



Valley Electric Association

Integrated Resource Plan

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Introduction

This Integrated Resource Plan (IRP) has been prepared for submission to the Western Area Power Administration (WAPA) pursuant to Valley Electric (VEA) power supply agreement with WAPA.

The IRP was prepared in consideration of VEA's Load Forecast, power procurement planning and transmission infrastructure. Integration of small and large scale renewable generation projects was included, from which VEA may enter into interconnections in compliance with the California Independent System Operator (CAISO) tariff. In addition, conservation and energy efficiency for both VEA and its customers was considered.

A 230 kV transmission line connecting VEA's system from Pahrump to Nevada Power Company's (NPC) Northwest Substation was energized on January 3, 2013. This project completed a 230 kV connection from Mead Substation to Northwest, providing transmission redundancy and enhanced system reliability. The line will enhance any large scale renewable energy generation opportunities.

The end result of this plan will be a diverse power portfolio. The portfolio will consider all cost effective power supply options from market power purchases and from different renewable energy resources. The benefit to VEA customers and the Association will be a reliable power supply, stable and equitable rates, education and awareness, and responsible stewardship of the environment.

As mentioned above, on January 3, 2013, VEA became a Participating Transmission Owner (PTO), Load Serving Entity (LSE) and Utility Distribution Company (UDC) in the CAISO. VEA's transmission system is now available to CAISO participants needing transmission service from or interconnection in the CAISO grid. VEA is thus able to optimize the cost of its transmission for the LSE and UDC. Additionally, a new marketplace for renewable fueled generation was opened, greatly enhancing opportunities for transmission and generation development in Nevada.

Background

VEA is a member-owned electric utility serving approximately 20,694 customers in four counties of Nevada—Clark, Nye, Mineral and Esmeralda: and a very small portion of Inyo and Mono counties in California. Map “A” showing VEA’s service area is included in the Appendix of this report. VEA’s major load center and location of its home office is in Pahrump, Nevada.

In 2010 VEA established Valley Electric Transmission, LLC (VETA) as a wholly owned transmission service company. VEA receives all of its transmission service from the CAISO, utilizing VETA’s assets. VETA physically operates the systems under CAISO guidelines.

Pahrump is an unincorporated town located approximately 60 miles west-northwest of Las Vegas. The estimated 2012 population in the VEA Service Territory is 42,963. VEA has sub-offices in Sandy Valley, Beatty, Amargosa and Fish Lake, Nevada. The number of customers and energy sales for each area for the year is shown in the following table:

Table 1

Area	12 Customers		12 Energy Sales	
	Count	%	kWh	%
Sandy	835	4.0%	14,866,399	3.4%
Pahrump	17,819	86.1%	354,177,830	81.2%
Amargosa	920	4.4%	29,373,271	6.7%
Beatty	754	3.6%	16,029,102	3.7%
Fish Lake	366	1.8%	21,824,244	5.0%
Total:	20,694		436,270,846	

Based on 2012 sales information, the Pahrump area represents 81.18% of VEA’s total energy sales.

VEA has been providing electric service in its territory extending over four counties for 48 years. The area served consists of approximately 6,800 square miles with an average of 3.04 customers per square mile and is very rural in nature. VEA purchases all of its power requirements made possible by its development of 343 miles of transmission lines that provide access to multiple power markets. VEA’s distribution system comprises of 1,524 miles of overhead distribution line and 605 miles of underground distribution lines. The interconnected transmission and distribution systems utilize fourteen substations.

Map “B” in the Appendix illustrates VEA’s major transmission lines. The first and oldest is a 138 kV line that originates at WAPA’s Amargosa Substation in Henderson, Nevada. It extends approximately 142 miles to Beatty, Nevada. The 138 kV line also interconnects with NPC at the Department of Energy’s (DOE) Jackass Flats Substation located at the Nevada National Security Site. Overall, VEA owns and operates 185 miles of 138 kV transmission line. VEA also owns and operates 24 miles of 55 kV transmission line in the Fish Lake Valley at the northern end of its service territory.

VEA’s 230 kV transmission system interconnects at WAPA’s Mead Substation and extends 85 miles to the Pahrump Substation. With the completed 230 kV project, the system extends another 78 miles from Pahrump to NPC’s Northwest Substation. The interconnection at Northwest Substation with this new line not only increases capacity, it also increases transmission capability, system stability and reliability. The benefits of this transmission line are discussed later in conjunction with VEA’s load projections and power costs.

Governance

VEA is governed by a six member Board of Directors. Each board member is elected by and represents members living within each of the six geographical district areas served by VEA.

The Chief Executive Officer is responsible for the day-to-day operations of VEA and reports directly to the Board. Currently there are 104 personnel employed by VEA.

The IRP will be reviewed and approved by Resolution of the VEA Board of Directors. A copy of the Resolution will be included in the Appendix of this report when approved.

Load Forecast

VEA’s load growth abruptly halted in 2008 when the southern Nevada housing market ceased its robust growth. Since 2008, a small reduction of total services has occurred but is not significant. Sales of power to

residential customers has been affected only by weather in this current growth mode.

Table 2

VEA Growth (Active Services) 2005 - 2012		
Year	Services	Growth Rate
2005	19,130	2.31%
2006	20,090	5.02%
2007	20,944	4.25%
2008	20,862	-0.39%
2009	20,776	-0.41%
2010	20,676	-0.48%
2011	20,616	-0.29%
2012	20,694	0.38%
Average:		1.30%

The key growth factors that will shape the growth in VEA’s customer base include local population and household trends. The county demographic forecasts used are from Woods & Poole Economics and are aggregated and weighted for VEA’s service territory. The number of residential consumers is expected to increase at an average annual rate of 1.2 percent from 2010 to 2030 and reach a level of 23,260. This growth largely occurs after 2015, as housing growth is expected to remain minimal over the next several years. Population and households in the service area are expected to grow at rates of 1.6 percent and 1.8 percent over that period.

