



# **Integrated Resource Plan**

## **2013-2017**

**Serving the communities of Overton, Mesquite, Logandale,  
Moapa, and Bunkerville in southern Nevada.**

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## **Introduction**

Overton Power District #5 (District) was formed by the State of Nevada in 1935 as a non-profit quasi-municipal special improvement district. The District currently operates under Nevada Revised Statute (NRS) 318. The District's service territory is 2500 Square miles and is located entirely within Clark County, Nevada. The Muddy River Indian Reservation, Valley of Fire State Park, and a portion of the Lake Mead National Recreation Area are also located in the District's Service territory.

The District serves a wide variety of customers including resorts, mining, residential, manufacturing, agriculture, water pumping, and retail customers. The District also experiences a large number of retired customers who enjoy our mild winters and regional recreational activities. Many of these will maintain seasonal homes inside the District. Currently there are approximately 14,300 active meters in the District.

The District continues to experience moderate growth with several projects in the process of developing. Hundreds of new residences and several large industrial projects are planned for the area. The District is prepared to meet this new growth demand with a progressive approach. We will continue to rely heavily on our federal hydro power resources to meet this demand as well as expanding our involvement in other efforts including proposed PV generation projects and purchase power agreements.

Residential and commercial load growth challenges the District in its effort to maintain high standards in regard to low rates, safety, reliability, and customer service. The growth is largely tied to that of Las Vegas, which is only a one hour drive away. Mesquite gaming facilities anticipated expansions and their associated industries are also expected to make a significant contribution to the new load along with hundreds of developed vacant lots ready for sale.

Some of the projects being considered in the planning process, in anticipation of this moderate growth are; additional transmission, distribution and transmission substations, new distribution lines, renewable projects, generation projects, and long term purchase power agreements. In order for the growth of the system to remain unsubsidized by the current customer rates, the District has implemented fees associated with new services in order to recover these costs. As the effect of an open market continues to evolve in the nation's utility industry, Overton Power District #5 strives to be an example of what a well managed nonprofit utility can offer a

community and an individual customer. These benefits include reasonable costs and a high level of quality service with an eye to the future.

**Public Process**

A board of directors oversees the District’s operation. The board is made up of seven elected officials from the community who serve four year terms in the office.

Board of directors			
Member	Area Represented	Seat #	Position
Larry Moses	Logandale	Seat #2	Chairman
Mike Featherston	Overton	Seat #1	Vice Chairman
Gary Leavitt	Moapa	Seat #3	Trustee
Steve Miller	At large	Seat #7	Trustee
James Pugh	Mesquite	Seat #5	Trustee
Doug Waite	Mesquite	Seat #6	Trustee
Mike Wilson	Bunkerville	Seat #4	Secretary/Treasurer

The Overton Power District management reviewed the Integrated Resource Plan on 10-31-13, and approved the public release and review for written input that started on the 5th of November. After review and public input the IRP was presented for board approval on November 20<sup>th</sup>.

