The City of Osage City Kansas

Proud Past • Brilliant Future

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July 28, 2012

Western Area Power Administration
Rocky Mountain Region
P.O. Box 3700
5555 E. Crossroads Blvd.
Loveland, CO 80539-3003

Re: Integrated Resource Plan (IRP)

Atten: Power Marketing Manager

Please find the enclosed copy of Osage City's initial IRP as well as a copy of Resolution No. 946, passed July 24, 2012 by the governing body supporting and creating this IRP.

The city would like to thank Bob Langenberger for his help and his willingness to review plan drafts throughout this process of developing our initial five year plan. The City of Osage City looks forward to a long and mutually rewarding partnership with WAPA.

Sincerely,

Mike Gilliland

Cc: Greg Wright, E.M.G.

RESOLUTION NO. 946

WHEREAS, the governing body of the City of Osage City, Kansas, (City) has heretofore agreed to purchase and accept delivery of an allocation of Western Area Power Administration (WAPA) resource and thereby is required to comply with the requirements of the Energy Planning and Management Program (EPAMP (10 CFR Part 905)) to meet the objectives of Section 114 of the Energy Policy Act of 1992 (EPAct) and,

WHEREAS, the development and implementation of an Integrated Resource Plan (IRP) allows the City to meet objectives set forth by Section 114 of the EPAct, and

WHEREAS, The City has developed said IRP and has made it available to all customers served by the City's electric distribution lines for comment; and,

NOW THEREFORE BE IT RESOLVED, by the Governing Body of the City of Osage City, Kansas, that the City accepts the IRP dated June 22, 2012, as approved by the City as the official IRP document agreed to and on behalf of the City and all customers served by the electric distribution lines as determined by resolution of the Governing Body of the City of Osage City, Kansas,

BE IT FURTHER RESOLVED, by the Governing Body of the City of Osage City, Kansas, that the City intends to monitor progress of the IRP and attempt to meet objectives and targets outlined in said document,

ADOPTED this 24th day of July, 2012.

QUINTIN ROBERT, Mayor

OSAGE CITY SEAL OSAGE COUNTY, KANSAS

ATTEST:

TERESA FULTZ, City Clerk

INTEGRATED RESOURCE PLAN (IRP)

Western Area Power Administration's (Western) customers must comply with the requirements of the Energy Planning and Management Program (EPAMP (10 CFR Part 905)) to meet the objectives of Section 114 of the Energy Policy Act of 1992 (EPAct). A Western customer is any entity that purchases firm capacity with or without energy, from Western under a long-term firm power contract. Integrated resource planning allows customers to meet the objectives of Section 114 of EPAct.

Integrated resource planning is a planning process for new energy resources that evaluates the full range of alternatives, including new generating capacity, power purchases, energy conservation and efficiency, renewable energy resources, district heating and cooling applications, and cogeneration, to provide reliable service to electric consumers. An IRP supports utility-developed goals and schedules. An IRP must treat demand and supply resources on a consistent and integrated basis. The plan must take into account necessary features for system operation, such as diversity, reliability, dispatchability, and other risk factors. The plan must take into account the ability to verify energy savings achieved through energy efficiency and the projected durability of such savings measured over time. *(See 10 CFR § 905.11 (a)).*

Who May Use This Form:

Utilities that primarily provide retail electric service that have limited staff, limited resource options, and obtain a significant portion of its energy needs through purchase power contracts are eligible to use this form. Utilities using this form may generate a limited amount of energy if the generating resources are primarily used as back up resources, to support maintenance and outages, or during periods of peak demand.

Completing This Form:

To meet the Integrated Resource Planning reporting requirement, complete this form in electronic format in its entirety. Unaddressed items will be deemed incomplete and the IRP may not be eligible for approval. All of the data fields in this form automatically expand. Additional information may be attached to and submitted with this report. Western reserves the right to require supporting back-up materials or data used to develop this report. If there is any conflict between this form and the requirements defined in EPAMP, the requirements in EPAMP shall prevail.

Submit the completed report with a cover letter to:

Attention: Power Marketing Manager
Western Area Power Administration
Rocky Mountain Region
P.O. Box 3700
5555 E. Crossroads Blvd.
Loveland, CO 80539-3003

EPAMP Overview

The Energy Planning and Management Program (EPAMP) is defined in the Code of Federal Regulations in Title 10, Part 905 (10 CFR 905). The purposes of EPAMP are to meet the objectives of the Energy Policy Act of 1992 (EPAct) while supporting integrated resource planning; demand-side management, including energy efficiency, conservation, and load management; and the use of renewable energy.

EPAMP was initially published in the Federal Register at 60 FR 54714 on October 20, 1995, and revised in 65 FR 16795 on March 30, 2000, and 73 FR 35062 on June 20, 2008. 10 CFR § 905.11 defines what must be included in an IRP.

Western's Energy Services Web site (www.wapa.gov/es/irp) provides extensive information on integrated resource planning and reporting requirements. If you have questions or require assistance in preparing your IPR, contact your Western regional Energy Services representative.

