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May 9, 2017

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

**RE: Submittal of Integrated Resource Plan – 5-Year Plan
City of Colby, Kansas**

You will find enclosed a signed copy of our Integrated Resource Plan which was approved by the City Council on May 2, 2017. Resolution No. 1110 approving the IRP 5-year plan of the City of Colby is included herewith.

Please let me know if you have any questions or need any additional information.

Sincerely,



Tyson McGreer
City Manager

Enclosures

RESOLUTION NO. 1110

A RESOLUTION APPROVING THE INTEGRATED RESOURCE PLAN (2017 - 2021) OF THE CITY OF COLBY MUNICIPAL ELECTRIC UTILITY AND AUTHORIZING SAME TO BE FILED WITH WESTERN AREA POWER ADMINISTRATION.

BE IT RESOLVED by the City Council of the City of Colby, Kansas as follows:

THAT after having duly reviewed the 5 -year Integrated Resource Plan for the City of Colby's Municipal Electric Utility on May 2, 2017, the City Council hereby approves and adopts the City of Colby, Kansas Integrated Resource Plan (2017 - 2021).

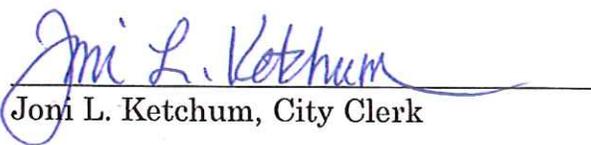
THAT the Clerk is hereby directed to attest to the authorized official's signature.

ADOPTED this 2nd day of May, 2017.



Gary L. Adrian, Mayor

ATTEST:



Joni L. Ketchum, City Clerk

Seal

PUBLIC NOTICE

City of Colby Integrated Resource Plan
2017 - 2021 5-Year Report

The City Council of the City of Colby will meet on May 2, 2017 at 5:30 p.m. in the Council Chambers for the purpose of reviewing the 5-Year Plan.

Plan on file with Western Area Power Administration, including projected goals, implementation schedules, resource expenditures, energy and capacity benefits, and renewable energy developments.

The public is invited to offer comments
on the
Integrated Resource Plan and
5-Year Report
which are available
at the office of the
City Manager
585 N. Franklin Avenue
Colby, KS 67701.

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 Colby, Kansas

IRP History:

Check one as applicable.

	This is the submitter's first IRP submittal.
<input checked="" type="checkbox"/>	This submittal is an update/revision to a previously submitted IRP.

Reporting Dates:

IRP Due Date:	May 15, 2017
Annual Progress Report Due Date:	May 15th

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 Colby
Address:	585 N. Franklin Avenue
City, State, Zip:	Colby, KS 67701
Contact Person:	Gordon Gilbert
Title:	Assistant Public Utilities Director
Phone Number:	785-460-4420
E-Mail Address:	line@cityofcolby.com
Website:	www.cityofcolby.com

Type of Customer:

Check one as applicable.

<input checked="" type="checkbox"/>	Municipal Utility
<input type="checkbox"/>	Electric Cooperative
<input type="checkbox"/>	Federal Entity
<input type="checkbox"/>	State Entity
<input type="checkbox"/>	Tribal
<input type="checkbox"/>	Irrigation District
<input type="checkbox"/>	Water District
<input type="checkbox"/>	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 you submit to the U.S. Energy Information Administration (EIA).