Econometric modeling has been used to project average energy use per residential customer. The usage model relates use per consumer to cooling and heating degree days, average residential electricity price (a 3 year moving average). Total residential energy sales are expected to reach a level of 383,066 MWh in 2030, up from 276,668 MWh in 2010. This represents a 1.6 percent average annual growth rate.

Commercial and industrial (C&I) sales have been projected using econometric modeling techniques for the small C&I class and adding one large C&I customer based on known near-term growth. Small C&I sales are expected to grow at an annual rate of 0.9 percent per year, primarily due to customer growth while average use per customer remains relatively flat.

VEA also serves customers classified as irrigation and street lighting. Energy sales to these classes are expected to remain relatively flat over the projection horizon.

Total energy requirements are the sum of all sales to revenue classes plus own-use and losses. Total energy requirements for VEA are expected to grow by 1.4 percent per year over the forecast period. Monthly coincident system peak demands have been projected for the VEA system using regression and analysis. The annual peak is expected to grow at an annual rate of 1.4 percent over the next decade.

Load Profile and Load Forecast

VEA’s customer mix and energy sales by customer classes for the base period, calendar year 2012 is described below in Table 3.

*Table 3
Vea's 2012 customer mix and energy sales by class*

<i>Customer Class</i>	<i>Customer</i>		<i>Energy Sales</i>	
	<i>Avg.</i>	<i>%</i>	<i>kWh</i>	<i>%</i>
<i>Residential</i>	18,202	88.2%	270,192,732	60.2%
<i>Residential Seasonal</i>	0		0	
<i>Irrigation</i>	221	1.1%	30,747,651	6.8%
<i>Commercial and Industrial</i>				
<i><1001 kVA</i>	2,214	10.7%	134,905,353	30.0%
<i>>1000 kVA</i>	0		0	
<i>Public Street & Hwy lighting</i>	2	<1%	11,208	<1%

Accordingly, 88.2% of VEA’s customers are residential and account for 60.2% of energy sales.

Table 4 shows VEA’s historical and projected loads as well as VEA’s peak demand by season, kWh sales, and purchases. Projected energy purchases and peak demands for the five years (2013 through 2017) are also shown.

VEA growth has slowed and almost come to a standstill the past five years. Economic indications show growth will most likely remain near current levels for the next few years. We may see a slight increase in growth due to an influx of people retiring and coming to a warmer climate.

Table 4

	Year	Sales	Losses	Purchases	Summer	Winter	Sales % Increase
Historical Loads	2004	400,034	23,998	424,032	97.6	90.1	
	2005	400,447	30,319	430,766	111.9	102	0.1%
	2006	446,690	31,086	477,776	118.1	109.3	11.5%
	2007	466,251	27,240	493,491	119.4	123.7	4.4%
	2008	456,395	23,028	479,423	117.2	107.5	-2.1%
	2009	444,993	25,246	470,239	114.1	102.8	-2.5%
	2010	436,607	21,878	458,485	114.2	100.7	-1.9%
	2011	432,711	25,991	458,702	107.6	107.4	-0.9%
	2012	448,965	24,372	473,337	113.1	113.5	3.8%
Projected Loads	2013	451,776	26,294	478,070	117.8	103.3	0.6%
	2014	456,295	26,556	482,851	118.4	102.2	1.0%
	2015	460,858	26,822	487,680	119.4	103.1	1.0%
	2016	464,775	27,050	491,825	120.1	104.5	0.8%
	2017	469,980	27,353	497,333	121.2	103.2	1.1%

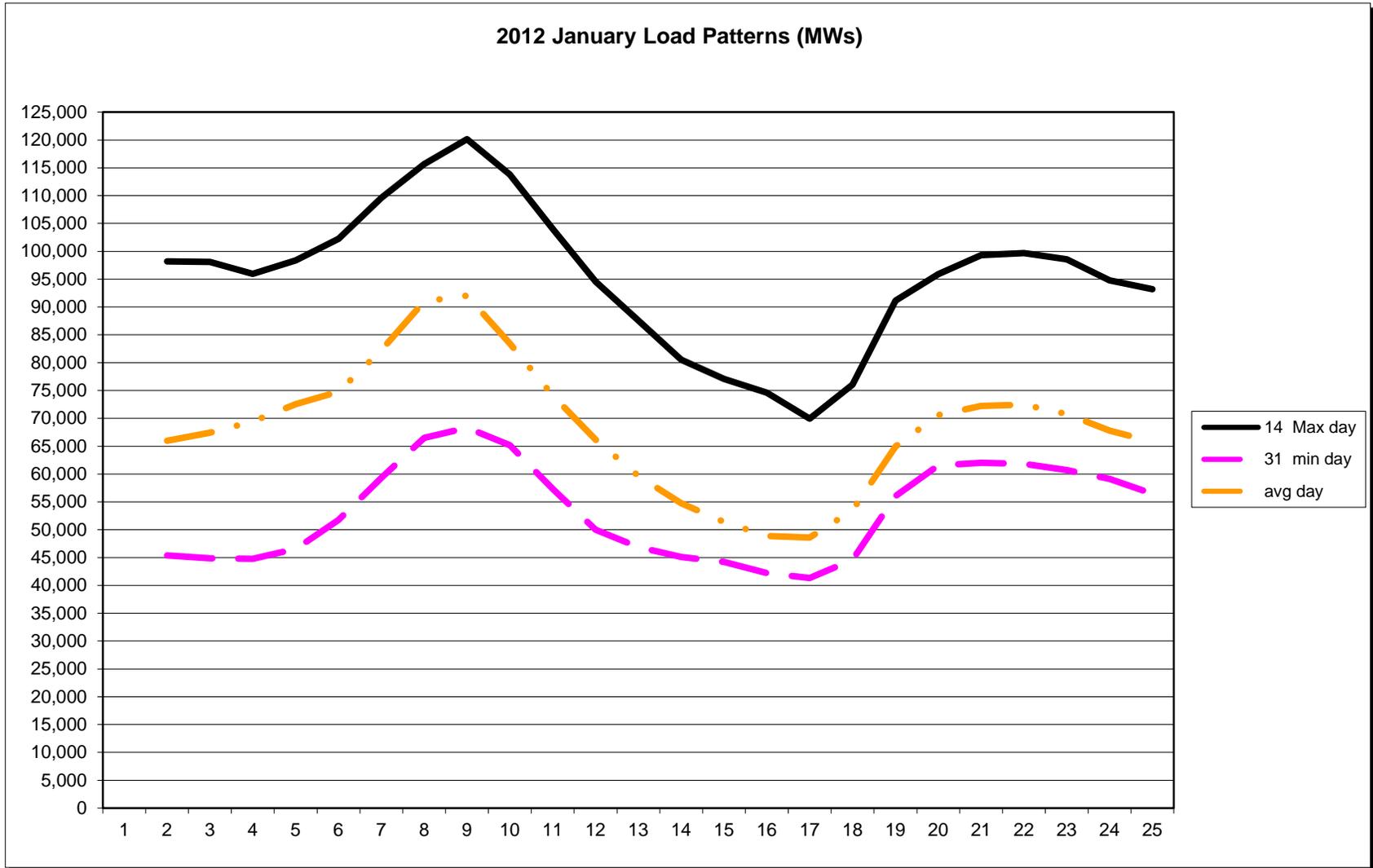
VEA has two distinct seasonal demand peaks: winter and summer. The winter peak is attributable to electric water and space heating loads. Electricity is the heating energy of choice in the VEA service territory since natural gas is not available and the relative cost per MMBtu of propane makes propane non-competitive price-wise. The summer peak is primarily attributable to residential air conditioning loads.