IRP Content

Cover Page ..... Customer Name & Contact Information
Section 1 ..... Utility/Customer Overview
Section 2 ..... Future Energy Services Projections (Load Forecast)
Section 3 ..... Existing Supply-Side Resources
Section 4 ..... Existing Demand-Side Resources
Section 5 ..... Future Resource Requirements and Resource Options
Section 6 ..... Environmental Effects
Section 7 ..... Public Participation
Section 8 ..... Action Plan and Measurement Strategies
Section 9 ..... Signatures and Approval

INTEGRATED RESOURCE PLAN (IRP)
5-Year Plan

Customer Name:
City of Osage City, Kansas

IRP History: Check one as applicable.	
X	This is the submitter's first IRP submittal.
	This submittal is an update/revision to a previously submitted IRP.

Reporting Dates:	
IRP Due Date:	May 1, 2012
Annual Progress Report Due Date:	TBD

Customer Contact Information: Provide contact information for your organization. The contact person should be able to answer questions concerning the IRP.	
Customer Name:	City of Osage City
Address:	201 South Fifth Street
City, State, Zip:	Osage City, KS 66523
Contact Person:	Mike Gilliland
Title:	Director of Utilities
Phone Number:	785-528-4124
E-Mail Address:	mgilliland@osagecity.com
Website:	www.osagecity.com

Type of Customer: Check one as applicable.	
X	Municipal Utility
	Electric Cooperative
	Federal Entity
	State Entity
	Tribal
	Irrigation District
	Water District
	Other (Specify):

SECTION 1 | UTILITY/CUSTOMER OVERVIEW

Customer Profile:
Enter the following data for the most recently completed annual reporting period. Data may be available on form EIA-861, which your submit to the U.S. Energy Information Administration (EIA).

Reporting Period	
Reporting Period Start Date (mm/dd/yyyy)	01/01/2011
Reporting Period End Date (mm/dd/yyyy)	12/31/2011
Energy Sales & Usage	
Energy sales to Ultimate End Customers (MWh)	32133
Energy sales for Resale (MWh)	0
Energy Furnished Without Charge (MWh)	63
Energy Consumed by Respondent Without Charge (MWh)	1173
Total Energy Losses (MWh entered as positive number)	1122
Total Energy Usage (sum of previous 5 lines in MWh)	34491
Peak Demand (Reporting Period)	8.3
Highest Hourly Summer (Jun. – Sept.) Peak Demand (MW)	8.3
Highest Hourly Winter (Dec. – Mar.) Peak Demand (MW)	5.9
Date of Highest Hourly Peak Demand (mm/dd/yyyy)	08/24/2011
Hour of Highest Hourly Peak Demand (hh AM/PM)	6:00 pm
Peak Demand (Historical)	
All-Time Highest Hourly System Peak Demand (MW)	9.9
Date of All-Time Hourly System Peak Demand (mm/dd/yyyy)	08/09/2009
Hour of All-Time Hourly Peak System Demand (hh AM/PM)	4:00 pm
Number of Customers/Meters (Year End of Reporting Period)	
Number of Residential Customers	1307
Number of Commercial Customers	296
Number of Industrial Customers	2
Other (Specify):	
Other (Specify):	
Other (Specify):	
Other (Specify):	
Other (Specify):	

Customer Service Overview:

Describe your customer service territory and the services provided. Include geographic area, customer mix, key customer and significant loads, peak demand drivers, competitive situation, and other significant or unique aspects of the customer and/or service territory. Provide a brief summary of the key trends & challenges impacting future resource needs including population changes, customer growth/losses, and industrial developments.

The City of Osage City has approximately a two square mile footprint. We are a full service city providing Electric, Gas, Wastewater, Water, Solid Waste Collection and Recycling utilities to nearly 3,000 constituents.

Osage City is proud to be the home of the second oldest municipal electric generating facility in the state of Kansas, with service to commercial customers beginning in the fall of 1890.

Currently our generating facility has just over 13 MW of capacity.

The electric usage is almost evenly divided between residential, commercial and industrial customers. In 2010 residential customers used 36%, commercial customers used 29% and industrial customers used 35%.

The city presently has only one large industrial customer, an injection molding plastics company. They represent a 2 MW load on our system with a 70-75% loadfactor.

It is approximately 35 + or – miles to any larger cities, with a number of smaller communities within that radius.

The population has grown very little over the last 20 years, but is not decreasing, as with many small mid-west communities.

The city's peak load requirement has leveled off somewhat, from many years of small but steady growth. More efficient building construction as well as older homes becoming more energy efficient, and customer awareness of energy efficiency efforts has also had a stabilizing impact on our local demand.

Electricity Utility Staff & Resources:

Summarize the number of full-time equivalent employees by primary functions such as power production, distribution, and administration. Describe any resource planning limitations, including economic, managerial, and/or resource capabilities.

The City of Osage City has four full time employees in the Electric Production Department. These include the Power Plant Supt., and three operators.

There are four full time Electric Distribution employees, including the Distribution Supt., one Journeyman Lineman, and two Apprentice Lineman.