**Contact Person**

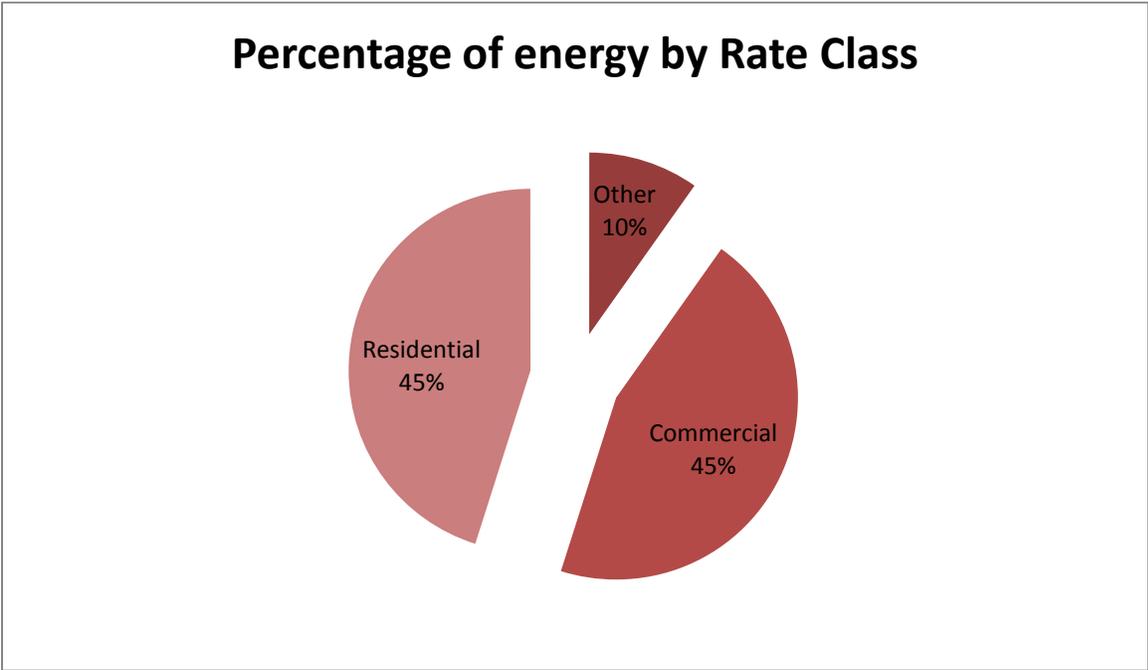
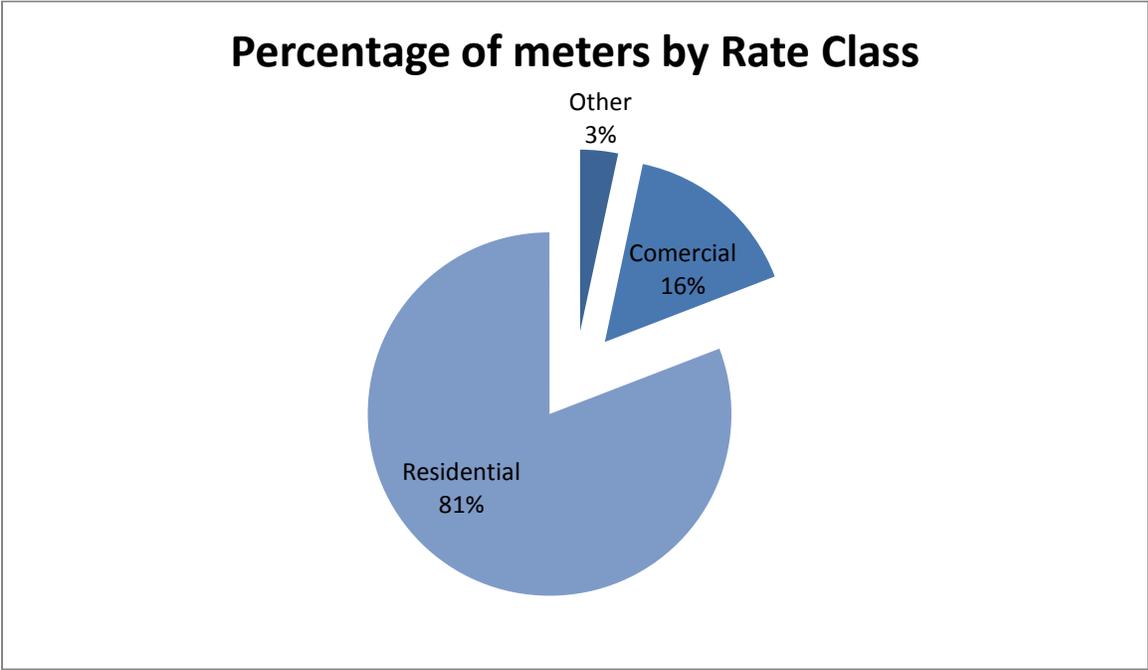
The Integrated Resource Plan was prepared by the following individuals. If any additional information is required please feel free to contact them.

