INTEGRATED RESOURCE PLAN (IRP)

Western Area Power Administration's (WAPA) 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 WAPA customer is any entity that purchases firm capacity with or without energy, from WAPA 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. WAPA 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.

WAPA's Energy Services Web site (https://www.wapa.gov/EnergyServices/Pages/energy-services.aspx) provides extensive information on integrated resource planning and reporting requirements. If you have questions or require assistance in preparing your IPR, contact your WAPA 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
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INTEGRATED RESOURCE PLAN (IRP)
5-Year Plan

Customer Name:
City of Lindsborg, Kansas

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

Reporting Dates:	
IRP Due Date:	April 7, 2017
Annual Progress Report Due Date:	April 7th - Annually

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 Lindsborg
Address:	101 S Main St, P.O. Box 70
City, State, Zip:	Lindsborg, KS 67456-0070
Contact Person:	Gregory DuMars
Title:	City Administrator
Phone Number:	785.227.3355
E-Mail Address:	gregd@lindsborgcity.org
Website:	www.lindsborgcity.org

	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)	01/01/2016
Reporting Period End Date (mm/dd/yyyy)	12/31/2016
Energy Sales & Usage	
Energy sales to Ultimate End Customers (MWh)	26,985
Energy sales for Resale (MWh)	0
Energy Furnished Without Charge (MWh)	0
Energy Consumed by Respondent Without Charge (MWh)	1,134
Total Energy Losses (MWh entered as positive number)	2,387
Total Energy Usage (sum of previous 5 lines in MWh)	30,586
Peak Demand (Reporting Period)	
Highest Hourly Summer (Jun. – Sept.) Peak Demand (MW)	8.4
Highest Hourly Winter (Dec. – Mar.) Peak Demand (MW)	4.5
Date of Highest Hourly Peak Demand (mm/dd/yyyy)	08/11/2016
Hour of Highest Hourly Peak Demand (hh AM/PM)	5:00 PM
Peak Demand (Historical)	
All-Time Highest Hourly System Peak Demand (MW)	8.9
Date of All-Time Hourly System Peak Demand (mm/dd/yyyy)	07/19/2006
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	1455
Number of Commercial Customers	219
Number of Industrial Customers	0
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 Lindsborg is located in Central Kansas, at approximately 20 miles south of Interstate 70 and two miles west of Interstate 135. As of the 2015 census, as certified to the Kansas Secretary of State by the Division of Budget, Lindsborg had a population of 3,383. The two largest neighboring towns are Salina, 15 miles to the north with a population of 47,813; and McPherson, 15 miles to the south, with a population of 13,144. Lindsborg is at the northern end of McPherson County, near the Saline County line. In 2015, the combined population of Saline and McPherson counties was 84,532.

Two business development groups in Lindsborg actively pursue business and industry, and strive to attract diversity in the business community. Agriculture is being challenged as the prime factor in the economic picture by education and tourism. Besides farm services, major employers represent manufacturers, health care, schools and retailers. Lindsborg's workforce includes Saline and McPherson counties. The total workforce for the two counties in 2015 was 47,291. The average unemployment rate was 2.8% for McPherson County and 3.7% for Saline County. Occupation of job applications were: manufacturing 8,008; services 11,207; government 5,816; agriculture 649 and unemployed 855. The CHS Refinery employs 511, Pfizer employs 453, and John Manville employees 304.

During the winter, the average daytime temperature is 31.4 degrees and the average nighttime temperature is 19.3 degrees. In the summer months, the average daytime and nighttime temperatures are 90.6 degrees and 64.6 degrees, respectively. The average temperature in January is 29.6 degrees. For July, the average temperature is 80.2 degrees. The area receives an average annual precipitation of 20.6 inches and an average annual snowfall of 16.9 inches.

The City provides electric, water and sewer utility services to the community. Natural gas service is provided by Kansas Gas Service. Westar Energy, Inc. provides bulk electric transmission service to the area, through which the City purchases all its electricity requirements from Westar and the Western Area Power Administration (WAPA). In June 2017, the City will begin receiving 300 kW of capacity from the Southwest Power Administration (SWPA). Lindsborg's water supply is pumped from seven city-owned wells, four inside the city and three located outside of town in the DS&O Rural Electric Cooperative Association's service territory. Sewer charges are based on monthly water usage, with average residential charges being approximately $37.95 per month.

The City's electric utility serves the 1.39 square mile territory located within the city limits. The surrounding territory is supplied by the DS&O Rural Electric Cooperative Association, Inc. The service territory is 98 percent urban and 2 percent suburban. Weather is the key determinate of the electric peak load, with the summer cooling load driving the system peak.

