

12 ORIGINAL and 13 COPIES of
13 the foregoing filed this 24th day
14 of April, 2013, with:

15 Docketing Supervisor
16 Docket Control
17 Arizona Corporation Commission
18 1200 W. Washington
19 Phoenix, AZ 85007

20 COPIES of the foregoing
21 Electronically mailed this
22 24th day of April, 2013, to:

23 All Parties of Record
24
25



BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

BOB STUMP, *Chairman*

GARY PIERCE

BRENDA BURNS

BOB BURNS

SUSAN BITTER SMITH

IN THE MATTER OF ARIZONA PUBLIC SERVICE COMPANY REQUEST FOR APPROVAL OF UPDATED GREEN POWER RATE SCHEDULE GPS-1,GPS-2, AND GPS-3.

DOCKET NO. E-01345A-10-0394

IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR APPROVAL OF ITS 2013 RENEWABLE ENERGY STANDARD IMPLEMENTATION FOR RESET OF RENEWABLE ENERGY ADJUSTOR.

DOCKET NO. E-01345A-12-0290

IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY FOR APPROVAL OF ITS 2013 RENEWABLE ENERGY STANDARD IMPLEMENTATION PLAN AND DISTRIBUTED ENERGY ADMINISTRATIVE PLAN AND REQUEST FOR RESET OF ITS RENEWABLE ENERGY ADJUSTOR.

DOCKET NO. E-01933A-12-0296

IN THE MATTER OF THE APPLICATION OF UNS ELECTRIC, INC., FOR APPROVAL OF ITS 2013 RENEWABLE ENERGY STANDARD IMPLMENTATION PLAN AND DISTRIBUTED ENERGY ADMINISTRATIVE PLAN AND REQUEST FOR RESET OF ITS RENEWABLE ENERGY ADJUSTOR.

DOCKET NO. E-04204A-12-0297

**Direct Testimony of
David Berry
Western Resource Advocates
April 24, 2013**

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Direct Testimony of David Berry

Docket Nos. E-01345A-10-0394, E-01345A-12-0290, E-01933A-12-0296,
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1 **Introduction**

2
3 Q. Please state your name and business address.

4
5 A. My name is David Berry. My business address is P.O. Box 1064, Scottsdale, Arizona 85252-
6 1064.

7
8 Q. By whom are you employed and in what capacity?

9
10 A. I am Chief of Policy Analysis for Western Resource Advocates (WRA).

11
12 Q. Please describe Western Resource Advocates.

13
14 A. Founded in 1989, Western Resource Advocates is a non-profit environmental law and policy
15 organization dedicated to restoring and protecting the natural environment of the Interior
16 American West. We have developed strategic programs in three areas: water, energy, and
17 lands. We meet our goals in collaboration with other environmental and community groups
18 and by developing solutions that are appropriate to the environmental, economic and
19 cultural framework of the region. Western Resource Advocates has been involved in
20 Arizona utility regulatory issues for over 20 years.

21
22 Q. What are your professional qualifications for presenting testimony in this docket?

23
24 A. Exhibit DB-1 summarizes my qualifications.

25
26 Q. What is the purpose of your testimony?

27
28 A. My testimony addresses: a) the Track and Record proposal for complying with the
29 distributed renewable energy requirement when incentives are no longer provided for
30 distributed renewable energy, and b) alternatives to the Track and Record method,
31 including those proposed by Arizona Public Service Company (APS), Tucson Electric Power
32 Company (TEP), and UNS Electric, Inc. (UNS) on distributed renewable energy.

33
34 **Background on Distributed Renewable Energy**

35
36 Q. How does the Renewable Energy Standard define distributed renewable energy resources?

37
38 A. Distributed renewable energy resources are applications of eligible technologies, such as
39 photovoltaics (PV) and solar hot water, located at a customer's premises that displace
40 conventional energy resources that would otherwise be used to provide electricity to
41 Arizona customers (A.A.C. R14-2-1802B).

42
43 Q. What advantages do distributed renewable energy resources bring to Arizona?

