



Department of Energy
Western Area Power Administration
Desert Southwest Customer Service Region
P.O. Box 6457
Phoenix, AZ 85005-6457

Via Email: tom@ed2.com

FEB 27 2012

Mr. Thomas S. Martin
General Manager
Electrical District No. 2, Pinal County
P. O. Box 548
Coolidge, AZ 85128-0010

Re: Electrical District No. 2, Pinal County 5-year Integrated Resource Plan

Dear Mr. Martin:

Thank you for submitting this plan to Western Area Power Administration (Western). The report, dated February 8, 2012, covers the reporting period of 2012 through 2016. This is your formal notice that this report has been reviewed and approved.

Data from all customers will be included in our annual report which is provided to Congress and others.

For annual updates, please use our automated on-line reporting system at <http://www.wapa.gov/FormsAuth/Login.aspx?ReturnUrl=/irpsubmit/irpsubmit.aspx>.

Western has a wide range of information on our Energy Services web site, www.wapa.gov/es, which may help you implement your plan. You may also call our PowerLine at (800) 769-3756 for personal assistance. If you do not have access to the web site, have questions on the guidelines, or need assistance in implementing your report action plan, please contact me at (602) 605-2659 or colletti@wapa.gov.

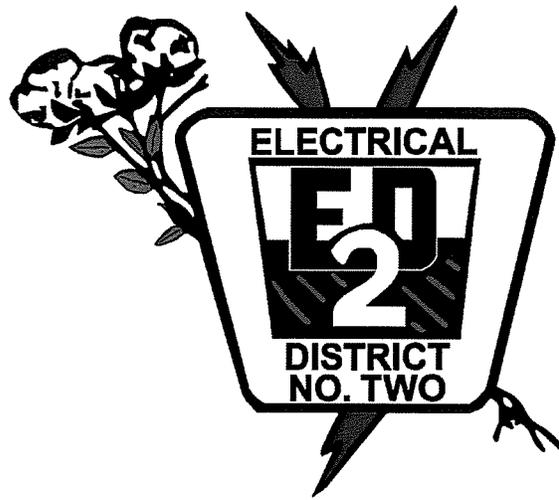
Please do not hesitate to call if I may be of further assistance in this or any other Energy Services related matter.

Sincerely,

A handwritten signature in black ink that reads "Audrey Lynn Colletti".

Audrey Lynn Colletti
Public Utilities Specialist

cc: Brian Young, Western Area Power Administration



Integrated Resource Plan

Electrical District No. 2, Pinal County

February 8, 2012

2012 - 2016

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Profile Data

Electrical District No. 2 (“ED2” or “District”) is a political subdivision in Arizona formed pursuant to ARS Title 30, Chapter 3 by the Pinal County Board of Supervisors in 1923. The District was organized primarily for the purpose of providing power to produce water for irrigation.

ED2 is located in Pinal County, Arizona in and around Casa Grande, Coolidge and Florence. A map of the District is attached as Appendix A. The District covers approximately 128,000 acres and provides electric distribution service to 3,800 residential, 600 commercial, 18 industrial and 340 irrigation customers.

ED2 is governed by a five member board of directors who are elected by District landowners to serve three-year terms. The District’s Bylaws require that board members and electors own a minimum of five acres.

Currently, the District obtains all of its power supply requirements through purchased power agreements and distributes the power through five substations. The District owns and operates about 425 miles of 12.47kV overhead and underground distribution line and 9 miles of 69kV subtransmission line. The District is also a participant (about 3.5%) in the 500kV Palo Verde – Pinal Central Transmission Project. This 500kV line is expected to be energized in May of 2014, which will allow the District to purchase power at the Palo Verde 500kV hub.

In addition to its own retail customers, the ED2 provides wholesale electric service to Hohokam Irrigation and Drainage District through a power sales and services agreement. Through this agreement, ED2 provides all of Hohokam’s power supply with the exception of a 1 MW contract Hohokam has from the Parker-Davis Project. Additionally, ED2 provides transmission and distribution wheeling, meter reading, engineering and related services to Hohokam and its 1,500 residential and commercial customers. Hohokam serves areas in which the District, as a result of a territorial agreement with Arizona Public Service negotiated in 1990, is no longer able to serve new loads. The areas where Hohokam provides retail electric service are within the District’s boundaries and shown highlighted in red in Appendix B.