The utility has no generating facilities. All electricity distributed by the utility is purchased through an all-requirements contract with Westar Energy, which expires May 31, 2019; and through the WAPA purchase, which expires September 30, 2054. Beginning June 1, 2017, delivery of SWPA energy will begin and that contract expires September 30, 2020. The electricity is distributed by the utility at 7,200-volt and 4,160-volt primary voltages. There are only two retail rates: a residential rate consisting of a $15 customer charge and a 101.5 mill energy charge, and a commercial rate consisting of a $15 customer charge and a 101.5 mill energy charge. There is a purchase power cost adjustment adder.

During 2016, the utility served 1,455 residential customers and 218 commercial customers. Electricity sales growth for the five years ended 2016 has been around -0.4%, while customer growth has been at 0.1%.

With regard to the market potential for residential sales, the city's population has been holding steady. A projected modest customer growth translates into only slight growth in residential electricity sales, in the range of 1.0% to 2.0%.

Under the category of commercial sales, the single largest customer is the Bethany College, which has an enrollment of over 645 students. As depicted on Schedule 2, electricity sales to the college have decreased over the last five years at an average annual rate of 2.7%. The college has undergone a green initiative and one of the areas of focus has been energy conservation. As a result, the college decreased its electricity purchases by 451,185 kWh between 2012 and 2016. In the preceding 5 year time period the college decrease its purchases by 673,000 kWh.

The utility's major customers besides the college are: Bethany Home, which is an intermediate care facility housing 126 residents; the Lindsborg Community Hospital, which is a 25-bed critical access hospital; the school district, which operates one elementary school, one middle school and a high school within the city; Scott's Hometown Foods grocery; Columbia Industries; the Casey's General Store gas station and convenience store; and Mid-Kansas Co-op. Columbia Industries employs 44 full and part-time employees to assemble storm doors and windows. By way of comparison, the city electric utility department has just three employees.

Lindsborg competes with neighboring communities for commerce and new industry and views its electric, water and sewer rates, as well as its tax rates, as factors in remaining competitive. Lindsborg wants its utility and tax rates to be comparable to those in Salina, 15 miles to the north, and McPherson, 15 miles to the south. McPherson has a municipal utility with some of the lowest rates in the United States, averaging 46 mills per kWh for residential customers and 30 mills for commercial customers. Salina is served by Westar Energy, which has residential rates averaging 128 mills and commercial rates averaging 52 mills. In comparison, Lindsborg's historical residential and commercial rates average 80 mills. The current residential and commercial rates average 101 mills. Lindsborg also wants its electric rates to be competitive with DS&O Rural Electric Cooperative, which serves the area surrounding the city. Presently, residential and commercial rates in Lindsborg are slightly lower than for DS&O.

The utility's electric energy sources consist entirely of purchased power. As shown on Schedule 4, the utility purchased approximately 91% of its energy and 87% of its capacity from Westar Energy, with the remainder coming from WAPA. In its contract with Westar Energy, the utility agrees to purchase all its requirements, except for WAPA purchases, from Westar Energy until May 31, 2020. Because the utility is tied to the long-term Westar Energy contract, there is little opportunity to reduce purchased power cost rates.

Lindsborg owns and operates its electric utility as a service to and for the benefit of the community. As such, the utility's goal is to provide reliable electric service at a reasonable price. As a benefit to the community, the utility provides electric service at no charge to the water and sewer department, city buildings, street lights, and the city ball park, tennis court and swimming pool. The city transfers interest earned on surplus electric department deposits to the general fund. Periodically, net revenues produced by electric operations are also transferred to the city's general fund.

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 Lindsborg purchases all its power needs and is therefore an electric distribution utility. The distribution department is comprised of 3 FTE's, 1 supervisor with 2 linemen. Administration consists of 4 employees who comprised 1.25 FTE for the electric utility. The Public Works Director spend ¼ of his time as Director of Utilities; Finance Director spends ¼ of time on financial affairs of the utility; Utility Billing Clerk spends ½ of her time with electric utility business; and, the City Administrator spends ¼ of his time with general management responsibilities of the electric utility.

Due to the small size of the utility, it is not economically feasible to have an in-house engineering staff and this service must be contracted. With engineering fees running between $150 to $200 per hour, prudent use of consultants is made after determining the impacts both negative and positive that the service will have on the electric utility

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	8.3	27,962
2008	8.2	27,246
2009	7.5	26,262
2010	8.2	28,823
2011	8.5	28,641
2012	8.6	30,588
2013	8.0	30,296
2014	8.5	30,271
2015	8.7	29,897
2016	8.4	30,506

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	8.5	30,750
2018	8.5	30,996
2019	8.6	31,244
2020	8.7	31,494
2021	8.8	31,777
2022	8.9	32,062
2023	8.9	32,350
2024	9.0	32,674
2025	9.1	32,952
2026	9.2	33,232

Narrative Statement:

In 2009, Lindsborg participated in a statewide municipal generation study. The study assumed a 1.0% growth in peak load. That forecast did not meet the actual growth projection. The impact of the recession caused a flat peak load growth. Based upon that experience, the forecasted load growth for 2017, 2018 and 2019 is 0.8%. The growth rate for 2020, 2021, 2022 and 2023 is 0.9%. And for the years 2024, 2025 and 2026 the projection is 1.0% growth. This is a moderated growth rate to reflect a slow but stable recovery from the recession of 2008 through 2009. The only segment of customers that is experiencing growth is the commercial sector. 2016 saw a growth in new residential building permits and that is also reflected in the forecast and there is a pent-up demand for new housing.