1 A. Distributed renewable energy resources:

- 2
- 3 • Give Arizona customers more control over their energy resources and enable them
- 4 to hedge against utility rate increases as they supply some of their electrical needs
- 5 from resources that have stable prices.
- 6 • Introduce a modest amount of competition into the retail electricity market.
- 7 • Enable customers to reduce air emissions associated with the electricity they use
- 8 because renewable resources displace power generated with fossil fuels.
- 9 • Benefit Arizona by reducing air emissions from power production.
- 10 • Benefit all utility customers by enabling the utility to reduce energy costs associated
- 11 with its most expensive power plants and to defer some capital costs attributable to
- 12 new generation, transmission, and distribution facilities.
- 13 • Support Arizona businesses who design and install distributed renewable energy
- 14 facilities and support local suppliers of those businesses.¹
- 15

16 Q. How does the distributed renewable energy requirement function in the marketplace?

17

18 A. The distributed requirement creates three types of changes. First, it encourages market

19 entry by suppliers of distributed renewable energy facilities and encourages early adoption

20 of distributed renewable energy technologies by customers until the time that deployment

21 of distributed renewable energy resources becomes routine.

22

23 Second, it has created a degree of market certainty for entrepreneurs. Without that market

24 certainty, the distributed renewable energy industry would be much riskier and many

25 entrepreneurs might direct their efforts elsewhere.

26

27 And third, the distributed renewable energy carve-out also encourages technological

28 improvements, innovative delivery mechanisms, and organizational improvements. These

29 advances include: economies of scale in installation, standardized system design, leasing of

30 photovoltaic systems that allows customers to avoid paying the capital costs of those

31 systems up-front, and combining distributed renewable energy with energy efficiency.

32

33 Q. How is the role of distributed renewable energy evolving?

34

35 A. Distributed renewable energy has features of a disruptive technology.² At first, disruptive

36 technologies lack some of the characteristics of mainstream technologies and thus are not

¹ The *National Solar Jobs Census 2012* prepared by The Solar Foundation, Cornell University, and bw Research Partnership estimates that in 2012 the number of Arizona establishments in the solar industry was as follows: 123 installation establishments, 62 manufacturing establishments, 26 sales and distribution establishments, 15 project development establishments (that plan, construct, or maintain large utility-scale projects), and 41 other establishments. <http://www.thesolarfoundation.org/research/national-solar-jobs-census-2012>.

² See Joseph Bower and Clayton Christensen, "Disruptive Technologies: Catching the Wave," *Harvard Business Review*, January-February 1995, 43-53. Stuart Hart and Clayton Christensen, "The Great Leap: Driving Innovation from the Base of the Pyramid," *MIT Sloan Management Review*, Fall 2002, 51-56.

1 attractive to many customers. However, these technologies have some attributes that are
2 attractive to a niche market of customers. The new technology improves over time, allows
3 more customers to do things for themselves, and becomes competitive with the old
4 mainstream, often displacing the older technology, at least in part, or expanding the
5 market. With regard to distributed PV, many consumers do not know who to trust
6 concerning price and performance or how to navigate bureaucracies for permits. Further,
7 today's PV systems do not serve all of a customer's load and are relatively costly. But they
8 offer stable prices for the energy they provide, have no air emissions, and give customers
9 more control over their energy resources, attributes that some customers value. Prices
10 have fallen dramatically,³ leasing arrangements have overcome the barrier of high up-front
11 costs, and on-site energy storage may become feasible. As more customers adopt
12 distributed PV, the traditional utility and regulatory business model will likely evolve.⁴
13

14 Q. To what extent have APS and TEP customers adopted distributed renewable energy?

15
16 A. In 2012, annualized distributed renewable energy produced in APS's and TEP's service areas
17 combined comprised about 1.75% of retail sales.⁵
18

19 Q. Given the experience with the distributed renewable energy requirements in the market
20 that you have described, should regulatory compliance be concerned only with adherence
21 to the percentage requirements contained in A.A.C. R14-2-1805?
22

