



Customer MEETING

ON ENERGY ALTERNATIVES



Nebraska Public Power District
Always there when you need us

August 9, 2003

College Park
3180 West Highway 34
Grand Island, NE 68801

9:00 a.m. - 5:15 p.m.





Nebraska Public Power District

"Always there when you need us"

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President & CEO
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Date: June 27, 2003

Subject: Nebraska Public Power District Customer Meeting on Energy Alternatives

To: Participants

As President and CEO of Nebraska Public Power District, our primary responsibility is to ensure customers' needs are being met. Those who know me may recognize my commitment to keeping an open line of communication. However, this philosophy goes beyond being receptive to feedback.

To me, seeking input from others is only half of the equation. Courting diversity of thought and opinion and then acting on this feedback is vital to the approach. Truly great solutions typically come from many different sources. For public power, it's what makes us so unique.

NPPD is not profit-driven. We do not have shareholders. Our commitment is to our customers. Keeping rates low and providing safe, reliable energy is the root of what we are all about. Asking you for feedback through this survey will help us determine what our generation resource options will be in the future.

We are excited to be working in partnership with many of our wholesale customers in this process and look forward to receiving the feedback from you. With the hectic demands of today's society, I want to sincerely thank you for giving up a summer Saturday to participate in this survey. I hope you will find something rewarding and worthwhile about the experience as well.

We plan to keep in touch with you as August 9th draws near. In the meantime, if you have any questions or concerns, please feel free to contact Jon Trabert (402) 563-5044, Frank Thompson (402) 563-5696 or me (402) 563-5558 at anytime.

Sincerely,

William J. Fehrman
President & CEO

cc: Jon Trabert
Frank Thompson

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A. Why We Have Invited You to This Discussion

Thank you for participating in the Nebraska Public Power District (NPPD) Customer Meeting on Energy Alternatives. You are one of 100 customers invited to participate. We think you will find this an interesting and worthwhile experience.

The demand for electricity is growing and NPPD has an ongoing need to plan for our customers' future electric power needs. In addition, several new choices for generating electricity with renewable resources are becoming more cost effective. As a customer owned utility, NPPD is especially concerned with making choices that benefit you - our customer-owners.

Planning decisions are a series of tradeoffs. NPPD does not expect customers to make the final decisions but needs to know what customers value, and what factors are important to our customers as part of our decision making process.

1. What We Need From You

We want to know what you think about these tradeoffs that are part of electricity planning. Tradeoffs mean that to get more of something you want, you may have to give up something else. For example, a vehicle that can comfortably transport a large family typically consumes more gas than a small car.

You may not have thought much about electric generation. We will supply background information that will provide you with the basic details. You will discuss the issues in small groups of about 15 people. You will have an opportunity to quiz experts with diverse viewpoints in large group sessions. At the end of the day, you will have a good working knowledge of the key issues, tradeoffs, and costs. That's when we will seek your advice by asking you to give us your views on a survey about the options under consideration.

2. No Right and Wrong Answers: We Don't Expect You to be an Expert

Our goal is to gather your informed opinion as an individual. We do not seek a group answer or consensus. Participants were selected at random so that end use customers of all participating NPPD wholesale customers and NPPD's end use customers had an opportunity of being selected. Taken together, individual opinions of the 100 participants will provide a reasonable picture of what all residential electric customers in NPPD's service area would say if it were possible to ask each of them the same questions. The professional moderators who lead the discussions are neutral and not NPPD employees. They have no stake in the outcome. Their job is to see that you have a chance to participate and get your questions answered.

An Advisory Committee representing a broad range of viewpoints has reviewed the materials used in this customer meeting. The Advisory Committee's goal was to see that the materials and large group discussions express contrasting opinions but do so in a balanced way, allowing you to hear

many sides of an issue. Because we will be discussing values and tradeoffs, there are no right or wrong answers.

3. Customer Input is Important and Appreciated

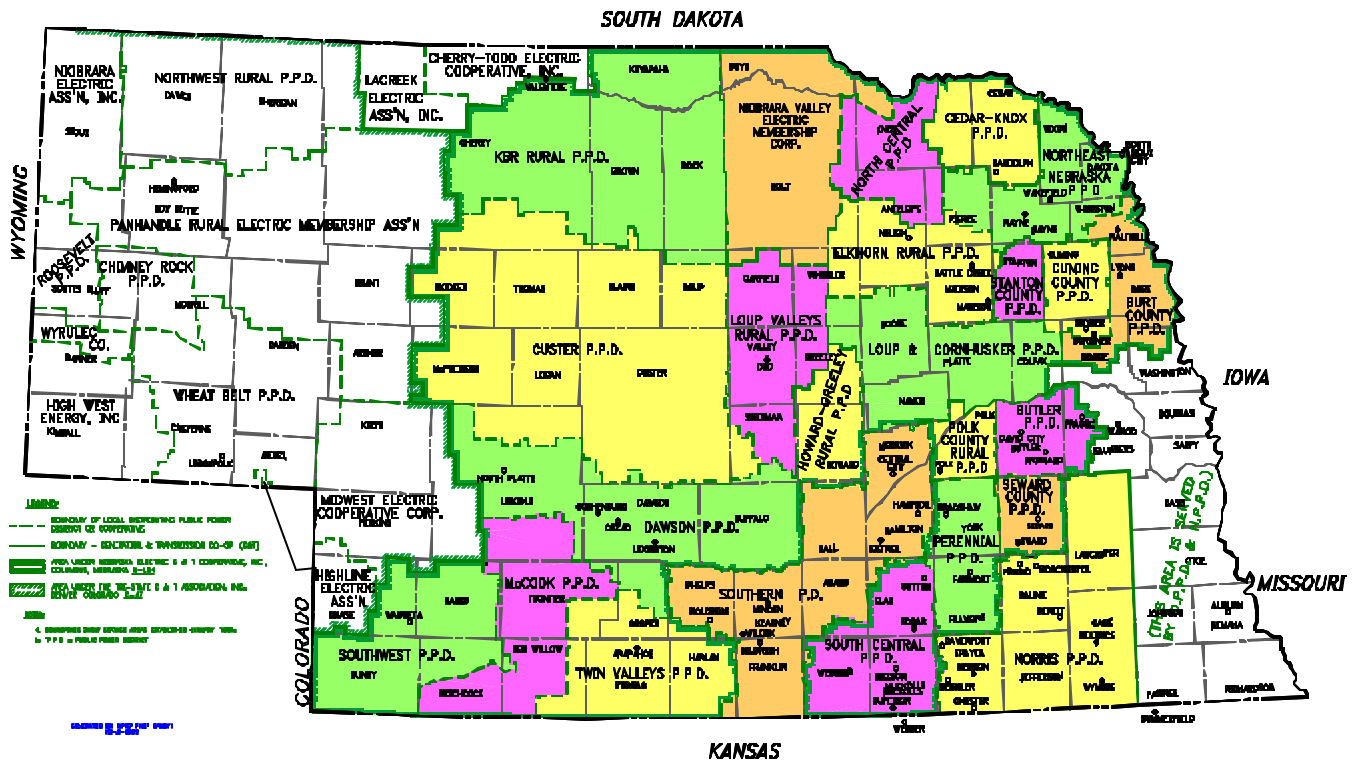
You have accepted our invitation to spend a day learning about, thinking about, and discussing the options for meeting NPPD's future energy needs. The planning process is challenging for two reasons: no one knows what the future may bring; and, more to the point of this customer meeting, not everyone thinks the same things are important. The guidance you provide will become a basic element in the planning process and will be taken very seriously. This is an important discussion and all residential customers in NPPD's service area will benefit by the contribution of time and thought you are making.

B. What You Need To Know About Electric Resource Planning

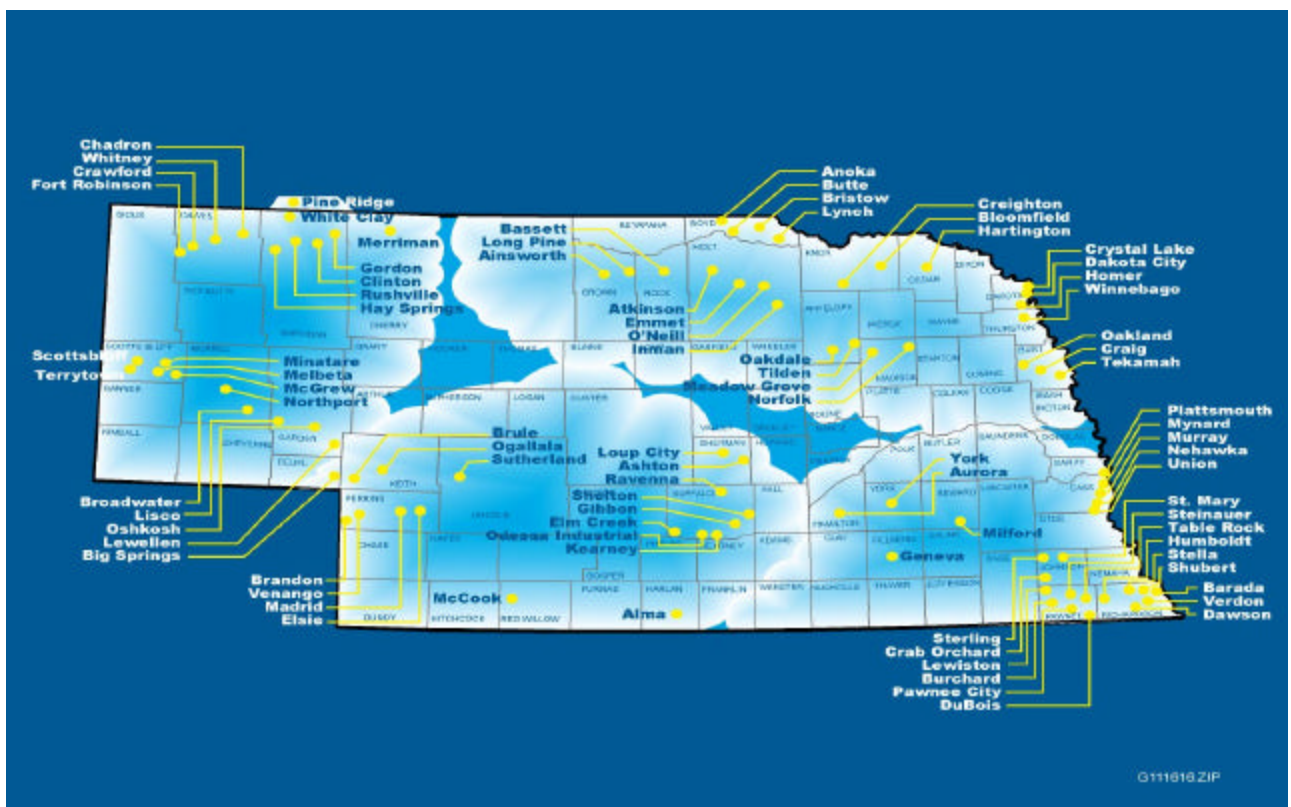
Nebraska is unique as a state in many ways. One of those unique differences is that all electric utilities in Nebraska are customer owned. NPPD for example, is a political subdivision of the State and is governed by a Board of Directors elected by you - the customers of NPPD and our Wholesale Partners. Several of those Board Members will be with us today. This form of ownership is contrasted to electric utilities in other states owned by shareholders or investors. The difference is very important. In all of Nebraska, the customers are also the owners of the electric utilities. For that reason, with NPPD, the tradeoff between the interests of customers and owners does not exist. However, the interests of customer classes may differ—residential customers may not think like industrial customers. The interests of current and future customers (or owners) may be different—an advantage today may be a disadvantage for your grandchildren tomorrow. You can begin to see why we feel it is important to consult our owners/customers.

1. Some Helpful Terms

Some of the following terms may be helpful as we discuss options for generating electricity. The first terms are "retail" and "wholesale." NPPD serves 87,500 end-use customers as the retail provider, where the end-use customer is the one who consumes the electricity. In addition, NPPD is the wholesale provider that serves 78 other power entities such as municipalities, other public power districts, rural public power districts and cooperatives. In this case, the NPPD wholesale customer resells to the end user. The participants in this Customer Meeting come from both NPPD retail and Wholesale customers. The colored areas in the following map show NPPD Wholesale customers and their service areas.

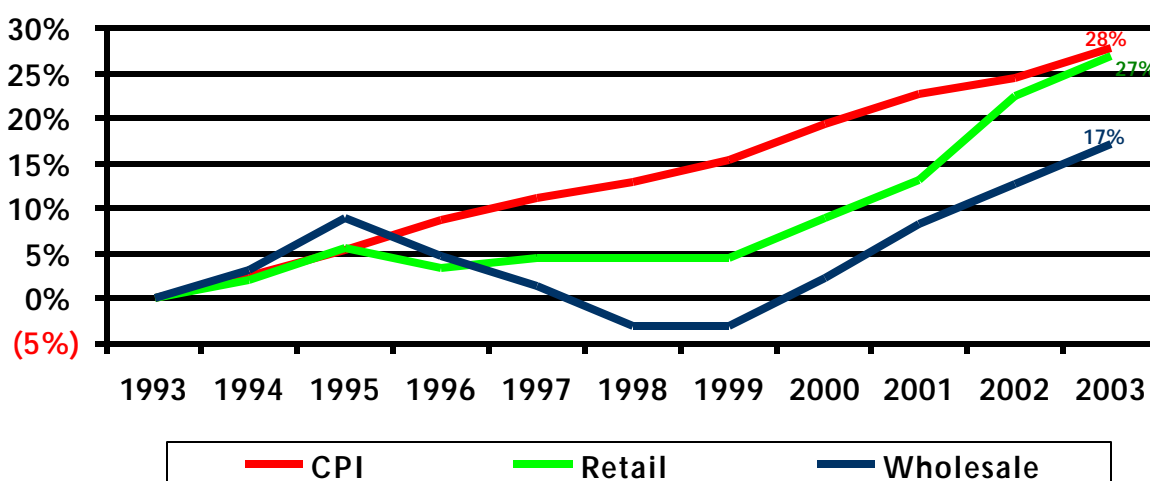


The towns indicated in the map below show communities served by NPPD at Retail.