In the winter months, VEA’s peak demand typically occurs in the morning between 6 a.m. and 8 a.m. This type of load behavior typically manifests itself during the latter part of October through early or mid-March. VEA generally hits its winter peak in January.

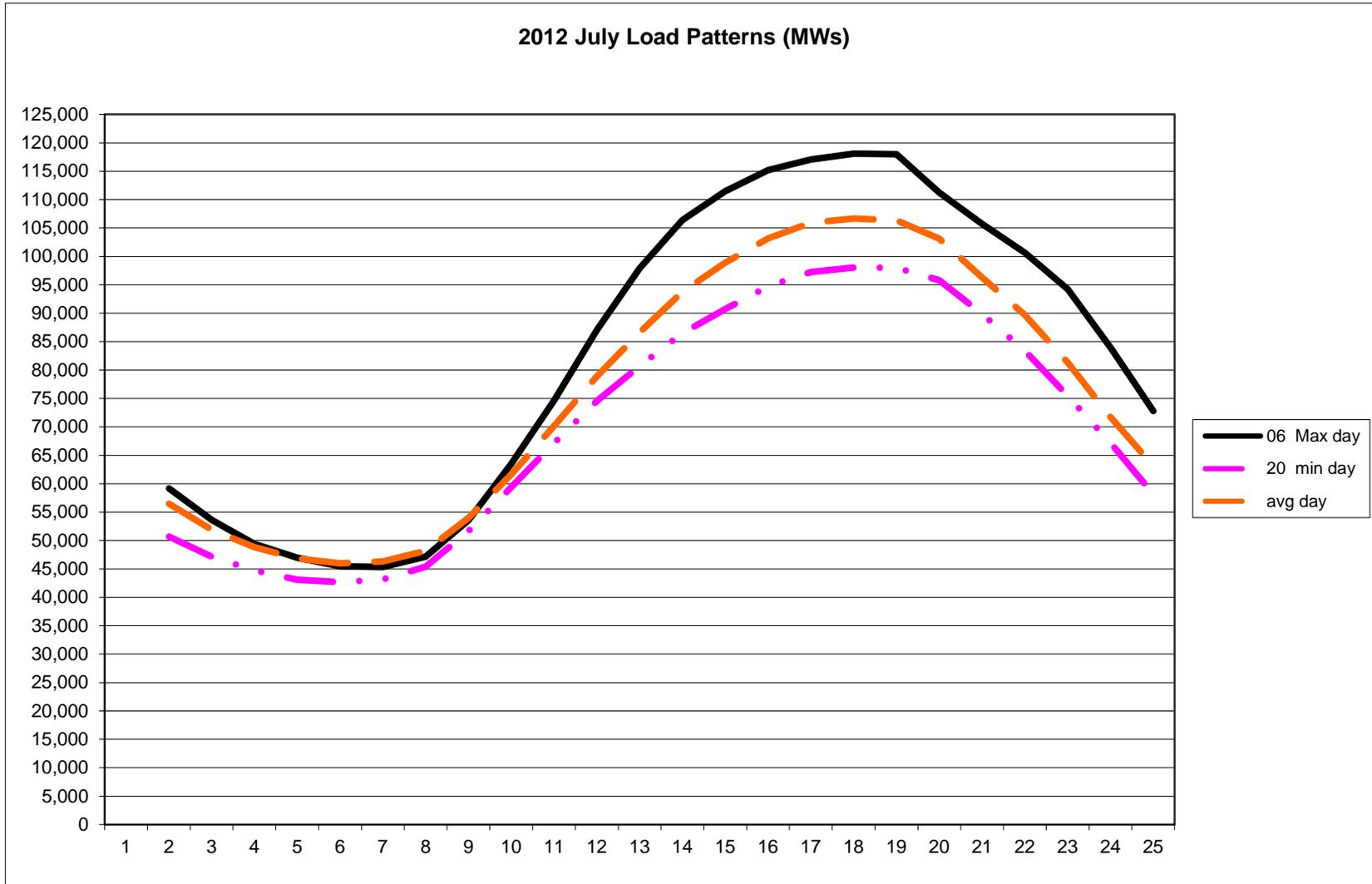
In the summer months, VEA’s peak demand occurs in the late afternoon or evening hours, between 4 p.m. and 7 p.m. The summer peak typically occurs in July. Graphs 1 and 2 show VEA’s load curve during a winter and a summer month respectively.

