City of Lindsborg, Kansas

Electricity Resource Plan (2008-2012)

INTRODUCTION

The purpose of this electricity resource plan is to set a course for Lindsborg's municipal electric utility to follow in considering all reasonable opportunities to meet future energy service requirements using demand-side management techniques, new renewable resources, and other programs that will provide customers with electricity at the lowest possible cost. With regard to this planning process, demand-side management techniques are activities the utility can undertake to encourage its customers to use electricity differently. Renewable resources are those electricity sources that are continuously or cyclically renewed by the natural ecological cycle; for example, solar, wind, hydroelectric, geothermal and biomass sources.

The Lindsborg municipal electric utility is submitting this plan to the Western Area Power Administration (Western) as its response to the regulations of Western's Energy Planning and Management Program. This is the fifth plan submitted to Western. Subsequent plans will be filed annually.

Consistent with Western's regulations, this electricity resource plan and the plan actions to be implemented over the next five years are directed at considering all reasonable opportunities to meet the utility's future electric energy requirements using demand-side management techniques, new renewable resources and other programs that will provide the utility's customers with electricity at the lowest possible cost, while minimizing, to the extent practicable, adverse environmental effects.

The planning process involved 1) describing the key elements of the utility and its service territory, 2) forecasting the electricity needs of the utility's customers, 3) assessing the sources of electricity supply, 4) assessing the demand for electricity, 5) exploring the opportunities for demand-side management programs and 6) establishing an action plan. Throughout the planning process the City of Lindsborg gathered information from the public, identified public concerns, shared information with the public and responded to public comments. These activities were facilitated March 25, 2008, before

the City of Lindsborg Utilities Committee and during public comment at the City Council meeting on April 7, 2008. A copy of the notices and public comments are included herewith as Exhibits “A” through “F”.

CURRENT PROFILE OF THE MUNICIPAL ELECTRIC UTILITY

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 2000 census, Lindsborg had a population of 3,321. The two largest neighboring towns are Salina, 15 miles to the north, with a population of 45,679; and McPherson, 15 miles to the south, with a population of 13,770. Lindsborg is at the northern end of McPherson County, near the Saline County line. In 2000 the combined population of Saline and McPherson counties was 83,151. The projected population for the year 2006 is 83,550.

Three 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 2006 was 49,131. The average unemployment rate was 2.9% for McPherson County and 3.5% for Saline County. Occupation of job applications from the 2000 census were: manufacturing 8,569; services 23,695; government 5,085; agriculture 1400 and unemployed 1602. The National Cooperative Refinery employs 590; Hospira employs 800, and CertainTeed employs 234.

During the winter, the average daytime temperature is 48 degrees and the average nighttime temperature is 20 degrees. In the summer months, the average daytime and nighttime temperatures are 89 degrees and 65 degrees, respectively. The average temperature in January is 28.2 degrees. For July the average temperature is 79.8 degrees. The area receives an average annual precipitation of 29.1 inches and an average annual snowfall of 18.5 inches.

The City provides electric, water and sewer utility services to the community. Natural gas service is provided by Kansas Gas Service, a division of Oneok, Inc. 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). 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 $22.20 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 monthly average minimum and maximum temperatures are listed on Schedule 1.

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, 2010; and through the WAPA purchase, which expires September 30, 2024. 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 $8 customer charge and a 75 mill energy charge, and a commercial rate consisting of $8 customer charge and an 80 mill energy charge. An energy cost adjustment (eca) was implemented in the fourth quarter of 2007. The average eca for the fourth quarter was $0.006 per kWh.

During 2007, the utility served 1,425 residential customers and 226 commercial customers. Electricity sales growth for the five years ended 2007 has been around 0.6%, while customer growth has been at 0.4% (See Schedule 2.)

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 468 students. As depicted on Schedule 2, electricity sales to the college have decreased over the last five years at an average annual rate of 0.2%. Lower energy use by the college is explained by the college installing energy efficient outdoor lighting. Additionally, the college is no longer housing students in one dorm which has decreased their air conditioning load. As a result, the college decreased its electricity purchases by 12,932 kWh between 2002 and 2007.

The utility's major customers besides the college are: USD 400 school district, which operates one elementary school, one middle school and a high school within the city; Bethany Home, which is an intermediate care facility housing 126 residents; Scott's Hometown Grocers; the Lindsborg Community Hospital, which is a 25-bed critical care facility; Columbia Industries; Casey's General Store; and KAPS gas station and convenience store. 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.

The utility experienced an 8,256 kW peak load at 5:00 PM on Monday, August 13, 2007. In 2006, a record peak of 8,672 kW was set. Over the longer term, the peak load has increased by just under 8.0%. The historical peak loads shown on Schedule 3 depict a 0.7% annual growth rate in the peak demand over the last six years.