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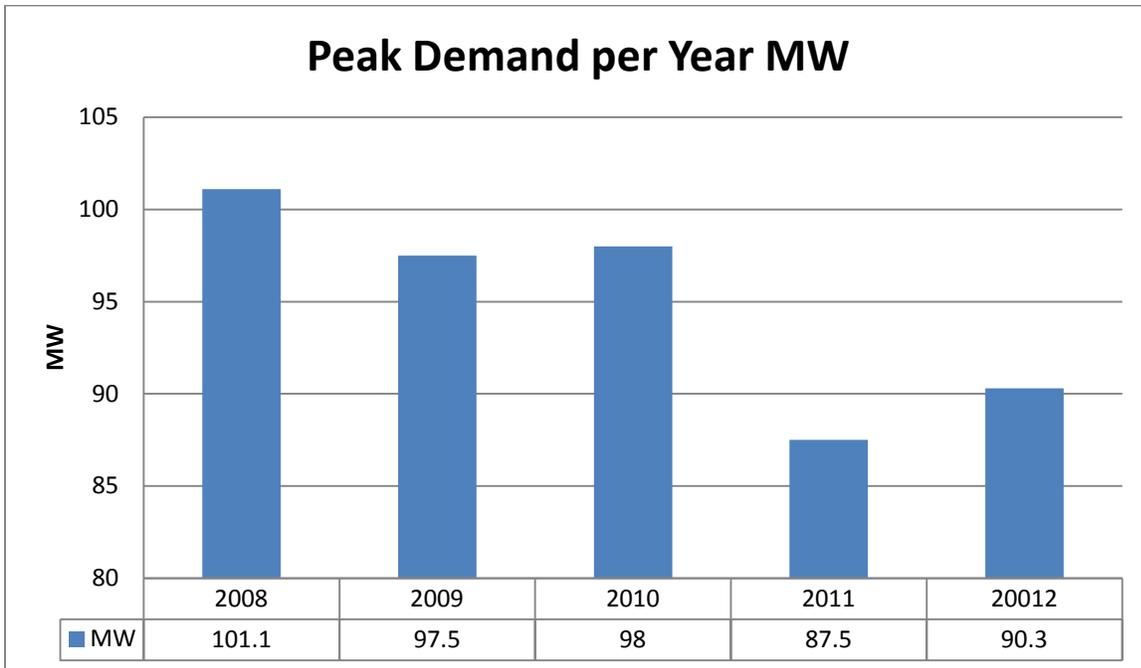
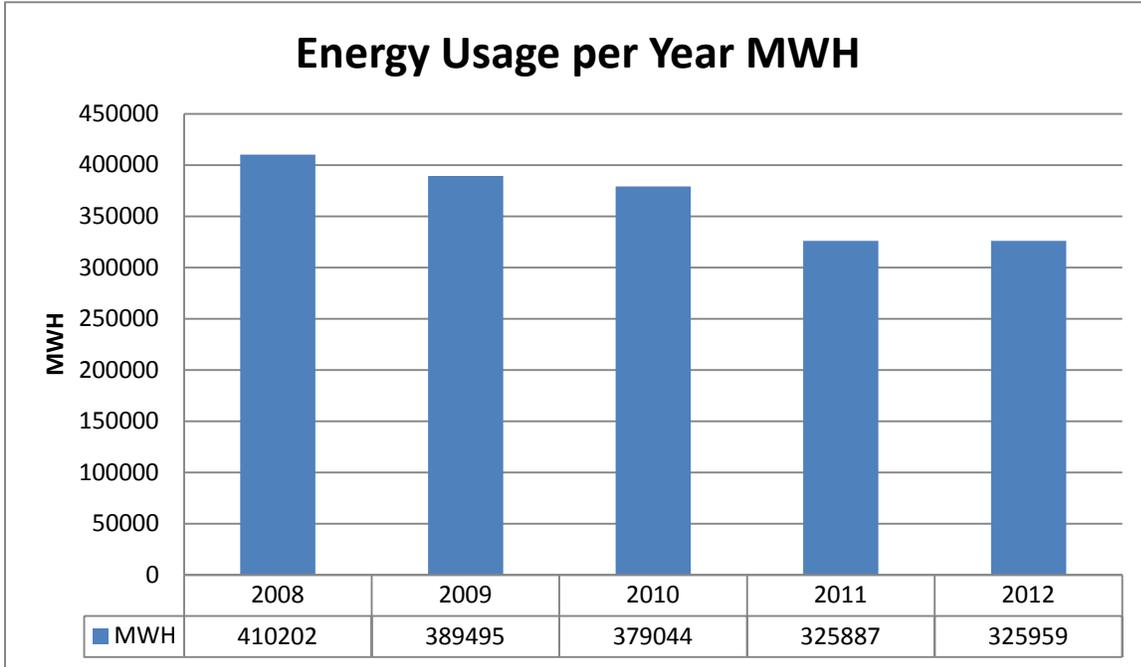
**System Profile**

The following charts and graphs serve to illustrate the size and type of loads served, as well as the system profiles which dictate power supply options and demand side opportunities. These percentages are as of year 2013.