Contact Information:

Thomas Martin, General Manager
P.O. Box 548
Coolidge, AZ 85128
520-723-7741
Email: tmartin@ed2.com
Website: www.ed2.com

Historical and Forecast Loads

For resource analysis purposes, the District’s historical and forecast loads include both ED2 and Hohokam customer loads together. All loads are measured at the substation level on a calendar year basis. Demand is measured in megawatts (MW) and energy is measured in megawatthours (MWh) at the substation level.

<u>Year</u>	<u>Pk. Winter Demand</u>	<u>Pk. Summer Demand</u>	<u>Total Energy</u>	<u>Annual Load Factor</u>
2002	25.3	42.2	193,186	52.3%
2003	24.2	46.9	206,557	50.3%
2004	24.3	48.4	204,734	48.3%
2005	26.5	49.7	212,073	48.7%
2006	33.1	53.0	251,467	54.2%
2007	33.9	58.9	279,769	54.2%
2008	34.1	62.9	281,476	51.1%
2009	32.3	61.5	266,741	49.5%
2010	31.0	61.8	260,018	48.0%
2011	40.4	64.5	298,374	52.8%
Forecast				
2012	40.7	66.0	302,262	52.3%
2013	41.0	66.5	304,538	52.3%
2014	41.3	67.0	306,814	52.3%
2015	41.9	68.0	311,387	52.3%
2016	42.6	70.1	316,028	52.3%

For planning purposes, the District assumes a baseline load growth of 1.5 percent per year.

Existing Resources

Arizona Power Authority

Hoover "A"

18,700 kW Contract Capacity

68,916 MWh Contract Energy Entitlement

Expiration: September 30, 2017

Colorado River Storage Project

Winter CROD: 6,814 kW

Summer CROD: 9,386 kW

Energy Entitlement: Varies

Expiration: September 30, 2024

Shell Summer Peaking PPA

Contract Capacity: 5,000 kW (May through August)

Energy Entitlement: 7x16

Expiration: August 31, 2012

Shell Base Load PPA

Contract Capacity: 20,000 kW (2012), 25,000 kW (2013)

Energy Entitlement: Varies monthly

Expiration: December 31, 2013

Sempra Energy PPA

Contract Capacity: 20,000 kW (fully dispatchable)

Energy Entitlement: up to 100% load factor

Start Date: January 1, 2015

Expiration: December 31, 2040

Resource Management Services Agreement (Western, ED2, City of Mesa, Town of Fredonia)

Administered by Western DSW to perform the following services:

Scheduling and Dispatching

Resource Analysis and Procurement Assistance

Power Pooling

Spot Market Purchases

Renewable Energy Resources

Rooftop Photovoltaic – As of December 31, 2011, the District had 36 customers with PV systems totaling 89 kW. The District provides net metering and purchases surplus solar energy not used by the customer.

Existing Load Management and Conservation Programs

Programmable Thermostat Replacement

Since mid-2009, the District has offered its customer a service to replace standard manual set thermostats with a fully programmable replacement for \$49.95, including installation. As of December 31, 2011, the District has replaced 120 manual thermostats. The program is available to any District residential customer. Based on Department of Energy figures, customers can reduce their energy bill between 5 to 15 percent. Using the mid-point of 10 percent and average energy use of 18,000 annual kilowatthours (without programmable thermostat), the saving could amount to 1,800 kWh per customer per year.

Currents Magazine

The District mails to its customers a bi-monthly publication which, among other things, provides information to customers about how to improve energy efficiency in their homes and businesses. Topics include installation of insulation, weather stripping, window replacement, appliance maintenance and replacements, high efficiency CFL and LED lighting, etc. A sample copy of the Currents magazine is attached as Appendix C.

Power Factor Correction

The District is upgrading its SCADA system to provide improved control of its distribution capacitor banks and to determine optimum locations for such equipment. The effect of the program will be to lower system losses.