VEA’s forecast of future loads relies upon historical load data as well as the population forecasts provided by the Regional Planning Commission. The expected population growth in the Pahrump area inclusive of 2012 through 2017 is expected to continue at a minimal pace with an average growth rate around 1%. To determine annual load growth and peak demand, VEA uses anticipated load growth combined with potential energy savings through conservation, energy efficiency improvements and renewable energy.

Graph 1



Graph 2



Power Supply

VEA's power supply includes three Western Area Power Administration (WAPA) resources and a Supplemental Power Supply Agreement with JP Morgan which terminates December 31, 2017, for a base load product. VEA purchases other short term contracts, month, day ahead and real time as needed. VEA's contracts for WAPA power are administered by the Colorado River Commission (CRC) by Nevada statute. Table 4 shows the amount of hydroelectric capacity and energy VEA is allocated.

Table 4

	Capacity (kW)		Energy (kWh)		Expires
	Summer	Winter	Summer	Winter	
Boulder Canyon	15,365	12,565	21,312,774	15,780,705	9/30/2017
Parker-Davis	8,484	6,340	29,443,633	10,396,500	9/30/2028
SLCAIP	6,279	8,256	11,750,425	14,990,474	9/30/2024
Totals:	30,128	27,161	62,506,832	41,167,679	

The above allocations of WAPA capacity provided approximately 25.8% of VEA's capacity requirements for the calendar year 2012 and about 19.6% of VEA's energy requirements. With the area load growth, VEA anticipates the capacity to drop to 22-23% and the energy to 16-18% of VEA's needs. VEA's annual load factor for 2012 was approximately 58.9%.

Table 5 below shows VEA's energy use by month, monthly peak demand, and monthly and annual load factor for the calendar year 2012:

Table 5

	Energy	Peak Demand	Load Factor
Month	kWh	kW	(%)
January	42,604,114	99,168	57.7%
February	35,478,042	88,529	59.6%
March	33,253,187	88,071	50.7%
April	30,112,127	70,108	59.7%
May	34,966,023	87,224	53.9%
June	41,335,758	94,980	60.4%
July	47,008,047	113,085	55.9%
August	51,302,436	112,509	61.3%
September	39,386,463	95,974	57.0%
October	29,972,774	79,208	50.9%
November	38,170,649	89,019	59.6%
December	49,747,296	113,531	58.9%

To meet VEA's future power supply needs beyond its latest power purchase agreement with JP Morgan (supplemented by its WAPA hydro allocation),

VEA constantly evaluates the future power markets and participation in generation projects. VEA has requested proposals for a PPA from a geothermal resource with the intention of incentivizing transmission development in western Nevada as well as fixing a significant component of power supply.

VEA considers all cost effective power supply options from market power purchases to large renewable energy resources. Other small scale renewable energy resources will also be integrated into the Association's distribution system to off-set market power purchases when appropriate.

California Independent Operating System (CAISO)

On January 3, 2013, VEA along with its wholly owned subsidiary VETA officially joined the CAISO as a PTO. Participation enhances the markets to which renewable fueled generation can access. It also adjusts VEA's cost of transmission service to just what is needed with the excess cost of VETA's system provided to the CAISO markets. Additionally, participation is a step toward regionalizing transmission management in the southwest U.S.

Valley Electric Transmission Association (VETA)

VETA was established in December 2010, primarily for the purpose of providing transmission service and related services to VEA and other entities and in 2011, all VEA transmission assets were transferred to VETA.

VETA completed 77 miles of 230 kV transmission line giving a total of 373 miles of transmission line in service. With its participation in CAISO, VETA is a prominent transmission line owner and operator in the southwest Nevada/southern California area.

Nevada National Security Site (NNSS)

In November, 2012, VEA commenced performance under a five year contract to provide electric services for NNSS. This contract provides for power sales to NNSS by VEA and system dispatch services by VETA. The NNSS contract includes a provision for construction of 5.3 miles of 138 kV line to NNSS which will increase the reliability of the power supply and

minimizes long-standing low voltage concerns and increase the capacity of the onsite electric system from 40 to 70 megawatts.

VEA Trading and Hedging Policies

Corporate Policy #112 Trading Authority Policy

The purpose of the authority policy defines the authority granted by VEA Board of Directors to the Chief Executive Officer (CEO) to execute and delegate authority to execute energy related transactions. Furthermore, it sets forth clarity and empowerment among those with trading authority and is designed to encourage communication among individuals with trading authority and the Board of Directors.

Corporate Policy #113 Hedge Policy

The VEA Hedge Policy outlines the hedging policy that will guide disciplined hedging of forward power supply portfolio components. This Hedge Policy is designed to reduce member wholesale rate volatility and to maintain rates within desired tolerances. The primary purpose of this policy is to identify specific time and volume (as % of total projected native load) criteria for procuring projected power supply portfolio components.

This policy largely employs a price-averaging strategy of declining percentage of power supply portfolio components held over forward time periods. This strategy protects VEA from potential adverse impacts that could result in either sudden significant price increases or decreases. The strategy also maintains some elements of procurement flexibility during times of extremely attractive market conditions, allows for increasing the amount of forward energy hedged above the stated ranges with the concurrence of the Board of Directors (Board). A key component of the policy is a quarterly compliance report for the Board, outlined in the Policy.