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 Lindsborg electric utility purchases all its power needs through power supply contracts. Currently, Lindsborg is served by Westar Energy and the Western Area Power Administration. The contract with Westar Energy commenced on May 31, 2010 and expires on May 31, 2020. It is a 10-year full requirements contract. The generation mix for Westar Energy is coal, nuclear, natural gas, wind and purchased power. Under the current Westar Energy Generation Formula Rate (GFR) contract, the city is not allowed to develop or use any other generation, except for Federal PMA hydropower.

Lindsborg has a contract with the Southwestern Power Administration (SWPA). The city is working with the Kansas Municipal Energy Agency to begin taking delivery of power for SPA. The transmission study has been completed and the city can take delivery of SPA. Currently the city, KMEA and SWPA are working through the administrative details with the goal of receiving power beginning June 1, 2017. The SPA hydropower allocation is for 300 kW of capacity and 24 MWh of energy.

The city receives an allocation of hydropower from the Western Area Power Administration (WAPA). By contract, Lindsborg receives 2 MW of capacity and 5,516 MWh of energy. By Federal regulation, WAPA may reallocate a portion of capacity and energy on a periodic basis.

The City of Lindsborg does not have any of its own generation resources.

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)
N/A				

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)
Westar Energy	Mixed	Full	Firm	2020
Western Area Power Admin.	Hydro	2	Firm	2054
Southwestern Power Admin.	Hydro	0.3	Firm	2019

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.)
coolSAVINGS® Air Conditioner Rebate Program. Since 2012. Rebate for replacement of 10-year-old or older AC unit.	Unknown
4 customers with Solar Panel generation -2 Residential -2 Commercial	Unknown
2 Customers with Ground Source Heat Pump	Unknown

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.

The City of Lindsborg has a firm power supply contract with Westar Energy that expires May 31, 2020. The city is working with the Kansas Municipal Energy Agency (KMEA – a joint action agency) on future resource planning and power supply options. One option currently under consideration for 1-2 MW's is the Dogwood Generating Facility which is a gas fired combined cycle generating facility. Sawvel and Associates is currently conducting an economic study of this opportunity as a piece of the city's future power supply.

Other options being considered include renewal of the Southwestern Power Administration hydro resource, wind resources through a purchase power agreement, community solar project, a baseload agreement with Sunflower Electric Power Company, Grand River Dam Authority power and participation in the Kansas Municipal Energy Agency's Energy Management Project 3 (KMEA EMP 3). The goal of the future power supply upon expiration of the current Westar Energy full requirements contract is to have a diversified portfolio of power supply resources at economic rates. A diversified portfolio means diversification of resources, diversification of power supply sources and a diversification of power supply terms.

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 WAPA 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
Dogwood Energy Center	Currently studying the economic feasibility of purchasing 1-2 MW interest in natural gas combined cycle facility.
Sunflower Energy Power Company	Solicited a 3 MW baseload purchase power agreement. Have not received proposal.
Wind Power	Purchase power agreement for consideration but is dependent on developer obtaining an anchor customer.
Southwestern Power Administration	Current 300KW hydropower agreement expires in 2019. Working through KMEA on a 15-year extension.
Grand River Dam Authority	Studying the possibility of a purchase power agreement for 1 MW through GRDA's diversified asset portfolio
Community Solar	Exploring the potential for community solar program.

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
Air Conditioning Rebate Program (coolSAVINGS®)	Reauthorizing the air conditioner replacement for residential customers and consideration
Net Metering Policy	Studying new net metering policy that encourages distributed generation (DG) but does not shift distribution system costs onto those customers without DG
New Substation & Distribution Line	New substation & distribution feed are being constructed to feed into the Lindsborg Substation
LED Streetlight Program	Existing streetlights are being retrofitted with energy efficient LED heads

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)).*

coolSAVINGS® Air Conditioner Rebate program was implemented in 2012 and over 88 residential customers have received rebates. The average SEER of the old air conditioner unit was 9.52 and the average SEER of the new unit is 14.38. $1,450 remains in the coolSAVINGS® Air Conditioner Rebate fund. Will look at re-implementing the program and the possibility of adding small commercial HVAC systems.

Examining modifying the existing net metering policy. The current policy provides the distributed generation customer kWh credit at retail rates. This framework does not recover the distribution system costs for the utility and shifts those distribution system costs to customer who do not have distributed generation assets. Currently working with Kansas Municipal Utilities on a model net metering policy that recovers distribution system costs, but still encourages customer generation. The policy developed would be a model that could be implemented locally as well as statewide for municipal utilities.