The city has a Director of Utilities position that is responsible for all of the city's utilities including Power Production, Power Distribution, Water Treatment and Distribution, Wastewater Treatment and Collection and Natural Gas Distribution.

Funds are transferred from the Electric Fund to pay its share of Administrative costs.

These staff positions have limited resources and available time to administer energy related programs.

Historical Energy Use:

Enter the peak system demand and total annual energy use for the preceding ten (10) reporting years. For total energy, include retail sales, energy consumed or provided without charge, and system losses.

Reporting Year	Peak Demand (MW)	Total Energy (MWh)
2002	7.5	24,263
2003	8.4	23,884
2004	7.2	23,224
2005	8.7	34,548
2006	9.9	36,996
2007	9.7	37,282
2008	8.7	35,145
2009	8.7	36,042
2010	9.7	36,470
2011	8.3	32,136

SECTION 2 | FUTURE ENERGY SERVICES PROJECTIONS

Load Forecast:

Provide a load forecast summary for the next ten (10) years; **and** provide a narrative statement describing how the load forecast was developed. Discuss any expected future growth. If applicable, you may attach a load forecast study and briefly summarize the results in this section. *(See 10 CFR § 905.11 (b) (5)).*

Load Forecast:

Reporting Year	Peak Demand (MW)	Total Energy (MWh)
2012	9.7	36,652
2013	9.7	36,835
2014	9.8	37,200
2015	9.8	37,386
2016	9.9	37,572
2017	9.9	37,761
2018	10	37,950
2019	10	38,140
2020	10.1	38,330
2021	10.2	38,522

Narrative Statement:

The city load has leveled out over the past few years but will occasionally see swings in their overall load based on the business conditions of their largest customer. For the 10 year forecast the demand and energy was escalated a half percent per year. This large customer is a significant risk factor in planning, since their actions can impact the overall system.

SECTION 3 | EXISTING SUPPLY-SIDE RESOURCES

Existing Supply-Side Resource Summary:
Provide a general summary of your existing supply-side resources including conventional resources, renewable generation, and purchase power contracts (including Western Area Power Administration contracts). Describe the general operation of these resources and any issues, challenges, or expected changes to these resources in the next five (5) years. *(See 10 CFR § 905.11 (b) (1)).*

Currently, the city receives a small allotment (752) kW of Western Area Power Authority (WAPA) power in summer months and 632 kW in winter. There is an additional 2750 kW of base load from GRDA and then the city takes the balance from a load following resource from Westar Energy under a Units Most Likely Contract called UML. Anything above these three resources is provided from the SPP imbalance market or city owned generation.

The City has recently executed a contract to join a new power pool administered by the Kansas Municipal Energy Agency (KMEA) and referred to as the EMP3 power pool. The city will continue receiving their WAPA and GRDA allocation directly but then layer in other resources as obtained. The City will purchase the remainder of their energy requirements through a Westar load following agreement as they have been doing but in lesser quantities due to the buying opportunities of this member driven power pool. This arrangement will start in January 2014, and continue for at least 5 years from that date.

The EMP3 is a collaboration of 10 Kansas cities that keep their own resources but work together to share excess resources or obtain additional supply contracts.

Currently, the city has a point to point transmission contract for 1 mW of WAPA and it is making this resource non-economical as compared to the other resources. We are looking at ways to mitigate this problem by collaborating with the City of Burlingame on transmission synergies.

Once the EMP3 project is operational, we will be able to better optimize our resources. Today, however, as a stand-alone city, we will take all of our GRDA and WAPA first, and then lean on our allotment of Westar UML contract, and then finally, utilize our own generation or market non-firm energy for the balance.

Existing Generation Resources:

List your current supply-side resources, including conventional resources and renewable generation. If you do not own any generating resources, insert N/A in the first row. Insert additional rows as needed.

Resource Description (Identify resources as base load, intermediate, or peaking)	**Fuel Source**	**Rated Capacity (MW)**	**In-Service Date** (Year)	**Estimated Expiration/ Retirement Date** (Year)
Nordberg, FS6 138-HSC, peaking	Diesel & Nat. gas	1.135	1956	NA
Nordberg, FS6 138-HSC, peaking	Diesel & Nat. gas	1.250	1960	NA
Fairbanks Morse, 38TDD 8&1/8 peaking	Diesel & Nat. gas	2.050	2012	NA
Fairbanks Morse, 38TD 8&1/8 peaking	Diesel & Nat. gas	2.070	1967	NA
Fairbanks Morse, 38TDD 8&1/8 peaking	Diesel & Nat. gas	2.070	1970	NA
Fairbanks Morse, 38TD 8&1/8 peaking	Diesel & Nat. gas	1.135	1983	NA
Fairbanks Morse, 31AD 18 Peaking	Diesel & Nat. gas	1.798	1984	NA
Caterpillar, 3508, peaking	Diesel	.800	2000	NA
Caterpillar, 3508, peaking	Diesel	.800	2000	NA

Existing Purchase Power Resources:

List your current purchase power resources. Define whether the contract provides firm service, non-firm service, all requirements or another type of service. Include Western Area Power Administration resources. If applicable, include a summary of resources that are under a net metering program. Insert additional rows as needed.

