

## 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 (EPAAct). 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 EPAAct.

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 (EPAAct) 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](http://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

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# INTEGRATED RESOURCE PLAN (IRP) 5-Year Plan

<b>Customer Name:</b>

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

<b>Reporting Dates:</b>	
<b>IRP Due Date:</b>	7/1/2019
<b>Annual Progress Report Due Date:</b>	7/1/2019

<b>Customer Contact Information:</b> Provide contact information for your organization. The contact person should be able to answer questions concerning the IRP.	
<b>Customer Name:</b>	City of Baldwin City
<b>Address:</b>	803 8 <sup>th</sup> St, P.O. Box 86
<b>City, State, Zip:</b>	Baldwin City, KS 66006
<b>Contact Person:</b>	Rob Culley
<b>Title:</b>	Electric Production Director
<b>Phone Number:</b>	785-594-3261
<b>E-Mail Address:</b>	<a href="mailto:powerplant@baldwincity.org">powerplant@baldwincity.org</a>
<b>Website:</b>	

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

**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 you submit to the U.S. Energy Information Administration (EIA).

<b>Reporting Period</b>	
Reporting Period Start Date (mm/dd/yyyy)	01/01/2018
Reporting Period End Date (mm/dd/yyyy)	12/31/2018
<b>Energy Sales &amp; Usage</b>	
Energy sales to Ultimate End Customers (MWh)	33,450
Energy sales for Resale (MWh)	0
Energy Furnished Without Charge (MWh)	266
Energy Consumed by Respondent Without Charge (MWh)	0
Total Energy Losses (MWh entered as positive number)	1,184
Total Energy Usage (sum of previous 5 lines in MWh)	34,900
<b>Peak Demand (Reporting Period)</b>	
Highest Hourly Summer (Jun. – Sept.) Peak Demand (MW)	9.3
Highest Hourly Winter (Dec. – Mar.) Peak Demand (MW)	5.5
Date of Highest Hourly Peak Demand (mm/dd/yyyy)	07/12/2018
Hour of Highest Hourly Peak Demand (hh AM/PM)	6:00 PM
<b>Peak Demand (Historical)</b>	
All-Time Highest Hourly System Peak Demand (MW)	10.53
Date of All-Time Hourly System Peak Demand (mm/dd/yyyy)	08/02/2011
Hour of All-Time Hourly Peak System Demand (hh AM/PM)	4:00 PM
<b>Number of Customers/Meters (Year End of Reporting Period)</b>	
Number of Residential Customers	1,742
Number of Commercial Customers	232
Number of Industrial Customers	0
Other (Specify): Baker University	9
Other (Specify): Distributed Generation	15
Other (Specify):	
Other (Specify):	
Other (Specify):	

