

ORIGINAL

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MEMORANDUM
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Arizona Corporation Commission

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TO: THE COMMISSION

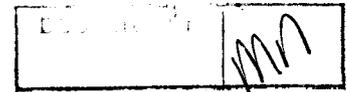
2008 SEP 30 A 10:12

FROM: Utilities Division

SEP 30 2008

DATE: September 30, 2008

AZ CORP COMMISSION
DOCKET CONTROL



RE: UNS ELECTRIC, INC. – APPLICATION FOR APPROVAL OF ITS COMPACT FLUORESCENT LAMP BUY-DOWN PROGRAM (DOCKET NO. E-04204A-08-0341)

PROGRAM SUMMARY

On July 3, 2008, UNS Electric, Inc. (“UNSE” or “the Company”) filed an application for approval of its proposed Demand-Side Management (“DSM”) Compact Fluorescent Lamp (“CFL”) Buy-Down Program (“Program”).

UNSE’s CFL Buy-down Program would promote high-efficiency lighting. The Company, along with an outside Implementation Contractor (“IC”) would negotiate discount pricing from CFL manufacturers and retailers (up-stream buy-down), through incentives paid to the manufacturer. Customers would be referred to participating retailers to purchase qualifying products. Qualifying CFL products would carry the Energy Star® label. Discount pricing would be passed on to consumers through a negotiated agreement with lighting manufacturers and retailers. The Program would also provide consumer education and sales training for participating retailers, including in-store point-of-sale displays. The Program would be administered by the IC.

Although the Program would be available to all UNSE customers, the target market would be UNSE’s residential and small commercial customers. Compact fluorescent lamps are substantially more expensive than traditional incandescent lamps, which is a barrier to their widespread use. By providing this discount program, UNSE could expect greater use of CFLs and, along with its customers, would see savings from reduced power and energy use.

PROGRAM IMPLEMENTATION

To execute the Program, UNSE would work with key partners including:

- The Implementation Contractor;
- Lighting manufacturers;
- Lighting retailers; and
- Local organizations that can help promote the Program.

UNSE would solicit participation of lighting manufacturers in the Program through a Request for Proposal process. The Program would be implemented by the third party IC whose responsibilities would include:

- Soliciting of discount pricing from manufacturers in conjunction with UNSE;
- Identifying and coordinating with selected retail outlets;

- Training retail outlet sales and management staff; and
- Tracking Program progress and reporting to UNSE.

UNSE itself would provide overall Program management, quality control, and evaluation, and would also provide Program marketing and customer awareness through strategies such as:

- Promotions on the UNSE website concerning the benefits of energy-efficient lighting products and announcement of special pricing and promotional events;
- Advertising in major newspapers and other selected print media in the UNSE service region to raise awareness of the availability of the Program and attract customers to participating retail outlets;
- Working with the IC to develop and coordinate point-of-sale advertising at participating retail outlets; and
- General ongoing promotion of the Energy Star® label and the value of Energy Star® lighting and appliances.

The Implementation Contractor would provide general program marketing in conjunction with UNSE marketing efforts including:

- Development of point-of-sale marketing displays with participating retailers to promote the benefits of qualifying products and announce special pricing and promotional events;
- Scheduling and coordination of special pricing and promotional events with participating retailers;
- Assistance with responding to customer inquiries about the Program and where to purchase qualifying products;
- Training participating retailers on communicating the availability and benefits of qualifying products to their customers; and
- Providing information concerning proper disposal of CFLs, such as the following:
 - UNSE would provide proper disposal information in accordance with proper practice and Arizona law.
 - Recycling would be encouraged, and a list of recycling centers in the UNSE service area provided.
 - Information would be provided on the proper sealing and disposal of used CFLs in domestic trash

- The Program advertising campaign would communicate that energy-efficient lighting products help reduce customer energy bills, provide equal or better lighting quality, last up to 10 times longer, and the reduced energy use is beneficial for the environment.

UNSE projects that more than 80,000 discounted CFLs would be sold during the first year of the Program. See Table 2.