The following chart shows NPPD rate adjustments for the past ten years compared to the rate of inflation. The Consumer Price Index is used to reflect the rate of inflation.

Compounded Growth Rate of the CPI and NPPD Rates Since 12/ 31/ 1993



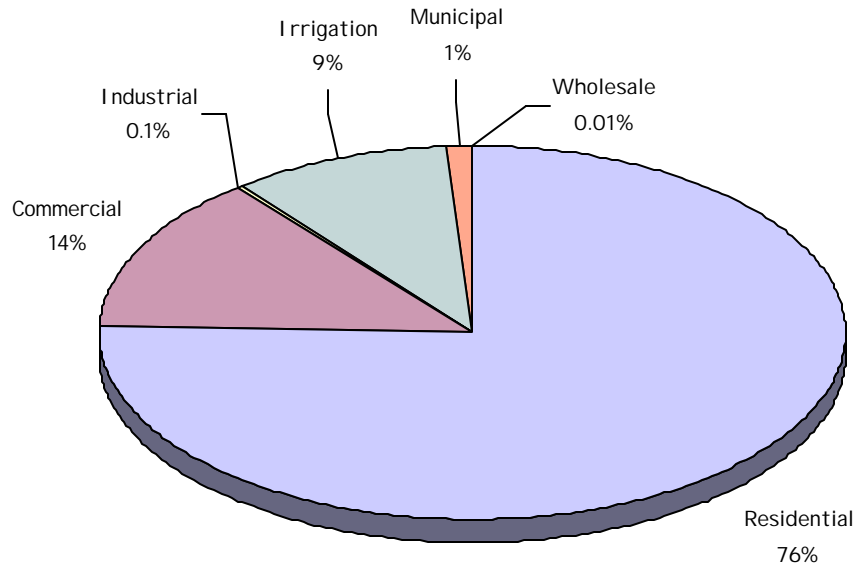
2. Types of Customers

Different types of customers have different energy needs and usage patterns. We usually talk about three basic types of end use customers:

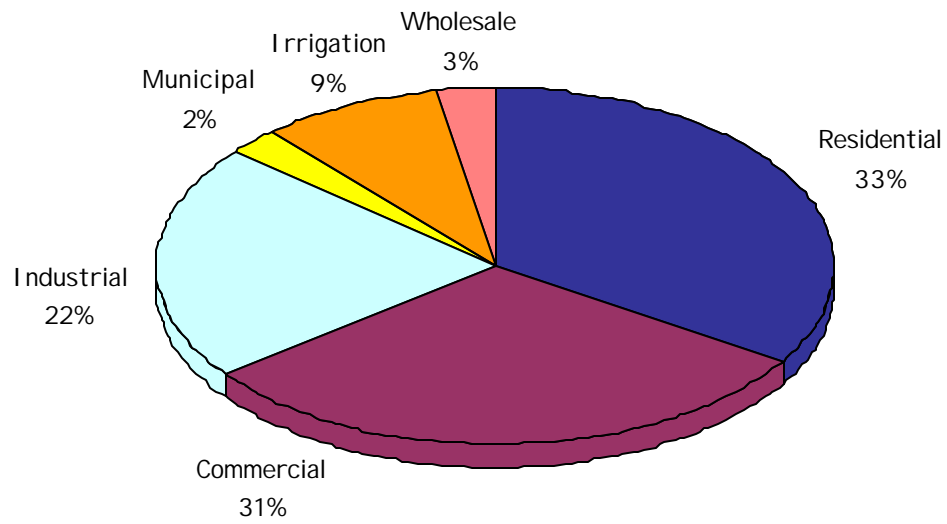
- **Residential** – homeowners and renters
- **Commercial** – educational institutions or businesses such as retail stores, small manufacturing plants, and office buildings
- **Industrial** – large industrial customers some of whom use electricity as their energy source in manufacturing.

In addition there are special classes of customers that have unique usage patterns and therefore have rates designed for that specific use. Examples include irrigation and municipal loads such as streetlights. Customer groups pay different prices for electricity based on the cost to serve each group and the way each group uses electricity. An important cost factor is how much a customer class contributes to the load at the time of highest demand for power (peak). This indicates how much generation, transmission and distribution had to be built to serve that customer class. Costs to build and maintain facilities are called fixed costs. Costs for fuel to produce power and maintenance costs that vary with the amount of power produced are called variable costs. The fixed and variable costs are added together to determine the total costs to provide power to customers. Typically, residential costs and therefore rates are higher because it takes more poles, distribution lines, transformers and meters to serve smaller amounts of energy to residences. Generally, as a customer's electricity use increases, the cost per kilowatt-hour to serve the customer declines because the fixed costs are spread over more energy units. The charts below show the breakdown by number of customer accounts, energy sales and revenues for NPPD Retail and NPPD Wholesale combined.

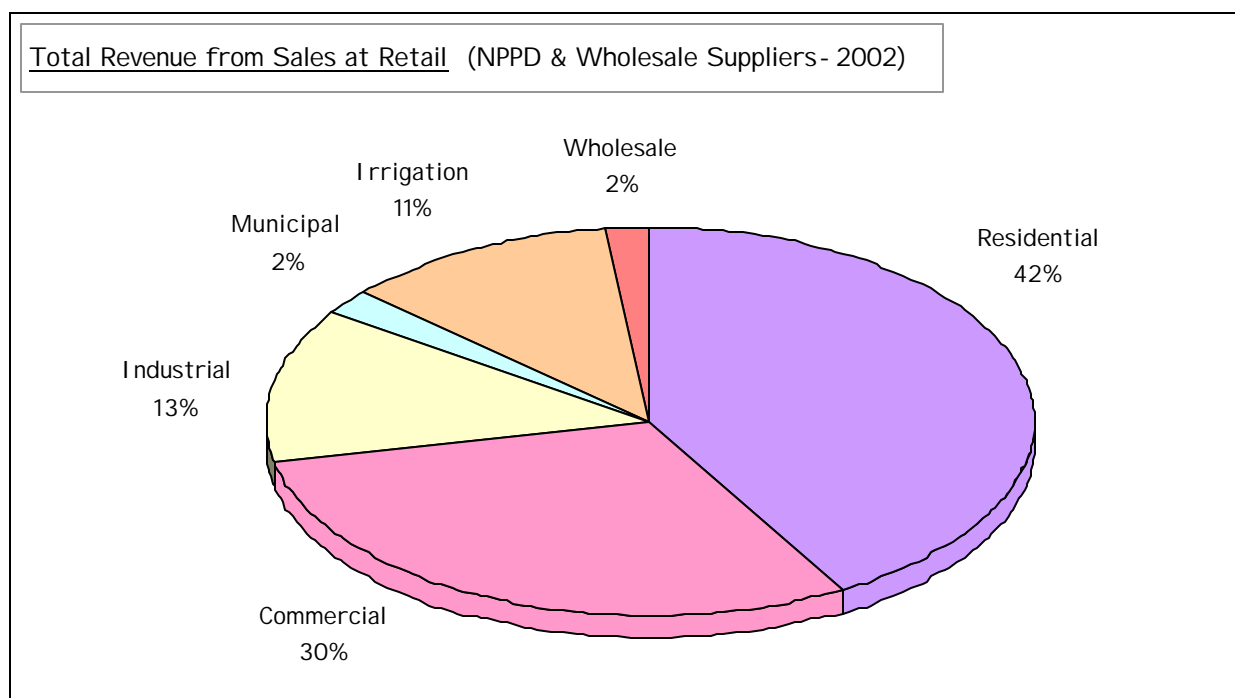
Total Customers at Retail (NPPD & Wholesale Suppliers- 2002)



Total kWh Energy Sales at Retail (NPPD & Wholesale Suppliers- 2002)



This chart shows the combined retail sales of NPPD and the District's Wholesale customers. The 3% wholesale shown above is a resale by one wholesale customer to another.



The three charts show the relationships between numbers of customers, the energy they consume, and the revenue they produce. For example, residential customers make up 76% of the customer base (wholesale and retail), but consume 33% of the energy and produce 42% of the revenue. More striking are the comparisons for large energy users where industrial customers make up 0.1% by number but consume 22% of the energy and produce 13% of the revenue. Irrigation customers make up 9% by number and consume 9% of the energy and produce 11% of the revenue. Note that NPPD's Wholesale customers sell a small amount (3%) of energy at wholesale. The factor not shown in these charts is when the energy is consumed. Variable costs for energy consumed at peak usage hours can be several times more expensive than for energy consumed at low usage (off peak) times.

3. Understanding Units of Electrical Energy

Consider the amount of electricity needed for a specific use and the amount of time it is used, a light bulb, for example.

- **Watt** – The lowest common unit of power, such as a 100 watt bulb
- **Kilowatt (kW)** – 1,000 watts; the power or generating capacity necessary to light ten 100-watt light bulbs
- **Kilowatt-hour (kWh)** – The energy consumed to light ten 100-watt light bulbs for one hour. A typical home in the NPPD service area averages about 1,000 kilowatt-hours of energy per month. Actual usage varies according to weather conditions.
- **Megawatt (MW)** – 1,000 kilowatts or one million watts of power or capacity. One megawatt of power could light ten thousand 100-watt light bulbs at the same time. If a typical house used 5 kW at its peak, a MW of electrical generating capacity could serve 200 houses if they consumed at their peak simultaneously. This measure of electricity is used to discuss

resource needs. For example, a typical electrical generating plant burning natural gas would be sized to provide 50 to 250 MW of power or capacity. A typical wind turbine might produce 1.5 MW. NPPD has the capacity to deliver approximately 2,900 MW of electrical power.

- **Megawatt-hour (MWh)** – The energy in one megawatt of power consumed for one hour or the energy consumed when ten thousand 100-watt light bulbs are lit for one hour.
- **Capacity** – is the ability to generate electricity. Capacity is usually discussed in relation to the ability to provide enough electricity for the peak times. The measurement for capacity is either kilowatts or megawatts. Costs for constructing capacity are usually thought of as fixed costs. New generating plants being discussed will have a capacity rating that indicates the amount of electricity they could produce at full output.
- **Energy** – is the amount of electricity actually generated. Energy has a time element and is measured in kilowatt-hours or megawatt-hours. Energy production costs are usually thought of as variable costs, as in the cost to start up and shut down plants and the fuel required for generation of electricity.

4. **Generation and the Transmission Grid**

Peak Demand

Electric systems are designed to meet the power drawn at the moment of highest demand (this is capacity). As a Board of Directors policy, NPPD designs its generation and transmission system (power grid) to meet expected peak demands plus 15% reserves to accommodate unexpected generation outages and severe weather. This is in contrast to a policy that would depend on purchased power. NPPD reached its all time summer peak in July 2002 of 2,370 MW. In contrast, NPPD's 2002 winter peak was 1,633 MW.

Deciding Which Unit to Run

Around the clock and on an hourly basis, the NPPD system operators balance their forecast of customer load and other long-term contractual obligations with the availability and cost of each of NPPD's generating units. They also look at the option of purchasing or selling short-term power in the wholesale market. For example, there will be times when NPPD can purchase power (such as hydro) at a cheaper cost than NPPD can start and operate another unit. There may also be times when NPPD has more power than customers need and can sell the excess.

Generating units are operated at specified generating levels (dispatched) to meet customers' loads and maintain reliability while minimizing costs.

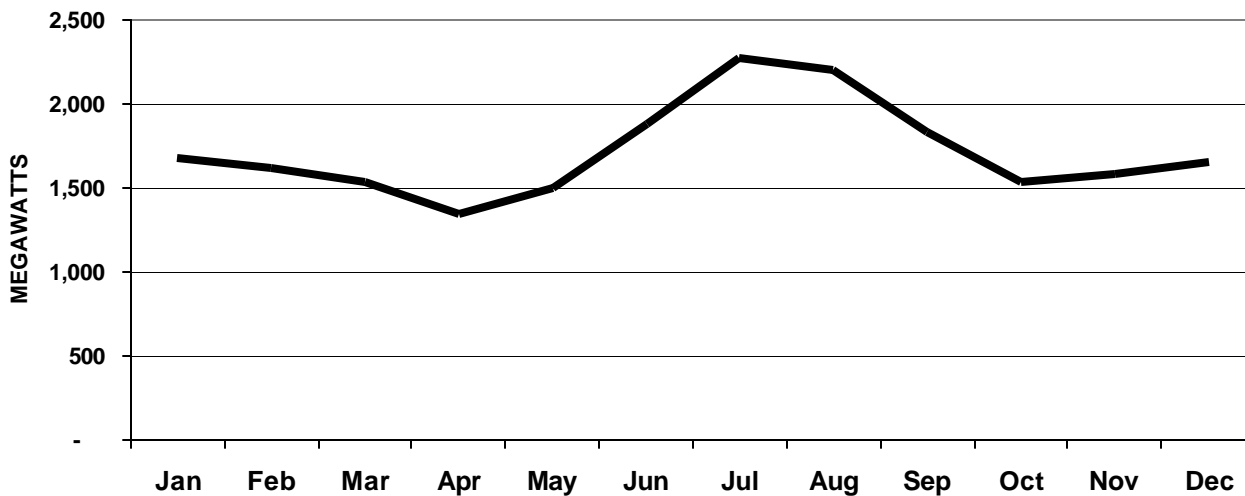
Generating units are primarily classified as base load, intermediate load, and peaking load.