Irrigation Efficiency

The District is a member of the Agri-Business Council and Farm Bureau which promote improved irrigation practices, such as land leveling, use of gates versus siphon tubes, use of drip systems instead of flood irrigation, and other water conservation techniques. Because approximately 30-35 percent of the District's energy use is for groundwater pumping, this represents the potential for considerable savings.

Infrared Monitoring

The District annually surveys its distribution lines and substation equipment using an infrared camera to detect hot spots which may indicate loose connections that contribute to increased system losses and equipment failure.

Action Plan

For the period from 2012 through 2016 and beyond, the District expects to continue to rely on its federal hydroelectric resources and other purchased power contracts and spot market purchases to meet its resource requirements. The District will continue to integrate customer-owned solar generation and has discussed the possibility of interconnecting with potential large scale (5-20MW) commercial solar plants if they are developed in the District's service area.

The District participates in the Southwest Public Power Resources (SPPR) group and is a founding member of the Arizona Association for Public Power (AzAPP) which is a joint powers authority created as a result of enabling legislation passed by Arizona in 2010. The Sempra resource was obtained through the cooperative efforts of the SPPR group. AzAPP, whose membership includes virtually all of the public power utilities in Arizona, is designed to provide the opportunity for small (and large) public power entities to finance new generation and transmission resources and achieve economies of scale otherwise unattainable as individual systems. Joint action agencies operate in most states and usually provide the most economical way to obtain new generating and transmission resources, including renewables, for entities like the District.

Because of the recent economic downturn, it is anticipated that surplus capacity will be available from existing generating resources for the foreseeable future, making purchased power agreements the most economical option for meeting projected load growth.

The District plans to continue its programmable thermostat replacement and infrared monitoring programs and will continue to make improvements to its distribution system to improve its reliability and efficiency. One program the District is pursuing is the installation of "smart meters" throughout its system. In addition to remote meter reading, this system will allow the District to obtain load survey information to help refine its load forecasts and resource needs and to be able to track the effectiveness of conservation and load management programs that may be implemented in the future. While there is some controversy about customer acceptance of "smart meters," the District anticipates that it will be able to begin the conversion in the fall of 2012. By converting the meters substation by substation, it is anticipated that the entire project will take about four or five years to complete.

programmable thermostat replacement
Infrared Monitoring Program
Improvements to distribution system
Installation of "Smart Meters"
(4-5 years to complete)

Environmental Effects

The District's power supply is based on hydroelectric generation purchased from Western and on existing conventional resources, primarily powered by natural gas. The installation of customer-owned PV systems also serves to reduce marginal purchases of spot market power, which is fueled by natural gas. Natural gas is the least polluting fossil fuel. By participating in the Palo Verde to Pinal Central 500 kV Transmission Project, the District will be able to rely to a greater extent on purchases from existing combined-cycle generation, thus avoiding the installation of smaller, less efficient and more costly resources that would result from having to construct its own generation.