BUDGET AND ENERGY SAVINGS

UNSE proposes a first-year budget for the Program of \$225,000. The major portion of the budget is the incentive payments themselves, making up 55.4 percent of the total. UNSE expects to expand the Program by 3 percent per year.

**Table 1
Compact Fluorescent Lamp Buy-down Program
Year 2008 Budget**

<u>UNSE BUDGETED EXPENSES</u>		<u>Amount</u>	<u>Pct of Total</u>
Administrative			
	Labor	\$3,085	1.37%
	Travel Expense	\$247	0.11%
	Overhead	\$7,864	3.50%
	<i>Total UNSE Administrative</i>	<i>\$11,195</i>	<i>4.98%</i>
Marketing		\$19,125	8.5%
Implementation			
	Direct Activity	\$0	0.00%
	Materials & Hardware	\$1,086	0.48%
	Rebate Processing	\$6,710	2.98%
	<i>Total Implementation</i>	<i>\$7,796</i>	<i>3.46%</i>
Measurement and Verification		\$4,463	1.98%
	<i>TOTAL UNSE EXPENSES</i>	<i>\$42,579</i>	<i>18.92%</i>
<u>CONTRACTOR BUDGETED EXPENSES</u>			
Implementation			
	Labor	\$2,524	1.12%
	Travel Expense	\$47	0.02%
	Overhead	\$4,234	1.88%
	Marketing	\$19,125	8.50%
	Materials & Hardware	\$511	0.23%
	Rebate Processing	\$26,838	11.93%
	<i>Total Implementation</i>	<i>\$53,249</i>	<i>23.68%</i>

	Measurement and Verification	\$4,537	2.02%
	TOTAL SUBCONTRACTED EXPENSES	\$57,816	25.70%
	<u>INCENTIVES</u>		
	Paid to CFL Manufacturers	\$124,605	55.38%
	TOTAL BUDGET	\$225,000	

Analyses show that the Program would provide demand savings of 0.0042 kW and energy savings of 32 kWh annually (including line losses), on average, per lamp. Table 2 shows UNSE's projected sales of new CFLs under the Program, along with the total annual demand and energy savings resulting from the use of additional CFLs.

**Table 2
CFL Buy-down Program
Projected CFL Sales, Demand and Energy Reductions**

Year	2008	2009	2010	2011	2012
Projected CFL Sales	80,390	82,802	85,286	87,845	90,480
Coincident Demand	302	311	320	330	340
Energy Use Reduction (kWh)	2,578,23	2,655,582	2,735,249	2,817,307	2,901,826

Demand and energy savings from replacement of an incandescent lamp with a CFL are shown in Table 3. The analysis assumes using the typical CFL replacement needed to provide the same level of lighting as a given incandescent lamp. The reduction in energy use shown is UNSE's estimated annual kWh saved due to the replacement of an incandescent lamp with a CFL assuming typical hours use.

**Table 3
Demand and Energy Savings from CFL replacement**

Watts per Lamp		Annual kWh
<u>Incandescent</u>	<u>CFL</u>	<u>Reduction</u>
40W	16W	21 kWh
60W	22W	33 kWh
75W	27W	40 kWh
100W	43W	49 kWh

BENEFIT/COST ANALYSIS

The Commission's 1991 Resource Planning Decision established the Societal Test as the methodology to be used for determining the cost effectiveness of a DSM program. Under the Societal Test, in order to be cost-effective, the ratio of benefits to costs must be greater than one. That is, the incremental benefits to society of a program must exceed the incremental costs of having the program in place. Societal costs for a DSM program include the cost of the measure and the cost of implementing the program, excluding rebates. The societal benefits of the program include deferred or avoided generation capacity and energy costs. Other benefits of a program may include reduced water consumption and emissions, although they may not be monetized.

Staff's benefit/cost analysis has concluded that the Program is cost effective and would result in approximately \$1.2 million in net benefits to society over the life of the CFLs installed under the Program, with a benefit/cost ratio of 1.5.