The Coronado Substation is being constructed ½ mile west of Lindsborg which will also include a new distribution line into the Lindsborg Substation. Currently Lindsborg is served out of the West McPherson Substation approximately 18 miles away. The existing distribution feed has 40-year old poles and conductor. The City has been working with Westar Energy for an updated and modernized feed. The Coronado Substation is currently under construction along with the new 34.5 kVA distribution line into the Lindsborg Substation. The new conductor along with the shorter distribution feed distance will reduce line loss and provide reliability improvements. The new substation and distribution feed are scheduled to be energized June 1, 2017.

SECTION 6 | ENVIRONMENTAL EFFECTS

Environmental Effects:
To the extent practical, WAPA 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). WAPA 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)).*

During the next 3 years, the City of Lindsborg is under a full requirements contract with Westar Energy, Inc. Westar Energy complies with a statewide renewable portfolio standard, so therefore, the City of Lindsborg. If the City of Lindsborg comes under a stricter RPS than Westar Energy, by contract, Westar must ensure that the resource mix for the Lindsborg utility meets the requirements of the stricter RPS.

Future power supply options to pursue include renewables such as wind power and community solar. These will be studied and pursued if the energy can be delivered economically. The goal is to have a diversified mix of resources and that mix will include renewables to reduce the city's carbon footprint.

Lindsborg does embrace energy efficiency programs. A $0.001 per kWh adder is included in the retail rates for energy efficiency programs. These programs promote the efficient and conservative use of energy. This efficient and conservative use reduces the generation load to serve Lindsborg's needs, therefore minimizing environmental impacts reduced demand and energy consumption through fossil fuel based generation.

Lindsborg, through KMEA has extended its contract for WAPA hydroelectric power through 2054. Additionally, June 1, 2017, Lindsborg is scheduled to start taking delivery of it 300 KW allocation of Southwestern Power Administration hydroelectric power. Both of these resources reduce the need for fossil fuel based generation.

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)).*

The Integrated Resource Plan (IRP) was on the agenda for two (2) public meetings.

1. April 14, 2017, City Council meeting: A preliminary draft of the IRP was reviewed and open for public input. Council agenda and documentation are publicly distributed prior to meetings.
   No public input received.
2. May 1, 2017, City Council meeting. IRP presented for input, consideration and approval. No public input received.

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)).*

Consistent with the timeframe set out in the regulations of Western's Energy Planning and Management Program, this electricity resource plan will cover the five years 2018 to 2022. The actions to be implemented under the plan are defined by the following basic parameters:

1. the marginal costs of capacity and energy are equal to or less than the rates in the all-requirements contract with Westar, plus distribution losses.
2. the load shape objectives are load shifting during the summer and valley filling during the winter.
3. energy conservation for city use would be beneficial.
4. the rate impact measurement (RIM) criteria is appropriate.

The primary focus during the coming five year planning cycle is the replacement of the current full requirements contract with Westar Energy which expires May 31, 2020. With the advent of the Southwest Power Pool Regional Transmission Organization, coupled with the growth in renewables, the option for supplying the capacity and energy needs of Lindsborg have expanded. Additionally this has reduced the current cost of capacity in the market to an average of 24% of the capacity cost under the current Generation Formula Rate (GFR) contract with Westar Energy.

The focus of new power supply will be through purchase power agreements (PPA) which provide different resource options and different expiration terms. This new portfolio of power supply will aim to provide safe, reliable and economic supply options for the city. The options

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
Net Metering Policy	01/2018	Unknown	Development of statewide municipal net metering policy and adoption of policy by City Council.
Renew Southwestern Power Administration hydropower contract	05/2019	0.3	Negotiation of new contract and approval by City Council
Dogwood Energy Center Combined Cycle Gas Turbine	12/2018	2	Economic feasibility completed; SPP transmission study completed; financing closed; approval by City Council
Grand River Dam Authority Resource mix of hydro, wind, gas & coal	6/2020	2	Economic feasibility study completed; SPP transmission study; approval by City Council
Sunflower Electric Power Corporation	6/2020	3	Proposal received 5/2017; SPP transmission study; approval by City Council.
Wind Purchase Power Agreement (PPA)	6/2020	Undetermined	RFP for wind PPA; economic feasibility study completed; SPP transmission study; approval by City Council
Community Solar	6/2020	Undetermined	RFP for community solar development; approved by City Council

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
coolSAVINGS® Air Conditioner Rebate Program	Already in place	Unknown	8%	Database of customers participating in program. Annual analysis to measure impact
LED Streetlight Retrofit Program	2014	Unknown	46,062	Monthly meter readings with 2014 as baseline
Annual Tree Trimming Program	Already begun	Unknow	Unknown	Contract annually for ¼ of the city to be trimmed. Measured by number of tree caused outages.