- **Base-load** units operate year-round except when shut down for maintenance. These units can change their output to follow daily load swings but are not cycled on and off to follow load changes. These units have higher fixed (construction) costs and lower variable (fuel) costs and produce large amounts of power. Base-load units are fueled by coal and nuclear fuel. Another option

NPPD is considering is small generation units fueled with methane captured from animal manure from animal confinements. This option would operate at a constant load and therefore be base loaded.

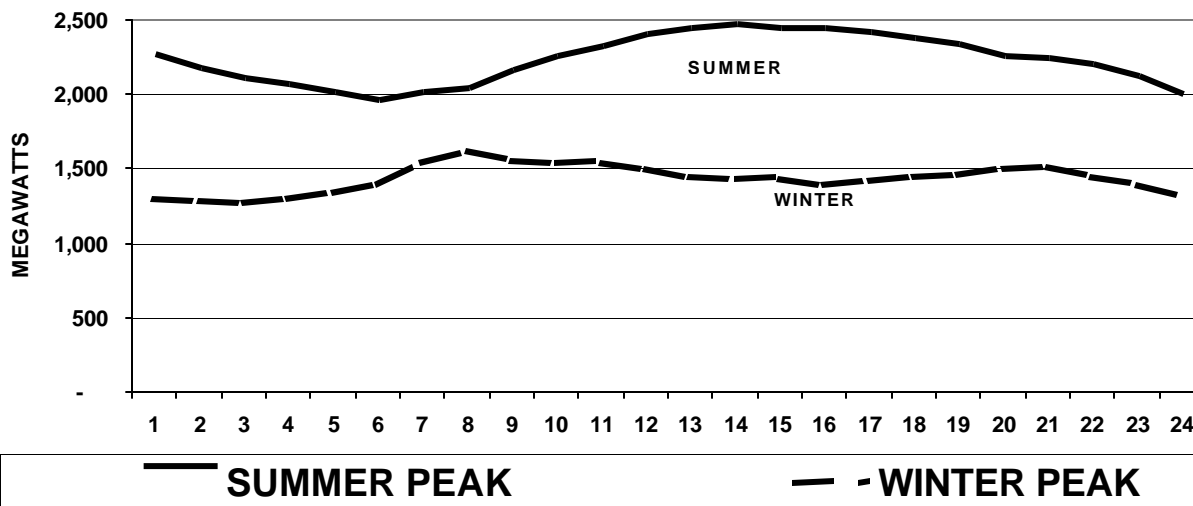
- **Intermediate-load** units meet seasonal demand increases typically occurring in the summer and winter. These units have moderate fixed costs and higher variable costs than base-load units. NPPD's intermediate-load units are fueled by natural gas, with oil as a backup if needed. Intermediate-load units are typically put into service when the loads are greater than the energy base-load units can provide. Hydro plants (Hydroelectric units powered by falling water) can be considered as a mix of a base loaded unit and an intermediate load unit. Hydro plants typically operate year-round but can only generate the amount of electrical energy the falling water will allow. Water management practices, for example irrigation and flood control, determine the flows from dams into rivers and canals and therefore determine the hourly, daily and seasonal output of a hydro plant.
- **Peaking load** units are used to meet the highest system demand, such as the mid-afternoon of an extremely hot summer day. These units can start up and shut down quickly and are designed to operate only at peak times, which is typically less than 10% of the year. The units are less expensive to install (lower fixed costs) than the others, but have high variable costs. Peaking units are usually fueled by natural gas and are dispatched when the loads are greater than the energy base-load and intermediate-load units can provide. The chart below shows NPPD's projected peak for 2003. Note that the peak for April can be about 1,000 MW less than the peak for July - the hottest summer month.

**NPPD MONTHLY PEAK DEMAND
PROJECTED FOR 2003**



The chart below shows the peak for each hour of the peak day in the summer and the peak day of the winter in 2002. Note that the load can vary by about 400 MW from the low use time of the day to the high use time of the day.

**NPPD LOAD on PEAK DAYS - 2002
(24 hours from midnight to midnight)**



SUMMER PEAK

- WINTER PEAK

Operation of the Power Grid

If you will remember science class, electricity is instantaneous and flows from the point where it is generated to the point where it is consumed (the load). The NPPD system operates as a grid. Think of a lake where you pour a bucket of water in the north side and draw a bucket of water from the south side. NPPD is connected to other utilities and other grids. The electricity from an NPPD plant close to another utility's load may actually flow to and serve that load. It is helpful to remember this principle. Electricity from one generator or utility is indistinguishable from another when it enters the electric grid. Power from all NPPD plants goes into the grid and flows to the nearest load (in electrical terms: path of least resistance). Obviously, all power flows are metered in order to measure power flowing to customers and between utilities. The power grid has great advantages since one utility can back up another utility thereby improving reliability. The power grid also allows all generating units in a service area to deliver the energy produced into a common system where all customers share in the costs of the total energy produced.

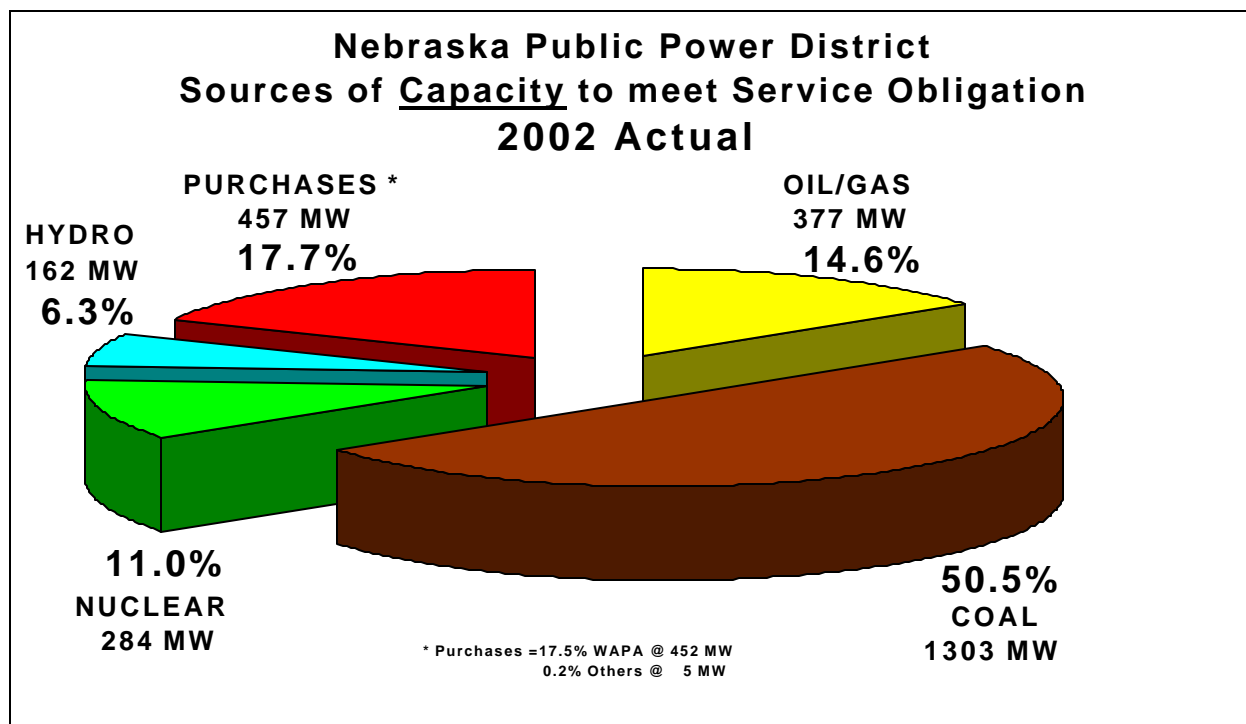
5. Wholesale Market and Purchased Power

The ability to purchase wholesale power through the grid provides utilities with an alternative to running high-cost plants or building new power plants. The wholesale market also offers utilities a means to sell excess power.

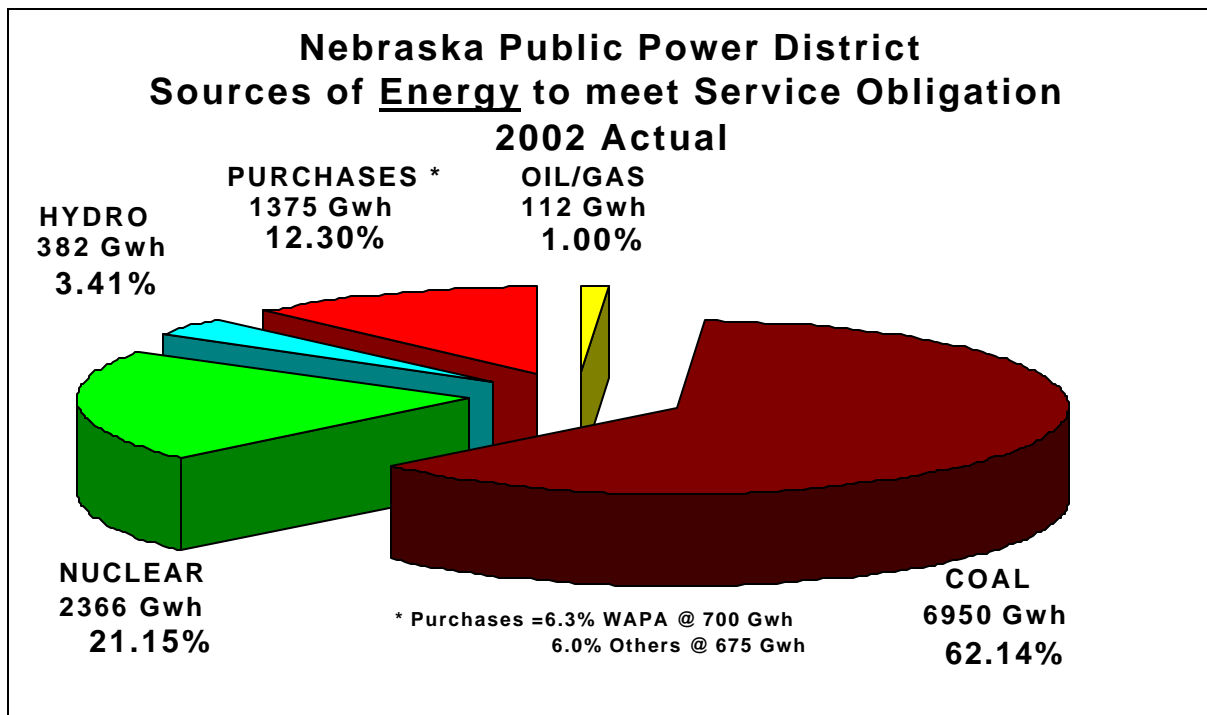
In the Midwest U.S. wholesale market, there are many suppliers of electricity. These suppliers include other utilities, independent power producers, power marketers, and large industries that generate electricity. Power is available in various amounts and for periods as short as an hour or as long as several years. Purchased power comes primarily from a mix of fuels such as coal, natural gas, or nuclear fuel. Last year, NPPD used purchased energy for 12% of its needs. Long term contracts with the Western Area Power Administration (WAPA) accounted for approximately 50% of that purchased energy and came from large hydro plants on the

Missouri River. Also last year, NPPD sold 15% of the power it produced to other utilities beyond NPPD's long-term wholesale customers. Different electric systems peak at different times, and provide this opportunity to buy and sell wholesale power.

The chart below shows the sources of capacity for NPPD in 2002.



The chart below shows the sources of energy for NPPD in 2002.



*WAPA is the Western Area Power Administration and markets power from dams on the Missouri River.

C. Factors to Consider

Each of the options for new generation you will hear about has advantages and disadvantages. State law administered by the Power Review Board (PRB) requires that applications filed by electric utilities for new generation plants meet the following criteria. *“After hearing, the board shall have authority to approve or deny the application. Before approval of an application, the board shall find that the application will serve the public convenience and necessity, and that the applicant can most economically and feasibly supply the electric service resulting from the proposed construction or acquisition, without unnecessary duplication of facilities or operations.”* During the 2003 legislative session, LB 65 was passed that allows the PRB to approve certain small (10 MW and less) renewable energy and emerging technology options when – *“...the application will provide public benefits sufficient to warrant approval of the application, although it may not constitute the most economically feasible generation option.”* As you know from your own budget decisions, “most

economically and feasibly” have different meanings for different people. In recognition of the public’s interests in the benefits of renewable energy, the Legislature exempted smaller renewable generation projects of 10 MW or less from the standard of ‘most economically and feasibly’.

1. Fixed (Construction) Costs

Some generation options have high upfront cost but relatively low maintenance and fuel costs. The most common example is a coal plant. Current construction estimates for coal plants are in the range of \$1,200 - \$1,500 per kW of capacity. Obtaining all of the necessary permits and constructing the facility generally takes 5 – 7 years. By comparison, a natural gas combined cycle plant costs in the range of \$600 - \$800 per kW to build and generally can be permitted and constructed in 3 - 5 years. Wind turbines come in 1-1.5 MW sizes at a cost of about \$1,000 per kW. A more economical size for a wind farm is in the range of 50 MW, which can be permitted and built in 12 - 18 months.

2. Variable (Operational) Costs

The other side of the coin from the cost to build is the cost for fuel and the maintenance costs that are proportional to the energy produced. Fuel costs for coal plants are in the range of 0.7 - 1.2 cents per kWh while fuel costs for natural gas combined cycle plants are in the range of 2.5 – 8.0 cents per kWh. These fuel cost differences are why a coal plant tends to be a base-load unit running most of the time, while a natural gas plant is an intermediate or peaking unit.