UNSE has projected environmental benefits as shown in Table 4.

Table 4
Projected Environmental Benefits

	2008-2012	Lifetime
CO₂ (lbs)	22,257,009	162,476,169
SO_x (lbs)	10,677	77,941
NO_x (lbs)	34,494	251,808

REPORTING REQUIREMENTS

Staff recommends that if the Program is approved, it should be included in UNSE's semi-annual DSM reports filed with the Commission. Staff recommends that, at a minimum, reporting for the Program should include:

- a. Number and wattage of CFLs sold;
- b. Average cost of CFLs from manufacturer;
- c. Average price of CFLs paid by the customer;
- d. An attestation from a Company officer that labor and other expenses charged to the Program are incremental costs that are not being recovered in base rates.
- e. A complete energy analysis for the Program including calculations of demand and energy reductions due to new CFLs;
- f. Estimated cost savings to participants;
- g. Descriptions of program marketing;
- h. Copies of new or revised marketing materials;

- i. Copies of and descriptions of agreements with CFL manufacturers and retailers;
- j. The total amount of the Program budget spent during the previous six months, the previous 12 months, and since the inception of the program;
- k. Any significant impacts on program cost effectiveness;
- l. Environmental savings; and
- m. Descriptions of any problems with proposed solutions including movements of funding from one program to another.

CFL DISPOSAL

CFLs contain a very small amount of mercury sealed within the glass tubing – an average of 4 milligrams (“mg”) – about the amount that would cover the tip of a ballpoint pen. By comparison, older fever thermometers contain about 500 mg. Most makers of CFLs have reduced the mercury in their products. Some manufacturers have dropped mercury content to 2.5 mg or less per light bulb. According to Consumer’s Union, in the near future there will be strict mercury limits for CFLs to receive the Energy Star® label.

No mercury is released when the bulbs are in use or in storage. Nonetheless, breakage can present a hazard, and CFLs should be recycled to reduce the presence of mercury in the environment.

The EPA estimates there are 104 metric tons (104,000 kilograms) of mercury emissions released each year in the United States. Most of these emissions come from coal-fired power plants. Mercury released into the air is the main way that mercury gets into water and then fish. (Eating fish contaminated with mercury is the most common way for humans to be exposed.)

EPA estimates that almost ninety percent of the mercury vapor inside fluorescent light bulbs adheres to the inside of the light bulb as it is used, and that the rest of the mercury is released into air or water when it is sent to a landfill, assuming the light bulb is broken. Therefore, as a worst case, if all 290 million CFLs sold in 2007 were sent to a landfill rather than recycled, they would add 0.13 metric tons, or 0.1 percent, to U.S. mercury emissions.

Although a CFL contains mercury, its use can reduce the amount of mercury released into the environment. This is because CFLs use less electricity than incandescent lamps, and therefore there are less power plant emissions. The EPA states that a 13-watt, 8,000-hour-life CFL, compared to a 60-watt incandescent lamp, will save 376 kWh over its lifetime. This avoids 4.5 mg of mercury from power plant emissions. Compared to the average 4 mg of mercury in a CFL, even if the lamp goes to a landfill, overall mercury released into the environment would be reduced. EPA recommends that CFLs be recycled where possible, to maximize mercury savings.

CFLs also help to reduce other pollutants associated with electricity production, and landfill waste (because the bulbs last longer). So despite the mercury contamination, they are more beneficial environmentally when compared to traditional incandescent light bulbs.

Although CFLs contain only a small amount of mercury in each lamp, breakage can present a personal hazard, and CFLs should be disposed of carefully. Broken or unbroken used CFLs should be taken to a local recycling center. Home Depot Inc. has begun a national recycling program at all of its stores. Customers can take used CFLs to any Home Depot store for recycling.