**Customer Service Overview:**

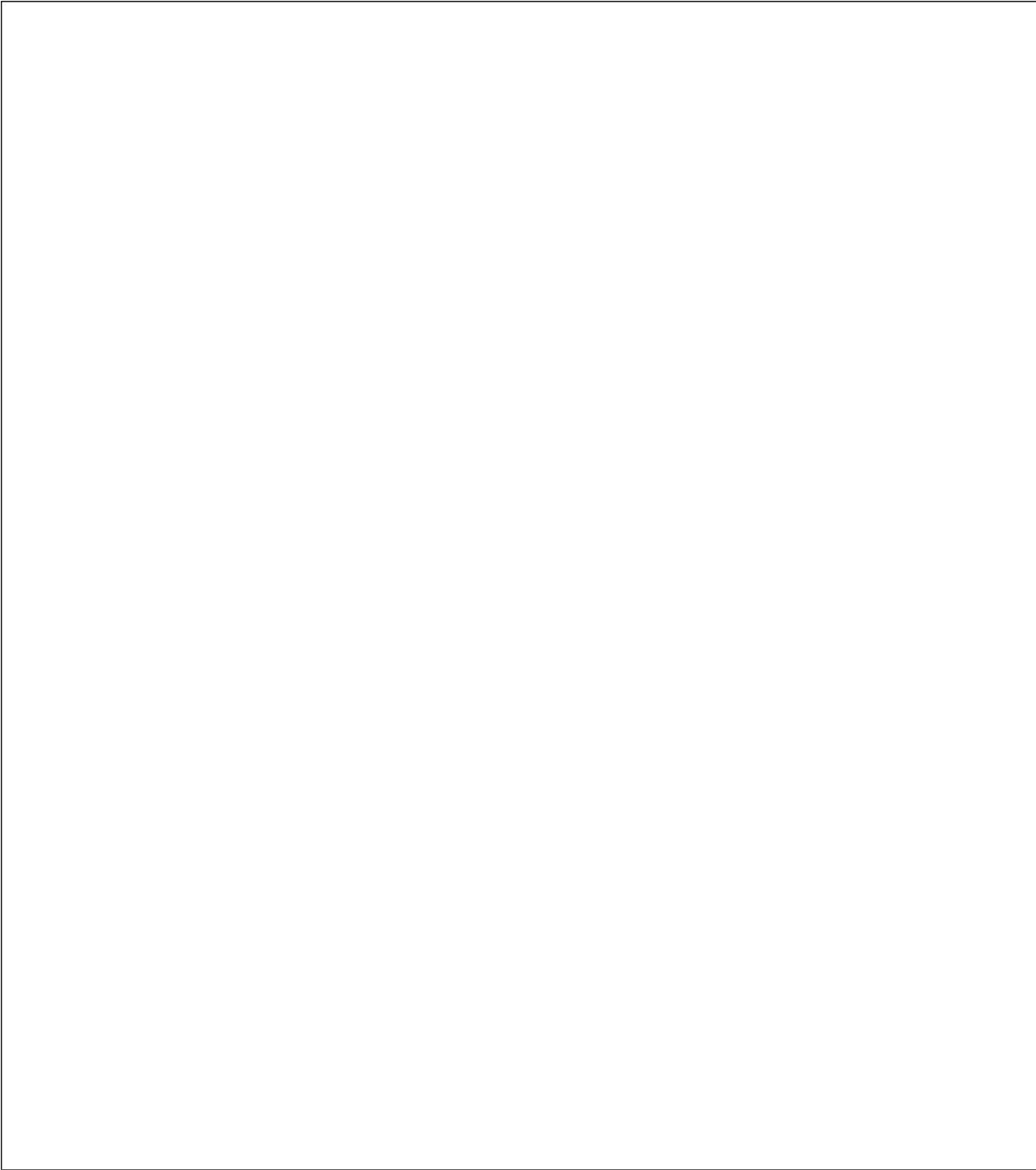
Describe your customer service territory and the services provided. Include geographic area, customer mix, key customer and significant loads, peak demand drivers, competitive situation, and other significant or unique aspects of the customer and/or service territory. Provide a brief summary of the key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

Baldwin City is located in Douglas County, Kansas, about 12 miles south of Lawrence and 15 miles west of Gardner. As of the 2010 census, the city population was 4,515. It is part of the Lawrence, Kansas Metropolitan Statistical Area. The City is home to Baker University, the oldest four-year university in the state, the Midland Railroad, and the annual Maple Leaf Festival.

With its proximity to Johnson County and upcoming industrial growth in neighboring communities, primarily the new BNSF Intermodal, Baldwin City is in a prime geographical area to see future residential and light commercial growth.