23 A. No. Accelerating market entry, innovation, technological change, development of new
24 forms of marketing and organization, and early adoption is a process. Consequently, the
25 distributed requirement should not be thought of as simply checking off annual goals.
26 Further, the renewable energy requirement is not a cap on the rate of deployment of
27 distributed resources (see Decision No. 69127, Appendix B, pp. 23-24).
28

29 It is critical to avoid a sustained downward trajectory of the rate of installations that would:
30 reduce the amount of competition both within the distributed market and between
31 distributed and central station generation; dampen motivations to innovate in the
32 installation and marketing of distributed generation; forego reductions in air emissions;
33 constrain consumers' ability to control their energy use; and relinquish Arizona's leadership
34 in distributed generation. Arizona's policy should be to encourage innovators,
35 entrepreneurs, and early adopters of beneficial new technologies, especially given the great
36 solar resource available in the state.

³ Galen Barbose, Naïm Dargouth, and Ryan Wiser, *Tracking the Sun V: A Historical Summary of the Installed Price of Photovoltaics in the United States from 1998 to 2011*, Lawrence Berkeley National Laboratory, November 2012. Solar Energy Industries Association, *U.S. Solar Market Insight Report, 2012 Year in Review, Executive Summary*.

⁴ Peter Kind, *Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business*, Edison Electric Institute, January 2013.

⁵ Data are from utility 2012 Renewable Energy Standard compliance reports. In its report, TEP counts reserved projects that are not yet installed.

1 **The Role of Renewable Energy Credits (RECs) and Compliance with Distributed**
2 **Renewable Energy Requirements**
3

4 Q. How do utilities demonstrate compliance with the distributed energy portion of the
5 Renewable Energy Standard and Tariff?
6

7 A. Utilities must demonstrate compliance by obtaining renewable energy credits (RECs) from
8 distributed renewable energy resources (A.A.C. R14-2-1805A). A REC is a certificate that
9 indicates that one kWh of electricity (or its equivalent) was produced by an eligible
10 renewable energy technology (A.A.C. R14-2-1803A).
11

12 RECs are owned by the owner of the eligible renewable energy resource from which they
13 were derived unless specifically transferred (A.A.C. R14-2-1803C). Thus, utilities must
14 obtain RECs from owners of distributed renewable energy resources or from other parties
15 who acquired the RECs from distributed renewable energy resources.
16

17 Q. How have Arizona utilities obtained RECs from distributed renewable energy projects?
18

19 A. They purchase the RECs from the owners of eligible projects using a credit purchase
20 agreement. The payment represents an incentive for installing the project.⁶
21

22 Q. Is there a market in RECs?
23

24 A. Yes. RECs can, in general, be transferred to buyers who would use them to meet their
25 renewable energy goals. There are "voluntary" REC markets and "compliance" REC
26 markets. A buyer might be a business seeking to meet voluntary clean energy goals,⁷ or a
27 power generator or utility that must comply with a regulatory standard requiring it to
28 obtain a specified amount of energy from renewable resources.
29

30 Q. How are prices for RECs determined?
31

32 A. In general, the price of a REC is the difference between the cost of electricity generated
33 with renewable energy and the cost of conventionally generated electricity. The price
34 depends on the technology which the buyer seeks (e.g., wind or solar or undifferentiated
35 renewable energy) and the geographic scope of the market (e.g., within a specific state or
36 within a larger area). In early 2012, prices in the voluntary market for wind RECs and
37 undifferentiated renewable energy RECs averaged around \$1 per MWh. RECs associated

⁶ For leased systems, the agreement is with the lessor of the system.

⁷ For examples of large corporations acquiring RECs, purchasing renewable energy, or installing renewable energy facilities on their property, see David Gardiner and Associates, LLC, *Power Forward: Why the World's Largest Companies are Investing in Renewable Energy*, Washington, DC, 2012. See also Environmental Protection Agency, Green Power Partnership, National Top 50 as of January 9, 2013, <http://www.epa.gov/greenpower/toplists/top50.htm>.