3. Load Following Capabilities

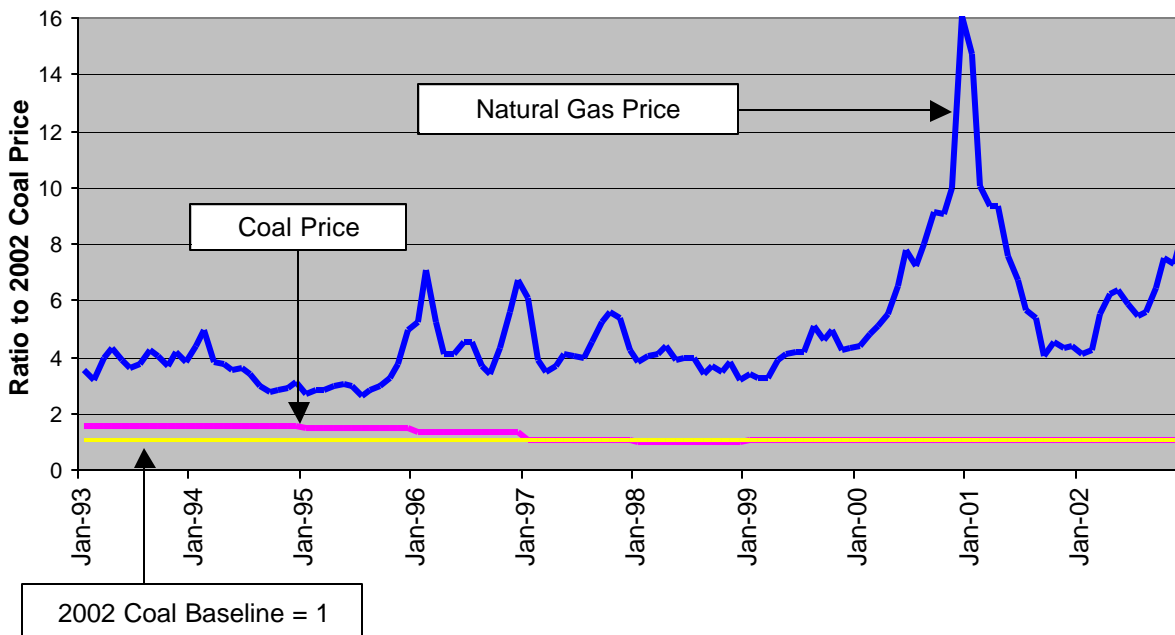
The ability of a generation source to follow the load as it goes up and down throughout the day, month or year is another important factor to consider. This concept is known as ‘load following’. In general, the traditional fossil generating plants--natural gas and coal--have strong load following ability. Because it takes longer to start up and shut down a coal

plant, and because they have lower operational costs, coal plants tend to be base-loaded but do follow daily changes in loads by increasing or decreasing their generation. Natural gas plants have the greatest load following ability since they can be started and stopped on a daily basis. Load following is important when comparing between renewable fuel plants and fossil fuel plants. A wind turbine requires no fuel to burn but the wind does not always blow so a wind plant has less load following ability. In general, based upon the wind measurements in parts of Nebraska where wind turbines would be located, there is less wind during the summer months and wind turbines would be producing approximately 17% of their capacity rating during the summer peak month. The annual capacity would be approximately 40% of the turbine's rated output (capacity). For example, a 50 MW wind farm might produce only 8.5 MW during the summer peak and therefore has less load following ability than either coal or gas. At other times, the wind turbine might produce at 100% of its rated capacity and operators could back down fossil units with higher fuel costs.

4. Fuel Costs

The nature of the fuel requirements for a generation option is another important factor to consider. One way to think about fuel requirements is in terms of price and price fluctuations. The chart below compares the ratio of the cost of natural gas to the cost of coal on an equivalent amount of energy basis.

NPPD Historical Fuel Prices



As the chart demonstrates, costs to buy and transport coal tend to be relatively stable. The chart shows the ratio of gas prices to coal prices to produce the same amount of energy in British Thermal Units (BTUs). The baseline for comparison is coal costs in 2002. Costs for natural gas tend to fluctuate. At the extreme point, the price of energy from gas was 16 times the price of energy from coal. On the other hand, wind and methane from animal manure are essentially free but must be converted to electricity. Capturing wind energy requires costs for wind turbines. Methane from animal manure requires construction costs for facilities that generate and capture the methane.

5. Environmental Considerations

Environmental impact of a generation option is an important factor to consider. One way environmental impact is measured is in terms of the air emissions produced by combustion of a particular fuel. Nationally, approximately 56% of the power plant boilers are coal fired. These coal fired power plants account for approximately 90% of the power plant emissions of nitrogen oxides, sulfur dioxide, carbon dioxide and mercury

from power plants since gas fired plants are cleaner and generate a smaller portion of the nations power. Nuclear plants do not produce these emissions. Nationally, approximately 41% of carbon dioxide emissions come from all power plants combined, 33% from transportation and 26% from industrial, commercial and residential non-electrical energy consumption.

In Nebraska, coal power plants account for approximately 76% of the six air emissions monitored by the state. Not all sources of emissions are monitored by the state including transportation (automobiles, trucks, etc), agriculture, small industrial operations, commercial facilities and residences.

The following charts show emission levels for the emissions that are monitored: nitrous oxide (NO_x), sulfur dioxide (SO₂) and carbon dioxide (CO₂) for existing NPPD plants. The federal "Clean Air Act" sets limits for regulated emissions and all NPPD plants emit less than these limits. But, future limits are unknown because some of the current emissions are not covered and limits may change for all regulated emissions.

For the following graphs, please note:

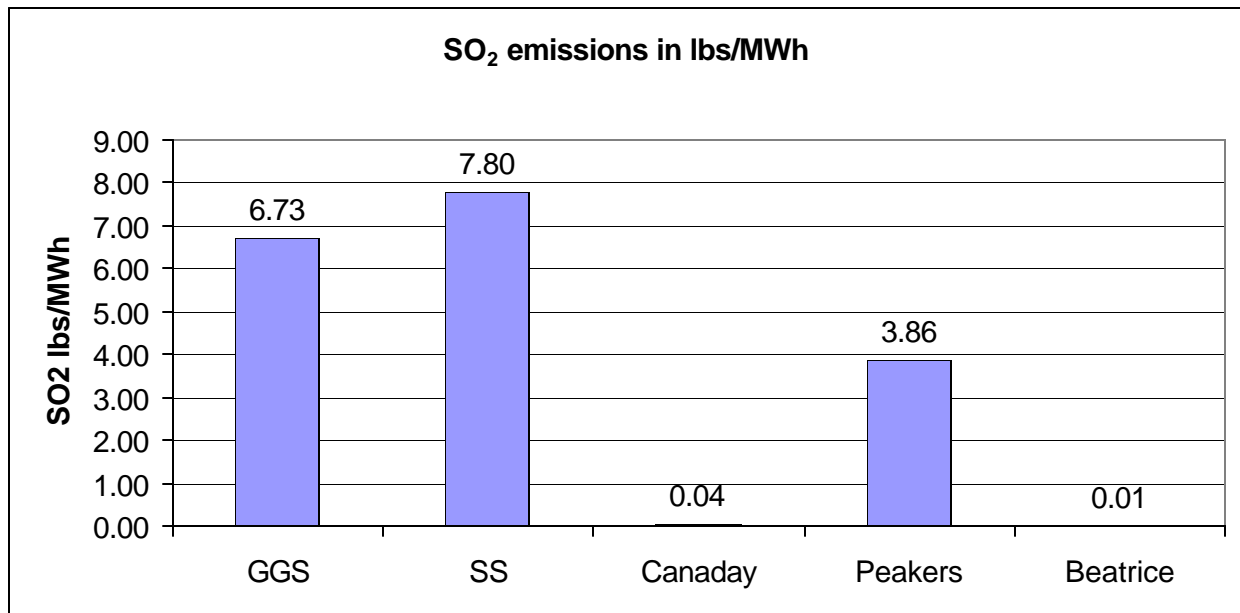
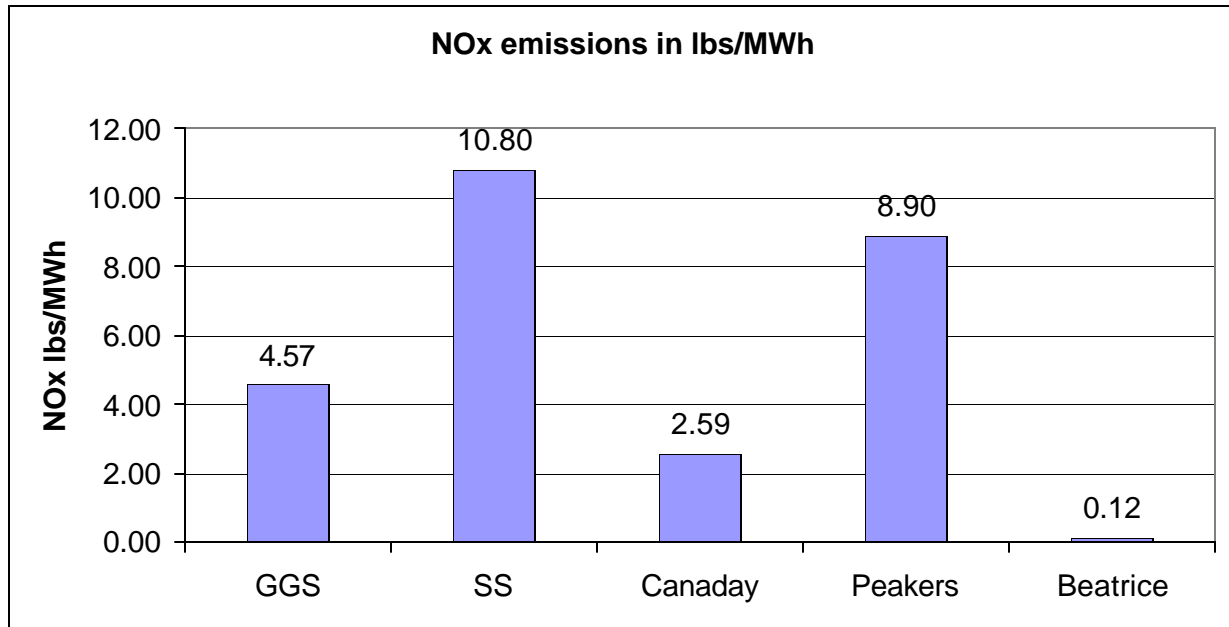
GGs – Gerald Gentleman Station; NPPD's newest coal fired plant

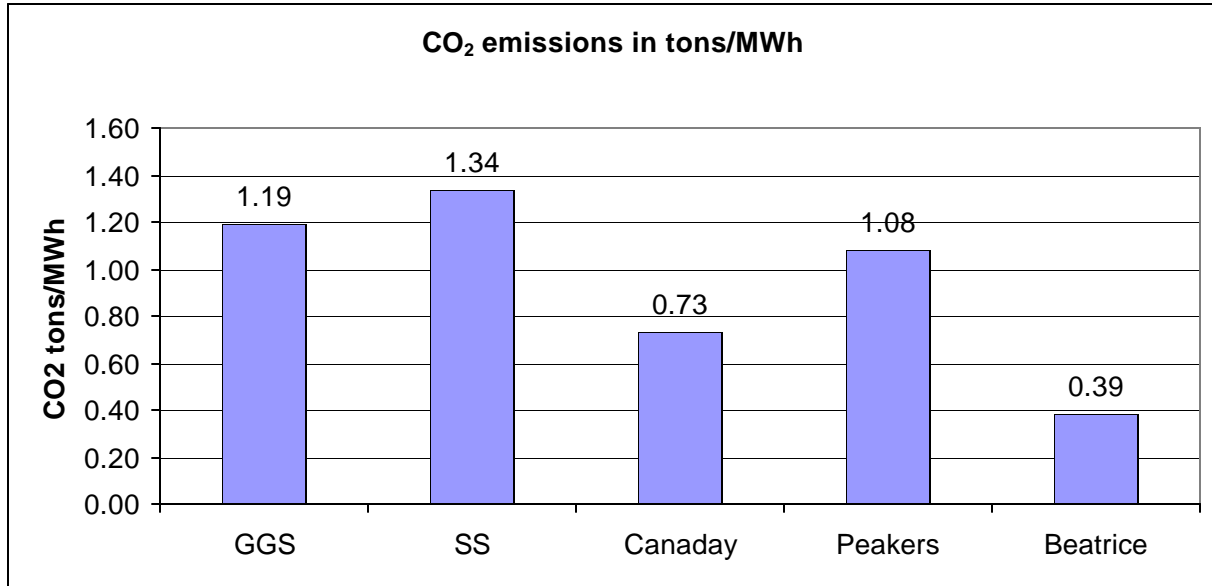
SS – Sheldon Station; NPPD's oldest coal fired plant