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 65 mills and commercial rates averaging 52 mills. In comparison, Lindsborg's residential rate average is 86 mills and commercial rates average 83 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 77% of its energy and 76% of its capacity from Westar Energy, with the remainder coming from WAPA. This represents a decline of 7% of energy purchases and a 1% decline in capacity 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, 2010. Because the utility is tied to the long-term Westar Energy contract, there is little opportunity to reduce purchased power cost rates. The impending expiration of Westar Energy contract

places pressure on the utility to secure a new power supply that is reliable and cost effective.

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, but this is infrequent.

The total workforce in the electric utility department consists of a supervisor and two linemen. Because of the utility's size, the addition of just one employee or a consultant to institute a major DSM program would have a measurable impact on operations. As a point of reference, in 2007, electric utility operation produced a net income of $207,202 and a negative cash flow of $154,597. (See Schedule 6.)

LOAD ANALYSIS AND FORECAST

Annual peak demand and energy sales are expected to increase gradually over the five-year planning horizon, from 2008 to 2012. As shown on Schedule 7, total energy sales are expected to increase 1.10% annually, from 28,143 MWh in 2008 to 29,145 MWh in 2012. The corresponding peak demand is expected to increase from 8,314 kW in 2008 to 8609 kW in 2012, an average annual increase of 0.70%.

The modest growth rates reflect the modest customer and economic growth in the utility's service territory. Lindsborg's population actually increased from 3,155 in 1980 to around 3,321 (based on 2000 U.S. Census). There should be some continued increases in population with the new subdivisions become fully developed. Two large new subdivisions are in the final phases of development: the Westview addition, with 50 lots, and the Emerald Lake addition, with 54 lots. Plus, another new development has recently been started that has 20 lots. Furthermore, a new 61 acre tract is in the planning stages of development and will begin development late in 2008 or early 2009. Additional growth is expected from increased usage per customer. Another factor suggesting limited growth is the fact that the utility serves a fixed territory that has matured in terms of customer density. Efforts are underway to bring new developers and subdivisions to the community.

Commercial sales are expected to be flat. Energy efficiency measures have been implemented and are reflected in the slight decrease in energy sales, particularly in the commercial segment. The Smoky Valley Development Company and the Lindsborg Chamber of Commerce work to bring business and industry to the area. Even with the success Lindsborg has had in attracting commerce, other similarly-situated small cities in Kansas are competing for the same companies. This competition, along with the inherent risk for the long-term survival of any small business, attaches uncertainty to the outlook for industrial sales.

A degree of stability in commercial sales is provided by the utility customers in the educational and health service fields. The college, community hospital, school district and intermediate-care facility should be viable customers over the long-term.

The sales forecast is susceptible to changes in the agricultural economy in the region. Among the utility's largest customers is the local farmers' coop, which includes two grain elevators and provides seed, weed control and fertilizer products. Other large customers such as the grocery and convenience stores depend in turn on customers from the surrounding farm community.

SUPPLY-SIDE ASSESSMENT

The utility has no generation; it purchases all its requirements under long-term contracts with Westar Energy, Inc. and Western Area Power Administration (WAPA). The Westar contract expires May 31, 2010, while the WAPA contract expires September 30, 2024.

The contract with Westar Energy obligates the utility to purchase all its requirements from Westar except for the utility's entitlement to WAPA electricity. The Westar contract has a two-part rate: a monthly demand charge of $8.95 per kW, with an 80% ratchet, and a base energy charge of 22 mills per kWh. The energy charge is subject to an automatic fuel adjustment provision. During 2007, the average energy rate including fuel adjustment was approximately 17.62 mills. Because of the low load factor at which the utility purchases power, the average total cost per kWh purchased for Westar was 50.61 mills during 2007, (See Schedule 8.)

Under its WAPA firm power contract, the utility is entitled to receive 8,254,000 kWh annually. To take delivery of the WAPA power, the utility arranged for firm transmission over the MKEC and Westar transmission

systems. When all cost associated with WAPA power are considered, including transmission costs and losses, the average total cost per kWh delivered to the utility was 49.94 mills during 2007. (See Schedule 8.) The cost per kW of capacity was $10.69 per month and the variable cost per kWh of energy was 17.62 mills.

WAPA power has a slight cost advantage over Westar Energy firm power. This advantage could be eliminated. The restructuring of the industry and the introduction of competition into the generation markets could prompt Westar to be responsive to requests to reform the existing long-term contract. However, Westar is under no real pressure to do so.

The utility continually upgrades its distribution system to make it more reliable and efficient. In 1998, the utility will spent about $225,000 to increase the West-Central circuits from 4,160 volt to 7,200-volt. This level of investment continues. In 2009, the final conversion from 4,160-volt to 7,200-volt is scheduled to be completed at a budgeted cost of $500,000.