Resource Description	**Fuel Source** (If applicable)	**Contracted Demand (MW)**	**Type of Service** (Firm, Non-firm, Requirements, Other)	**Expiration Date** (Year)
WAPA	Hydro	Winter CROD-.632 Summer CROD-.759	Firm	9-30-2024
GRDA	Coal, Hydro, Gas	2.750	Firm	2026

Resource Description	Fuel Source (If applicable)	Contracted Demand (MW)	Type of Service (Firm, Non-firm, Requirements, Other)	Expiration Date (Year)
Westar UML Contract	Nuc., Coal,Gas, Wind	3.724	Firm	12-31-2013
Market Energy			Non-firm	12-31-2013

SECTION 4 | EXISTING DEMAND-SIDE RESOURCES

Demand-side programs alter a customer's use pattern and include energy conservation, energy efficiency, load control/management, education, and distribution system upgrades that result in an improved combination of energy services to the customer and the ultimate consumer.

Existing Demand-Side Resources:
List your current demand-side programs, including energy conservation, energy efficiency, load control/management, education, or maintenance plans, or system upgrades. Programs may impact the utility distribution system, municipally owned facilities, and/or end-user energy consumption. Refer to Section 9 of this form for a list of example programs. Insert additional rows as needed.
(See 10 CFR § 905.11 (b) (1)).

Program Description	Estimated Program Savings (MW and/or MWh if known) (Include annual impact and impact over the life of the program if known.)
The city has retrofitted non-efficient street lighting over the past few years	Estimated savings of 88 mWhs. Approximate savings of $5,800 annually. 880 mWhs over 10 years
The City has implemented a tree trimming program to both reduce outages and reduce losses through energy going to ground.	Estimated savings is not quantifiable but both energy savings and customer services benefits exist
Key Account Large consumer Energy Conservation Support Program	125 mWhs saved through lighting retrofits
Customer Peak Shaving	The customer doesn't have an incentive in rates to peak shave at this time but is available to peak shave for others and has provided demand savings by generating at peak times
Interruptible Load or load shaping	The City doesn't have any customers that could potentially participate in interrupting load at this time. The City has recently implemented a new demand rate to encourage shifting their load from on peak to off peak times to increase loadfactor. The City will continue to evaluate opportunities with their customers on this initiative.

Program Description	Estimated Program Savings (MW and/or MWh if known) (Include annual impact and impact over the life of the program if known.)
Conservation/Energy Efficiency	The City will visit with customers on various energy efficiency products and opportunities. We will also conduct energy audits for customers at either at a reduced cost in collaboration with large consumers that can impact the load shape of the city.
Key account management	Work with City customers to help them understand power and how to efficiently use it. We will sit down with large users of power and explain how we buy and generate power and how their usage pattern can impact these costs.

SECTION 5	FUTURE RESOURCE REQUIREMENTS AND RESOUCE OPTIONS

Balance of Loads and Resources (Future Resource Requirements):
Provide a narrative statement that summarizes the new resources required to provide retail consumers with adequate and reliable electric service during the 5-year resource planning period. Identify any federal or state regulations that may impact your future resource requirements. If you are not experiencing or anticipating load growth and a need for new resources, describe your current procedure to periodically evaluate the possible future need for new resources.

Over the next 18 months, the City is not expecting to change its resources due to its existing contract with Westar. However, as it moves to a "project based" EMP3 pool they anticipate continuing to evaluate (via purchases contractually and not physical installation) additional resources to meet the retail customer's demands. The City is currently seeking to possibly sell some capacity to other pool members. This would not occur until January 2014.

The City currently has its own peaking capacity but it is being impacted by The National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines Rules that states that all emissions of toxic air pollutants from existing diesel powered stationary reciprocating internal combustion engines (NESHAP RICE) must be reduced. It will control emissions of formaldehyde, acetaldehyde, acrolein, methanol and other air toxics from diesel engines. This will increase city cost to maintain these units.

Currently, the City has experienced only moderate load growth so has not been in a position where it has needed to go out and obtain new resources. The energy portfolio in place is adequate at this time.

Identification of Resource Options

Identification and comparison of resource options is an assessment and comparison of existing and future supply-side and demand-side resources available to a customer based upon size, type, resource needs, geographic area, and competitive situation. Resource options evaluated must be identified. The options evaluated should related to the resource situation unique to each Western customer as determined by profile data such as service area, geographical characteristics, customer mix, historical loads, projected growth, existing system data, rates, financial information, and load forecast. *(See 10 CFR § 905.11 (b) (1)).*

Considerations that may be used to develop potential resource options include cost, market potential, consumer preferences, environmental impacts, demand or energy impacts, implementation issues, revenue impacts, and commercial availability. *(See 10 CFR § 905.11 (b) (1) (iii)).*

Future Supply-side Options:

List the future supply-side resource options that were considered and evaluated, including, but not limited to conventional generation, renewable generation, and power purchase contracts. Include a brief discussion on the applicability of each option for further consideration or implementation based on your system requirements and capabilities. If new resources are not required during the 5-year resource planning period, please indicate that below. Insert additional rows as needed.
(See 10 CFR § 905.11 (b) (1)).