Corporate Policy #114 Energy Risk Management (ERM Policy)

This policy formalizes VEA's approach to managing its energy risks. Accordingly, this policy sets for VEA's:

- Risk management objectives,
- Risk governance structure and responsibilities,
- Scope of business activities governed by this policy, and
- A list of associated ERM guidelines and policy documents.

VEA intends that risk management will support the advancement of its strategic business plan, and will properly manage its business and financial risks through:

Prudent oversight,

Adequate mitigation of risks consistent with VEA's defined risk tolerance,

Sufficient internal controls and procedures.

VEA Green Energy

In 2008, VEA implemented a "Green Energy" program under an Energy Services Department. VEA broadly defines green energy as that which:

"Encourages the wise and efficient use of energy to maximize its value and benefit to the membership while also considering economic and environmental impacts over the short and long term."

By our definition of "green" this means we will teach, facilitate and enable our members to *conserve, insulate and generate* by emphasizing the following:

- Policies & Procedures
- Education
- Conservation
- Energy Efficiency
- Renewable Technologies
- Building Technologies
- Incentives
- Outreach ("VEA Green Teams")

Policies

Anyone requesting electric service will be connected to VEA's system pursuant to its policies and procedures.

Policy Rule #20 provides for "net-metering" to enable members wishing to off-set retail power purchases from the Association with small-scale

renewable or other distributed generation resources. Ultimately, the development of small-scale renewables will contribute to off-setting high-cost market purchase.

VEA has also implemented an agreement process and procedure to enable it to effectively work with large scale renewable energy developers within the guidelines of the CAISO tariff.

Demand Side Management Programs (DSM)

Our region is experiencing an economic downturn. Customer growth and increasing demand for electric energy is remaining as it has since 2008.

Modifying customer use patterns through DSM programs is based on VEA's wholesale power cost structure. As a result, VEA does not employ time of use pricing. VEA recognizes the need to educate, encourage and enable members to adopt energy efficient end-use practices, therefore.

VEA continues to deploy a number of DSM and energy services programs for use by VEA members. These programs are intended to help the Association manage load by addressing energy use in existing residential and commercial structures and in the irrigation sector.

Since 88.2% of VEA's customers are residential and account for 60.2% of energy sales, VEA's primary DSM continues to focus on the residential consumer and programs with the intent to reduce both the summer and winter power purchases and capacity requirements.

Conservation & Energy Efficiency

VEA believes conservation and educational programs have been successful in reducing energy use, although we do not have the resources to calculate what those actual savings might be.

VEA recognizes the need for a balanced energy portfolio-including conservation, energy efficiency and renewables to provide members with stable power resources at affordable prices.

This means all forms of cost effective generation which meet environmental and economic needs responsibly.

However, success will ultimately be dependent on effectively educating our membership and our employees. Everything VEA does has an educational aspect that will lead to wise, economical, and environmentally sound decisions.

VEA has the following DSM and energy services programs in place:

- High-efficiency Marathon electric water heater sales
- Energy audits
- Electric water heater wrapping
- CFL installation
- CFL Audits
- Irrigation pump testing
- Infrared heat detection/scanning of transmission and distribution facilities
- Power factor correction
- High Efficiency Transformers
- Infrared Detection
- Solar Hot Water Heating
- Energy Efficiency/Alternative Energy Workshop
- Energy and Water Symposium
- Partnership with the Project Clean Energy
- Promotion of Energy Efficiency through Touchstone Energy Products

High-Efficiency Marathon Electric Water Heater Sales—In 2008, VEA began promoting and marketing high-efficiency Marathon Electric Water Heaters to its customers. We feel these units are the most energy efficient electric water heaters available today. As such, VEA maintains a stock of the units in its warehouse for sale to members. To date 111 of the units have been sold and installed by our membership.

Energy Audits—In October 2008, VEA began providing on-site energy audits as a service offering to its membership. The audits point out areas where thermal shell improvements might be made, provide information on how to make them, and provide detailed information about the housing stock for compilation to assist VEA with program design and evaluation.

Electric Water Heater Wraps—An aspect of the energy audit includes, the wrapping of electric water heaters with an R-11, vinyl faced, fiberglass water heater wrap.

CFL Installation—VEA personnel will replace six incandescent lamps with CFLs in the household’s highest use lighting areas.

CFL Audits—VEA will provide advice on how CFL replacement can save on energy usage.

Irrigation—VEA’s irrigation pump efficiency program was established to test approximately 60 pumps each year prior to 1991. As shown in Table 6 below, VEA has increased that number to keep up with an increase in customers irrigating.

Table 6

VEA Pump Tests					
	Amargosa	Beatty	Pahrump	Fishlake	Totals
1996	8	0	6	46	60
1997	5	0	3	55	63
1998	14	0	1	62	77
1999	16	0	6	55	77
2000	0	0	24	55	79
2001	13	0	7	63	83
2002	1	0	2	66	69
2003	24	5	11	58	98
2004	26	0	4	63	93
2005	20	0	7	66	93
2006	23	0	10	60	93
2007	26	0	15	62	103
2008	22	0	16	39	77
2009	34	0	25	65	124
2010	24	0	17	67	108
2011	16	0	35	67	118
2012	28	0	18	66	112

Irrigation demand is dependent on weather and agricultural markets. The water table affects demand as well. VEA actively evaluates irrigation services and works with a commercial pump technician service to understand how the demand for irrigation power is optimized.

Generally, corrective action, if taken, can result in significant savings to the irrigator. However, not all pump test participants act on the test results although more are doing so now than in past years. Those who take action have realized efficiency improvements and energy savings from 22% to 28%.