DEMAND-SIDE ASSESSMENT

The utility serves approximately 1,425 residential and 226 commercial customers. Historical sales and customer numbers are presented on Schedule 2. For 2007, energy sales were as follows:

Residential	13,328 MWh	47.2%
Commercial	14,029	49.7
City use	892	3.1
Total	28,249	

Load is greatest in the summer months as air conditioning use increases and crop harvests are brought to elevators. The utility can expect an annual peak sometime during July or August. As can be seen from Schedule 9, the utility experienced a 41.8% load factor during 2007, which is average for small towns in rural Kansas. Peak demand during non-summer months runs about 50% of the summer peak. Because Westar Energy contract has an 80% ratcheted demand charge, the utility could increase its utilization of fixed costs by expanding off-peak sales. For example, Schedule 9 shows unused capacity of 2,180 kW in January 2007. The result of better utilization would be either greater revenues or lower rates.

The utility's eight major customers during 2007 and their electricity usage and revenues are as follows:

Customer	kWh	Revenues
Bethany College	3,940,749	$319,988
Unified School District	1,763,868	$145,839
Bethany Home	1,259,232	$106,779
Scott's Hometown Grocer	987,036	$84,096
Lindsborg Community Hospital	523,500	$43,169
Columbia Manufacturing	401,880	$33,442
Casey's General Store	305,400	$26,528
KAPS	239,560	$20,811

Losing large customers like those listed above is an ever present risk for a small municipal utility, for two reasons. First, the regional economy doesn't have the size to provide much business diversity. Relative to the total customer base, each large customer is significant to a small utility. Second, a municipal utility's service territory is limited and fixed. This means that a customer can be lost if it relocates by just a mile or two into another service territory. Fortunately, the three largest customers listed above are much less susceptible to relocation than are small businesses.

Load curves for typical days during the on-peak summer months and during the off-peak winter months are drawn on Schedule 5. Electricity purchased under the Westar Energy contract, with its 80% ratchet, would be more economical if sales increased anytime during winter months and between 10 pm and 10 am during the summer months. The same increased utilization could be accomplished by decreasing the summer peak demand while retaining the off-peak sales volume.

The marginal cost of energy before distribution losses is commodity rate in the Westar contract, which currently is between 22.03 mills and 32.80 mills per kWh. The marginal cost of capacity before distribution losses is the demand rate in the Westar contract, which is $8.95 per kW. Using the 80% demand ratchet and the 2000 load pattern, the marginal cost of capacity is $74.63 per year or a kilowatt of peak demand.

The utility has only two customer classes. The residential rate consists of an $8 monthly customer charge and a commodity rate of 75 mills per kWh. The commercial rate consists of an $8 monthly customer charge and a commodity rate of 80 mills per kWh. A fuel adjustment provision was

implemented in the rates effective the fourth quarter of 2007. The utility doesn't use demand meters for any customers, but is in the process of installing them for commercial customers.

The utility has not undertaken any demand-side management programs to alter the customers' usage pattern, such as installing load control devices or conservation measures at customer premises. Internally, the city took steps to conserve energy by replacing mercury vapor fixtures with high-pressure sodium fixtures in 183 street lights. Additionally, the city has undertaken an extensive capital improvement program to upgrade the distribution from 4160 volts to 7200 volts. The conversion upgrade is scheduled to be completed in 2009.

OPPORTUNITIES FOR DEMAND-SIDE MANAGEMENT PROGRAMS

Utility management considered how well the various demand-side management (DSM) objectives applied to the utility's supply and demand situation and the utility's operational goals. Six load shape objectives that might be accomplished by DSM were considered:

1. peak shaving,
2. strategic load growth,
3. strategic conservation,
4. flexible load shape,
5. valley filling, and
6. load shifting.

In this analysis peak shaving is where total system demand is reduced during a peak period, along with a loss in kWh sales. In contrast, load shifting, which will be discussed later, moves sales from a peaking to a non-peaking period. While peak shaving would benefit the utility by reducing the demand component of the cost of power purchased from Westar, total sales would be reduced in the process, meaning less revenue to the utility department. To maintain the same net income in the face of losing sales, the utility might have to increase rates. For this reason, peak shaving was rejected as being comparatively less beneficial than load shifting.

Strategic load growth is intended to increase demand throughout the year and is considered when a utility has surplus capacity. The utility doesn't have "surplus capacity" in its purchase power contract with Westar. Consequently, the strategic load growth option was removed from further consideration.

Strategic conservation is aimed at reducing demand over all time periods. This load shape objective is inappropriate because the utility's load drops off significantly from its summer peaks. It is during these off-peak periods that the marginal capacity cost is zero and sales produce positive returns. Hence, strategic conservation is not economically justified.