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)).*

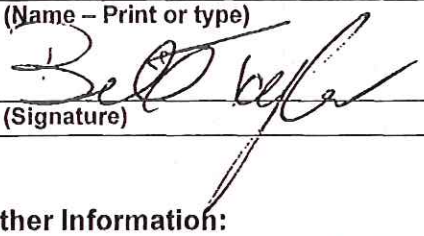
coolSAVINGS® Air Conditioner Rebate Program will be measured in terms of how many rebates are paid. For customers receiving a rebate, database is developed to track kWh usage after replacement of 10 year or older air conditioner with an energy efficient air conditioner and compare to customers' prior consumption history.

LED streetlight retrofit program will be measured in annual kWh savings using 2014 as the baseline year. All streetlight circuits are metered and read monthly. The aggregate monthly readings will be used to measure annual kWh savings.

The annual tree trimming program will continue to trim one quadrant of the service territory annually. The success of the program will be measured through outage management and the cause of the outages. In 2016 there were two outages related to trees on customer service lines and zero outages due to trees on the distribution system.

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)).*

Bill Taylor (Name – Print or type)	**Mayor** (Title)
 (Signature)	**May 1, 2017** (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 WAPA'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 WAPA.
X	Customer would like WAPA to post the approved IRP on WAPA's website.

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

IRP Annual Progress Reports:
WAPA'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 WAPA's on-line reporting tool, which can be accessed at:
http://www.wapa.gov/FormsAuth/Login.aspx?ReturnUrl=/irpsubmit/irpsubmit.aspx

City of Lindsborg
Value of WAPA Power Compared to All Westar Energy Purchases
Using 2016 Billing Records

Pro Forma Westar Billing Assuming No WAPA Power						Actual Westar Billing	Wester Difference	Actual WAPA Cost	Compared to WAPA
Billing Demand	Demand @ $20.290	kWh Energy	Energy Rate	Energy Cost	Total Cost				
4,450	$90,290.50	2,446,637	0.02398	$58,665.71	$148,956.21	$129,579.26	$19,376.95	$6,586.00	$12,790.95
3,915	$79,435.35	2,014,243	0.02339	47,115.76	126,551.11	108,883.88	17,667.23	5,199.86	12,467.37
3,269	$66,328.01	1,947,495	0.02027	39,948.80	106,276.81	89,482.29	16,794.52	5,302.46	11,492.06
4,636	$94,064.44	1,892,709	0.02038	39,031.75	133,096.19	112,257.23	20,838.96	9,067.81	11,771.15
5,235	$106,218.15	2,090,522	0.01852	38,723.16	144,941.31	125,828.13	19,113.18	9,516.66	9,596.52
7,959	$161,488.11	3,195,550	0.02085	66,620.19	228,108.30	217,336.22	10,772.08	8,692.30	2,079.78
8,266	$167,717.14	3,655,675	0.01980	72,399.55	240,116.69	228,015.12	12,101.57	9,968.79	2,132.78
8,412	$170,679.48	3,446,911	0.02185	75,311.90	245,991.38	237,393.98	8,597.40	2,909.88	5,687.52
7,706	$156,354.74	2,899,903	0.02310	66,994.72	223,349.46	214,157.48	9,191.98	173.89	9,018.09
5,459	$110,763.11	2,306,446	0.02429	56,031.42	166,794.53	156,471.99	10,322.54	854.60	9,467.94
4,038	$81,931.02	2,087,408	0.03035	63,343.86	145,274.88	132,709.87	12,565.01	5,198.95	7,366.06
4,399	$89,255.71	2,522,633	0.02628	66,284.96	155,540.67	141,720.22	13,820.45	5,382.87	8,437.58
8,412	$1,374,525.76	30,506,132	22.63	$690,471.78			$171,161.87	$68,854.07	$102,307.80
	$163.40								
					2,064,998	1,893,836	171,161.87		

City of Lindsborg, Kansas
Energy Resource Plan (2013-2017)
Demand-Side Management Programs - Long List

Valley Filling:

Residential:

- Heat storage.
- Security lighting.
- Compact Fluorescent Lighting.
- Time-of-use rates and metering.

Commercial and industrial:

- Cool storage.
- Security lighting.
- Battery storage system.
- Time-of-use rates.
- Demand rates and metering.