Reporting Period	
Reporting Period Start Date (mm/dd/yyyy)	01/01/2016
Reporting Period End Date (mm/dd/yyyy)	12/31/2016
Energy Sales & Usage	
Energy sales to Ultimate End Customers (MWh)	63,128
Energy sales for Resale (MWh)	0
Energy Furnished Without Charge (MWh)	0
Energy Consumed by Respondent Without Charge (MWh)	2610
Total Energy Losses (MWh entered as positive number)	3,998
Total Energy Usage (sum of previous 5 lines in MWh)	69,737
Peak Demand (Reporting Period)	
Highest Hourly Summer (Jun. - Sept.) Peak Demand (MW)	18.3
Highest Hourly Winter (Dec. - Mar.) Peak Demand (MW)	4.5
Date of Highest Hourly Peak Demand (mm/dd/yyyy)	06/21/2016
Hour of Highest Hourly Peak Demand (hh AM/PM)	4:30 PM
Peak Demand(Historical)	
All-Time Highest Hourly System Peak Demand (MW)	19.0
Date of All-Time Hourly System Peak Demand (mm/dd/yyyy)	07/21/2014
Hour of All-Time Hourly Peak System Demand (hh AM/PM)	4:30 PM
Number of Customers/Meters (Year End of Reporting Period)	
Number of Residential Customers	2,370
Number of Commercial Customers	630
Number of Industrial Customers	88
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 Colby is located in Northwest Kansas, a predominately agricultural region of the State. Colby is the governmental and commercial center of Thomas County and is the largest community in the nine Northwest Kansas counties with a population of 5,438. The population has trended downward since 1990 when the City's population was 5,650. Indicative of the common trend in rural Kansas, the younger workforce is migrating to urban centers and the population over age 65 is increasing; the over 65 group in Colby constitutes approximately 15.7% of the total population.

According to the 2010 Census, Thomas County had a total of 333 private non-farm business establishments. There are 273 establishments with 1-19 employees, 54 with 20-99 employees and 6 with 100-499 employees. The per capita personal income was \$26,309.

Weather is the key determinate of the electric peak load, with the summer cooling load driving the system peak. In the summer months, the average daytime and nighttime temperatures are 89.3 degrees and 60.1 degrees, respectively.

The top twenty customers of the utility based on KW Demand include an agricultural product processing facility, a grain elevator, two truck stops, the hospital, two grocery stores, three senior assisted living facilities, the junior college, school system, six motels, one apartment complex, two farm implement dealers, and one retail store for farm supplies.

There have been twenty - nine building permits for new homes issued in the City of Colby in the last 5 years. The location of the community on 1-70 about half way between Salina and Denver has enabled the service industry to flourish serving the 1-70 traveler.

Purchased power has represented over 99% of the electric supply during the last ten years. While City generation is not a principal source of electric energy, the facilities are a critical element of electric capacity needed to meet peak loads and for emergency backup power.

The City has continued to phase in the use of LED lighting. Since 2012 the City has installed approximately 500 LED street lights. We have also installed 50 LED replacement lights at city hall. This is a city-wide practice not only in business' but households as well. The city has seen growth in several houses and businesses. Although there has been structural growth, that has not transferred to a population increase or load demand. As technology and efficiency increase, we do not expect a large demand increase on our system.

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.

Colby has three people working in power production, six people working in transmission and distribution, and one assistant electric director. Administrative services are supplied by the City finance office and City manager. During 2011, a SCADA system was installed at the power plant and there was a reduction in force of three employees through attrition and retirement. The power plant is now manned Monday through Friday from 6 AM until 10 PM.

In 2014, the city converted all 6 engines to RICE/NESHAP compliance to maintain the capacity for our long-term capacity requirements. In 2017, the city will evaluate and develop a long-term strategy for our power plant. It is anticipated that a plan will be put into place by the end of 2017. This plan will likely set the standard for all future power supply. The city continues to develop a five-year plan on all other production and distribution facilities.

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)
2007	17.5	69,961
2008	16.2	68,295
2009	15.5	67,297
2010	17.3	71,229
2011	17.7	70,198
2012	18.2	69,774
2013	17.2	69,123
2014	19.0	68,961
2015	17.0	69,271
2016	18.3	69,737

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)
2017	18.3	69,911
2018	18.4	70,121
2019	18.4	70,366
2020	18.5	70,647
2021	18.5	71,000
2022	18.7	71,355
2023	18.7	70,891
2024	18.6	70,537
2025	18.6	70,890
2026	18.8	71,067

Narrative Statement:

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 has the following supply-side resources:

Midwest Energy, Firm Energy - 5 MW - Contract Expires March 1, 2019

Midwest Energy, Non-firm Energy- Contract Expires March 1, 2019

Western Area Power Administration - 2.0 MW - Contract expires September 30, 2054

Generating Units:

1963 Cooper-Bessemer Engine -2.5 MW-Dual Fuel

1958 Enterprise Engine - 1.75 MW- Dual Fuel

1952 Fairbanks Morse Engine - 1.36 MW - Dual Fuel

1970 Cooper-Bessemer Engine - 4.5 MW - Dual Fuel

1970 Cooper-Bessemer Engine - 4.5 MW - Dual Fuel

1964 Enterprise Engine - 2.75 MW - Dual Fuel

Because of the ages of the generating units, the rated capacity of 17.36 MW is not claimed for capacity credit purposes; only 12 MW is used for capacity credit purposes. The City would not be able to meet peak load using only generating units; therefore, the City has devised a plan for load shedding if contract power were unavailable during peak periods.