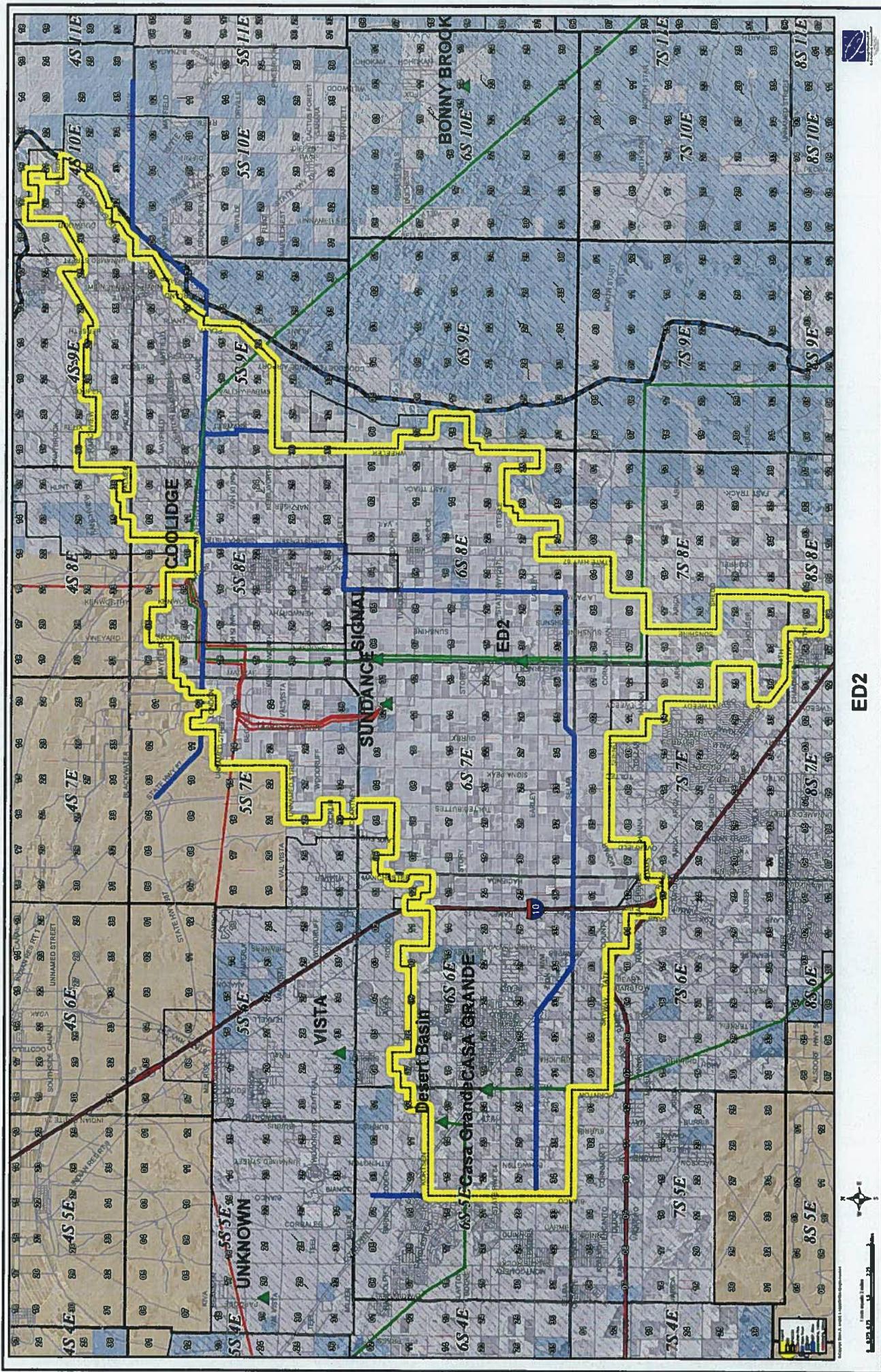
Public Participation

The District has provided for public input to the development of its Integrated Resource Plan at two regularly scheduled board meetings. The notice of the meeting was posted in accordance with statutory open meeting law requirements. Copies of the posted meeting notices are attached as Appendix D. The Board discussed the development of the plan and opportunity for public comment was provided.