2018 Customer Breakdown is as follows;

<b>No. Cust.</b>	<b>Customer</b>	<b>Total KWH</b>	<b>Total % of Energy Usage</b>
1,742	Residential	17,875,059	53.44%
232	Commercial	10,250,321	30.64%
15	Distributed Gen	152,018	0.45%
<u>9</u>	<u>Baker University</u>	<u>5,172,688</u>	<u>15.46%</u>
		33,450,086	100%



**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.

**Power Production Department (3 full-time)**

- 1.0 FTE - Plant Superintendent: Overall department management
- 1.0 FTE - Operator: Plant Operator and assisting in maintenance duties
- 1.0 FTE - Trainee: Plant Operator and assisting in maintenance duties

**Distribution Department (5 full-time)**

- 1.0 FTE - Line Foreman: Overall department management
- 1.0 FTE - Lineman: Assisting in maintenance duties
- 2.0 FTE - Groundsman: Assisting in maintenance duties

**City Hall (6 full-time)**

- 1.0 FTE - City Administrator: Management over all City Departments
- 1.0 FTE - City Clerk: Management of documents and finances of City Government
- 1.0 FTE – Director of Finance: Manages Accounting of Finances
- 1.0 FTE - Utility Billing Clerk: Directly handles billing for all Utilities

**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)
2008	9.1	30,352
2009	9.0	29,871
2010	10.02	32,744
2011	10.53	33,531
2012	9.7	32,166
2013	9.3	31,665
2014	9.4	33,005
2015	8.9	30,446
2016	9.0	31,464
2017	9.0	30,691
2018	9.3	33,450

**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:

<b>Reporting Year</b>	<b>Peak Demand (MW)</b>	<b>Total Energy (MWh)</b>
<b>2019</b>	10.0	34,119
<b>2020</b>	10.2	34,801
<b>2021</b>	10.4	35,497
<b>2022</b>	10.61	36,207
<b>2023</b>	10.82	36,932
<b>2024</b>	11.04	37,670
<b>2025</b>	11.26	38,424
<b>2026</b>	11.49	39,192
<b>2027</b>	11.72	39,976
<b>2028</b>	11.95	40,775

Narrative Statement:

The City analyzed the peak demand data from the past 20 years, and the energy data from the past 10 years. As noted from the historical use section, the numbers fluctuate so much that the averages were not realistic for planning purposes. Therefore, the City used a growth factor calculation of 2% for demand and energy based on the 2018 actual data.

## 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)).

The City of Baldwin City is a member of the Kansas Municipal Energy Agency (KMEA), Kansas Municipal Utilities (KMU), and was one of the 5 founding members of the Energy Management Project #1 (EMP1) which consists of 6 eastern Kansas KCPL communities, who pool together their resources to gain maximum benefit.

Baldwin City's Resources include the following:

3 - MW of GRDA

100 - KW of Southwestern Power Administration

463/522 - KW of WAPA.

1 - MW of Marshall Wind Farm

1 - MW of Buckeye Wind Farm

Baldwin City has 5 dual fuel generators totaling 9.5 MW. 4 of the 5 generators have been upgraded to meet the 2013 EPA RICE NESHAP standard 40CFR Part 63. The remaining unit is currently used for Emergency Use Only.

Baldwin City's peak typically ranges from 5 MW in the winter months to just over 9 MW each summer.

**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.

<b>Resource Description</b> (Identify resources as base load, intermediate, or peaking)	<b>Fuel Source</b>	<b>Rated Capacity (MW)</b>	<b>In-Service Date (Year)</b>	<b>Estimated Expiration/Retirement Date (Year)</b>
Fairbanks Morse 38ETDD 8 1/8 Peaking Generation	DF	3.1	2003	2065
Fairbanks Morse 38ETDD 8 1/8 Peaking Generation	DF	3.1	2003	2065
Fairbanks Morse 38 TDD 8 1/8 Peaking Generation	DF	2.0	1970	2030
Fairbanks Morse 38 DD 8 1/8 Peaking Generation	DF	1.1	1964	2030
Fairbanks Morse 38 DD 8 1/8 Peaking Generation	DF	1.1	1964	2019?