Supply-Side Option	Applicability for Implementation or Further Consideration
KPP – 2 or 20 year membership	The city reviewed joining the Kansas Power Pool (KPP) and choose between a membership of 2 or 20 years. This would involve the city relying on the pool, and its staff, to make all arrangements and decisions on future power supplies. Currently there are 12 cities that have this sort of membership. The Board decided to increase the rate that the cities who do not increase membership to 20 years by 2.85%. Several members elected to terminate membership therefore cost will be increasing to remaining cities.
Westar Full-Requirements Contract	The investor owned utility who serves Osage City offers a 10, 15, or 20 year cost based full requirement contract that Osage City has researched.
Westar Partial requirement UML contract	Osage City researched taking service directly from Westar under the UML as they do now but felt there were better efficiencies if working in cooperation with other cities.
KMEA EMP3 Project	Osage City researched and accepted the offer from KMEA to participate with other cities to form a "collaborative" pool and manage their own resources by securing supplies independently, and then utilize KMEA to secure a load following resource (UML).
Bowersock Hydro	Renewable hydro was researched from the Bowersock Hydro project that could be obtained by the city but wasn't able, working independently, to secure this resource.

Future Demand-side Options:
List the future demand-side resource options that were considered and evaluated. Demand-side programs alter a customer's use pattern and include energy conservation, energy efficiency, load control/management, education, and distribution system upgrades that result in an improved combination of energy services to the customer and the ultimate consumer. Include a brief discussion on the applicability of each option for further consideration or implementation based on your system requirements and capabilities. Insert additional rows as needed. *(See 10 CFR § 905.11 (b) (2)).*

Demand-Side Option	Applicability for Implementation or Further Consideration
Encourage residential and commercial load management program	The community has not focused on helping customers manage their load over the years but could invest some time and effort into helping them understand and manage their loads in the future.
Off-peak rates	The city just implemented a rate ordinance that encourages consumers to take service with a demand and energy component and therefore use energy more efficiently or move to off-peak verses during time that the city demand is highest. Currently, there is a limit on the size and amount of load that can be served under this program while it is "tested". However, if feasible, the city can expand it and promote it.
Key account management	Work with large consumers to move production off-peak and help them to better manage usage. There is potential to work with these few customers to help them manage their usage and therefore help the city manage as well.
Residential Audit program	Offer and promote residential audit program to help consumers use energy more efficiently. City owns audit equipment so need to train staff to conduct audits and make improvement recommendations.
Establish a City Energy Task Force	Identify areas within the city's own facilities where energy can be conserved and establish timelines to make improvements This is an area the City has not focused on but can easily put in place.
Continuation of existing efforts	The efforts underway from Section 4 will be continued in the future.

Resource Options Chosen:

Describe the resource options that were chosen for implementation or further consideration and clearly demonstrate that decisions were based on a reasonable analysis of the options. Resource decisions may strike a balance among applicable evaluation factors such as cost, market potential, customer preferences, environmental impacts, demand or energy impacts, implementation issues or constraints, revenue impacts, and commercial availability. *(See 10 CFR § 905.11 (b) (1) (iv)).*

The city currently takes service with the resources that the new EMP3 is anticipating using so the main driver was reviewing the other options, and if there is benefit in collaborating with others verses standing alone as is the current arrangement. The following summary is what the Council used to decide how to proceed:

Discussion Points for City of Osage City KMEA EMP3 Decision

- Currently the City of Osage City has a contract that runs through December 31, 2013. This contract is for all city requirements above their other resources. Normally, the city would begin looking at their next contract beginning June 2012 to be completed around the end of the year. It would be reasonable to expect an extension of the UML contract would occur in some format. Kansas Municipal Energy Agency approached Osage City along with 5 or 6 other cities about collaborating together to form a "project based" pool.
- KMEA currently has two other pools; EMP1 with 5 member cities, and EMP2 with 9 member cities.
- The main driver of a pool was to better position wholesale cities to be prepared for the changes in the electric industry scheduled for April, 2014. And secondly, help cities to achieve lower purchase power cost through collaboration, synergies, and "volume buying" efforts.
- Currently 5 cities have committed fully to be in the EMP3. There are 5 others that have expressed an interest through a letter of intent to join subject to a couple of contingencies. There are 2 to 4 additional cities (*including Osage City*) that are reviewing it.
- The power supply "plan or strategy" is the same as currently in place for Osage City. However, if enough cities join, there may be some "diversity" savings since not all cities set a peak at exactly the same hour and time as other cities. KMEA is projecting at least a 16% diversity savings from this effort.
- Currently, Osage City buys a significant amount of their supply resources through KMEA with their GRDA contract (maroon on graph) and WAPA hydro contract (orange on graph). Based on KMEA's future projections, the fees attached to these contracts equals $40K per year.
- The new fees that Osage City will incur if the decision is made to participate in this EMP3 project are $24.4K per year. This amounts to about 1.2% of their total cost of wholesale power.
- The projected savings from obtaining a 16% diversity on the UML contract are approximately $32.5K, so comparing to the new incremental fees, there is a net savings of approximately $8K per year. In addition, the City will have access to the services it is anticipated will be needed in 2014.
- Other options for the city are:
  - Do nothing and plan to remain as a "stand-alone" city and watch the progress of this pool and possibly reconsider later.
  - Investigate other pool developments (KPP, Westar, etc.)
  - Negotiate to extend existing UML contract and attempt to have "roll-over" option to roll into a "then existing" pool.