1 with western wind energy in voluntary markets averaged between \$1 and \$2 per MWh.⁸
 2 Compliance market REC prices exhibited a much larger range --from a few dollars per MWh
 3 to \$60 per MWh in early 2012.⁹ The range in compliance markets is large because some
 4 compliance requirements are restricted to specific technologies which are relatively
 5 expensive, such as photovoltaics, and restricted to projects located only in certain states.
 6

7 Q. Do some customers desire to retain their RECs and not transfer them to another party?
 8

9 A. Yes. Some customers may wish to retain the RECs from projects located on their property
 10 or from other sources to demonstrate compliance with their own clean energy goals. For
 11 federal agencies to meet their clean energy requirements, "agencies are required to retain
 12 ownership of the RECs from projects in order to count them towards the EPACT 2005 or
 13 [Executive Order] 13423 Requirements... That portion of renewable energy/RECs that is
 14 used by another party (including electric service providers who claim ownership of
 15 renewable energy attributes to meet renewable portfolio standards), or transferred or sold
 16 by the Federal agency to a third party, cannot be counted toward the EPACT 2005 or
 17 EO13423 Requirement."¹⁰ A private sector example is Wal-Mart which uses power
 18 generated at solar energy facilities at some of its stores and retains the RECs.¹¹
 19

20 Q. Are APS and TEP in compliance with the distributed renewable energy requirements?
 21

22 A. Yes, and they exceeded the 2012 requirements. Assuming the retail sales forecasts in APS's
 23 and TEP's resource planning analyses filed in 2012 and assuming that the utilities acquired
 24 no more distributed RECs, the approximate dates when the utilities would fall short of the
 25 current distributed renewable energy requirements are shown in the table below.
 26

Utility and Sector	Approximate Year When Additional RECs Would Be Needed
APS: residential	2016
APS: nonresidential	after 2019
TEP: residential	2014
TEP: nonresidential	2020

27
⁸ Jenny Heeter, Philip Armstrong, and Lori Bird, *Market Brief: Status of the Voluntary Renewable Energy Certificate Market (2011 Data)*. Golden, CO: National Renewable Energy Laboratory, NREL/TP-6A20-56128, 2012, Figure 15.

⁹ Heeter, et al., Figure 16.

¹⁰ U.S. Department of Energy, Energy Efficiency and Renewable Energy, *Renewable Energy Requirement Guidance for EPACT 2005 and Executive Order 13423*, January 28, 2008, pp. 8,11, http://www1.eere.energy.gov/femp/pdfs/epact05_fedrenewenergyguid.pdf. On this matter, see the letter from Cynthia Cordova, U.S. Department of Veterans Affairs, filed in Docket No. E-01345A-10-0394 on November 27, 2012 and the letter from C.L. Stathos, Department of Defense, filed in Docket No. E-01933A-12-0296 on January 22, 2013.

¹¹ "Wal-Mart Announces Solar Power Pilot Project," May 7, 2007, <http://news.walmart.com/news-archive/2007/05/07/wal-mart-announces-solar-power-pilot-project>.

1 **The Track and Record Approach**
2

3 Q. APS and Staff previously proposed a track and record method to address compliance with
4 the Renewable Energy Standard when incentives are no longer available. What is your
5 assessment of a track and record method as originally proposed by APS and Staff?
6

7 A. Under the original track and record proposal, a utility would not purchase RECs because
8 there would be no cash incentive for distributed projects. However, the utility would count
9 the RECs associated with new distributed energy projects and report the volume of RECs to
10 the Commission to demonstrate compliance with the Renewable Energy Standard. The
11 track and record method originally proposed by APS and Staff is flawed because it implicitly
12 counts RECs to meet the distributed energy requirements. Thus, double counting of RECs
13 would occur if the owner of the distributed energy project tried to sell the RECs to a third
14 party or use the RECs to meet its own renewable energy goals. Further, the owner of the
15 distributed project would not be compensated for the RECs by the utility.
16

17 Q. Are there organizations that prescribe “ground rules” for counting RECs?
18

19 A. Yes. The Center for Resource Solutions has established the Green-e Energy National
20 Standard for Renewable Electricity Products. The standard is intended to protect
21 consumers in renewable energy markets by mandating accountability on retail products
22 sold to consumers.
23