Flexible load shape DSM programs are primarily directed at decreasing winter and summer peak demand by targeting water heater and air conditioning end uses. Flexible load shape programs are designed to respond quickly to peak demand conditions. The resources needed to establish and continually operate load control programs on a real-time basis are beyond the utility's capability. There is not a large enough customer base to justify hiring even one individual to operate a real-time load control program.

The appropriate DSM programs for the utility's load shape and program development capability are those for load shifting during summer peak periods and valley filling off-peak periods. As used in this analysis, load shifting moves demand away from the peak periods without changing total kWh sales. Valley filling increases total kWh sales without increasing the system peak demand. Both load shape objectives maintain or increase total annual sales while decreasing peak demand. By increasing sales within the same fixed cost parameter, the utility would be accomplishing a goal of minimizing the price of electricity to its customers.

The load shifting programs would be beneficial where they could decrease the peak load used for the billing demand in the Westar contract. Historically, the peak loads affecting the billing demand occur during July, August and September, between the hours of 1:00 pm and 6:00 pm.

The valley filling programs would be designed to increase demand between 10 pm and 10 am in the months of July, August and September. During non-summer months, valley filling would apply to all time periods. Schedule 5 shows the potential for increasing off-peak sales during the summer. The winter daily load curve drawn on Schedule 5 indicates that valley filling programs directed at increasing winter demand throughout the day are appropriate. Opportunity for valley filling is further supported by the unused purchased power capacity shown on Schedule 9.

Energy conservation for city services is cost justified. 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. Because the electricity used for city services is at cost without an offsetting revenue, any reduction in city use increases utility net margin by the full cost of energy, and increases the utility's ability to make transfer payments to the general fund.

After deciding on load shifting and valley filling as the load shape objectives, the utility management then selected criteria for evaluating DSM programs. The five quantitative criteria considered were:

1. the revenue requirements test,
2. the total resource cost test,
3. the societal test,
4. the participant test, and
5. the rate impact measure test.

As used for this electricity resource plan, the revenue requirements test measures the cost-effectiveness of a DSM program by comparing the utility's costs before and after implementing a DSM program. If it is cheaper for the utility to pay for a DSM program that conserves energy or reduces load than to provide the equivalent amount of power, then the program passes the revenue requirements test. The DSM program participants' (customers') costs and lost revenues are ignored. The revenue requirements test was not used because it cannot be used to evaluate valley filling programs, where additional energy costs are incurred. Also, the revenue requirements test fails to consider the rate impact on non-program participants.

The rate impact of a DSM program on non-participants is crucial to the utility's viability. As already discussed, the city's economy is dependent on a limited number of commercial and industrial businesses. Neither the utility nor the city can afford to lose a major customer to surrounding utility company or to a neighboring community. Customer electricity rates are too important to be ignored in evaluating DSM programs.

The total resource cost test is similar to the revenues requirements test, except that it includes costs paid by program participants and ignores the cost of incentives paid by the utility to program participants. The total resource cost test was rejected as well, because it too cannot evaluate load building programs, such as valley filing, and fails to consider rate impacts.

The societal test is considered to be the same as the total resource cost test except it is expanded to include externalities such as environmental costs. As with the total resource cost test, the societal test doesn't consider rate impacts.

When used to initially screen potential DSM programs, the participant test can be useful. The participant test focuses on the economics of the program participants, and seeks to answer the question of whether the program will attract participants on its economic merits.

Given the DSM load-shaping goals of load building and the critical need to keep all rates competitive, the rate impact measurement test was selected as the appropriate quantitative criteria for evaluating DSM programs. The rate impact measurement (RIM) test considers what happens to average rates when a DSM program changes operating revenues and expenses. A DSM program fails the RIM test if it results in an increase in electricity rates. One weakness with the RIM test is that, when either marginal revenues or costs deviate from the forecast, the test might justify certain load building programs where marginal costs exceed marginal revenues. To minimize this possibility, the utility will need to continually monitor each RIM-justified DSM program to see that revenue and cost assumptions are still operative.

An important factor regarding the feasibility of DSM activities is the utility's lack of economies of scale. The utility simply doesn't have the sales volume to justify large DSM programs. As can be seen by reviewing Schedule 6, Summary of Revenues and Expenditures, the addition of just one employee to oversee DSM programs would have a significant impact on net income. For this reason, any DSM activities must recognize and work within the limited budget of a small utility.

IMPLEMENTATION PLAN

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 2008 to 2012. 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 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.
5. budgetary constraints and the effect of DSM activities on utility transfer payments are critical considerations.

A first step in implementing the plan will be to collect data that can be used to screen DSM programs from a list of possible programs. Given the basic parameters outlined above, the possible programs to be considered have been selected and attached here as Schedule 11. The screening process employed the rate impact measurement test and considered the limited utility staff and resources.