Adoption of Plan

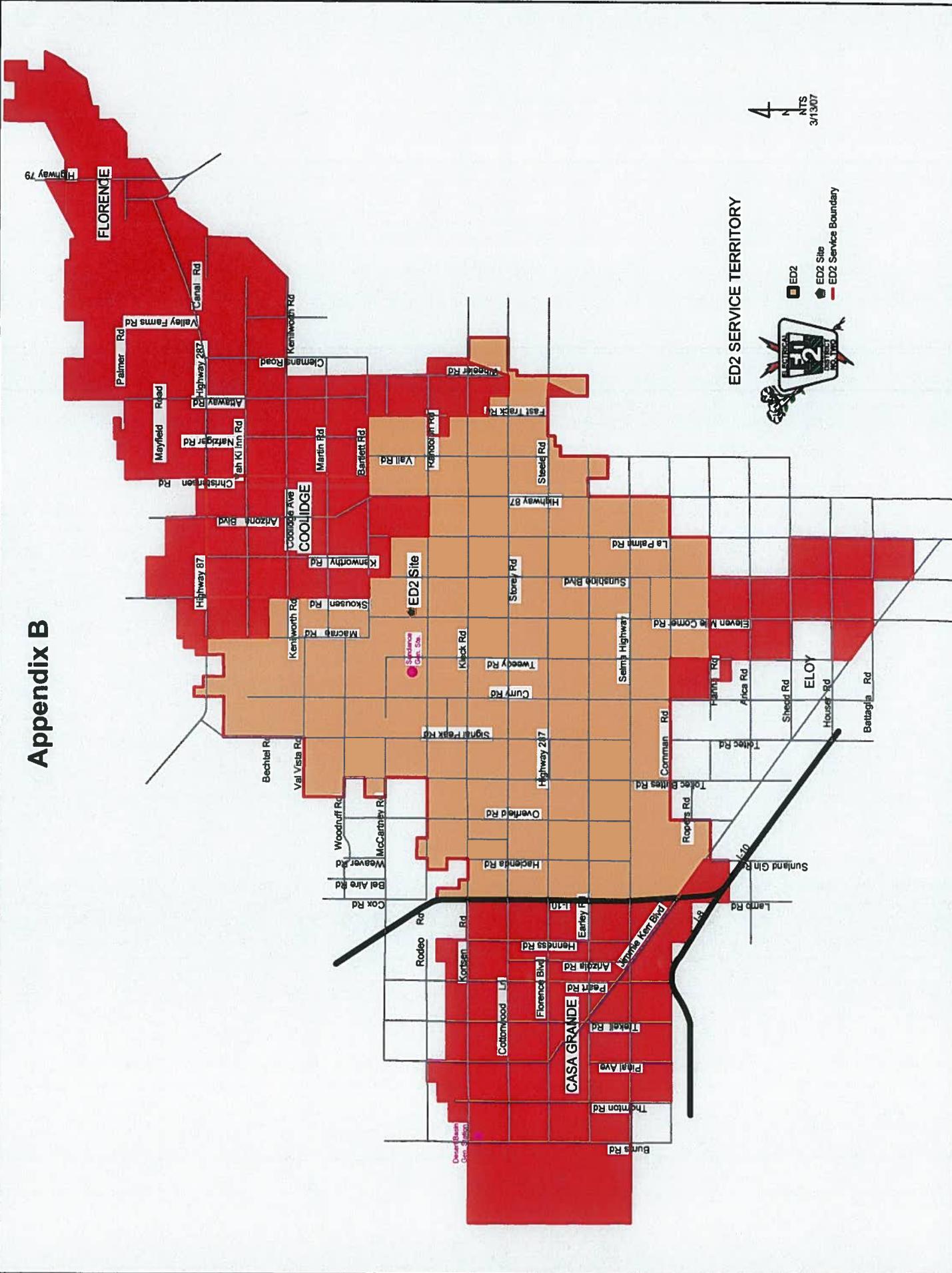
The District's 2012 Integrated Resource Plan was adopted by its Board of Directors on February 8, 2012, at its regularly scheduled meeting.

APPENDIX A



ED2

Appendix B



4 N NTS 3/13/07

ED2 SERVICE TERRITORY

-  ED2
-  ED2 Site
-  ED2 Service Boundary



NOTICE OF AGENDA
ELECTRICAL DISTRICT NO. 2, PINAL COUNTY
REGULAR MEETING OF THE BOARD OF DIRECTORS
December 07, 2011
9:00 a.m.

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the general public that the Board of Directors of Electrical District No. 2, Pinal County, will hold a meeting open to the public on December 7, 2011 at 9:00 a.m. at the offices of the District, 5575 N. Eleven Mile Corner Road, Casa Grande, Arizona. The Board of Directors may vote to go into Executive Session, which will not be open to the public, to discuss matters on the agenda pursuant to A. R. S. § 38-431.03(A) (1), A.R.S. § 38-431.03(A) (3), and A. R. S. § 38-431.03(A) (4).