24 Q. Is double counting of RECs permitted under the Green-e Energy National Standard for
25 Renewable Electricity Products?
26

27 A. No. “Eligible RECs or renewable energy can be used once and only once ... Renewable
28 energy or RECs (or the renewable or environmental attributes incorporated in that REC)
29 that can be legitimately claimed by another party may NOT be used in Green-e Energy
30 Certified REC products.”¹²
31

32 Q. In light of the double-counting problem, can the track and record proposal impose a burden
33 on customers with distributed solar energy projects?
34

35 A. Yes. First, customers would forego the market value of their RECs. In addition, customers
36 who want to retain their RECs to demonstrate compliance with their own goals will not be
37 able to count RECs from systems located on their own property due to the double-counting
38 problem. This creates a disincentive to installing distributed renewable energy systems --
39 the track and record method would essentially disallow counting the RECs toward meeting a
40 customer’s clean energy goal. So an Arizona customer may refrain from investing in
41 renewable energy or leasing photovoltaic facilities.

¹² Center for Resource Solutions, *Green-e Energy, National Standard Version 2.1*, p. 8. More detail can be found on pages 9 and 22.

1
2 Q. Do utilities require RECs that they obtain to meet the Renewable Energy Standard not be
3 double-counted?

4
5 A. Yes. Double counting is not permitted under the terms of their credit purchase agreements.
6

7 Q. Should the Commission adopt a track and record method as originally proposed?
8

9 A. No, because of the burdens imposed on customers. APS, TEP, and UNS have not proposed
10 the original track and record method in their direct testimony, but are proposing a different
11 approach as described in the next section.
12

13 Assessment of Utility Proposals Regarding Distributed Renewable Energy 14

15 Q. What is APS's proposal regarding distributed renewable energy and RECs when direct cash
16 incentives come to an end?
17

18 A. Mr. Bernosky proposes that the Commission waive the distributed renewable energy
19 requirement temporarily (pp. 6-7) until the Renewable Energy Standard rule can be
20 modified to eliminate the distributed energy requirement (p. 6). The overall renewable
21 energy target for each year now in the rule (R14-2-1804) would remain in place (p. 7). APS
22 would report the amount of distributed renewable energy produced for informational
23 purposes (p. 6) and customers would retain their RECs (pp. 7, 8). APS could acquire new
24 distributed energy RECs to meet its overall renewable energy requirement (p. 6). By
25 eliminating the distributed energy requirement, the utility does not have to obtain
26 distributed RECs to meet the distributed component of the Standard and the double
27 counting problem presumably goes away.
28

29 Q. Is the TEP/UNS proposal similar to APS's proposal?
30

31 A. It is very similar.¹³
32

33 Q. What is your assessment of the utilities' proposal?
34

35 A. It is premature. The effects of potential changes in the net metering rule and of recent and
36 pending rate design changes have to be considered before eliminating the distributed
37 renewable energy standard requirements.

¹³ TEP (p. 8) proposes two alternatives to a waiver of the distributed requirement – a) requiring a customer to transfer RECs to a utility in exchange for net metering, and b) a track and reduce mechanism in which the utility would report kWh sales served from customers' renewable energy systems but no REC transfer would occur and the total annual renewable energy requirement would be reduced by a commensurate amount. Requiring a customer to transfer RECs in exchange for net metering could be unfair to the customer, and the track and reduce proposal implicitly double counts RECs. These alternatives should be rejected.

1 **Recommendations**

2
3 Q. Should the utilities be allowed, in the absence of payment of incentives, to use a track and
4 record method of complying with the distributed energy requirement?

5
6 A. Utilities should not be allowed to use the track and record method initially proposed by APS
7 and Staff in 2012.

8
9 Q. Should the Commission commence a rule-making proceeding to consider eliminating the
10 distributed energy requirement as proposed by the utilities?

11
12 A. No, not at this time. The utilities have assumed that incentives would no longer be needed
13 to encourage market entry, early adoption, and innovation, but changes in the net metering
14 rule and rate design changes may undermine that assumption.

15
16 Q. How should the Commission proceed?