One major consideration is the utility's lack of demand meters and the absence of a demand component in the commercial rate design. It would be very difficult to encourage customers to shift their demand away from peak periods if the utility is unable to measure the results with demand meters and reward the customers with a lower demand charge. For these reasons, the utility will give this rate design issue priority. Given Bethany College's past investments in energy conservation measures, the utility will explore the possibility of joining with the college to install demand meters as part of a DSM program. In 2007, the implementation of demand meters on customer accounts is being initiated. The goal of the program is to gather the load data necessary to partner with commercial customers to shift demand. If the desired results are not realized, then a demand rate structure will be considered.

Screening the DSM program long list will constitute a major implementation step. In addition to running the rate impact measurement test, data will be collected on end-use saturations, peak use by end-use and customer acceptance. Marginal cost and discount rate information will be gathered and environmental considerations will be incorporated. A comparison of marginal costs with marginal revenues will provide immediate insight into whether DSM programs might meet the RIM test.

Once DSM programs are selected, the next implementation step will be to design an evaluation plan to measure the success of the DSM programs. This may include the acquisition of software to run cost/benefit analyses. While implementing only successful programs is the ideal goal, the evaluation plan also will be used to modify programs that are experiencing problems and to eliminate programs that prove to be ineffective.

The DSM evaluation will measure both the process and the impact of the programs. The process evaluation examines the efficiency of a program in such areas as administrative costs, service problems and participant satisfaction. The impact evaluation examines the effectiveness of a program in such areas as energy use, peak demand and program participation.

The last step will be to start the programs and monitor them. The results will be reported in the next electricity resource plan, for the years 2008-2012.

Between 2008 and 2012, the utility will select, design and implement DSM programs. Programs to be implemented will be selected from the list shown on Schedule 10, based on final cost and quantitative factors. Program costs, participation levels, energy and demand impacts, and current market penetration will be estimated during the first year. For each selected program, a program budget and schedule will be designed. The utility will then implement those recommendations that are economically and technically feasible to implement.

The program currently implemented is to convert 4160 primary voltage circuits to 7200 primary voltage circuits. This is budgeted in the utility's 5-Year Capital Improvement Program (Exhibit A). This will cause of reduction in line loss experienced by the utility so that more of the electricity purchased by the utility will generate revenue and will reduce the cost per kilowatt of peak demand. In the prior 5-year (2003-2007) electric resource plan, the cost per kilowatt of peak demand was $79.92 and because of prior circuit upgrades, the cost per kilowatt of peak demand is $74.63.

Cost per kW	$10.69
Cost per kWh (mills)	17.62

TOTAL COSTS:

	Westar Trans.	Aquilla/MKEC Trans.	KMEA	Total WAPA
January	3,888.12	6,867.80	21,258.35	32,014.27
February	3,888.12	6,685.47	19,348.76	29,922.35
March	3,888.12	6,753.38	18,044.95	28,686.45
April	3,888.12	7,009.32	21,302.58	32,200.02
May	3,888.12	7,172.50	21,729.08	32,789.70
June	3,888.12	7,652.24	23,372.65	34,913.01
July	3,888.12	8,330.53	25,823.19	38,041.84
August	3,888.12	7,717.42	23,992.54	35,598.08
September	3,888.12	6,256.18	21,011.74	31,156.04
October	3,888.12	6,716.16	20,229.07	30,833.35
November	3,888.12		19,804.80	23,692.92
December	3,888.12		20,733.49	24,621.61
	46,657.44	71,161.00	256,651.20	374,469.64

FIXED COSTS:

	Westar Trans.	Aquilla/MKEC Trans.	KMEA	Total WAPA
January	3,888.12	4,960.00	13,326.54	22,174.66
February	3,888.12	4,960.00	13,104.75	21,952.87
March	3,888.12	4,960.00	11,211.11	20,059.23
April	3,888.12	4,960.00	13,133.19	21,981.31
May	3,888.12	4,960.00	13,165.28	22,013.40
June	3,888.12	4,960.00	13,516.19	22,364.31
July	3,888.12	4,960.00	13,499.19	22,347.31
August	3,888.12	4,960.00	13,791.01	22,639.13
September	3,888.12	4,960.00	13,715.47	22,563.59
October	3,888.12	4,960.00	13,404.12	22,252.24
November	3,888.12		12,371.75	16,259.87
December	3,888.12		12,588.07	16,476.19
	46,657.44	49,600.00	156,826.67	253,084.11
		KW delivered		1,972
		Cost per kW/ month		$10.69

VARIABLE COSTS:

	Westar Trans.	Aquilla Trans.	KMEA	Total WAPA
January	-	1,907.80	7,931.81	9,839.61
February	-	1,725.47	6,244.01	7,969.48
March	-	1,793.38	6,833.84	8,627.22
April	-	2,049.32	8,169.39	10,218.71
May	-	2,212.50	8,563.80	10,776.30
June	-	2,692.24	9,856.46	12,548.70
July	-	3,370.53	12,324.00	15,694.53
August	-	2,757.42	10,201.53	12,958.95
September	-	1,296.18	7,296.27	8,592.45
October	-	1,756.16	6,824.95	8,581.11
November	-	-	7,433.05	7,433.05
December	-	-	8,145.42	8,145.42
	-	21,561.00	99,824.53	121,385.53
		kWh Delivered		6,888,000
		Mills per kWh		17.62

City of Lindsborg
Value of WAPA Power Compared to All Westar Energy Purchases
Using 2007 Billing Records

	Pro Forma Westar Billing Assuming No WAPA Power						Actual		Actual	Compared
	Billing Demand	Demand @ $8.95	kWh Energy	Energy Rate	Energy Cost	Total Cost	Westar Billing	Wester Difference	WAPA Cost	to WAPA
January	5,432	$48,616.40	2,308,800	0.02112	$48,761.86	$97,378.26	$89,654.02	$7,724.24	$31,534.28	($23,810.04)
February	5,432	48,616.40	2,073,600	0.03016	62,539.78	111,156.18	98,367.64	12,788.54	36,945.29	(24,156.75)
March	5,432	48,616.40	1,982,400	0.03179	63,501.56	112,117.96	96,903.28	15,214.68	36,253.44	(21,038.76)
April	5,432	48,616.40	2,020,800	0.02579	52,584.23	101,200.63	86,414.89	14,785.74	38,204.12	(23,418.38)
May	5,432	48,616.40	2,356,800	0.02567	60,499.06	109,115.46	94,180.67	14,934.79	39,167.48	(24,232.69)
June	5,432	48,616.40	2,692,800	0.02203	59,322.38	107,938.78	99,318.75	8,620.03	42,263.08	(33,643.05)
July	5,038	45,090.10	3,331,200	0.03139	104,566.37	149,656.47	123,376.79	26,279.68	46,108.91	(19,829.23)
August	6,309	56,465.55	3,940,800	0.02924	115,228.99	171,694.54	152,116.55	19,577.99	42,531.14	(22,953.15)
September	5,345	47,837.75	2,755,200	0.02560	70,533.12	118,370.87	106,809.04	11,561.83	37,802.93	(26,241.10)
October	5,047	45,170.65	2,304,000	0.03035	69,926.40	115,097.05	99,773.85	15,323.20	36,539.69	(21,216.49)
November	5,047	45,170.65	2,078,400	0.02112	43,895.81	89,066.46	78,403.32	10,663.14	35,617.70	(24,954.56)
December	5,047	45,170.65	2,232,000	0.02247	50,153.04	95,323.69	84,192.07	11,131.62	23,112.24	(11,980.62)
	6,309	$576,603.75	30,076,800	26.65	$801,512.60			$168,605.48	$446,080.30	($277,474.82)
		$91.39								
						1,378,116	1,209,511	168,605.48		

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

City of Lindsborg, Kansas
Electricity Resource Plan (2008-2012)
Monthly Electricity Demand During 2007

Month	KWh Purchased	KW Peak Load	Load Factor	Unused Billed Capacity (kW)
January	2,316,389	4,238	73.5%	2,180
February	2,079,577	4,190	73.9%	2,228
March	1,988,933	3,599	74.3%	2,819
April	2,028,626	4,380	64.3%	2,038
May	2,365,001	5,642	56.3%	-
June	2,702,238	6,350	57.2%	-
July	3,343,001	7,003	64.2%	-
August	3,950,238	8,256	64.3%	-
September	2,761,566	7,288	52.6%	-
October	2,311,117	6,648	46.7%	371
November	2,085,517	3,927	73.8%	2,106
December	2,326,601	4,372	71.5%	1,661
Annual	30,258,804	8,256	41.8%	

Note: The unused billed capacity refers to the difference between the actual demand and the minimum billed demand billed by Westar under an 80% ratcheted demand charge.