Generating units are operated for emergencies; total annual generation has averaged 48 hours per year in the last 5 years; however, the power plant was online for 312 hours in 2016 due to substation upgrades.

The City has a net metering policy which allows customers to add renewable energy behind their meters.

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)
1963 Cooper-Bessemer Engine	Dual Fuel	2.5	1963	Unknown
1958 Enterprise Engine	Dual Fuel	1.75	1958	Unknown
1952 Fairbanks Morse Engine	Dual Fuel	1.36	1958	Unknown
1970 Cooper-Bessemer Engine	Dual Fuel	4.5	1971	Unknown
1970 Cooper-Bessemer Engine	Dual Fuel	4.5	1971	Unknown
1964 Enterprise Engine	Dual Fuel	2.75	1977	Unknown

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)
Midwest Energy		5MW	Firm	2019
Midwest Energy			Non-Firm	2019
WAPA		2.0MW	Firm	2054

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.)
1) Replacement of forty 250 W HPS Street Lights with LED fixtures	22,400 kWh
2) Replacement of forty 150 W HPS Street Lights with LED fixtures	11,200 kWh
Continue Tree Trimming Program	
Installed all new electric meters in 2012 to ensure more accurate readings on consumer and city meters	2% of total use

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.

Although the City expects the load to maintain fairly consistent, plans are being made to purchase an additional 5 MW generating unit. Funds are being accrued in the Capital Improvement Reserve Fund with the purchase of the new engine planned for 2019. With the possibility of new generation, the City is also considering the expansion of the Power Plant substation with a 20 MVA transformer for future load growth.

In 2016/2017, the City rebuilt our Southwest substation to better serve our south portion of our load. This is the area that, if there was a load increase, this the expected area. We have planned this into the substation and should allow for many years of use with limited annual maintenance.

The City continues to evaluate our energy portfolio. City management is constantly evaluating wind, solar and other traditional power supply contracts. It is anticipated that the City will have 1MW of wind power by years' end.

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 relate 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
Renewable energy power purchase	City is exploring the purchase of wind energy in conjunction with Midwest Energy.
New Resources	The City does not anticipate acquiring new resources before 2019.
Contract Renewal	The existing contracts with Midwest Energy for firm and non-firm energy expire in May of 2019. The City anticipates renewing the contracts with Midwest Energy.
Other Resources	The City considered contracting with Sunflower but transmission constraints made this unfeasible.
KMEA EMP	Cities in the Midwest Service Area have met on five occasions to consider forming an EMP Group to share resources and generation. This continues to be a future possibility for Colby.
Renewal (solar and wind) Energy	Colby will support the addition of renewal energy behind the customer's meter but will not promote the renewable with rebates.

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
Conservation	Installing approximately 60 LED street lights in 2017.
Conversion	Changing 2400v primary to 7200v primary to reduce amperage.
Substation Modifications	Addition of a 20 MVA transformer at the power plant to aid in load control management and the capability of transferring loads throughout the system.
How\$mart Program	The City will continue to promote the How\$mart program through Midwest Energy for energy audit and efficiency improvements for residential and small commercial customers.
USDA Energy Efficiency Projects	City will promote applications to USDA by small business owners in Colby to obtain grants for renewable energy systems and energy efficiency improvements.

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 will consider purchasing 5 MW of Firm power and Non-firm power from Midwest Energy when contracts expire May 31, 2019 and 2 MW of power through Western Area Power Administration when the contract expires in 2054.

Midwest Energy is the service provider for power supply in the area. Transmission constraints have been a major factor in making this decision. New construction of transmission lines would have an impact on future resource options.

Unless new options become available, the City will consider renewing existing contracts with Midwest Energy.

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 receives 2 MW of hydropower from the Western Area Power Administration which aids in the reduction of carbon emissions and is a dependable and renewable resource.