17
18 A. WRA proposes two alternatives:

- 19 a. Use an auction process to obtain RECs from distributed renewable energy projects
20 to comply with the current distributed renewable energy requirement, or
21 b. Prior to consideration of the utilities' proposal to eliminate the distributed energy
22 requirement, conduct a technical conference to obtain reliable information on the
23 effect on the rate of adoption of distributed renewable energy of: i) eliminating
24 incentives, ii) changing net metering practices that may result from APS's on-going
25 technical conferences concerning the costs and benefits of distributed renewable
26 energy resources (Decision No. 73636, Findings of Fact Nos. 41 and 42), and iii)
27 recent and pending rate design changes.

28
29 Q. How would the Commission establish an auction process for RECs?

30
31 A. The Commission should direct utilities to offer to purchase RECs from willing sellers. The
32 specifics of an auction or similar approach, including the terms of REC purchases, should be
33 developed through a collaborative process among Staff, utilities, and stakeholders so that
34 the auction is workable, fair, effective, and consistent with the Renewable Energy Standard.
35 A salient starting point for designing an auction method would be APS's experience with
36 performance based incentives.¹⁴ The collaborative effort should be led by Staff. An
37 important component of a workable auction or other method is that transaction costs for
38 buyers and sellers of RECs be as low as practical; otherwise the hassle of selling RECs will
39 constrain participation in the auction. Consistent with A.A.C. R14-2-1805A, R14-2-1801E,
40 and R14-2-1802B, the RECs should be derived from distributed renewable energy resources

¹⁴ Information and guidance may also be obtained from experience with auction processes developed in other states, such as the Delaware Solar REC procurement program, <http://www.srecdelaware.com/>, and from commercial exchanges that auction RECs, e.g., <http://www.flettexchange.com/index.php?page=public>.

1 using eligible renewable energy technologies located at a utility's customer's premises.
2 Ideally, the first auction would not occur until the Commission has completed its review of
3 changes in the net metering rule so that all parties have up-to-date information about the
4 level of incentives that might be needed. The utilities, Staff, and stakeholders should
5 provide the Commission with their recommendations within six months of the effective
6 date of the decision in this matter.

7
8 A well-designed auction process will reveal the level of incentives needed to attract
9 investment in distributed resources, including situations in which the net metering rule is
10 modified (or expected to be modified) and rate design changes are adopted. If incentives
11 are no longer needed, the market price for RECs should be very low in all Arizona market
12 segments (PV, solar hot water, other technologies, and residential, commercial,
13 government, and school sectors).

14
15 Q. What would be the cost to the utilities if they acquire RECs through an auction process?

16
17 A. The cost depends on the volume of RECs acquired and the market price of RECs. If, for
18 example, utilities obtained RECs from 150 MW of new distributed energy facilities in a given
19 year and the market price were \$1 per MWh, the present value of the cost over a 20 year
20 time horizon at a 6% discount rate would be about \$2.9 million.

21
22 Q. If the auction method is adopted, how much distributed renewable energy should be
23 sought?

24
25 A. Specific quantities should be proposed in the utilities' implementation plans, consistent
26 with the functions of the distributed renewable energy requirement described on page 2.

27
28 Q. What is the scope of the technical conference option?

29
30 A. The technical conference should be led by Staff. Evidence should be provided on the effect
31 of changes in incentives (including elimination of incentives) and the effect of changes in
32 distributed energy costs on the adoption rate over time of various renewable energy
33 technologies by residential, commercial, school, and government customers. In addition,
34 the technical conference should address the effects of other regulatory changes and rate
35 design changes on the adoption rates of distributed renewable energy technologies. That
36 is, the combined effect of reducing incentives or eliminating the distributed renewable
37 energy requirement and other Commission actions, like changes to the net metering rules
38 and impacts of recent rate design changes, must be considered. Otherwise the advantages
39 of distributed renewable energy could be seriously jeopardized by separate decisions that,
40 when taken together, discourage distributed renewable energy, thwart customer choice,
41 inhibit innovation, and restrain market entry and competition.