Load Shifting:

Residential:

- Ceiling insulation
- Air conditioning cycling control
- Cooling duct insulation
- Water heating cycling control
- Load management thermostats

Commercial and industrial:

- Air conditioning cycling control
- Cooling duct insulation
- Water heating cycling control
- Load management thermostats
- Commercial cool storage
- HVAC equipment maintenance

Month	KWh Purchased	KW Peak Load	Load Factor
January	2,446,637	4,393	74.9%
February	2,014,243	3,901	76.8%
March	1,947,495	3,316	78.9%
April	1,892,709	4,638	56.7%
May	2,090,522	5,046	55.7%
June	3,195,550	7,891	54.4%
July	3,655,675	8,102	60.6%
August	3,446,911	8,139	56.9%
September	2,899,903	7,428	54.2%
October	2,306,446	5,262	58.9%
November	2,087,408	3,905	74.2%
December	2,522,633	4,769	71.1%
Annual	30,506,132	8,139	42.8%

City of Lindsborg, Kansas
Electricity Resource Plan (2013-2017)
Energy Sources

Source	Actual 2016 kWh	Actual 2016 Cost	Actual 2016 Mills/kWh	Projected 2017 kWh	Projected 2017 Cost	Projected 2017 Mills/kWh
Westar Energy, firm power	30,506,132	1,067,267	34.99	30,996,183	$1,084,866	35.00
Western (WAPA), firm power	-	(1,316)	#DIV/0!	-	#DIV/0!	#DIV/0!
Totals	30,506,132	1,065,951	34.94	30,996,183	#DIV/0!	#DIV/0!

Note: The cost of purchased power includes transmission and transmission line losses.

	Westar Energy	Westar Trans.	WAPA Energy	Total Cost
January	58,665.71	30,687.02	1,359.56	90,712.29
February	47,115.76	30,824.03	(65.65)	77,874.14
March	39,467.74	34,041.52	76.59	73,585.85
April	38,563.95	34,539.97	2,592.62	75,696.54
May	38,723.16	34,122.36	3,112.01	75,957.53
June	66,620.19	34,029.67	2,217.87	102,867.73
July	72,399.55	21,185.05	3,493.98	97,078.58
August	75,311.90	31,080.19	(3,776.42)	102,615.67
September	66,994.72	32,290.14	(6,299.41)	92,985.45
October	56,031.42	32,425.55	(4,109.89)	84,347.08
November	63,343.86	30,691.98	37.34	94,073.18
December	66,284.96	31,826.62	45.45	98,157.03
	689,522.92	377,744.10	(1,315.95)	1,065,951.07

City of Lindsborg, Kansas
Electricity Resource Plan (2013-2017)
Load Forecast

Year		Energy Sales (MWh) Residential	Commercial	College	City Use	Total	kW Peak Demand
2007		13,338	9,770	3,941	913	27,962	8,281
2008		12,811	9,883	3,683	869	27,246	8,156
2009		12,590	9,750	3,055	867	26,262	7,459
2010		13,955	10,493	3,358	1,017	28,823	8,243
2011		14,034	10,109	3,268	1,230	28,641	8,465
2012		13,486	9,806	3,302	1,191	27,785	8,649
2013		13,254	9,862	3,301	1,165	27,582	7,977
2014		13,376	10,090	3,215	1,199	27,880	8,511
2015		13,279	10,347	2,831	1,155	27,612	8,661
2016		13,293	10,841	2,850	1,134	28,118	8,412
2017	**Est.**	13,675	9,964	2,758	1,544	27,941	8,353
2018	**Est.**	13,866	10,004	2,637	1,647	28,154	8,295
2019	**Est.**	14,632	10,044	2,521	1,758	28,955	8,237
2020	**Est.**	14,837	10,084	2,410	1,875	29,206	8,179
2021	**Est.**	15,044	10,124	2,304	2,001	29,473	8,122
2022	**Est.**	15,255	10,354	2,202	2,135	29,946	8,065
Increase from 2011-2017		1,962	(487)	(648)	1,001	1,828	(347)
Growth Rates		1.40%	0.40%	-4.40%	6.70%	0.80%	-0.70%

City of Lindsborg, Kansas
Electricity Resource Plan (2013-2017)
Summary of Revenues and Expenditures