Canaday – NPPD's oldest operating fossil plant; gas fired

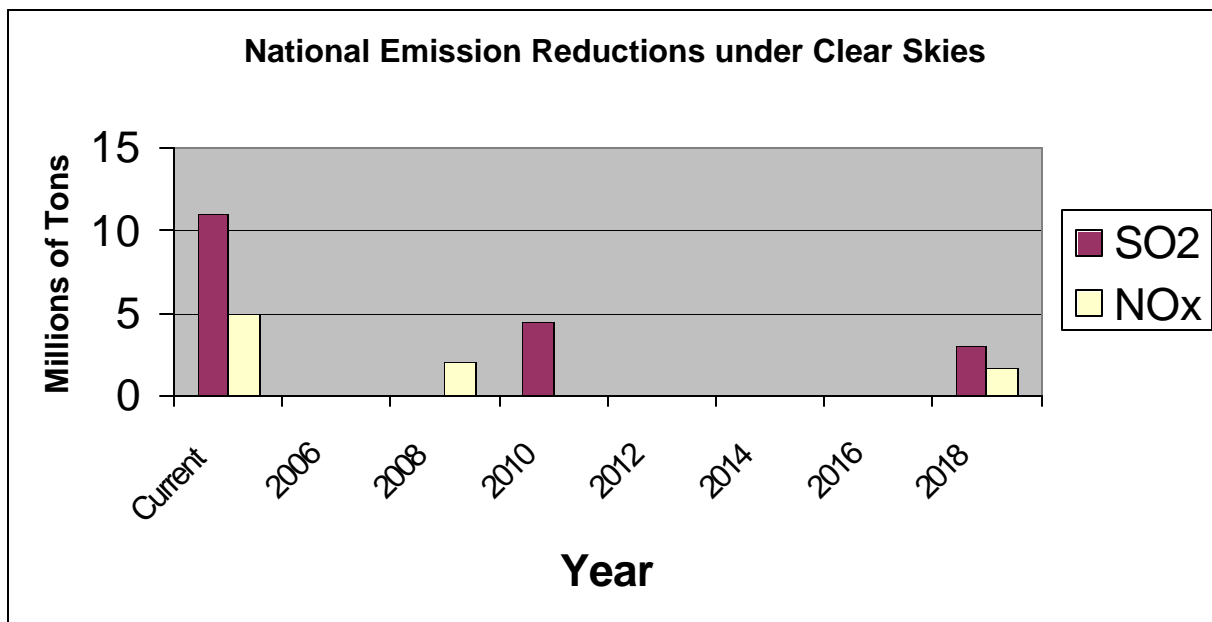
Peakers – Combustion turbine (jet engine) driven generators; gas & oil fired

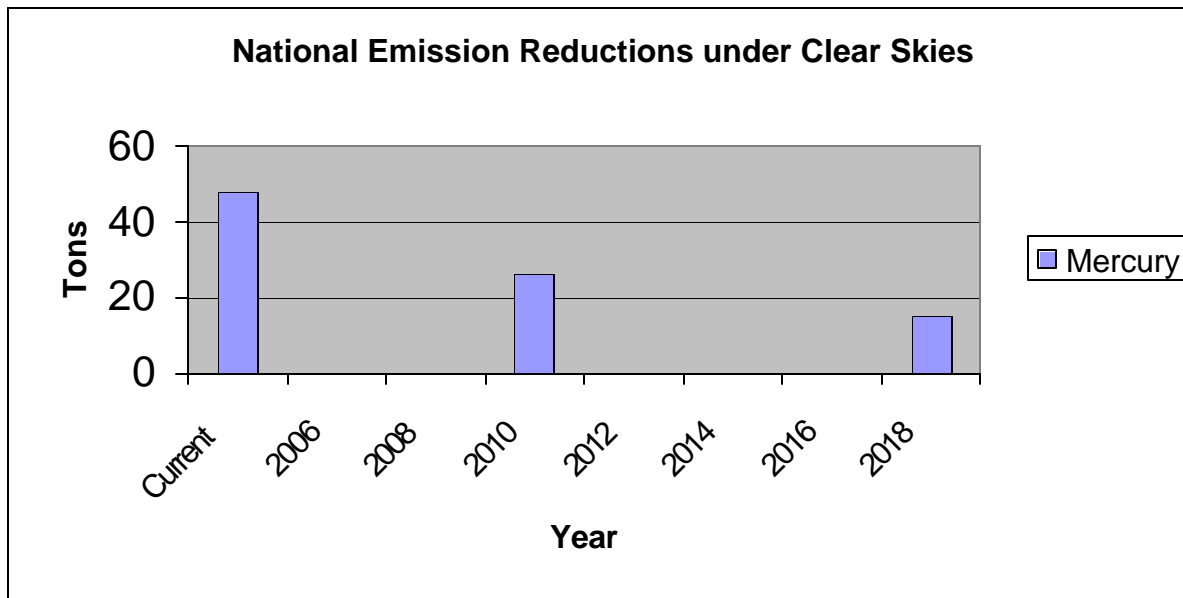
Beatrice – NPPD's combined cycle plant under construction; gas fired





While new fossil fuel plants are significantly improved over older plants in terms of their emission characteristics, any electrical generation process that burns a fuel creates heat and emissions. Future regulations on reducing emissions are uncertain at this time. Under the current U.S. Environmental Protection Agency environmental initiative titled "Clear Skies," reductions would be required over several years for three emissions - sulfur dioxide (SO₂), nitrous oxides (NO_x) and mercury. The following two charts show the proposed reductions.





The numbers above reflect reductions on a national level. Meeting these proposed emissions reductions will impose additional costs on coal and gas fired generation resources. It is highly probable that some reductions will be required in the future.

6. Other Considerations Related to the Environment

In addition to the environmental impacts regulated by law, some believe other impacts should be considered in deciding between generation alternatives. Many of these impacts are not reduced to dollar terms and therefore not costs recovered in rates. Instead, the costs are paid by society in general. Potential health effects of pollutants are an example often cited. Other examples might include visual impact of plants or wind turbines, water use, noise, water quality, creation of solid wastes (such as coal ash; high and low level nuclear wastes), impact on recreation such as fishing, and best use of land.

7. Other Advantages or Disadvantages of each Option

Additionally, each of the options will have a series of other advantages and disadvantages. Examples might include time to build, economic impact (both positive and negative), location of the resource in terms of adequacy of transmission lines, impact of transporting the fuel,

number of jobs created or maintained, and whether the option uses a Nebraska fuel resource. These viewpoints will have proponents and opponents and you will have the opportunity to discuss them. For example, some will support the economic development potential for farmers of leasing land for wind turbines. Methane recovery from animal manure would greatly reduce odors from confinements as well as reduce greenhouse gas emissions. Odor reduction would likely reduce resistance to confinement operations, which play a key role in Nebraska's agricultural based economy. Others may say these factors are beyond the scope of electric generation planning. Use of a Nebraska based resource is a similar issue. Some point out wind and methane from animal manure are Nebraska based, while coal and gas come from neighboring states. Others say location of the fuel is not an important consideration in their view.

D. Points of View—not everyone thinks the same things are important

As you will hear repeatedly throughout the day, the purpose of this customer meeting revolves around the fact that not everyone thinks the same things are important. NPPD needs to know what is important to you as an individual and as a member of a scientific sample of NPPD customers.

1. Lowest Cost

When asked to rank priorities, some customers will say their first priority is the lowest cost resource. For these customers, impact on rates and therefore their bill is the primary consideration. This viewpoint is common among low income or fixed income residential customers and is even more common among commercial or industrial customers where electricity is either a major expense or a significant raw material in their production process. For example, a steel mill that uses electricity to melt waste steel is sensitive to even a small increase in electricity prices since there can be a significant competitive impact. The same can be said of a school on a tight budget.

2. Predictable Bills

Another point of view is the importance of predictable bills. Some customers are willing to pay a little more upfront if their bills do not fluctuate. In most cases, price swings for electricity are related to the price volatility of the fuel source or an unexpected extended plant outage. The decision on predictability of fuel is similar to the decision many homeowners make when deciding between a fixed rate mortgage and a variable rate mortgage.

3. Greatest Reliability

When discussing generation options, some customers list reliability as a concern. Customers describe reliability as lights coming on when they flip the switch or the digital clock flashing. In this case, when thinking about advantages and disadvantages of generation sources, the reliability factor revolves around reliability of the generation source itself and of the transmission system to bring the power to the customers. The transmission system also connects NPPD to other utilities in this region. If a generator is not available for any reason, a utility can buy power from the other utilities or sell power to others when they need it. Distribution reliability, such as when a tree falls on an electric line in your neighborhood and your lights go out, is not a factor here.

4. Least Environmental Impact

Some customers list environmental impact as a factor in deciding among competing generation choices. You should remember when thinking about environmental impact that we are comparing among new sources of generation and not comparing with existing plants. For example, advocates for coal alternatives point out that while the use of coal to generate electricity nationally has nearly tripled over the last three decades, regulated air pollutants have declined by more than 30 percent, due in large part to cleaner coal technologies. Advocates for non-fossil alternatives point out that while Nebraska is classified under federal definitions as a “clean air state,” 78% of air emissions monitored in Nebraska come from burning coal and natural gas to generate electricity. As you can see, like cost, environmental impact is a factor with many viewpoints. Some

customers think about potential immediate health and property damage impacts from air emissions like sulfur dioxide, a component in acid rain. Some customers have a concern over potential long-term impacts from emissions such as the potential for climate change or long-term health impacts. Some customers favor generation choices with the least environmental impact and attribute a dollar value to environmental and health impacts as a means to identify all inclusive costs for each generation option.

5. Who Pays

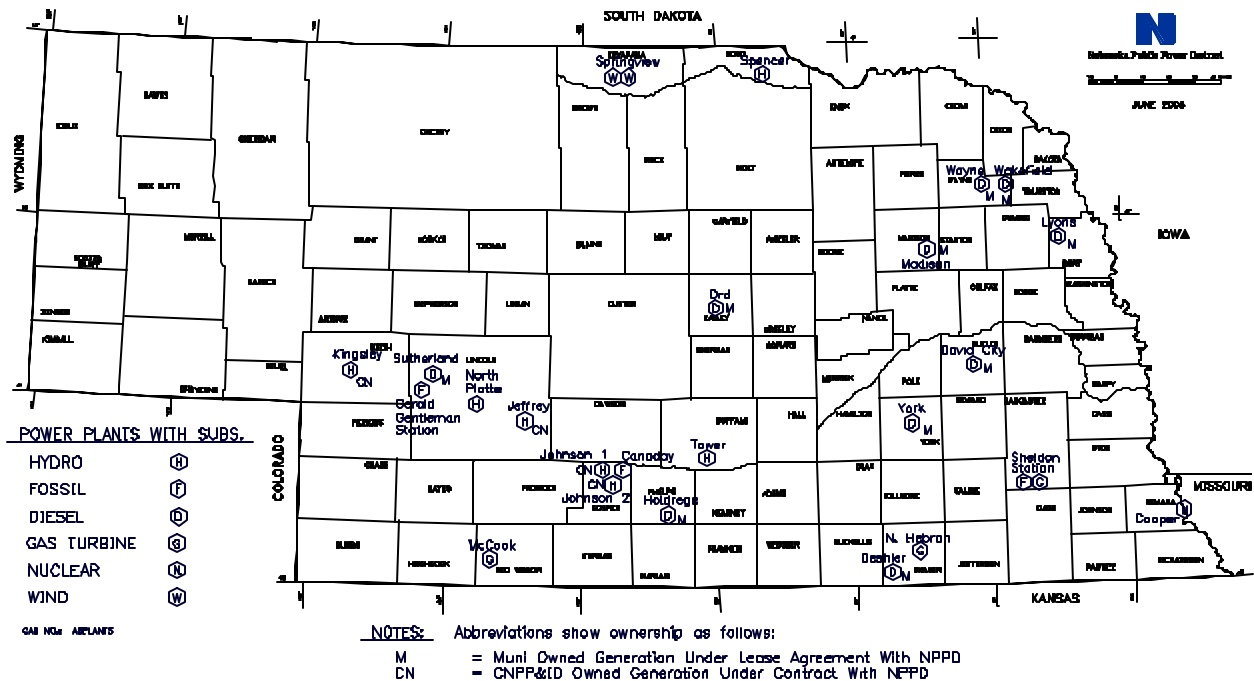
One of the other issues on which we will seek your judgment is the subject of who pays. The issue revolves around the assumption that some of the generation options such as the newer renewable choices may cost more than the more traditional fossil fuel choices. If this assumption turns out to be correct and the renewable choices are more expensive, then how should this cost be shared among customers? As with discussing the “factors to consider” in selecting between generation options, there are no right or wrong answers on this issue.

Some customers believe that renewable options bring significant benefits to all NPPD customers and therefore the costs should be spread to all customers as would be done with a traditional generation option. Spreading the costs to everyone creates the least impact for an individual customer. Others may say that renewable generation should be an individual choice, and the additional cost, if any, should be borne by those who believe strongly enough about the benefits of renewable energy to pay extra to see that those benefits are realized. If renewable energy were not included in the resource mix for everyone, then it would be marketed separately in order to reach those customers willing to pay some amount more for renewable energy. The marketing costs would increase the costs of renewables and the amount to be recovered. Conversely, if renewable energy costs became less than fossil energy costs, then only renewable energy subscribers would reap that economic benefit. Another point of view says, use both options. In other words, install some renewable resources as a system resource and spread the cost to everyone, but also offer additional renewable resources as an option for individual customers.

E. Background on NPPD

This section provides information on the current generation mix maintained by NPPD. As you can see from the following map and the charts, NPPD has a mix of coal, natural gas, nuclear, diesel and hydro generation and a small wind energy facility.

1. Current Generation Mix



Coal – Base Load

NPPD’s largest coal fired power plant is the 1,365 MW Gerald Gentleman Station near Sutherland. This station has been in service for approximately 23 years and is NPPD’s lowest cost facility. NPPD also has the 225 MW coal fired Sheldon Station plant just south of Lincoln near Hallam. This is NPPD’s oldest coal fired plant and has been in service for approximately 45 years. Both of the coal fired plants burn low cost low sulfur coal from Wyoming and both plants operate as base loaded facilities.

Nuclear – Base Load

Cooper Nuclear Station (CNS) is NPPD largest single unit electrical generator in the State of Nebraska.

CNS, which has performed safely since it was first put into operation in July 1974, is accredited at 758 MW of generation capacity. This would be enough power to supply the Lincoln and Grand Island areas during their highest summer usage period.