42
43 If the evidence does not conclusively indicate that incentives are no longer needed, taking
44 into account changes or potential changes in net metering practices and recent or pending

1 changes in rate design, the utilities' proposal to eliminate the distributed renewable energy
2 requirement would be modified,¹⁵ postponed, or rejected.

3
4 Q. What is your recommendation on the utilities' request for a waiver?

5
6 A. A waiver would temporarily suspend the distributed renewable energy requirement and
7 would be appropriate for either the auction option or the technical conference option.¹⁶
8 The waiver should be short-term, lasting until an auction is established or until the
9 Commission concludes the technical conference and any follow-up actions, but not more
10 than one year. The waiver would apply only to portions of R14-2-1805 (the Distributed
11 Renewable Energy Requirement) and not to any other section of the Renewable Energy
12 Standard. Thus, the utilities would not be relieved of meeting the requirements of R14-2-
13 1804.¹⁷

14
15 Q. What happens to the RECs associated with projects installed during the waiver period?

16
17 A. The RECs stay with the owners of the distributed renewable energy facilities. They would
18 not be transferred to a utility unless the owner of the renewable energy facility expressly
19 agrees to do so and is properly compensated for the RECs.

20
21 Q. Please summarize your recommendations.

22
23 A. The track and record method as originally proposed by APS and Staff should be rejected.
24 The utilities' proposal to eliminate the distributed renewable energy requirement is
25 premature because it is necessary to account for the effects of potential changes to the net
26 metering rule and the effects of recent and pending rate design changes on the decisions of
27 customers contemplating distributed renewable energy. WRA proposes two alternatives:
28 a) develop and implement an auction process to acquire RECs to comply with the
29 distributed renewable energy requirement, or b) through a technical conference, obtain
30 more information about the need for incentives for distributed renewable energy, taking
31 into account changes in net metering practices and rate design changes before considering
32 whether to eliminate the distributed renewable energy requirement. The Commission
33 should temporarily waive the distributed energy requirement while the auction process is
34 set up or the technical conference and any follow-up actions are completed.

35
36 Q. Does this conclude your direct testimony?

37
38 A. Yes.

¹⁵ For example, it may that incentives would be needed only for nonresidential projects.

¹⁶ A waiver based on or contingent on production of distributed renewable energy may lead to a double counting problem.

¹⁷ Utilities could purchase RECs from distributed renewable resources to help meet the overall renewable energy requirements.

Exhibit DB-1: Qualifications of David Berry

Experience

Western Resource Advocates (Scottsdale, AZ), Chief of Policy Analysis and Senior Policy Advisor (2001 – present).

Navigant Consulting, Inc. (Phoenix, AZ), Senior Engagement Manager (1997-2001).

Arizona Corporation Commission (Phoenix, AZ), Chief Economist and Chief, Economics and Research (1985 – 1996).

Boston University Department of Urban Affairs and Planning, Lecturer (1981-1985).

Abt Associates, Inc. (Cambridge, MA), Senior Analyst (1979-1985).

University of Illinois Department of Urban and Regional Planning, Visiting Assistant Professor (1977-1979).

University of Pennsylvania Regional Science Department, Lecturer (1974 –1977).

Regional Science Research Institute (Philadelphia, PA), Research Associate (1972-1977).

U.S. Army (1969-1971).

Education

Ph.D. Regional Science, University of Pennsylvania

MA Regional Science, University of Pennsylvania

BA Geography, Syracuse University

Referee for Peer-Reviewed Publications

International Regional Science Review, Annals of the Association of American Geographers, Ecological Economics, Energy Policy, Energy Economics, University of Pennsylvania Press.

Testimony and Public Comment Before:

Maine Land Use Regulation Commission, Arizona Corporation Commission, New Mexico Public Regulation Commission, Public Utilities Commission of Nevada.

Selected Publications

“Community Clean Energy Programs: Proficiencies and Practices,” *Environmental Practice* (forthcoming).

“Sustainable Energy Alternatives for the Southwest,” in Richard Malloy, John Brock, Anthony Floyd, Margaret Livingston, and Robert Webb, eds., *Design with the Desert: Conservation and Sustainable Development*, Boca Raton, FL, CRC Press: 505-520 (2013).

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