**Economic Development and Load Growth**

The number of meters in our system has slowed to a mild increase in the last six years. In 2006, we served 12,422 meters. At the close of October 2013, we were serving 14,262 meters. Loads have been up and down due to the influx of residents moving away and businesses opening and closing. We project a continued mild increase in loads for the next five years.



## OVERTON POWER DISTRICT No. 5

615 North Moapa Valley Boulevard

P O Box 395

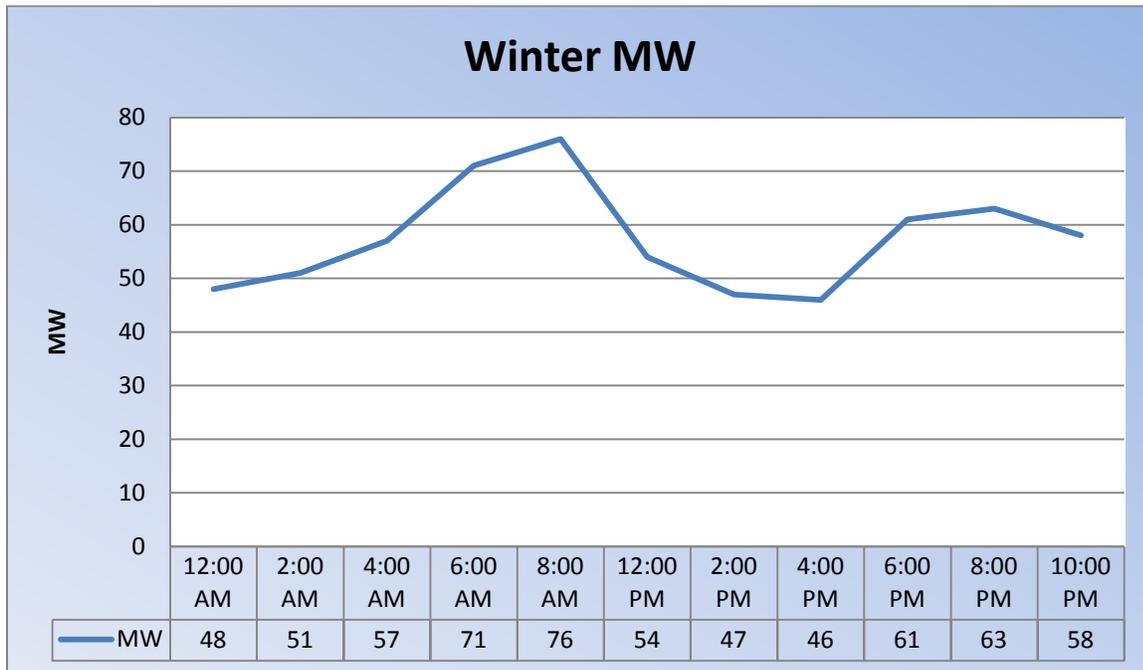
Overton, Nevada 89040-0395

**RATE SCHEDULE**

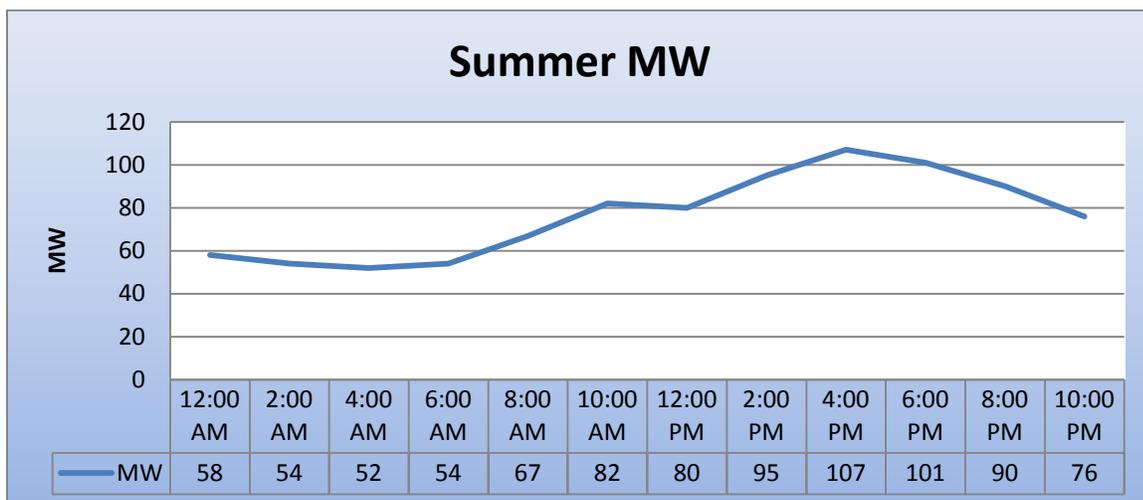
**Tariff Number 110 effective October 1, 2012**