NPPD owns and operates CNS but has contracts to provide other utilities with 62.5% of CNS output. The remainder of the power is used by NPPD, which results in approximately 21% of NPPD's total annual generation coming from CNS. NPPD will decide this summer whether or not to continue to operate CNS past 2004 since that is the last year of contracts for 62.5% of CNS output.

Like Gerald Gentlemen Station and Sheldon Station, CNS is a steam-electric plant. Steam turns a turbine-generator, which produces electricity. Unlike traditional fossil fuel plants that burn coal, oil or gas in a boiler, at CNS the water is heated by the fission of nuclear fuel in a nuclear reactor.

A radiation-monitoring program at CNS continually measures radiation levels in samples of air, soil, vegetation, milk, river water, well water and wildlife in the vicinity of the power plant. To date, there have been no known environmental effects that were recorded at CNS.

Natural Gas – Intermediate Load

NPPD also owns and operates the Canaday Station near Lexington. This is a gas fired steam plant that has been in operation since 1958. Canaday Station serves as an intermediate load facility and only operates during very high demand periods or during emergencies.

Combustion Turbines – Peaking load

NPPD has three combustion gas turbines (jet engines) that drive generators during the highest demand (peak) periods or during emergencies. These peaking units can be started and stopped on a daily basis. These turbines are located near McCook, Hebron and Hallam. The turbine near Hallam can burn either natural gas or diesel fuel – depending on which fuel is lowest cost.

Hydro Plants

NPPD owns and operates three hydro plants located near North Platte, Kearney and O'Neill. NPPD also has contracts with Central Nebraska Public Power and Irrigation District for energy from three small hydro plants in the

irrigation canal system near Lexington and Gothenburg and the Kingsley Hydro plant at Lake McConaughy. NPPD also contracts with Loup Power District for the energy from the Loup Hydro plants near Monroe and Columbus. NPPD has contracts with the Western Area Power Administration for power from federally owned hydro plants on the Missouri River in South and North Dakota.

Wind Turbines

NPPD owns 60% of the two 750 kW wind turbines near Springview. These wind turbines were installed in 1998 under a 50% grant from the Department of Energy and in conjunction with five other utilities in Nebraska in order to gain operation and maintenance experience with wind turbines. These units generate at approximately a 35% annual capacity factor and produce enough power each year to supply the annual needs of approximately 375 residences.



Pictured above is one of the two 750 kW wind turbines near Springview

Diesel Engines

NPPD also has contracts for power from several small diesel engine driven generators located in communities in NPPD's service area. These generators serve as peaking units for very high loads and emergencies.

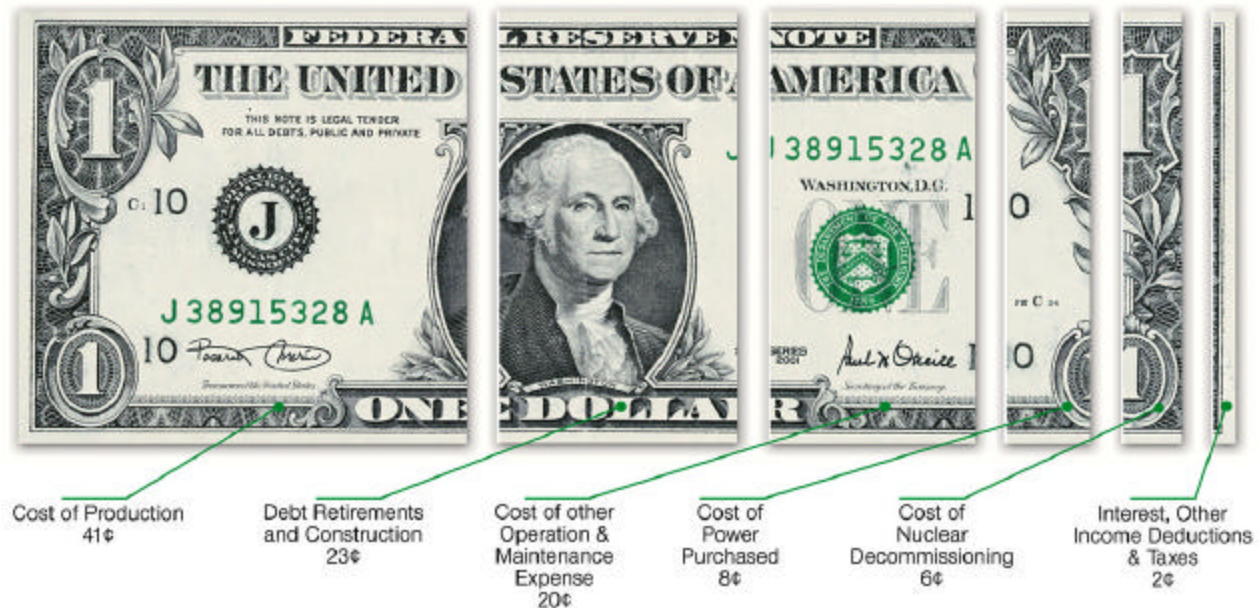
Transmission System

The high voltage transmission system transports power from the sources of generation to the lower voltage distribution systems that deliver power to the customers. NPPD owns and operates approximately 5,000 miles of high voltage transmission lines for transmission of power from the source of generation to the lower voltage distribution systems that supply power to end-use customers. This transmission system interconnects NPPD generation plants and other utilities within Nebraska as well as to a number of utilities in states adjacent to Nebraska. The transmission system improves reliability of delivery of power since power can be transmitted long distances to assure delivery when plants are operating or when they are not operating due to scheduled maintenance or unexpected outages. Of course there are limitations to the amount of power that can be transmitted over a particular line or a system. These limitations must be considered when installing new generation resources since overloading one portion of the system can cause instabilities or upset conditions in other portions of the system.

2. Cost Structure

The following graphic will give you a snapshot of how revenues collected by NPPD are used to pay for all costs to generate and transmit power to wholesale and retail customers.

NPPD Dollars Used for:



3. Generation Needs in the Future

Electrical energy consumption continues to increase each year by approximately 1% - 2% in NPPD's service area. NPPD must plan and develop the mix of power resources that best meet its customers' needs and values. As stated above, many factors must be considered.

4. Planned Units

NPPD currently is installing a 250 MW gas fired combined cycle plant near Beatrice for intermediate load and emergencies. Construction began in May of 2003 with an early 2005 completion date.

Current load growth projections indicate that a 150 MW participation in a large coal fired plant in 2009 would be the lowest cost option for future generation needs assuming continued operation of CNS. Costs for new coal plants meeting lower emissions requirements are estimated at \$1,200 - \$1,500 per kW of capacity. Low sulfur coal from Wyoming would be the fuel for a new coal plant in Nebraska. An

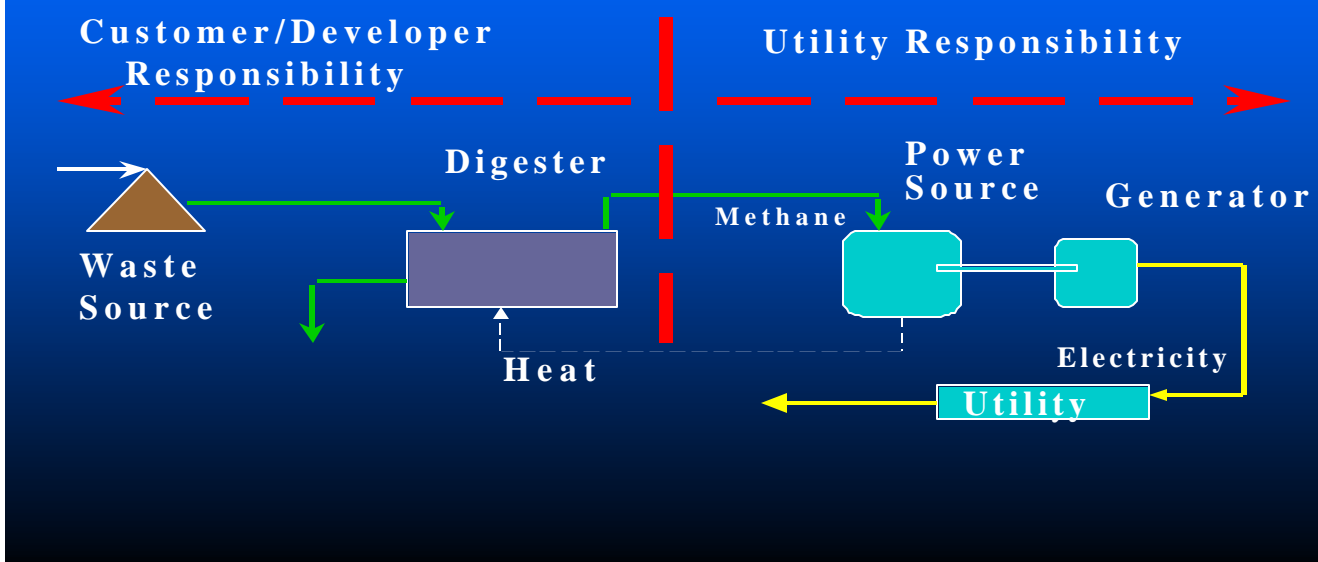
additional base loaded unit is being considered in the year 2014 and an additional intermediate load unit in 2024.

5. Methane

NPPD is also considering installation of small generation facilities fueled by methane produced from animal manures. The methane would be produced from livestock manures using anaerobic digesters at a number of sites in Nebraska. These digesters are enclosed structures where digestion of the manure is accomplished by anaerobic bacteria. One end product of this digestion is methane, a combustible gas. This methane would be used as fuel in engines to drive electric generators. As a result of the anaerobic digestion process and capture and burning of methane, odors traditionally associated with manure management at livestock confinement sites would be greatly reduced.

Although the potential for energy from livestock manures is small, the role of the livestock industry in Nebraska's economy is very large. Reducing odors associated with manure storage at feedlots, dairies and swine facilities would benefit Nebraska's economy by reducing opposition to growth of this industry in rural communities. The relatively small installations under consideration by NPPD would have higher energy costs than conventional and wind resources. However, since the scale of these resources is limited, the impact on rates would be less than a 0.1% increase. The following graphic is a simple representation of the manure to electricity process. Note that the waste heat from the engine will be used to heat the anaerobic digester in order to improve its performance. NPPD plans to work with confinement operators that are willing to invest in this alternative manure management option. The following graphic is a simplified schematic of anaerobic digestion of animal manure to produce methane as a fuel for generating electricity.

MANURE TO ENERGY PROCESS



6. Wind Turbines

The current version of a large wind turbine generator has seen vast improvements in reliability, efficiency and cost effectiveness in the last 20 years. Today's wind turbines are mounted on 200 – 250 foot tall towers and have three bladed rotors that are 150 – 230 feet in diameter. Single wind turbine capacities range from 600 kW to 1,500 kW (1.5 MW). Wind energy facilities can range from a single turbine to dozens of turbines installed in relatively close proximity to each other. Currently, the largest single wind energy facility (farm) has a rated capacity of 300 MW. Installation of wind turbines seldom changes the existing use of the land where the turbines are installed.

Typically the better wind resources are located some distance from urban areas where customer loads are the largest. Therefore, wind energy generally requires transmission lines in order to deliver the energy generated to the loads. Transmission lines in remote areas were not designed originally to accommodate large amounts of generation from

wind. Therefore, upgrades to existing lines or new transmission lines are often required in order to accommodate large amounts of wind energy.

NPPD is considering the installation of up to 50 MW of new wind turbines near Ainsworth. The site would consist of thirty-three 1.5 MW sized turbines installed on a site in the sandhills. The turbines would be located on the highest ground at this site and be spaced at least 1,000 feet apart. The tubular towers would be approximately 240 feet tall and the three bladed rotors would be approximately 210 feet in diameter. The electrical output is estimated to be 180,000 MWH per year, which is enough energy to provide the annual consumption of approximately 15,000 residences. The site would continue to be used as grazing for cattle except where roads and wind turbines are fenced off. The existing transmission system can accommodate that additional amount of generation. Amounts greater than 50 MW will require upgrading the transmission line serving the site.

7. Efficiency

More efficient use of electricity would decrease the need for additional generating resources in the future. NPPD utilizes a Technical Solutions group to provide energy services to Retail, Commercial and Industrial customers. This group is composed of thirteen employees located across Nebraska that perform energy audits and provide recommendations on how customers could improve their energy efficiency.

F. Session I “Compared to What”

By now you are beginning to have much of the background information you will need to give us your opinions. This section of materials may be useful in the first small group and first large group sessions. This section describes the fossil fuel options in the NPPD long-term plan and walks you through advantages and disadvantages.

1. Introduction to Fossil Fuel Options

Coal and natural gas are often termed the “fossil fuel” options, because both were formed when plants and animals died and were buried in the earth millions of years ago. We also tend to call them the “traditional options” and call renewables “the alternative options.” Both “traditional options” (including nuclear) and “alternative options” have received incentives/subsidies in the past and both will likely receive them in the future.

NPPD has both a newer coal plant and a new combined-cycle natural gas plant in its generation plans. The cost and environmental characteristics of those plants are described below. As was mentioned in the last section, neither additional hydro generation nor additional nuclear generation are being considered in current plans, so we will not spend time in these materials or in the discussions on advantages and disadvantages of nuclear or hydro options.

2. What are the Advantages/Disadvantages of Coal

Coal technology benefits from many years of experience, and ongoing research and development to reduce emissions and increase efficiency. The fuel is relatively inexpensive. In recent years, however, fewer coal plants have been built because of competitive natural gas prices and more strict or uncertain emission regulations for fossil fuels increases the cost of coal plants more than natural gas plants since coal requires more emission reduction equipment. Coal plants tend to be

large, ranging in size from 200 – 800 MW. Coal that is low in sulfur is used in Nebraska, and comes by rail from Wyoming and Montana.