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

Source	Actual 2007 kWh	Actual 2007 Cost	Actual 2007 Mills/kWh	Projected 2008 kWh	Projected 2008 Cost	Projected 2008 Mills/kWh
Westar Energy, firm power	23,380,804	$1,183,342	50.61	24,050,159	$1,216,938	50.60
Western (WAPA), firm power	6,878,000	327,710	47.65	6,878,000	328,081	47.70
Totals	30,258,804	$1,511,052	49.94	30,928,159	$1,545,019	49.96

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

	Westar Energy	Westar Trans.	Aquilla/MKEC Trans.	.	Total WAPA
January	76,856.61	9,797.41	6,867.60	21,258.35	37,923.36
February	87,714.56	10,653.08	6,885.47	19,348.76	36,887.31
March	86,189.98	10,713.30	6,753.38	18,044.95	35,511.63
April	75,634.75	10,780.14	7,009.32	21,302.58	39,092.04
May	83,267.96	10,912.71	7,172.50	21,729.08	39,814.29
June	88,310.87	11,007.88	7,652.24	23,372.65	42,032.77
July	112,345.75	11,031.04	8,330.53	25,823.19	45,184.76
August	141,071.81	11,044.74	7,717.42	23,992.54	42,754.70
September	95,288.15	11,520.89	6,256.18	21,011.74	38,788.81
October	88,243.87	11,529.98	6,154.46	20,229.07	37,913.51
November	67,190.28	11,213.04	-	19,804.80	31,017.84
December	73,156.55	11,035.52	-	20,733.49	31,769.01
	1,075,271.14	131,239.73	70,799.10	256,651.20	458,690.03

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

Year		Energy Sales (MWh) Residential	Commercial	College	City Use	Total	kW Peak Demand
2001		11,571	9,829	3,813	993	26,206	8,113
2002		12,151	10,076	3,976	943	27,146	7,965
2003		12,169	9,979	4,073	902	27,123	8,532
2004		12,011	9,884	4,028	848	26,771	7,832
2005		13,057	10,137	4,007	832	28,033	8,325
2006		13,103	9,930	4,099	892	27,132	8,762
2007		13,338	9,770	3,941	913	27,962	8,256
2008	Est.	13,591	9,711	3,933	908	28,143	8,314
2009	Est.	13,850	9,653	3,925	902	28,330	8,372
2010	Est.	14,113	9,595	3,917	897	28,522	8,431
2011	Est.	14,381	9,538	3,910	891	28,720	8,490
2012	Est.	14,654	9,480	3,902	886	28,922	8,549
2013	Est.	14,948	9,424	3,894	881	29,147	8,609
Increase from 2008-2013		1,610	(346)	(47)	(32)	1,185	353
Growth Rates		1.90%	-0.60%	-0.20%	-0.60%	1.10%	0.70%

City of Lindsborg, Kansas

Electricity Resource Plan (2008-2012)