**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.

<b>Resource Description</b>	<b>Fuel Source</b> (If applicable)	<b>Contracted Demand (MW)</b>	<b>Type of Service</b> (Firm, Non-firm, Requirements, Other)	<b>Expiration Date (Year)</b>
GRDA	Coal	3.0	Firm	04/30/26
WAPA	Hydro	.5	Firm	09/30/54
SPA	Hydro	.1	Firm	12/31/34
Marshall	Wind	1	Firm	3/1/35
Buckeye	Wind	1	Firm	6/1/33

**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)).

<b>Program Description</b>	<b>Estimated Program Savings (MW and/or MWh if known)</b> (Include annual impact and impact over the life of the program if known.)
Upgrade distribution system voltage from 2400 to 7200	Unknown
City has replaced an additional 125 of their Mercury Vapor and Sodium street lights to LED's.	Unknown
City has replaced all Residential and Commercial electric and water meters with AMI's. .	Unknown
City adopted a Net Metering/Parallel Generation policy	Unknown

## SECTION 5

# FUTURE RESOURCE REQUIREMENTS AND RESOURCE 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.

The City has approximately 9.5 MW of internal generation plus 4.02 MW of outside resources for a total of 13.52 MW of capacity

Baldwin City's peak load through the past 10 years was 10.53 MW. Our forecasted peak demand for 2028 is 11.95 MW

Baldwin City annually evaluates the need for new resources compared to the City peak load conditions. At this time, Baldwin City has ample resources to meet the needs of their community for the next 5 years.

Baldwin City in conjunction with KMEA is constantly searching for long and short term PPA's within various types of generation including coal, natural gas, nuclear, wind and solar. By looking at all available resources and pricing structures, the City will achieve maximum benefit, and optimum pricing.

**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
KMEA EMP1	EMP1 allows the City to receive their own most cost effective resources first to meet their own load obligations. Then the pool will purchase the necessary energy from the market to meet the City needs. Baldwin City does not anticipate any additional resources to meet their energy needs over the next 5 years.
Solar	The City recently signed a contract with Evergy to begin construction of a 1 MW solar field located in Baldwin City. This is a 30 year PPA, which is scheduled to go online by mid-August 2019. Baldwin City can at certain intervals within this contract, purchase the equipment outright and take ownership of the facility.


**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)).

<b>Demand-Side Option</b>	<b>Applicability for Implementation or Further Consideration</b>
Residential Customer Peak Shaving	Currently, the City has excess capacity and is not penalized by peak demands on the system, so Residential customer peak shaving is not economical at this time.
Interruptible Load	The City does not have any customers that could potentially participate in interrupting or shifting their load from on peak to off peak times.
Key account management	Work with large/key consumers to understand the retail rate structure and how the consumer can better manage usage. There is potential to work with these customers to help them manage their usage and therefore help the city manage as well.
Dist.Generation	Baldwin City has a very generous net metering/parallel generation policy. We have 15 total Dist. Generation customers, 4 of them are Commercial Class customers, with 1 current pending installation.

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**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)).

Baldwin City is a member of the KMEA EMP1 which allows each member to use their own resources first and then pool with the other Cities who might need additional power to optimize any power supply agreement. The diversity of all the Cities load allows Baldwin City to save money and pass that savings on to their retail customers.

Along with the City investigating their own options, KMEA also has a Power Supply Committee which provides ongoing review and analysis of long term energy needs and resources for their members.

## 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 has limited their environmental impact by purchasing over 21 % of their energy requirements from renewable sources including GRDA, WAPA, SPA, Marshall, and Buckeye. It is projected that once our new solar facility is online (summer 2019) it will increase our percentage of energy supplied by renewable sources to nearly 30%

The City plans to comply with all environmental regulations and plans to stay in compliance with the National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines Rules

Environmental Protection Agency (EPA) issued a rule (40 CFR Part 63 Subpart ZZZZ) that will reduce emissions of toxic air pollutants from existing diesel powered stationary reciprocating internal combustion engines (NESHAP RICE). It will control emissions of formaldehyde, acetaldehyde, acrolein, methanol and other air toxics from internal combustion engines.