If CFLs must be disposed of in domestic trash, cleanup and disposal should be in accordance with EPA recommendations found at <http://www.epa.gov/mercury/spills/index.htm> or at the Energy Star® site:

http://www.energystar.gov/ia/partners/promotions/change_light/downloads/Fact_Sheet_Mercury.pdf

RESPONSE TO PUBLIC COMMENT AND PROPOSED ALTERNATIVE

In his comments and proposed alternative, filed in this docket on July 28, 2008, Marshall Magruder criticized UNSE's proposed Compact Fluorescent Lamp Buy-down Program as not in the public interest, meaningless, and amounting to corporate welfare. Mr. Magruder proposes an alternative program which he claims would be more cost effective; that is, providing customers with rebate coupons.

Staff questions the efficiency of a coupon program, and is concerned with the added customer effort of applying for a rebate check with each CFL purchase as opposed to receiving an immediate discount at the point of sale.

Very early in the planning process for the CFL Buy-down program, UNSE considered a coupon/rebate program similar to Mr. Magruder's proposal. However, after discussing options with other utilities and implementation contractors, and after viewing the overwhelming success of the APS program, the Company decided on the manufacturer buy-down program model.

With the buy-down program, UNSE can negotiate lower prices for the lamps because of the purchase quantities, make sure the retailers actually stock appropriate product that meets Energy Star® requirements, take advantage of retailer marketing to reduce utility marketing costs, and hold on-site training and sales seminars at retail locations to help educate consumers and encourage them to use CFLs. These are advantages that can significantly reduce the administrative costs that would otherwise be required (i.e. marketing, collecting coupons and issuing rebates or credits, consumer outreach, etc.).

Staff recommends that Mr. Magruder's alternative be rejected.

SUMMARY OF STAFF'S RECOMMENDATIONS

Based upon Staff's analysis of the benefits and costs of this Program, Staff recommends that UNS Electric, Inc.'s proposed Compact Fluorescent Lamp Buy-down Program be approved with the following conditions:

- a. If the Program is approved, it should be included in UNSE's semi-annual DSM reports filed with the Commission.

THE COMMISSION

September 30, 2008

Page 8

b. Reporting for the Program should include, at a minimum, each of the items cited above in the Reporting Requirements section of this memorandum.

A handwritten signature in black ink, appearing to read 'EGJ', with a long horizontal flourish extending to the right.

Ernest G. Johnson

Director

Utilities Division

EGJ:JJP:lm\NS

ORIGINATOR: Jeffrey Pasquinelli

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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 UNS ELECTRIC, INC. FOR APPROVAL)
OF ITS DEMAND-SIDE MANAGEMENT)
COMPACT FLUORESCENT LAMP BUY-)
DOWN PROGRAM)

DOCKET NO. E-04204A-08-0341
DECISION NO. _____
ORDER

Open Meeting
October 15 and 16, 2008
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. UNS Electric, Inc. ("UNSE" or "Company") is certificated to provide electric service as a public service corporation in the State of Arizona.

2. On July 3, 2008, UNSE filed an application for approval of its proposed Demand-Side Management ("DSM") Compact Fluorescent Lamp ("CFL") Buy-Down Program ("Program").

Program Summary

3. UNSE's CFL Buy-down Program would promote high-efficiency lighting. The Company, along with an outside Implementation Contractor ("IC") would negotiate discount pricing from CFL manufacturers and retailers (up-stream buy-down) through incentives paid to the manufacturer. Customers would be referred to participating retailers to purchase qualifying products. Qualifying CFL products would carry the Energy Star® label. Discount pricing would be passed on to consumers through a negotiated agreement with lighting manufacturers and

1 retailers. The Program would also provide consumer education, and sales training for participating
2 retailers, including in-store point-of-sale displays. The Program would be administered by the IC.

3 4. Although the Program would be available to all UNSE customers, the target market
4 would be UNSE's residential and small commercial customers. Compact fluorescent lamps are
5 substantially more expensive than traditional incandescent lamps, which is a barrier to their
6 widespread use. By providing this discount program, UNSE could expect greater use of CFLs,
7 and, along with its customers, would see savings from reduced power and energy use.