Advantages

- Coal has historically cost less than natural gas
- Stable fuel pricing
- Economically available in large increments
- Nebraska is located near abundant coal reserves and has excellent railroad facilities to the mines

Disadvantages

- Has more emissions that are more costly to control per MWH than natural gas and wind
- Even though plants meet current environmental standards, some may require additional expenditures to reduce emissions in the future
- Longer construction periods and higher construction (fixed) costs
- Requires water to cool the plant
- Requires temporary use of land for mining coal (in other states)
- Coal must be imported from other states and may be affected by rail delivery difficulties and transportation prices

3. What are the Advantages/Disadvantages of Natural Gas

NPPD has access to several major natural gas pipelines, so gas has been an important fuel to NPPD and will continue to be. Natural gas is used to make steam for steam turbines or to fuel gas turbines to produce power. In a combined cycle gas fired plant, the exhaust heat from a gas turbine is recovered to produce more power. Natural gas plants are typically 100 to 700 MW in size.

There are two main types of natural gas technology currently being built:

- **Simple-cycle gas turbines** are the least expensive to construct but use more fuel to produce power. These units are typically

used as peaking units since they can start up and shut down quickly.

- **Combined-cycle gas plants** recover heat from gas turbine exhaust gases, which produce steam to generate additional electricity. These units are more expensive to build but are more efficient and therefore use less fuel than simple-cycle units. Most new gas generation, including the unit planned by NPPD, is of this type. New gas plants produce electricity with one-third less fuel than gas plants built as recently as ten years ago. Research and development has lowered emissions and improved the efficiency of combined-cycle natural gas plants.

Advantages

- Construction costs are less than coal plants
- Flexibility in unit size
- Short construction period
- Fewer emissions than coal per MWh

Disadvantages

- Total cost per MWh is higher than the total cost per MWh from coal
- Availability and price of natural gas can vary a great deal, as has been true in the last two years
- Increased use of natural gas to generate electricity may increase the cost of natural gas to all consumers if gas supply is constrained
- Produces air emissions of NO_x, CO₂
- Requires water to cool the plant
- Gas must be imported from other states

4. Coal Example: Latest Plant Considered

Cost for new coal fired plants is currently estimated at \$1,200 - \$1,500 per kW of capacity. New coal plants will be required to install the Best Available Control Technology (BACT) to reduce emissions. These additional controls will increase the cost to operate and maintain new coal plants. Fuel costs for new coal plants will be somewhat higher than today

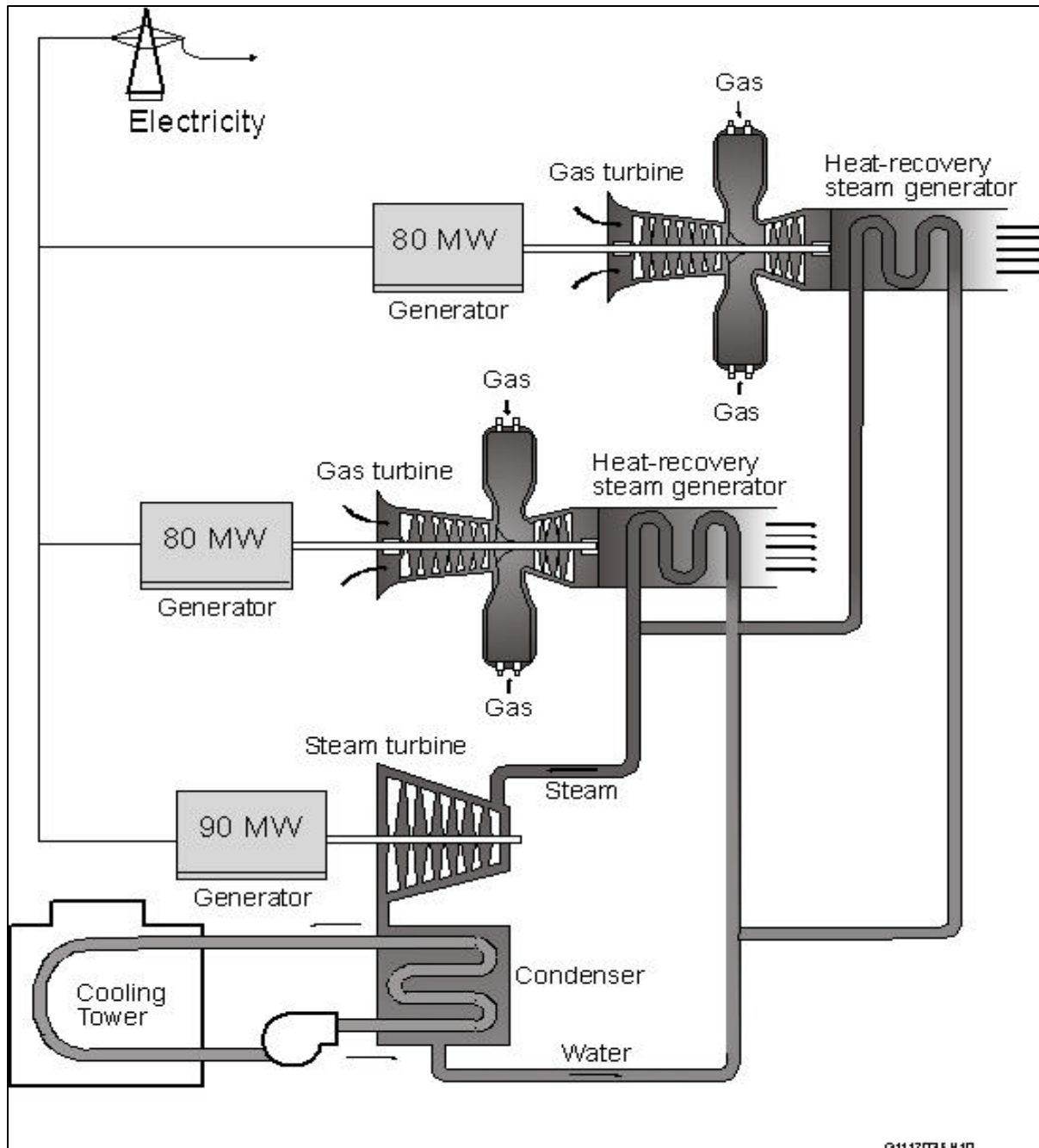
due to inflation but should be relatively stable over the long term. Emissions from new coal plants will be lower than the emissions from existing coal plants that meet today's regulatory requirements.

5. Gas Example: Latest Plant Planned

Nebraska Public Power District (NPPD) is expected to begin commercial operation of its Combined Cycle Project, named the Beatrice Power Station, by summer of 2005. As an important part of NPPD's long-term energy supply strategy, the Beatrice Power Station is being built, primarily, for three reasons:

- To act as a hedge against an unforeseen extended outage occurring at one of NPPD's major power plants.
- To help meet future electric load growth in NPPD's native service area.
- To give NPPD's electric power generation added fuel diversity.

The station, under construction in Gage County near the City of Beatrice, will use two combustion turbines and one steam turbine in tandem, called "combined-cycle", to achieve a greater energy efficiency.



Selecting Gage County for the facility's location had economical advantages. Proximity to major interstate natural gas pipelines and access to NPPD's 115,000-volt electric power transmission grid meant cost avoidance in having to build a large amount of additional infrastructure to support the output of the new facility.

The plant is estimated to cost \$209 million. The combustion turbines are rated at 80 MW each with the steam turbine being rated at 90 MW. The entire power station is rated at 250 MW at ideal conditions.

The plant is expected to provide 229 MW of capacity on hot summer days due to less dense air. .

NPPD tentatively expects 12 - 17 employees will be needed to operate the new power station.

G. Session II “Development of Renewable Portfolio”

This section will be useful for the second small group discussion and large group session. It discusses the advantages and disadvantages of the renewable energy options under consideration by NPPD. While there are a broad range of renewable options available, including solar power, landfill gas, geothermal and various forms of biomass, this section focuses on wind power and animal manure methane recovery since they are the options farthest along in the NPPD planning process.

1. Introduction to Renewables

Renewable energy is the term used to describe energy generation options that rely on fuels that are replenished naturally and rapidly or require no fuel. Electricity can be made from the energy of the sun, wind, rivers, the heat of the earth, and agricultural and urban wastes. In comparison, nature takes millions of years to change plants into oil, coal, or natural gas, so these fossil fuels are considered finite or non-renewable.

Today, some renewable energy options are competitive with new fossil fueled plants, but generally renewable energy facilities are more expensive than existing traditional power plants. So up to now, renewables have been used in more limited situations. Federal tax incentives may be provided and would lower the cost of renewables even more and would make them very competitive with fossil fueled generation. Over the years, tax incentives and research has been provided to support most generation options including nuclear, coal, gas and renewables.

As part of this customer meeting we will discuss two specific renewable projects. The first is to add 200 MW of wind power by 2010. This amount of wind would produce about 5% of NPPD's annual electrical energy. The second is to add 5MW of methane generation produced from animal manure over the next 5 years.

The Department of Energy projects that with continued investment, the cost of renewable resources will continue to decline. Wind generation in particular has made major technological and economic strides with costs declining by 80% since the 1980's. Wind power located in good wind areas costs about 2.0 cents per kWh, after a federal incentive of 1.5 cents per kWh. Methane, which can be captured from landfills or animal manure to make electricity, costs about 4.0 to 8.0 cents per kWh, and it too could benefit from federal incentives. Solar photovoltaic cells now cost about one-tenth what they did in 1975, but still range from about 20 to 30 cents per kWh. In comparison, new natural gas generation is in the range of 3.0 to 10.0 cents per kWh - depending on the cost of natural gas.

Some customers point out that these costs do not take into account the environmental benefits of renewable resources. Some argue that the cost of air emissions and the other adverse environmental and health impacts of conventional energy sources (costs not collected in rates) should be taken into account. There may be some ability in the future to monetize these broader environmental benefits through the sale of "renewable credits" or "green tags" to individuals or companies interested or required to meet renewable portfolio standards. These sales could reduce the cost to the customers of the utility making a renewable investment. Others put less weight on indirect benefits or costs and argue for the option with the least direct rate impact.

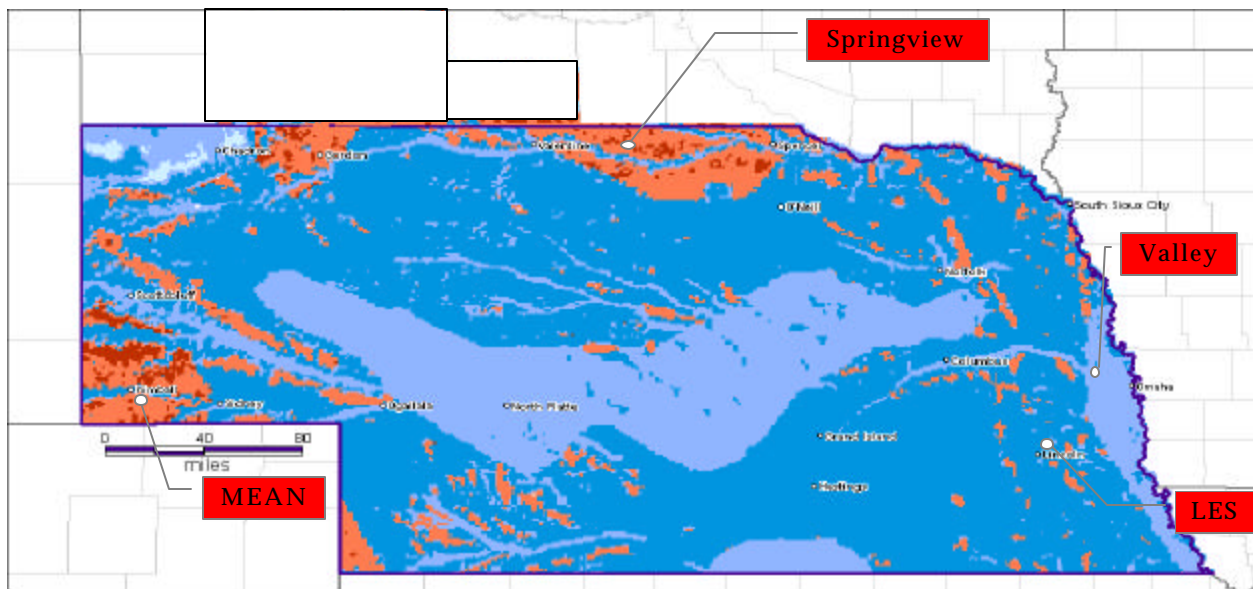
The actual comparison of renewable resources with conventional generation is more than just a cost issue, however. Because the need for electricity varies both daily and seasonally, utilities consider resources in terms of their ability to produce electricity when it is needed. Methane recovery and conventional generation can be used to produce electricity whenever it is needed. Wind resources, however, produce power only when there is adequate wind. That intermittent power production means that utilities may need to purchase power from others or call upon other generation resources when the wind does not blow. Conversely, a utility

may be able to sell energy into the market when wind speeds are strong and local demand for power is low. It may be necessary to add some backup generation if large amounts of renewables with intermittent power production are added to the power generation resources.

Over the past few years, the efficiency and cost of generating electricity from wind have improved dramatically. Studies show that a number of areas of Nebraska have excellent wind resources, sufficient for economically viable wind farms. As you can see from the wind map below, there are a number of suitable (class 4 and 5) wind areas in Nebraska. While a wind farm covers a larger amount of land than many other generation options, the land between wind turbines can still be used for agriculture.