The pump tests conducted have estimated pump efficiency could move from a mean efficiency of 55.5% up to approximately 69.1% depending upon pump design, horsepower, etc. We also found farmers in the Fish Lake area have become generally more aggressive at making efficiency improvements.

Power Factor Correction—VEA's Power Factor Program consists of monitoring the power factor at all of its 25-kV distribution substations. VEA installs capacitors on the 25-kV distribution system as needed to keep the overall system at a 0.98 lagging power factor or better.

High Efficiency Transformers—VEA purchases only those distribution transformers having an efficiency rating of at least 99% as per DOE minimum efficiency requirements..

Infrared Detection—VEA employs infrared scanning to identify loose or bad connections at breakers, insulators and other equipment in all of its substations and power lines. Early detection and replacement or repair improves system reliability, reduces line losses and reduces revenue loss due to service disruption.

VEA uses infrared detection equipment as part of our energy audit program to identify heat loss and gain areas in residential structures. This activity will assist our members in identifying problem areas as well as serve as a quality control tool in verifying proper installation of insulation materials where appropriate.

Solar Hot Water Heating—VEA through an onsite inspection, determines the potential for a customer to save energy and money by installing a solar water heating system. The customer is given the opportunity to install a predesigned and certified system at VEA's cost. VEA provides financing at no cost to the customer.

VEA offers three units for stick built homes ranging from 60 to 80 gallons of hot water and one unit that work on manufactured units which is a 60 gallon unit.

Energy Efficiency/Alternate Energy Workshop—VEA offers workshops that provide customers information on energy saving and conservation methods as well as alternative energy sources such as wind and solar. Hopefully the information gives the consumer options in how they use power and alternative methods that are available.

Energy and Water Symposium—VEA periodically conducts a symposium where guest speakers are invited to present information. Applicable industry vendors are invited to set up booths where they provide attendees information on technology that saves energy. This includes insulation, caulking, weather stripping, lighting, windows and window shades, energy efficient appliances, and other home modifications.

Vendors demonstrated how their technology will reduce power use for the consumer. Participant feedback has been extremely positive.

Promote Energy Efficiency Through Touchstone Energy Products—The Touchstone Energy Program provides customers with information on appliances and how to determine efficient replacement of them by showing savings and costs over the life of the product.

DSM Technologies

Through the use of technology, the demand on VEA's system during peak periods maybe reduced thereby reducing VEA's exposure to higher purchase power costs during peak times. Green DSM programs may simply shift demand to other "low-cost" hours through load management technology. Some programs may reduce load altogether via active conservation practices and behavior/lifestyle changes. Consumption reduction through adoption and utilization of higher efficiency appliances will also reduce cost exposure.

The use of renewables may displace load, but base load capacity will still need to be reserved in case the renewables are not available when needed.

Programs--VEA will continue to focus on delivering programs addressing needs in the residential, commercial and irrigation sectors. The primary means of accomplishing this will be through our energy auditing program. Information dissemination through various media, promotional activities, workshops, educational seminars, trade allies and other means will also be utilized as previously mentioned.

Particular areas warranting attention are:

Residential—

- Thermostat Controls
- Passive and active solar water & space heating.
- Energy efficient appliances
- High-Efficiency Heat Pumps (Air and Ground Source)
- High Efficiency A/C
- Point-of-Use Electric Water Heating
- House Tightening and mitigation
- L.E.D. Indoor/Outdoor Lighting

- Glazing treatments/shading

Commercial—

- Lighting
- HVAC
- Glazing treatments

Irrigation—

- Pump efficiency tests
- Bowl replacement
- Well scouring
- Sprinkler package upgrades (new & retrofit)

Each program savings evaluation was analyzed using assumptions based upon VEA's utility experience and values in Western's Resource Planning Guide. VEA determined how each of these programs met criteria as to participant cost, rate impact and benefits to VEA and its membership.

DSM Programs Evaluated

VEA's solar water heater program is a significant benefit to both VEA and its customers. VEA receives a lower demand for power during the peak time of the day while the customer is offsetting the cost of heating water.

Thermostats Controls

Increasing awareness of how changing by just a few degrees heating and cooling set-points can save consumers energy without compromising comfort. When consumers sleep or when they leave their homes, setting thermostats to low energy use will save energy and dollars. This lifestyle and behavior change linked with available technology will produce savings for both the member and the Association.

Passive Solar

Using passive solar water heating in residential structures & solar screens for reducing summer solar gain is highly encouraged. In our geographical area, the potential of using solar energy is significant.

Energy Star Appliances

VEA encourages consumers who replace appliances to read the labels and choose Energy Star appliances which have 15% higher efficiency ratings than standard appliances.

High-Efficiency Air Conditioning & Heat Pumps

VEA will encourage consumers considering new or replacement air conditioning or heat pump systems to purchase Tier 2 high-efficiency air conditioners meeting the Energy Star Tier 2 requirements for central air conditioners and air source heat pumps. The Tier 2 requirements are identified in the table 7 below.

Table 7

Energy Star Tier 2 Standard (Effective January 1, 2009)			
Product Type	SEER	EER	HSPF
Split Systems	>=14.5	>=12	>=8.2
Single Package	>=14.0	>=11	>=8

VEA has developed relationships with local air conditioning contractors to promote this effort. VEA encourages member participation through education and promotion.

Water Heater Wraps

As part of its energy auditing program, VEA installs water heater wraps on applicable existing electric water heaters. VEA publicizes this program in newsletters and other publications throughout the year. Water heater wraps can save up to 35% of water heating energy use.

Compact Fluorescent Lamps (CFLs)

As part of the energy auditing program VEA will remove six (6) existing incandescent bulbs from high use areas, and install six (6) CFLs in the residences at no charge. Using a 14w CFL can reduce lighting energy from a 60w incandescent by more than an estimated 70%.