SECTION 6 | ENVIRONMENTAL EFFECTS

Environmental Effects:

To the extent practical, Western customers must minimize environmental effects of new resource acquisitions and document these efforts. IRPs must include a qualitative analysis of environmental impacts in summary format. Describe the efforts taken to minimize adverse environmental effects of new resource acquisitions. Describe how your planning process accounts for environmental effects. Include a discussion of policies you conform with or adhere to, and resource decisions that have minimized or will minimize environmental impacts by you and/or your wholesale electricity supplier(s). Western customers are neither precluded from nor required to include a qualitative analysis of environmental externalities as part of the IRP process. If you choose to include a quantitative analysis, in addition to the summary below, please attach separately. *(See 10 CFR § 905.11 (b) (3)).*

The city will explore as part of their membership in the EMP3 any additional opportunities for renewable efficient resources. They are moving forward with retrofitting their IC units with environmental remediation to meet the RICE NESHAP requirements.

In addition, a part of our involvement with the EMP3 means a majority of the city's new supply will come from Westar Energy who has publicly stated that they are meeting all the more stringent environmental regulations. Also, GRDA has aggressively sought to adhere to the environmental requirements in place today. The following information has been provided by Westar and GRDA.

GRDA Compliance Policy:

POLICY NO. 6-1

ENVIRONMENTAL CONSIDERATIONS

I. OBJECTIVE: To establish a policy concerning environmental considerations in connection with the furnishing of an adequate and reliable supply of electric power and energy to customers.

II. POLICY: The Grand River Dam Authority will:

A. Plan, construct, and operate utility facilities so as to provide its customers with an adequate and reliable power supply that is compatible with the environment.

B. Place environmental considerations in proper perspective with other vital issues such as safety, reliability, and cost. This will include staffing of adequate personnel to implement an effective environmental policy.

C. Explore alternative actions in order to avoid adverse environmental effects, including cost-effective, pro-environmental energy sources.

D. Carefully assess the potential impact of its actions on physical, natural, and aesthetic resources in order to avoid adverse environmental effects, and restore or enhance environmental quality to the greatest extent practicable.

E. Endeavor to avoid actions which might contribute to pollution of the air, water, or land; threaten health and public welfare; damage ecological systems of Flora or Fauna; curtail the range of beneficial uses of the environment; or serve short-term objectives to the detriment of long-term environmental goals.

F. Endeavor to avoid actions which might be detrimental to or diminish public enjoyment of existing or planned recreation resources, or resources of historic and scenic value.

G. Endeavor to avoid actions which might conflict with existing or contemplated land-use planning policies or appropriate governmental bodies, or with other public services.

H. Fulfill its utility responsibilities in an environmentally aware and environmentally responsible manner; take affirmative action to actively cooperate with groups interested in environmental resources; and keep the public informed of significant construction plans.

I. Coordinate proposed transmission line construction to the maximum extent possible to avoid disruption of floodplains or wetlands where there is a practical alternative, and minimize environmental harm to floodplains and wetlands.

In implementing this policy on environmental considerations, the Grand River Dam Authority will be guided by the environmental criteria and guidelines issued by agencies of the Federal Government under the National Environmental Policy Act and, where appropriate, by environmental guidelines and criteria which might be issued by State and local governments in areas in which it operates.

III. RESPONSIBILITY: Board of Directors and Management.

This policy supersedes and cancels all other existing policies and instructions which may conflict with its provisions.

DATE ADOPTED: June 20, 1990
DATE AMENDED: _____
REVIEW SCHEDULE: Annually
DATE REVIEWED: March 21, 2012