The agenda for the meeting will be as follows:

1. Call to Order.
2. Approval of Minutes.
3. Treasurer's Report.
4. Operating Statements.
5. Management Report. (Discussion and Possible Action)
 - a. Tri-Cor Report
 - b. Arizona Power Authority Report
 - c. FERC-RTO Report
 - d. Wholesale Energy Markets
 - e. Palo Verde-Southeast Valley Transmission Project.
 - f. Western Transmission System.
 - g. SPPR Activities.
6. Election - Affidavit of Compliance and Notice of General Election – Florence Division
7. Approval of the Schedule of Regular Public Meetings for 2012.
8. Renewal of Tri-Cor, Inc. Revolving Line of Credit. (Discussion and Possible Action)
9. Interest Rate on Customer Deposits. (Discussion and Possible Action)
10. Integrated Resource Plan Public Meeting.
11. U.S. Chamber Membership. (Discussion and Possible Action)
12. 2012 Operating & Capital Budget (Draft). (Discussion and Possible Action)
13. March 2012 Regular Meeting Schedule Change to March 14, 2012.
14. Attorney's Report.
15. Adjournment.
16. Upcoming Meetings & Events:
 - a. 2011 Christmas Holiday Party – Friday, December 16, 2011 – Rawhide at Wildhorse Pass 6:30 P.M.
 - b. January Board Meeting – January 4, 2012
 - c. 2012 Election of ED2 Board of Directors from Florence Division- January 14, 2012 – Saturday 7:00 A.M. -3:00 P.M.

Pursuant to the "American with Disabilities Act" (ADA), please advise Electrical District No. 2 at least 48 hours prior to the meeting if you need accommodations.

Dated this 1st of December 2011

ELECTRICAL DISTRICT NO. 2, PINAL COUNTY



Thomas S. Martin
General Manager

**NOTICE OF AGENDA
ELECTRICAL DISTRICT NO. 2, PINAL COUNTY**

**REGULAR MEETING OF THE BOARD OF DIRECTORS
January 4, 2012
9:00 A.M.**

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the general public that the Board of Directors of Electrical District No. 2, Pinal County, will hold a meeting open to the public on January 4, 2012 at 9:00 a.m. at the offices of the District, 5575 N. Eleven Mile Corner Road, Casa Grande, Arizona. The Board of Directors may vote to go into Executive Session, which will not be open to the public, to discuss matters on the agenda pursuant to A. R. S. § 38-431.03(A) (1), A.R.S. § 38-431.03(A) (3), and A. R. S. § 38-431.03(A) (4).

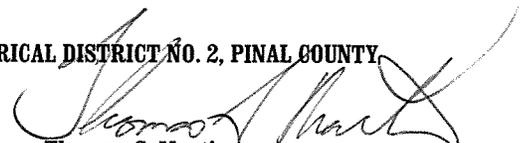
The agenda for the meeting will be as follows:

1. Call to Order.
2. Approval of Minutes.
3. Treasurer's Report.
4. Operating Statements.
5. Management Report. (Discussion and Possible Action)
 - a. Tri-Cor Report
 - b. Arizona Power Authority Report
 - c. FERC-RTO Report
 - d. Wholesale Energy Markets
 - e. Palo Verde-Southeast Valley Transmission Project.
 - f. Western Transmission System.
 - g. SPPR Activities.
6. Set Date for Canvass Meeting. (Discussion and Possible Action)
7. Integrated Resource Plan Public Meeting.
8. Renewal of APS-ED2 Sundance Station Service Agreement. (Discussion and Possible Action)
9. Additional Sempra Power Purchase Commitment. (Discussion and Possible Action)
10. RTE Transformer Repair (Discussion and Possible Action)
11. Hohokam/ED2 Relationship. (Discussion and Possible Action)
12. Attorney's Report.
13. Adjournment.
14. Upcoming Meetings & Events:
 - A. 2012 Election of ED2 Board of Directors from Florence Division- January 14, 2012 – Saturday 7:00 A.M.
 - B. February Board Meeting – February 8, 2012

Pursuant to the "American with Disabilities Act" (ADA), please advise Electrical District No. 2 at least 48 hours prior to the meeting if you need accommodations.

Dated this 3rd of January 2012

ELECTRICAL DISTRICT NO. 2, PINAL COUNTY


Thomas S. Martin
General Manager