Weather Stripping and Caulking

VEA promotes awareness of maintaining a tight building seal through newsletters and member meetings. VEA encourages consumers to use local vendors to purchase the products and receive information on the best ways to utilize in their individual situations.

Commercial Lighting and Glazing Treatment

VEA's commercial customers vary from small establishments to large casinos. VEA believes these programs may assist all consumers, residential and commercial through education on window coverings to light bulbs.

Irrigation Pump Efficiency

As previously mentioned, VEA conducts a pump efficiency program. An outside consultant is utilized and his services are paid by VEA.

Renewables

There are 79 small scale, renewable energy installations interconnected with VEA's distribution system. All renewable energy systems have been installed in accordance with VEA's distributed generation interconnection policy. Under the Net Metering Policy (Policy Rule #20), participants are credited at a ratio of 1:1 for any excess production of their facility exceeding the customer-generator's on-site consumption of kWhs in the billing period following the billing period of excess generation.

Wind Power

On June 26, 2008, VEA facilitated the installation of a 1.2 kW Sky Stream Wind Turbine at a local middle school. The project has provided useful information on wind data, equipment cost, power factor, annual maintenance costs and the actual power output. Real-time readings are available to the VEA membership via a link to VEA's Website. The information provides VEA customers the data needed to evaluate the installation of this equipment.

From the date of installation, the unit has generated 4,377.6 kWh and Green House Gases avoided has been 5,429 lbs.

Solar Power

VEA has customers who have installed photovoltaic arrays. VEA is in full support of these individual programs, but does not provide financial help for those desiring to do so.

In October 2009, VEA began installing solar hot water heaters under our domestic solar water heating (DSWH) program in four different categories. To date there have been 758 total installations with the following breakdown: System One, 217 installations, System Two, 342 installations, System Three, 132 installations and System Four, 67 installations.

Several large-scale renewable projects have been proposed for construction within our service territory. VEA is willing to enter into purchased power agreements and will administer interconnection of large projects in accordance with the CAISO tariff.

Environmental Impacts

Reducing our carbon footprint is still one of our objectives. VEA understands the importance of protecting the environment and will continue to implement programs that are cost effective and environmentally responsible with local, state, and federal regulation compliance.

VEA still provides for the environmentally responsible disposal of CFLs by accepting these items at not cost to our customers.

Contact Persons for the IRP

VEA personnel were involved in development and analysis of this IRP report. In the event any additional information is required please contact the following:

Mr. Thomas Husted
Chief Executive Officer
Valley Electric Association
P.O. Box 237
Pahrump, NV 89041
(775) 727-5312

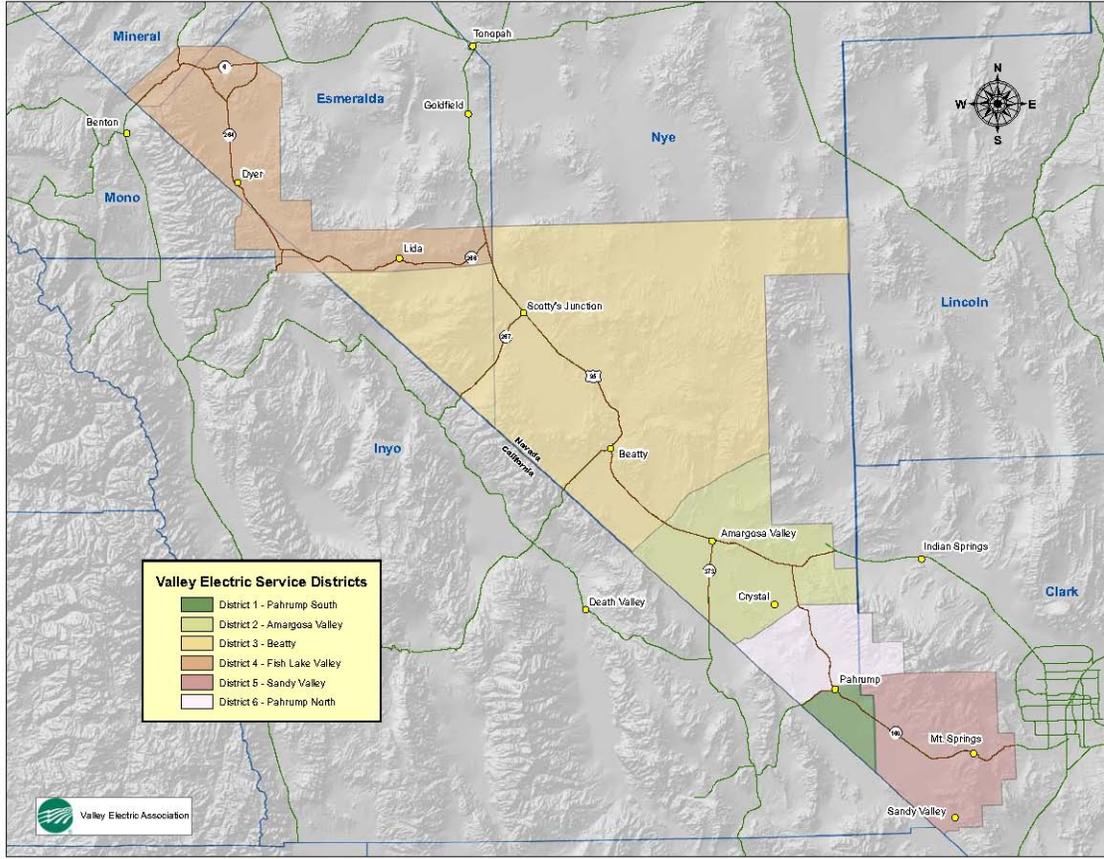
Mr. Rick Eckert
Executive Chief Operating Officer
Valley Electric Association
P.O. Box 237
Pahrump, NV. 89041
(775) 727-5312