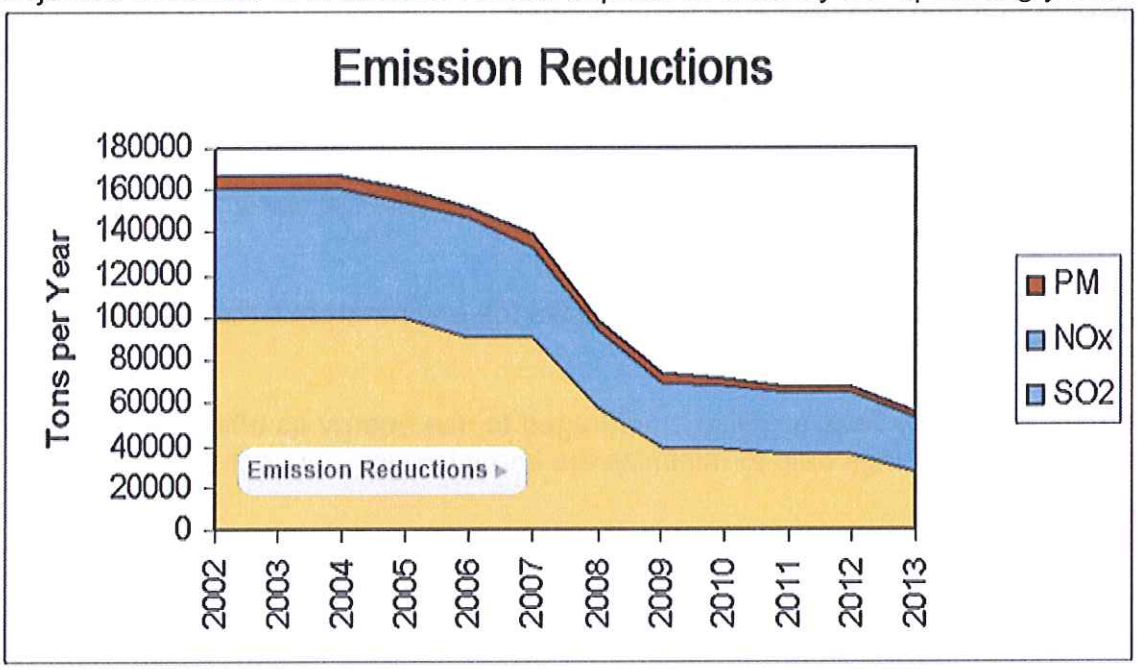
Stephen R. Spears, Chair

Daniel S. Sullivan, General Manager/CEO
Director of Investments

Westar has publically made the following statements:

Environment

Environmental issues are front and center in the world today and have had that status at Westar for a long time. We have been working with federal, state and local environmental agencies for years to ensure that our operations have the least impact on our natural environment. We deal daily with existing proposed environmental requirements, always searching for a balanced approach. The following chart shows the projected threshold of emissions Westar expects to meet by the upcoming years.



Westar Energy has initiated a variety of programs to preserve the quality of the air, land and water on and around its properties.

These innovative, award-winning projects aid Westar Energy in complying with the Clean Air Act, the National Pollutant Discharge Elimination System and other environmental requirements.

Under the new supply resource, 80% of the energy will be from the Westar Jeffrey Energy Center which is a coal fired generating station near St Marys Kansas. The following environmental upgrades have been undertaken by Westar to meet current requirements.

Scrubber Project

Existing SO2 scrubbers have been upgraded from the original design of 60% removal to systems capable of removing more than 95%. All three upgraded scrubbers are in

service and are meeting or exceeding our emission rate expectations.

- ✓ **Started:** Third Quarter 2007
- ✓ **Completed:** Second Quarter 2009
- ✓ Investment of $435 million dollars
- ✓ Sulfur dioxide (SO2) emissions reduced by 95+%
- ✓ Co-benefit mercury emissions reduced by 25+%
- ✓ Co-benefit particulate matter reduced by 20+%
- ✓ ~1,343 tons of structural steel.
- ✓ ~475 tons of grating, handrails, platforms, etc.
- ✓ 10,497 cubic yards of concrete used
- ✓ 850 contractors on site at one time
- ✓ More than 2,800,000 total man-hours worked
- ✓ After completion of the scrubber project, a whitish plume can be seen coming out of each stack. The plume is water vapor.

Low NOx Systems
To date, two systems have been installed (Units 1 and 3) with the last unit scheduled for installation in the spring of 2011.

The city also has the WAPA resource that benefits the environment because of it being a low-impact hydro supply.

All customers on the city lines are also encouraged to use energy as efficiently as possible. All of these things help to minimize the impact on the environment.

SECTION 7 | PUBLIC PARTICIPATION

Public Participation:
Customers must provide ample opportunity for full public participation in preparing and developing an IRP. Describe the public involvement activities, including how information was gathered from the public, how public concerns were identified, how information was shared with the public, and how your organization responded to the public's comments. *(See 10 CFR § 905.11 (b) (4)).*

This IRP has been discussed between city staff over meetings during the following groups:

1.City Staff
2.The City Council appointed Energy Committee
3.Various Council meetings

The Council meetings are covered in the local newspaper.

With the help of the city's energy consultant and through the results of these meetings the city has assembled the IRP. Some of the key issues that have come from these public forums are the desire for the city to maintain their independence, flexibility and the ability to control cost. They have inquired about maintaining levels of internal generation to cover their full load, the effectiveness of their rates and ordinances and the importance of public power to the community. They have also voiced concern about rates compared to other cities and the uniqueness of having a customer who uses such a large percentage of their total sales.

The public will again be invited to review and comment on the IRP during a public comment period during the last week of June. The notice of this review period will be posted in the local paper. There will also be a message posted in City Hall. The City Council will then accept the IRP in the subsequent meeting.

Additional comments will be accepted throughout the year for the yearly updates.