Baldwin City has installed the necessary equipment on 4 of their 5 existing internal combustion generators to meet the RICE standards.

## 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 conducted over meetings during the following groups:

- 1.City Staff
- 2.A Public City Council meeting
- 3.Utility Committee Meeting

The results of these meetings aided in assembly of the IRP. The public will be invited to review and comment on the IRP during a public comment period from June , 2019 through July , 2019. The notice of this review period will be posted in the local paper and the draft IRP will be available on the City's website. A draft copy of the IRP will be available to anyone at City Hall.

The City is also planning to provide information on the public's response. There were public comments on the IRP.

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

The City of Baldwin City unanimously approved the IRP on July , 2019.

Baldwin City also participates in public outreach events such as the Baker Health Fair, and Maple Leaf Festival promoting energy efficiency. Lighting displays, literature, and other promotional items are used to enhance awareness, and allows City staff the opportunity to speak with customers about any concerns they have.

## 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)).

Baldwin City's long term goals are:

1. Maintain the lowest cost energy supply for our customers and continue good stewardship of our natural resources and the environment.
2. Provide reliable energy to our customers
3. Add additional distribution lines throughout the City to improve quality and lower line losses
4. Develop an Energy Efficiency/Conservation Program
5. Adding additional generation and/or substation as the load requires
6. Procure renewable power supply options.

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

The city has focused on who they do business with, and how they get their power as primary considerations in developing this IRP. Maintaining shorter term options allows us flexibility in the event a supplier changes the way they do business.

Baldwin City believes that the electric industry has evolved to the point that obtaining power supplies from governmental entities such as WAPA is the right strategy for contracting long term power. Baldwin City will continue to exercise caution when entering into long term agreements with private companies that the City has little control over their business practices.

Baldwin City will continue its community outreach efforts through comments and suggestions. Our goal is increased participation in energy efficiency programs.

Over the next 5 years, Baldwin City will evaluate the following programs

- Additional distribution line upgrades
- City Policy/Demand Side Management
- More defined Energy Efficiency/Conservation program
- New substation (Projected 2025)
- Adding additional renewable energy resources to our energy portfolio

**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)).

<b>Proposed New Resource</b>	<b>Begin Date</b>	<b>Est. New Capacity (MW)</b>	<b>Milestones to evaluate progress and/or accomplishments</b>
Solar	2019	1	Construction has begun on the site and is on track to meet start-up goal of August 2019. .

## 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 efficient lighting upgrades	2012-Current	Unknown at this time	Unknown at this time	The City has provisions to change out approximately 150-200 more high-pressure sodium, metal halide or mercury vapor street lights each year to LED's
Tree-trimming/brush clearing programs	2005-Current	Unknown at this time	Unknown at this time	The City budgets annually for contractual tree trimming services and also performs this internally with City Crews.
Infrared Scanning of equipment	2012-Current	Unknown at this time	Unknown at this time	Reduce Line Loss and Increase Power Factor.

Proposed Items	Begin Date	Est. kW capacity savings per year	Est. kWh savings per year	Milestones to evaluate progress and/or accomplishments

**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)).

Measurement of affect is somewhat difficult to gauge, but with solid baseline information, the City will continue to become more efficient with what the public is interested in and how to measure the impact of any new initiative.

The City will most likely use existing or past energy information compared to any new initiatives and the impact it has on the City's load profile.

The City will review and adjust, if needed, the load forecast and escalators used in the forecast.

**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)).

<b>Glenn Rodden</b>	<b>City Administrator</b>
_____ <b>(Name – Print or type)</b>	_____ <b>(Title)</b>
_____ <b>(Signature)</b>	_____ <b>(Date)</b>

**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:

X	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](http://www.wapa.gov/es/irp)