Colby Community College has added a 50 KW wind turbine system on a college dorm and a 50 KW photovoltaic system on one of its main buildings. Along with the addition of these units, the College has also modified the facilities to their mechanical and control systems and made energy efficient lighting modifications campus wide. With the addition of these upgrades, the College has been able to manage their peak demand costs more effectively.

The City has a net metering policy which allows customers to install renewable energy behind their meters and to receive payment for any energy pushed into the City distribution system.

Midwest Energy has 20% renewal energy and the City obtains 99% of the firm and non-firm power from Midwest Energy.

The City will continue to monitor EPA regulations and evaluate the financial feasibility of upgrading power plant engines to stay in compliance with all regulations.

The City continues its practice of finding ways to limit our impact on the environment. This is accomplished mostly through the installation of LED fixtures throughout the cities facilities.

The City expects to contract for 1 MW of wind power for a 20-year term starting in 2017.

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)).

Customers of Colby Public Power are very interested in energy efficiency. Colby Public Power will continue to promote energy efficiency in the community.

Availability of the draft IRP was announced on the Government Access Channel and on the City website. Civic club groups were notified that the IRP was available and that the City was seeking input from the public.

The draft IRP was reviewed at the City Council meeting on May 2, 2017 and the agenda for that meeting will be published on the website.

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)).

With the implementation of the Integrated Resource Plan, the City of Colby continues to see benefits in the planning process. The City has used the plan in the past to help evaluate purchased power agreements and future resources as the need arises for the benefit of the community it serves.

During the planning process, the City has been able to designate needed improvements to the system to provide reliable service to its electrical customers at the lowest possible rate.

The City is planning to continue purchase power agreements with Midwest Energy and Western Area Power Administration. The City's load is expected to increase by .5% per year over the next five years. Plans are being made to purchase a 5 MW generation unit in 2019 as a new resource. The City is exploring the purchase of wind energy in conjunction with Midwest Energy. A substation upgrade to a 20 MVA transformer at the power plant in the future is also being planned.

Demand-side programs and energy conservation programs will also be evaluated over the next five years, including the use of infrared heat detection, tree trimming, smart metering, distribution, and substation upgrades.

In the planning process, the City continues to see implementation of energy conservation and more efficient HVAC by residents to help control costs by reducing their energy use during peak loading.

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
Possible Wind Generation			With the possibility of a wind energy project on the south side of the community, the City will pursue the possibility of purchasing added energy from this source in conjunction with Midwest Energy.
AMR Metering			In the future, add a smart metering program to help consumers reduce demand at their homes and facilities.
Solar Generation			As the economics of solar continues to become more feasible, the city will evaluate either building our own solar farm or enter a PPA for solar energy.

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
Continue the use of infrared camera through KMEA	2017			Have replaced switches in the power plant substation causing hot connections along with repairing other hot spot connections on distribution lines throughout the system.
Continue contracts for tree trimming	2017			Started a contract tree trimming project in 2007 in areas with limited access that used an experienced arborist to maintain proper clearances.
Energy efficient lighting	2017			Replace approximately 60 Fixtures per/year.
Smart Meters	2019			Upgrade meters to smart meters with time of use and load profile to help customers in energy conservation.

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)).

The City of Colby continues to use the integrated resource plan to develop reasonable opportunities to meet the utility's electric energy requirements. Using demand side management techniques, new renewable resources, energy efficiency opportunities, and other programs to provide the utility's customers electric service at the lowest possible cost.

Goals and objectives of Colby public power are reviewed annually during the budget process for the City and are formally approved on an annual basis by the City Council as part of the five-year capital outlay plan. The generation, purchased power, power sales and free service and line loss are provided for the previous year in the budget document. This actual usage will be compared to the load forecast and appropriate adjustments made as needed to the load forecast.

The annual report to WAPA on the IRP is provided to the City Council and input sought from the Council before filing the report on May 15th of each year.

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)).

Tyson McGreer

(Name - Print or type)

City Manager

(Title)

(Signature)

May 2, 2017

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:

<input type="checkbox"/>	Customer will post the approved IRP on its publicly available website and send the URL to Western.
<input checked="" type="checkbox"/>	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.