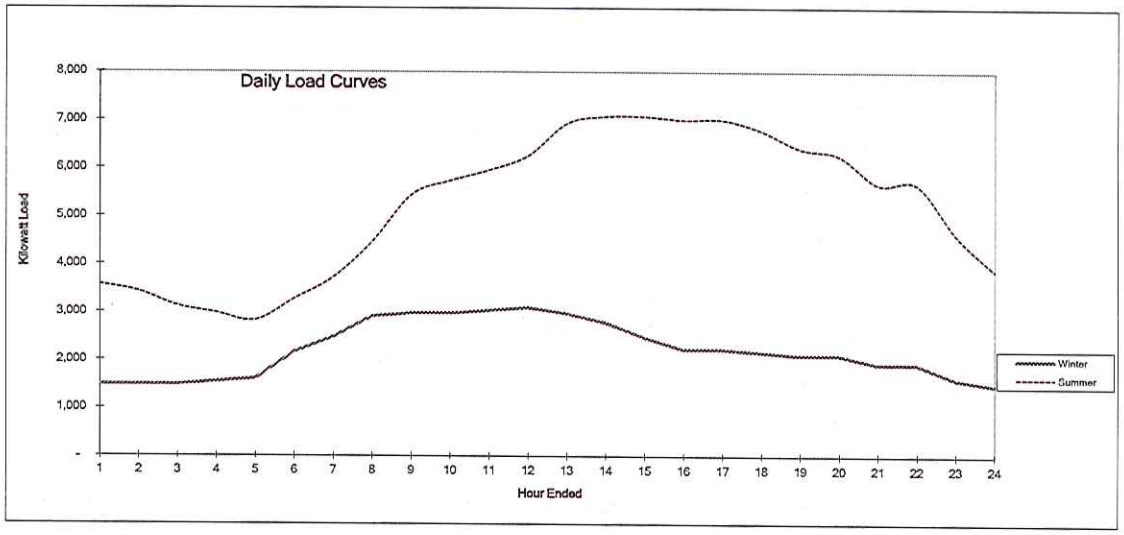
	2016	2015	2014	2013	2012
Sales of electricity	$3,332,108	3,256,539	$3,252,425	$3,049,381	2,992,374
Other operating revenues	160,969	181,204	136,658	140,372	169,408
Total operating revenues	3,493,077	3,437,743	3,389,083	3,189,753	3,161,782
Purchased power expense	2,341,686	2,077,515	2,259,770	2,113,632	1,991,438
Distribution expenses	366,458	386,022	369,103	323,236	341,433
Customer accounting and administrative expenses	246,490	243,672	242,231	249,057	214,030
Total operating expenses	2,954,634	2,707,209	2,871,104	2,685,925	2,546,901
Operating margin	538,443	730,534	517,979	503,828	614,881
Other income and expense	(264,944)	(247,333)	(119,112)	(184,966)	(234,424)
Operating income	$273,499	$483,201	$398,867	$318,862	$380,457
Operating income	$273,499	$483,201	$398,867	$318,862	$380,457
Less: Capital expenditures	8,893	8,478	10,431	71,432	72,165
Less: Bond payments	116,888	119,888	122,438	124,875	127,125
Cash flow	$147,718	$354,835	$265,998	$122,555	181,167

* Established Electric Reserve Fund and transferred $1,450,000 to this fund.

Note: Interest earned on electric utility department funds is transferred directly to the general fund.

Osborne Pattern

Winter	Summer	Hour Ended	Winter	Summer
1,200	2,400	100	1,488	3,574
1,200	2,300	200	1,488	3,426
1,200	2,100	300	1,488	3,128
1,250	2,000	400	1,550	2,979
1,300	1,900	500	1,612	2,830
1,750	2,200	600	2,170	3,277
2,000	2,500	700	2,480	3,723
2,350	3,000	800	2,914	4,468
2,400	3,650	900	2,976	5,436
2,400	3,850	1000	2,976	5,734
2,450	4,000	1100	3,038	5,957
2,500	4,200	1200	3,100	6,255
2,400	4,650	1300	2,976	6,926
2,250	4,750	1400	2,790	7,074
2,000	4,750	1500	2,480	7,074
1,800	4,700	1600	2,232	7,000
1,800	4,700	1700	2,232	7,000
1,750	4,550	1800	2,170	6,777
1,700	4,300	1900	2,108	6,404
1,700	4,200	2000	2,108	6,255
1,550	3,800	2100	1,922	5,660
1,550	3,800	2200	1,922	5,660
1,300	3,100	2300	1,612	4,617
1,200	2,600	2400	1,488	3,872



City of Lindsborg, Kansas
Electricity Resource Plan (2008-2012)
Sources of Electricity

Source	2012	2013	2014	2015	2016
ENERGY (kWh):					
Purchased Power:					
Westar Energy	25,710,865	26,626,626	29,786,316	29,896,619	30,506,132
Western (WAPA)	4,876,996	3,669,561	3,216,450	6,098,761	3,058,116
Total	30,587,861	30,296,187	33,002,766	35,995,380	33,564,248
Percent Western	15.9%	12.1%	9.7%	16.9%	9.1%
CAPACITY (kW)					
Purchased Power:					
Westar Energy	6,677	6,909	7,443	7,593	7,344
Western (WAPA)	1,972	1,068	1,068	1,068	1,068
Total	8,649	7,977	8,511	8,661	8,412
Percent Western	22.8%	13.4%	12.5%	12.3%	12.7%

City of Lindsborg, Kansas
Electricity Resource Plan (2013-2017)
Historical Peak Loads

Date	Time	KW
July 14, 2011	5:00 p.m.	8,456
July 25, 2012	5:00 p.m.	8,649
August 30, 2013	4:00 p.m.	7,977
August 25, 2014	5:00 p.m.	8,511
July 24, 32015	5:00 p.m.	8,661
August 11, 2016	5:00 p.m.	8,412

Growth Rates:	
2007-2011	-0.1%

City of Lindsborg, Kansas
Electricity Resource Plan (2011-2016)
Energy Sales, Customers and Average Use