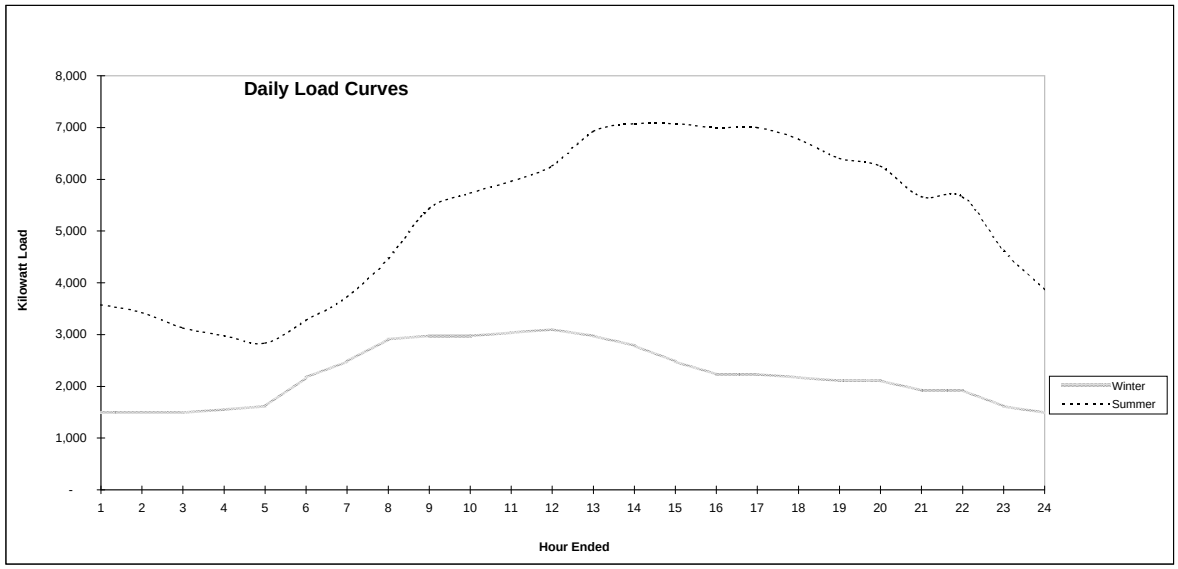
Summary of Revenues and Expenditures

	2004	2005	2006	2007
Sales of electricity	$1,952,604	$2,219,573	$2,203,451	$2,271,331
Other operating revenues	33,523	37,044	40,761	82,659
Total operating revenues	1,986,127	2,256,617	2,244,212	2,353,990
Purchased power expense	1,076,986	1,368,911	1,509,759	1,511,052
Distribution expenses	312,631	372,645	404,026	404,428
Customer accounting and administrative expenses	160,539	195,806	205,669	221,508
Total operating expenses	1,550,156	1,937,362	2,119,454	2,136,988
Operating margin	435,971	319,255	124,758	217,002
Other income and expense	(4,472)	(4,344)	(5,700)	(9,800)
Operating income	$431,499	$314,911	$119,058	$207,202
Operating income	$431,499	$314,911	$119,058	$207,202
Less: Capital expenditures	298,598	358,580	239,900	361,799
Less: Bond payments	-	-	-	-
Cash flow	$132,901	($43,669)	($120,842)	($154,597)

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	2003	2004	2005	2006	2007
ENERGY (kWh):					
Purchased Power:					
Westar Energy	21,798,865	21,872,705	23,524,747	23,425,715	23,380,804
Western (WAPA)	7,314,000	6,986,000	6,894,561	6,888,000	6,878,000
Total	29,112,865	28,858,705	30,419,308	30,313,715	30,258,804
Percent Western	25.1%	24.2%	22.7%	22.7%	22.7%
CAPACITY (kW)					
Purchased Power:					
Westar Energy	6,560	5,860	6,353	6,790	6,309
Western (WAPA)	1,972	1,972	1,972	1,972	1,972
Total	8,532	7,832	8,325	8,762	8,281
Percent Western	23.1%	25.2%	23.7%	22.5%	23.8%

City of Lindsborg, Kansas
Electricity Resource Plan (2008-2012)
Historical Peak Loads

Date	Time	KW
July 26, 2002	4:30 p.m.	7,965
August 18, 2003	4:30 p.m.	8,532
July 20, 2004	5:00 p.m.	7,832
July 22, 2005	4:00 p.m.	8,325
July 19, 2006	4:30 p.m.	8,762
August 13, 2007	5:00 p.m.	8,256

Growth Rates:	
2002-2007	0.7%

City of Lindsborg, Kansas
Electricity Resource Plan (2008-2012)
Energy Sales, Customers and Average Use

	2002	2003	2004	2005	2006	2007	Growth Rates
Energy Sales (kWh):							
Residential	12,151,132	12,169,312	12,011,035	13,057,340	13,103,300	13,337,558	1.9%
Commercial	10,076,004	9,978,861	9,884,139	10,136,787	9,929,976	9,769,755	-0.6%
College	3,976,377	4,073,319	4,028,900	4,006,756	4,099,146	3,940,749	-0.2%
City use	942,778	902,032	848,511	831,679	891,543	912,924	-0.6%
Total Retail	27,146,291	27,123,524	26,772,585	28,032,562	28,023,965	27,960,986	0.6%
Revenues:							
Residential	$964,430	$966,663	$961,268	$1,064,026	$1,064,210	$1,145,063	
Commercial	826,712	819,309	775,731	832,415	806,482	806,280	
College	318,110	325,866	322,312	320,541	332,920	319,988	
City use	-	-	-	-	-	-	
Total Retail	$2,109,252	$2,111,838	$2,059,311	$2,216,982	$2,203,612	$2,271,331	
Number of Customers:							
Residential	1,402	1,399	1,424	1,412	1,421	1,425	0.3%
Commercial	215	219	224	224	225	226	1.0%
College	1	1	1	1	1	1	0.0%
City use	1	1	1	1	1	1	0.0%
Total Retail	1,619	1,620	1,650	1,638	1,648	1,653	0.4%
Average Use Per Customer (kWh):							
Residental	8,667	8,699	8,435	9,247	9,221	9,360	1.6%
Commercial	46,865	45,566	44,126	45,254	44,133	43,229	-1.6%
College	942,778	902,032	848,511	831,679	891,543	912,924	-0.6%
City use	27,146,291	27,123,524	26,772,585	28,032,562	28,023,965	27,960,986	0.6%
Average Revenue Per kWh (mills):							
Residental	79.4	79.4	80.0	81.5	81.2	85.9	
Commercial	82.0	82.1	78.5	82.1	81.2	82.5	
College	80.0	80.0	80.0	80.0	81.2	81.2	

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

	Average Minimum	Average Maximum	Average
January	17.2	39.1	28.2
February	21.8	46.4	34.1
March	30.5	56.3	43.4
April	40.5	66.4	53.5
May	51.9	75.5	63.7
June	62.1	86.2	74.2
July	67.4	92.1	79.8
August	65.5	89.9	77.7
September	56.5	81.6	69.1
October	43.7	70.1	56.9
November	30.4	53.8	42.1
December	20.9	42.2	31.6

Daily average air temperatures in degrees Fahrenheit.