	<b>Number 100</b>	<b>Number 110</b>
<b>Tariff #1 – Residential</b>		
Customer Charge	\$25.00 per month	\$25.00 per month
First 500 kWh	\$ .0747 per kWh	\$ .07812 per kWh
Next 1,500 kWh	\$ .0852 per kWh	\$ .08900 per kWh
Over 2,000 kWh	\$ .1000 per kWh	\$ .10000 per kWh
<b>Tariff #2 – Irrigation Rate</b>		
Customer Charge	\$21.50 per month	\$21.50 per month
Demand Charge	\$ 7.47 per kW	\$ 7.47 per kW
Energy Charge	\$ .0690 per kWh	\$ .0690 per kWh
<b>Tariff #3 – General Service Non-Demand</b>		
Customer Charge	\$21.50 per month	\$21.50 per month
First 1,000 kWh	\$ .0870 per kWh	\$ .0870 per kWh
Next 1,000 kWh	\$ .0940 per kWh	\$ .0940 per kWh
Over 2,000 kWh	\$ .1010 per kWh	\$ .1010 per kWh
<b>Tariff #4 – General Service Demand</b>		
Customer Charge	\$ 35.00 per month	\$35.00 per month
Demand Charge	\$ 8.62 per kW	\$ 9.01 per kW
Energy Charge	\$ .0655 per kWh	\$ .06845 per kWh
<b>Tariff #5 – Municipal and Water District</b>		
Customer Charge		\$35.00 per month
Demand Charge		\$ 8.62 per kW
Energy Charge		\$ .06550 per Kw
<b>System Peak</b>		

Due to our geographic location we experience significant summer and winter peaks. These graphs show the District's primary meter reading at Tortoise substation our primary delivery point, during the winter and summer peak. If you compare total megawatt hour usage we would be considered a summer peaking system. These load curves follow closely a typical residential meter for these times of year. The winter curve demonstrates that the typical residential customer rises, prepares, and then leaves the home in the morning. The day slowly warms until residents return home in the evening and then retire.



Similarly in the summer, loads increase in the morning with preparations to depart, but in contrast to the winter curve, loads continue to rise as the temperature rises, finally dropping as the sun sets. This curve clearly illustrates the effect of the extreme temperatures in this region by almost doubling the demand on the system on a hot day.