The following map depicts the wind resources for Nebraska. The areas in red colors (Classifications 4 and 5) are best suited for developing wind energy.

Nebraska Wind Resources



Nebraska Wind Installations

Wind Classifications @ 50 meters

Class 1	< 5.6 m/s	< 12.5 mph
Class 2	5.6 – 6.4 m/s	12.5 – 14.3 mph
Class 3	6.4 – 7.0 m/s	14.3 – 15.7 mph
Class 4	7.0 – 7.5 m/s	15.7 – 16.8 mph
Class 5	7.5 – 8.0 m/s	16.8 – 17.9 mph
Class 6	8.0 – 8.8 m/s	17.9 – 19.7 mph

Nebraska’s best wind resources are located in the north central portion of the state, the southwest corner of the state and in the southern panhandle.

How does wind work?

Wind turbines generate power by capturing the energy available in wind. Wind turbines typically start to generate small amounts of power at wind speeds of 5 miles/hour. In general, energy production increases with increasing wind speeds up to approximately 25 miles/hour at which point the turbines are producing their full rated output. Full production is retained at wind speeds of 25 - 55 miles/hour. At wind speeds greater than 55 miles/hour, the wind turbines shut down to prevent damage to equipment. Once the wind speeds have dropped below about 55 miles/hour, the wind turbine returns to producing rated output. Wind turbines are mounted on tall towers in order to access the higher wind speeds just above the earth's surface.

2. Advantages of Wind Energy:

- Least expensive renewable generation
- Nebraska has excellent wind resources (6th best state) – no fuel imported
- Flexibility in size (can be built in small increments)
- No fuel costs – stable energy costs for the life of the wind turbine
- No emissions
- Leasing land for wind turbines is a new revenue source for some farmers/ranchers.
- No cooling water required

3. Disadvantages of Wind Energy:

- Intermittent resource that requires other plants to follow load swings
- If added in large amounts, intermittent power production may require other resources for backup when the wind does not blow.
- Fixed and variable cost per kWh without federal incentives is higher than existing and new coal fired options (which also benefit from government subsidies).

- May require upgrading existing or additional new transmission lines, since wind is often located in remote areas.
- Bird strikes may be an issue
- Visibility of large wind turbines

4. Renewable Energy Development in Nebraska

To date, renewable energy development in Nebraska has been limited. NPPD and five other utilities jointly installed two large wind turbines in 1998 near Springview, Nebraska. Lincoln Electric System installed two large wind turbines in 1998/1999. The Municipal Energy Association of Nebraska (MEAN) recently installed 10.5 MW of wind capacity near Kimball. The Omaha Public Power District (OPPD) has installed a landfill gas project on a large landfill just west of Omaha and is also working with Valmont Industries on a demonstration of a wind turbine on a new design of wind turbine tower. NPPD is currently evaluating a wind energy facility of up to 50 MW. NPPD is also researching the economic feasibility of generation from methane captured in an anaerobic digester associated with an animal confinement operation.

NPPD has performed an analysis to estimate the impact of utilizing renewable resources to produce 5% of the energy sold to customers by the year 2010. This analysis predicts a 1% - 2% greater increase in rates for residential customers and a 1.5% - 2.5% greater increase in rates for Commercial and Industrial customers.

Methane Example: (5 MW over 10 years)

NPPD has been considering installing small generation facilities fueled by methane from animal manure at animal confinements. Methane would be produced by anaerobic digestion of animal manure. Digesters would be covered in order to capture methane. Methane would be drawn from the digester and used as fuel in an engine that would drive a generator. Covering an anaerobic digester to capture methane would greatly reduce the greenhouse gases and odors emitted from the digester.

Although the potential for energy from animal manure is relatively small, the role of the animal feeding industry in Nebraska's economy is very large. Reducing odors would eliminate some of the resistance to development of animal feeding confinements, which would benefit Nebraska's economy by helping to sustain this industry, which is vital to our economy. These small installations would have higher energy costs than conventional resources and wind resources. However, since the scale of these resources is limited, the impact on rates would be less than .1%

H. Session III: Putting It All Together: Making a Recommendation Based on What You Believe Is Most Important

This section of the materials may be useful in the third small group and third large group discussion.

1. Introduction

The goal of the planning process is to produce electricity at the lowest reasonable system cost without sacrificing reliability. The concept of lowest reasonable cost seems straightforward. However, as you know from any major purchasing decision, there are many ways to think about cost and value.

Let's use the automobile purchase as an example. There is the upfront cost of the automobile and the monthly cost to maintain and operate the car. If you drive long distances, gas mileage is a real concern. The type of car you buy depends on your personal preference and how you intend to use it (similar to whether you are buying a base-load plant or a peaking plant). A sports car is great for a small segment of the population but likely does not work as the primary mode of transportation for those with a family. Similar to the criteria for energy resource decisions, the choice you make is based on what you think is important and what you think will happen in the future. This is a judgment call, and different people will come to different conclusions.

2. What We Need to Know From Customers

NPPD has begun construction on a natural gas combined cycle plant and has a new coal plant in the current plan. You have seen their numbers in terms of costs, emissions, time to build and other factors. NPPD is considering whether to add more renewables to the resource mix. You have seen descriptions of two examples: adding 200 MW of wind by the year 2010 and adding 5 MW of generation from animal manure methane over 5 years. These tentative renewable plans could be

expanded, contracted or eliminated. We are interested to know what you think.

This third session is a chance to put all the factors together before you make your recommendation. Following the session, we will gather your thoughts (as an individual) on a survey form. If we do not ask the right question, feel free to write us a note on the form. We will send you the results so you will see how your views compared with others in the scientific sample.

We will ask you about some of the following factors:

3. Lowest Cost

- Lowest cost—think about upfront (fixed) costs, operating (variable) costs and indirect costs such as environmental and potential health costs that are not assigned to customers and therefore are not collected through electricity bills.

4. Predictable Rates

- Predictable rates—as you think about predictable rates, consider the predictability of fuel costs and the associated impact on rates.

5. Greatest Reliability

- Reliability—Reliability in this case means that the transmission system is available and that the generation source is available for service and operates consistent with its expected duty cycle – base load, intermediate, peak or as-available generation.

6. Least Environmental Impact

- Least Environmental Impact—environmental impact can include a number of factors ranging from air emissions to water quality to best use for the land. Some environmental impacts are quantified because we know current environmental requirements. Other

environmental impacts such as climate change or health effects are not quantified.

7. Benefits to Nebraska and the Economy

- Benefits to Nebraska and the Economy—coal and natural gas come from outside Nebraska. Wind and methane are Nebraska based resources. We are interested to know how important this factor is to you.

8. Do You Support Including Renewables Into the Resource Mix

Renewables are both an alternative generation option and a new way of thinking about generation. We need to know if renewables are important to you, and to what extent you think they should be included into the NPPD resource mix. We are interested to know how you feel about the example projects discussed in Session II.

9. If Renewables Cost More, How Should NPPD Assign the Cost?

Under some scenarios renewables are cost competitive with traditional generation resources. Under other scenarios, renewables cost more than either coal or moderately priced natural gas. This requires an incentive to close the gap. If renewables cost more, how should NPPD assign the cost? Conversely, if renewables installed now cost less in the future, how should the utility divide the savings? One option is to charge only those customers who want renewables. A second option is to charge all customers for the cost of renewables resulting in a lower cost increase (or potential cost decrease) per customer. A third option is to do a mix of both. A fourth option is to not add renewables.

10. Interest in Wind

As you've seen in the discussion, wind is a scalable resource that can be expanded or contracted in 1-1.5 MW increments, by adding or subtracting turbines. Typically, economies of scale encourage installation

of at least 50 MW of wind at a site. The example given called for 200 MW by the year 2010 or about 5% of the energy from NPPD's generation resource mix. We want to know if you feel that is about the right amount, whether you feel we should do more, do less, or not construct wind at all.

11. Interest in Agricultural Methane

Methane projects including generation from animal manure are more expensive than the other generation options. At the same time, capturing and burning methane to produce electricity reduces odors from certain animal confinement operations. Odors from confinements are having a negative impact on the Nebraska agricultural economy. Some may feel that solving the odor problem is not the responsibility of the utility company. Others may believe that production of electricity should contribute to the economy when possible. We want to understand your view of expansion into producing electricity from animal manure. We need to know whether the projects described are about the right amount, whether NPPD should do more, do less, or not expand into this area at all.

I. Conclusion

1. Agenda for the Event

8:30 a.m. Registration begins

9:00 – 9:30 Opening Session—we will discuss:

- NPPD current generation resource plan
- overview of the alternatives under consideration
- explanation of the deliberation process

9:45-10:45 1st Small Group Session—we will discuss:

- current generation mix of NPPD
- fossil fuel alternatives in general
- the gas plant under consideration
- the coal plant under consideration

In a small group session 15 participants are randomly assigned to 7 small groups. Participants stay with the same group throughout the day. Each group is led by a trained, neutral moderator. Each group is assigned a NPPD staff person to assist the moderator in solving logistic problems so the moderator can concentrate on the discussion. Observers are welcome in the room, but may not enter into the discussion or answer questions and are asked to sit apart from participants.

11:00-12:00 1st Large Group Session

In a large group session, all seven small groups meet together to ask questions of a panel of experts and advocates for particular alternatives. The session is led by an outside moderator who keeps the session on time and makes sure participants get answers for their questions. Experts and advocates do not make speeches, but are

encouraged to differ when warranted. There is time for about 2 questions from each group. Participants pose the questions themselves from a microphone as called on by the moderator. Follow-up questions are allowed. The questions are prepared in the small groups. Observers are welcome in the large group sessions, but may not participate in the discussion, and are asked to sit apart from participants.

12:00-12:30 Lunch -- Box lunch provided by NPPD

12:30-1:30 2nd Small Group Session—we will discuss:

- renewable alternatives (wind, methane)
- how to divide up the costs

1:30-2:30 2nd Large Group Session

2:30-3:30 3rd Small Group Session – Comparing Alternatives

- What are the advantages and disadvantages of the options?
- What do you think is important?

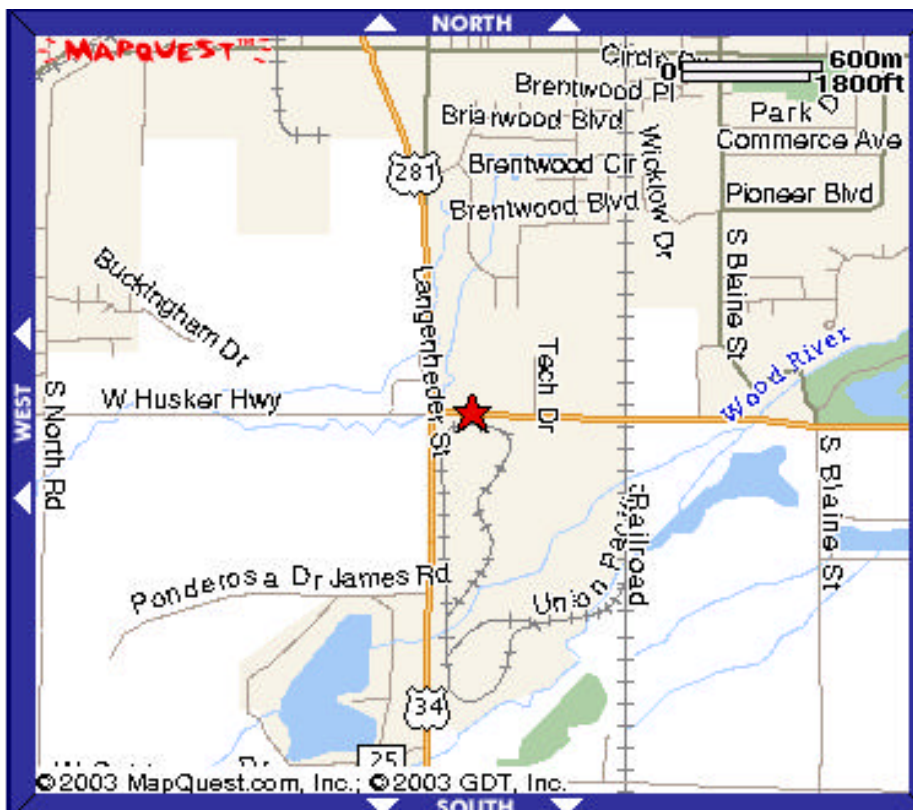
3:30-4:30 3rd Large Group Session

4:30-4:45 Wrap Up and Thanks

4:45-5:30 Take exit survey (back in small group rooms) and receive honorarium (\$130.00)

2. Directions to the Meeting

The College Park facility is located at 3180 West Highway 34. It is located on the North side of the intersection of Highway 34 and Highway 281, North of the Stuhr Museum.



3. Deliberative Polling Advisory Committee Members

Kate Allen

Legislature--Office of Senator Preister

Ron Lehr

Public Decision Partnership

Mike Brumm

University of Nebraska
Energy Office

Larry Pearce

Governors Policy Research &

Bob Crockett

UNK, Utility Services

Bruce Pontow

Nebraska Electric G&T Inc.

Ed DeMeo

Renewable Energy Consulting Services, Inc.

Matt Stryson

Hughes Brothers

Jody Gittins

Legislature--Natural Resources Committee

Tim Texel

Nebraska Power Review Board

Will Guild

Public Decision Partnership

Frank Thompson

Nebraska Public Power District

Donald W. Helmuth

Audubon Nebraska

Dennis Thomas

Public Decision Partnership

Mike Kelly

Department of Health and Human Services

Jon Trabert

Nebraska Public Power District

Pat Kenner

Mayor, City of Hebron

Rosemary Wilson

The Center for Energy &
Economic Development

Larry Kuncil

NPPD Board Member