8 Program Implementation

9 5. To execute the Program, UNSE would work with key partners including:

- 10 ▪ The Implementation Contractor;
- 11 ▪ Lighting manufacturers;
- 12 ▪ Lighting retailers; and
- 13 ▪ Local organizations that can help promote the Program.

14 6. UNSE would solicit participation of lighting manufacturers in the Program through
15 a Request for Proposal process. The Program would be implemented by the third party IC whose
16 responsibilities would include include:

- 17 ▪ Soliciting of discount pricing from manufacturers in conjunction with UNSE;
- 18 ▪ Identifying and coordinating with selected retail outlets;
- 19 ▪ Training retail outlet sales and management staff; and
- 20 ▪ Tracking Program progress and reporting to UNSE.

21 7. UNSE itself would provide overall Program management, quality control, and
22 evaluation, and would also provide Program marketing and customer awareness through strategies
23 such as:

- 24 ▪ Promotions on the UNSE website concerning the benefits of energy-efficient
25 lighting products and announcement of special pricing and promotional events;
- 26 ▪ Advertising in major newspapers and other selected print media in the UNSE
27 service region to raise awareness of the availability of the Program and attract
28 customers to participating retail outlets;
- Working with the IC to develop and coordinate point-of-sale advertising at
participating retail outlets; and
- General ongoing promotion of the Energy Star® label and the value of Energy
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1 8. The Implementation Contractor would provide general program marketing in
2 conjunction with UNSE marketing efforts including:

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4 promote the benefits of qualifying products and announce special pricing and
5 promotional events;
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7 participating retailers;
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9 to purchase qualifying products;
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11 qualifying products to their customers; and
12 ▪ Providing information concerning proper disposal of CFLs, such as the
13 following:
14 - UNSE would provide proper disposal information in accordance with proper
15 practice and Arizona law.
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19 CFLs in domestic trash
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21 lighting products help reduce customer energy bills, provide equal or better
22 lighting quality, last up to 10 times longer, and the reduced energy use is
23 beneficial for the environment.

24 9. UNSE projects that more than 80,000 discounted CFLs would be sold during the
25 first year of the Program. See Table 2.

26 Budget and Energy Savings

27 10. UNSE proposes a first-year budget for the Program of \$225,000. The major portion
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expects to expand the Program by 3 percent per year.

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	INCENTIVES		
	Paid to CFL Manufacturers	\$124,605	55.38%
	TOTAL BUDGET	\$225,000	

11. Analyses show that the Program would provide demand savings of 0.0042 kW and energy savings of 32 kWh annually (including line losses), on average, per lamp. Table 2 shows UNSE's projected sales of new CFLs under the Program, along with the total annual demand and energy savings resulting from the use of additional CFLs.

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Benefit/Cost Analysis

13. The Commission's 1991 Resource Planning Decision established the Societal Test as the methodology to be used for determining the cost-effectiveness of a DSM program. Under the Societal Test, in order to be cost-effective, the ratio of benefits to costs must be greater than one. That is, the incremental benefits to society of a program must exceed the incremental costs of having the program in place. Societal costs for a DSM Program include the cost of the measure and the cost of implementing the program, excluding rebates. The societal benefits of the program include deferred or avoided generation capacity and energy costs. Other benefits of a program may include reduced water consumption and emissions, although they may not be monetized.

14. Staff's benefit/cost analysis has concluded that the Program is cost-effective and would result in approximately \$1.2 million in net benefits to society over the life of the CFLs installed under the Program, with a benefit/cost ratio of 1.5.

15. UNSE has projected environmental benefits as shown in Table 4.

Table 4
Projected Environmental Benefits

	<u>2008-2012</u>	<u>Lifetime</u>
CO₂ (lbs)	22,257,009	162,476,169
SO_x (lbs)	10,677	77,941
NO_x (lbs)	34,494	251,808

Reporting Requirements

16. Staff has recommended that if the Program is approved, it should be included in UNSE's semi-annual DSM report filed with the Commission. Staff has recommended that, at a minimum, reporting for the Program should include:

- a. Number and wattage of CFLs sold;
- b. Average cost of CFLs from manufacturer;
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- m. Descriptions of any problems with proposed solutions including movements of funding from one program to another.