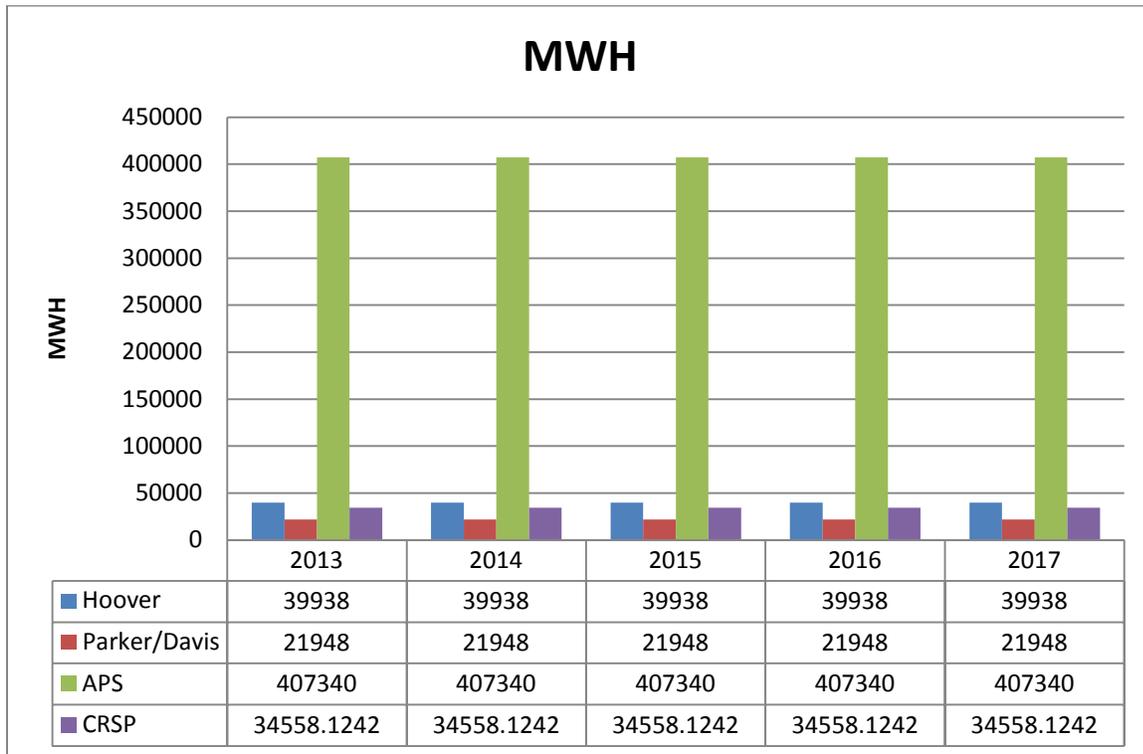
**Load Forecasting**

Overton Power District #5 conducted a 10 year Load Study and Long Range Planning Study. Based on these two studies the District formulated load forecasts for the next five years; and work plans necessary to meet these projected loads.

A conservative growth rate over the next five years would be 1.5% annually and an aggressive growth would be 3% annually.

Overton Power District is dependent on power providers for both transmission and generation though we are continually evaluating this for cost effectiveness and reliability. We currently utilize long term power contracts including Arizona Public Services. Supplemental power is provided by an open ended agreement with NV Energy.

The following graph illustrates the District’s anticipated load growth at 1.5% annually over the current and following five years. Additionally, this graph illustrates the District’s reliance on Arizona Public Services.



## **Power Supply**

Overton Power has recently established a long term contract with Arizona Public Services that extends through the end of 2017. We are currently investigating alternative energy sources to expand Overton Power District's portfolio.

## **Demand Side Planning**

The District implemented a net-metering policy to encourage our customers that would like to install the many small electric generator products that are entering the market. Most of the District's efforts of conservation are internal to the District and are implemented on a policy level.

## **Action Plan**

Explore policies and procedures to determine implementation feasibility. Currently, the District is exploring the feasibility of installing a 50 KW Solar Farm. The District is also participating on a panel to consider feasibility and implementation of green energy resources. Overton Power District is currently conducting a public survey to determine the amount of public support for such efforts. The District is also encouraging the Clark County Government and the City of Mesquite to adopt energy efficient building standards.

### **Power System Efficiency Criteria**

The reduction of both peak demand and energy usage is important to the District. The District will continue to evaluate and implement new policies and procedures that encourage conservation. The District seeks programs that adhere to four principles.

1. Programs should result in a reduction in energy usage.
2. Load shifting programs must improve system load factor.
3. Demand side program life cycle costs must compete with supply side resources.
4. Rate class cross-subsidization will not be allowed.

Additional programs that might be considered are; high efficiency heat pump, commercial re-lamping, window stripping and replacement rebates.

The District strives to maintain a low loss system. One of the keys to accomplish this is to the ordering of low impedance transformers. All new single phase pad mount transformers are specified 3% impedance or less. The District is also implementing power factor correction that should increase system wide efficiency. The District is preparing system modeling required to optimize power factor correction schemes.