SECTION 8	ACTION PLAN & MEASUREMENT STRATEGIES

Action Plan Summary:

Describe the high-level goals and objectives that are expected to be met by the implementation of this resource plan within the 5-year resource planning period. Include longer term objectives and associated time period(s) if applicable. *(See 10 CFR § 905.11 (b) (2)) and (See 10 CFR § 905.11 (b) (6)).*

The long term goals of Osage City are to maintain the lowest cost energy supply for their customers and being a good steward of natural resources and the environment. They also want to be able to supply reliable, stable priced energy to help their community thrive.

This resource plan will help accomplish these goals by creating an avenue to collaborate and work together with neighboring cities to obtain a competitive power supply that comes from reliable, environmentally conscious power suppliers.

Osage City is committed to advancing the efforts of public power so dealing with public power entities will remain a priority, if possible.

The city is hoping to continue its community involvement through comments, suggestions, and increased participation in energy efficiency programs.

Specific Actions:
List specific actions you will take to implement your plan over the 5-year planning horizon.

New Supply-Side Resource Acquisitions:

List new resource options your organization is planning to implement, investigate, or pursue in the next five years. Include conventional generation, renewable resources, net metering programs, and purchase power contracts. Include key milestones such as the issuing an RFP, executing a contract, or completing a study. *(See 10 CFR § 905.11 (b) (2)).*

Proposed New Resource	Begin Date	Est. New Capacity (MW)	Milestones to evaluate progress and/or accomplishments
KMEA EMP3	01/01/2014	4	January 1,2014
Net metering agreement	01/01/2013		March 1,2013

New Demand-Side Programs & Energy Consumption Improvements:

List energy efficiency, energy conservation, and load management programs your organization is planning to implement or evaluate in the next five years. Include key milestones to evaluate the progress of each program. Insert additional rows as needed. *(See 10 CFR § 905.11 (b) (2)).*

Example programs could include:

- Education programs & communications
- Energy efficient lighting upgrades
- Energy audits
- Weatherization & Insulation
- Window/doors upgrades
- Boiler, furnace or air conditioning retrofits
- Programmable thermostats
- Equipment inspection programs
- Use of infrared heat detection equipment for maintenance
- Tree-trimming/brush clearing programs
- Electric motor replacements
- Upgrading distribution line/substation equipment
- Power factor improvement
- Loan arrangements for energy efficiency upgrades
- Rebate programs for energy efficient equipment
- Key account programs
- Load management programs
- Demand control equipment
- Rate designs
- Smart meters (Time-of-Use Meters

Proposed Items	Begin Date	Est. kW capacity savings per year	Est. kWh savings per year	Milestones to evaluate progress and/or accomplishments
Energy Task Force	9/2012	500	1,000 mwh	9/2013
Key Acct Mgt	12/2012	750	1,000 mwh	1/2014
Res. Energy Audits	1/2013	100	200 mwh	1/2014
Rate Design	1/2013	50	100 Mwh	1/2015
Line Clearance Program	1/2013	unknown	unknown	1/2015
Infrared Scanning	1/2014	unknown	unknown	1/2016

Measurement Strategies:
Describe your plan to evaluate and measure the actions and options identified in the IRP to determine if the IRP's objectives are being met. The plan must identify and include a baseline from which you will measure the IRP implementation's benefits. *(See 10 CFR § 905.11 (b) (6)).*

City Staff will meet quarterly on this to determine what tasks are being done towards meeting the IRP. A report will be given to the City Council twice a year to update on progress and public council meeting will be updated annually.

The baseline will be calendar year 2011which establishes how things have been and then document changes and compare against overall usage of the City. These changes will be noted and graphed for progress review.

WAPA requires Osage City to provide an annual progress report on the status of the action items they have identified as part of this plan. These updates will address the progress that has been made on each of the items listed in the earlier sections.

SECTION 9	SIGNATURES AND APPROVAL

IRP Approval:
Indicate that all of the IRP requirements have been met by having the responsible official sign below; **and** provide documentation that the IRP has been approved by the appropriate governing body (i.e. provide a copy of the minutes that document an approval resolution). *(See 10 CFR § 905.11 (b) (4)).*

Mike Gilliland	Director of Utilities
(Name – Print or type)	**(Title)**
(Signature)	June 22, 2012 **(Date)**

Other Information:
(Provide/attach additional information if necessary)

IRP Posting Requirement:
10 CFR § 905.23 of the EPAMP as amended effective July 21, 2008, facilitates public review of customers' approved IRPs by requiring that a customer's IRP be posted on its publicly available Web site or on Western's Web site. Please check the method in which you will comply with this requirement within thirty (30) days of receiving notification the IRP has been approved:

	Customer will post the approved IRP on its publicly available website and send the URL to Western.
X	Customer would like Western to post the approved IRP on Western's website.

IRP Updates:
Western's customers must submit updated IRPs every five (5) years after Western's approval of the initial IRP.

IRP Annual Progress Reports:
Western's customers must submit IRP progress reports each year within thirty (30) days of the anniversary date of the approval of the currently applicable IRP. Annual progress reports can be submitted using Western's on-line reporting tool, which can be accessed at: www.wapa.gov/es/irp