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1 CFL Disposal

2 17. CFLs contain a very small amount of mercury sealed within the glass tubing – an
3 average of 4 milligrams (“mg”) – about the amount that would cover the tip of a ballpoint pen. By
4 comparison, older fever thermometers contain about 500 mg. Most makers of CFLs have reduced
5 the mercury in their products. Some manufacturers have dropped mercury content to 2.5 mg or less
6 per light bulb. According to Consumer’s Union, in the near future there will be strict mercury
7 limits for CFLs to receive the Energy Star® label.

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9 breakage can present a hazard, and CFLs should be recycled to reduce the presence of mercury in
10 the environment.

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7 program at all of its stores. Customers can take used CFLs to any Home Depot store for recycling.

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9 accordance with EPA recommendations found at <http://www.epa.gov/mercury/spills/index.htm> or
10 at the Energy Star® site:

11 [http://www.energystar.gov/ia/partners/promotions/change_light/downloads/Fact_Sheet](http://www.energystar.gov/ia/partners/promotions/change_light/downloads/Fact_Sheet_Mercury.pdf)
12 [Mercury.pdf](http://www.energystar.gov/ia/partners/promotions/change_light/downloads/Fact_Sheet_Mercury.pdf)

13 Response to Public Comment and Proposed Alternative

14 25. In his comments and proposed alternative, filed in this docket on July 28, 2008,
15 Marshall Magruder criticized UNSE's proposed Compact Fluorescent Lamp Buy-down Program
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 3 encourage them to use CFLs. These are advantages that can significantly reduce the
 4 administrative costs that would otherwise be required (i.e. marketing, collecting coupons and
 5 issuing rebates or credits, consumer outreach, etc.).

6 29. Staff has recommended that Mr. Magruder’s alternative be rejected.

7 Summary of Recommendations

8 30. Based upon Staff’s analysis of the benefits and costs of this Program, Staff has
 9 recommended that UNS Electric, Inc.’s proposed Compact Fluorescent Lamp Buy-down Program
 10 be approved with the following conditions:

- 11 a. If the Program is approved, it should be included in UNSE’s semi-annual DSM reports
 12 filed with the Commission.
- 13 b. Reporting for the Program should include, at a minimum, each of the items cited in
 14 Findings of Fact No. 16.

15 CONCLUSIONS OF LAW

16 1. UNSE is an Arizona public service corporation within the meaning of Article XV,
 17 Section 2 of the Arizona Constitution.

18 2. The Commission has jurisdiction over UNSE and over the subject matter of the
 19 application.

20 3. The Commission, having reviewed the application and Staff’s Memorandum dated
 21 September 30, 2008, concludes that it is in the public interest to approve the UNSE Compact
 22 Fluorescent Lamp Buy-down Program as discussed herein.

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ORDER

IT IS THEREFORE ORDERED that the UNS Electric, Inc Compact Fluorescent Lamp Buy-down Program be and hereby is approved as discussed herein.

IT IS FURTHER ORDERED that UNS Electric, Inc.'s proposed Compact Fluorescent Lamp Buy-down Program:

- a. Be included in UNSE's semi-annual DSM reports filed with the Commission, and
- b. Reporting for the Program include, at a minimum, each of the items cited in Findings of Fact No. 16.

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

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRMAN

COMMISSIONER

COMMISSIONER

COMMISSIONER

COMMISSIONER

IN WITNESS WHEREOF, I, BRIAN C. McNEIL, Executive Director of the Arizona Corporation Commission, have hereunto, set my hand and caused the official seal of this Commission to be affixed at the Capitol, in the City of Phoenix, this _____ day of _____, 2008.

BRIAN C. McNEIL
EXECUTIVE DIRECTOR

DISSENT: _____

DISSENT: _____

EGJ:JJP:lh\NS

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9 Mr. Marshall Magruder
10 P.O. Box 167
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