	2011	2012	2013	2014	2015	2016	Growth Rates
Energy Sales (kWh):							
Residential	14,034,012	13,485,830	13,254,448	13,376,275	13,279,022	13,293,331	-1.1%
Commercial	10,109,241	9,806,175	9,862,392	10,090,131	10,347,215	10,841,207	1.4%
College	3,267,945	3,301,531	3,301,252	3,215,268	2,831,384	2,850,346	-2.7%
City use	1,230,307	1,191,425	1,164,611	1,198,889	1,155,150	1,134,165	-1.6%
Total Retail	28,641,505	27,784,961	27,582,703	27,880,563	27,612,771	28,119,049	-0.4%
Revenues:							
Residential	$1,532,516	$1,600,149	$1,631,044	$1,728,451	$1,763,782	$1,830,833	
Commercial	1,021,909	988,924	1,013,595	1,082,029	1,089,418	1,163,541	
College	372,404	379,388	403,335	419,088	377,278	373,553	
City use	-	-	-	-	-	-	
Total Retail	$2,926,829	$2,968,461	$3,047,974	$3,229,568	$3,230,478	$3,367,927	
Number of Customers:							
Residential	1,441	1,442	1,448	1,447	1,454	1,455	0.2%
Commercial	225	219	215	221	220	218	-0.6%
College	1	1	1	1	1	1	0.0%
City use	1	1	1	1	1	1	0.0%
Total Retail	1,668	1,663	1,665	1,670	1,676	1,675	0.1%
Average Use Per Customer (kWh):							
Residental	9,739	9,352	9,154	9,244	9,133	9,136	-1.3%
Commercial	44,930	44,777	45,872	45,657	47,033	49,730	2.1%
College	3,267,945	3,301,531	3,301,252	3,215,268	2,831,384	2,850,346	-2.7%
City use	1,230,307	1,191,425	1,164,611	1,198,889	1,155,150	1,134,165	-1.6%
Average Revenue Per kWh (mills):							
Residental	109.2	118.7	123.1	129.2	132.8	137.7	
Commercial	101.1	100.8	102.8	107.2	105.3	107.3	
College	114.0	114.9	122.2	130.3	133.2	131.1	

City of Lindsborg, Kansas
Electricity Resource Plan (2017-2022)
Average Temperatures

	Average Minimum	Average Maximum	Average
January	17.9	41.4	29.6
February	20.6	46.4	33.5
March	30.0	56.5	43.3
April	39.3	66.8	53.0
May	50.2	76.1	63.2
June	61.7	87.3	74.5
July	67.2	93.1	80.2
August	64.8	91.3	78.0
September	54.7	82.2	68.4
October	43.0	70.3	56.6
November	30.2	55.5	42.8
December	19.4	43.2	31.3

Daily average air temperatures in degrees Fahrenheit.

LINDSBORG CITY COUNCIL

May 1, 2017 – 6:30 p.m.

Meeting Minutes

Members Present – Betty Nelson, Blaine Heble, Emile Gallant, Mark Friesen, Corey Peterson, & Bill Taylor

Absent – David Higbee & Rick Martin

Others Present – Greg DuMars, Jerry Lovett-Sperling, Holly Lofton, Tim Berggren, Gary Shogren, Larry Lindgren, Kate Elliott, Chris Lindholm, Pastor Bill Buschbom, Ed Kenney, Martha Danielson, Danielle Hollingshead, Amy Habiger & Dan Carr

The meeting was called to order at 6:30 p.m. by Mayor Taylor and the Pledge of Allegiance was said. The Invocation was given by Pastor Bill Buschbom.

Public Input – none

Amendments to the Agenda – none

Mayor's Report – Mayor Taylor thanked those involved with Lindsborg in Bloom. A successful event even with the rain! The council position for Ward 4 is open. If anyone has a recommendation, please contact Mayor Taylor. Triple A World Magazine featured Coronado Heights! It is time to fill Citizen Committee vacancies. If interested, contact City Hall.

Consent Agenda – Betty Nelson moved to approve the minutes of the April 17, 2017 regular council meeting, Payroll Ordinance 5043 and Purchase Order Ordinance 5044. Motion seconded by Emile Gallant and passed unanimously by roll call vote.

Appointments – Betty Nelson moved to approve the appointment of Sherry Jerome to the Emergency Medical Service. Motion seconded by Blaine Heble and passed.

Planning & Zoning – no items

Old Business – AUTO SWITCH FOR GENERATOR – PUBLIC SAFETY – Emile Gallant moved to approve the purchase of an automatic transfer switch plus installation from Pestinger's Heating and Air conditioning at a cost of $2,100.00. Cost to be split between the Fire Department and the Police Department. Motion seconded by Mark Friesen and passed unanimously by roll call vote.

WESTERN AREA POWER AUTHORITY (WAPA) – FIVE YEAR INTEGRATED RESOURCE PLAN – Blaine Heble moved to approve the updated Integrated Resource Plan in compliance with the Western Area Power Administration hydropower allocation.

Motion seconded by Emile Gallant and passed.