Mr. Dan Tillman
Executive Vice President—Administration & Finance
Valley Electric Association
P.O. Box 237
Pahrump, NV 89041
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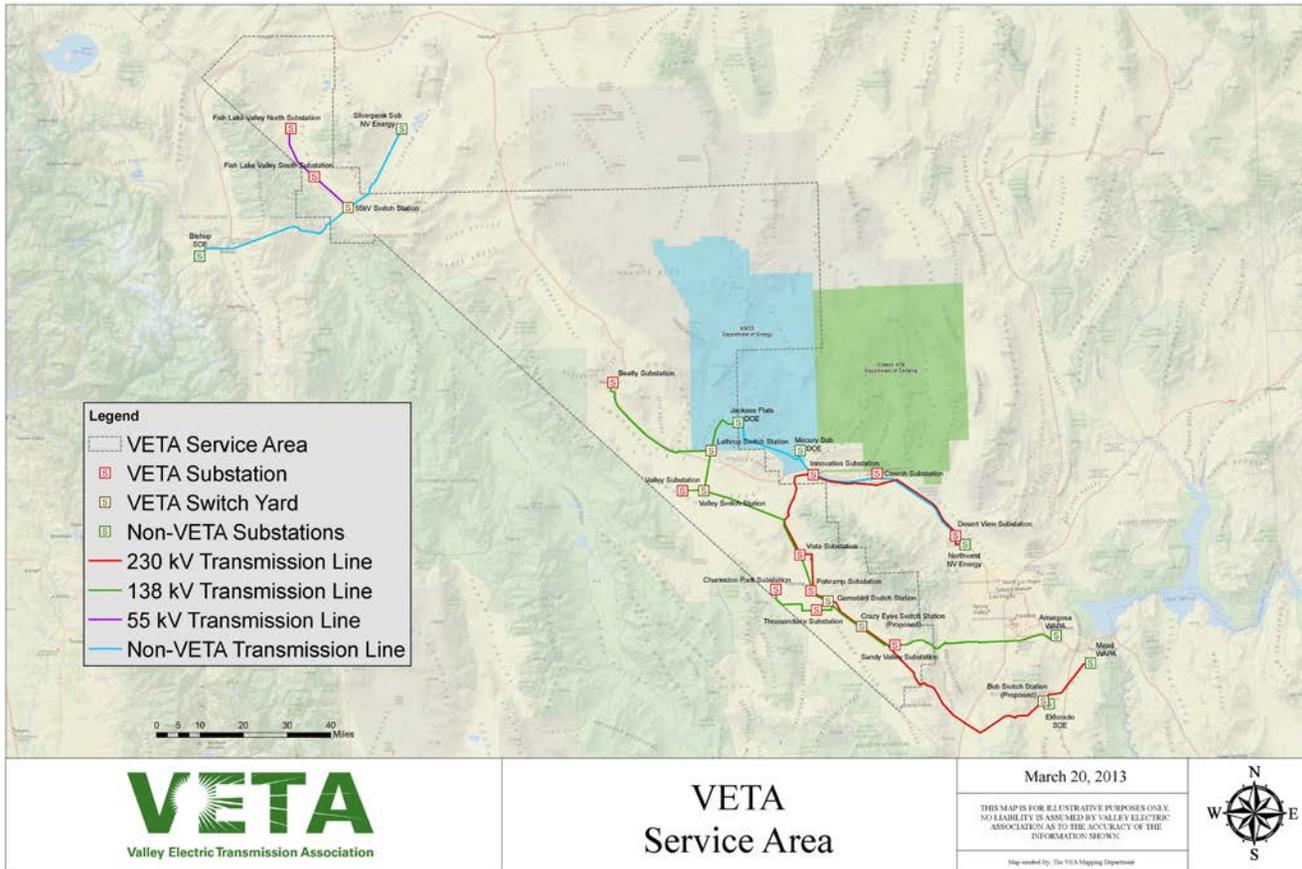
Mr. Ahmad Khan
Manager Power Resources
Valley Electric Association
P.O. Box 237
Pahrump, NV 89041

Mr. Terry Stagg
Power Supply Consultant
Valley Electric Association
P.O. Box 237
Pahrump, NV 89041
(775) 727-5312

Appendix



Map A



Map B

BOARD RESOLUTION NO. 2013 –003

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE VALLEY ELECTRIC ASSOCIATION, INC.**

FOR INTEGRATED RESOURCE PLAN (IRP)

WHEREAS, pursuant to the final rule of the Energy Planning and Management Program published in the Federal Register 10 CFR 905, all long term firm power customers of Western Area Power Administration (Western) must prepare and submit a IRP to Western for review and approval; and

WHEREAS, Valley Electric Association, Inc. has prepared an IRP in accordance with the requirement of Western; and

NOW THEREFORE, BE IT RESOLVED that the Board of Directors of Valley Electric Association, Inc. hereby approves for filing with Western the IRP plan attached hereto.

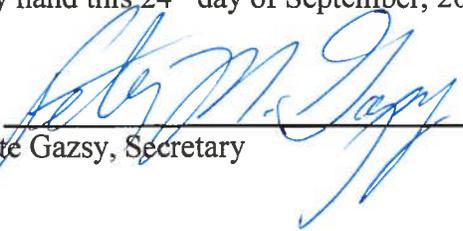
By  _____
John Maurer, President

CERTIFICATE

I, Pete Gazsy, do hereby certify that I am Secretary of Valley Electric Association, Inc.

THAT the above resolution is a true and correct copy of the resolution adopt by the Board of Directors of Valley Electric Association, Inc. at its meeting held on the 24th day of September, 2013, in Pahrump, Nevada and that said resolution has not been rescinded or modified.

IN WITNESS WHEREOF, I have set my hand this 24th day of September, 2013.

 _____
Pete Gazsy, Secretary