## **Time Line of Plan 2013 to 2017**

### **2013 Integrated Resource Plan Annual Report to include:**

- Result of Public Green Power Survey
- Calculations of Energy Savings from Building Standards Raised
- Calculations of Energy Supplied from Green Power

### **2014 Integrated Resource Plan Annual Report to include:**

- Progress on Implementation of Long Range Planning Study
- Progress of Power Factor Correction Scheme
- Progress of Green Power Plan

### **2015 Integrated Resource Plan Annual Report to include:**

- Progress on Implementation of Long Range Planning Study
- Progress of Power Factor Correction Scheme
- Progress of Green Power Plan

### **2016 Integrated Resource Plan annual Report it include:**

- Progress on Implementation of Long Range Planning Study
- Progress of Power Factor Correction Scheme
- Progress of Green Power Plan

### **2017 Integrated Resource Plan Annual Report to include:**

- Progress on Implementation of Long Range Planning Study
- Progress of Power Factor Correction Scheme
- Calculations of the Energy Savings for Power Factor Correction
- Calculations of Energy Savings from Building Standards Being Raised
- Calculation of Energy Supplied from Green Power

## **Environmental Considerations**

Due largely to economic forces, including scarcity of power supply, costs continue to rise. In view of this and the increasing energy demand it is becoming obvious that the alternative energy sources and conservation must be implemented. As energy costs continue to rise, conservation and expensive alternative technology is becoming more and more competitive.

This area has experienced such rapid growth in the recent past that a large portion of our residential load is connected to these new and thus more efficient homes. New appliances and product materials used in these homes produce a considerable energy savings.

## **Addendum -A Demand Side Management Programs (DSM)**

Overton Power District strives to maintain:

### **Net metering**

The District implemented a net-metering policy to encourage OPD customers to participate in renewable energy. This policy was created to provide a means for customers to offset or eliminate their annual power cost and to reduce their carbon foot print. Overton Power as to date has installed approximately 14 net meters into the system since the net metering program started. The net metering systems range from 1 kW to 16.5 kW for residential. If a customer installs their own generating system in accordance with the District's policies, the customer can receive a financial incentive which shall appear as a credit on the customer's power bill and shall be paid in twelve (12) consecutive equal payments over the course of one year. This rebate can total up to \$2500 for residential customers and \$5000 dollars for large commercial customers.

### **System audits**

The District implemented an energy audit program in which OPD will perform an audit for any customer in the service territory. The purpose of the energy audit program is to encourage energy conservation and efficiency. The district has a trained auditor who by appointment will audit a customer's resident or business at no charge to the customer. The cost savings to the customer is determined on the participation of the customer. The auditor will make cost saving recommendations through his or her evaluation. A few different common techniques are used to help the customer be informed of changes they can make to help them to be more energy efficient. One great example is by the district use of an in-fared camera to determine any insulation value break down or gaps to interior and exterior walls thus increasing the cost of cooling in the summer and heating during the winter.

The auditor will also look at the efficiency and age of appliances. If an appliance is old and out of date it would be recommended to upgrade to a new and more energy efficient appliance. The costs and energy usage savings are customized to best suit the needs of each individual customer. Overton Power District makes many recommendations for the customer to choose their own cost saving plan that suits each household and business according to their own budget and goals, thus benefitting the customer and power district in conservation and energy savings for both parties.

### **Energy Efficiency & Conservation**

With energy prices at an all time high, and as energy consumption continues to rise among consumers Overton Power has established some common guidelines that if followed may reduce energy consumption and lower monthly energy bills. The information given through energy education primarily through the Districts website is designed to allow consumers to maintain a high standard of comfort and also lower their total kWh consumption. The energy savings

depends on the consumer's lifestyle and the way the homes are constructed. The goal is to teach the consumer to make better choices toward efficiency and reducing energy waste. Overton power participates in social media outlets such as Face Book and Twitter to answer questions and concerns to accomplish these goals. The topics which are covered are.

- 1- Efficiency
- 2- Energy consumption. Understanding the Biggest energy using appliances.
- 3- Insulation, understanding the R-values
- 4- Air Barriers
- 5- Windows, low-e ratings
- 6- Cooling. Understanding the SEER ratings.
- 7- Heating
- 8- Refrigeration maintenance
- 9- Energy-Saving Landscaping
- 10- Change Energy use habits by simple turning off lights when leaving a room, waiting till dishwashers are full before using, selecting correct water levels in washing machine to match loads also correct water temperatures setting for type of load , shorting shower times, lower heating temperatures a degree or two in winter and raising cooling temperatures a degree or two in the summer, these will take some sacrifices but making small changes here and there will add up to larger energy savings.

As growth continues in the Overton Power District we believe education of conservation and energy efficiency will continue to lower demand.