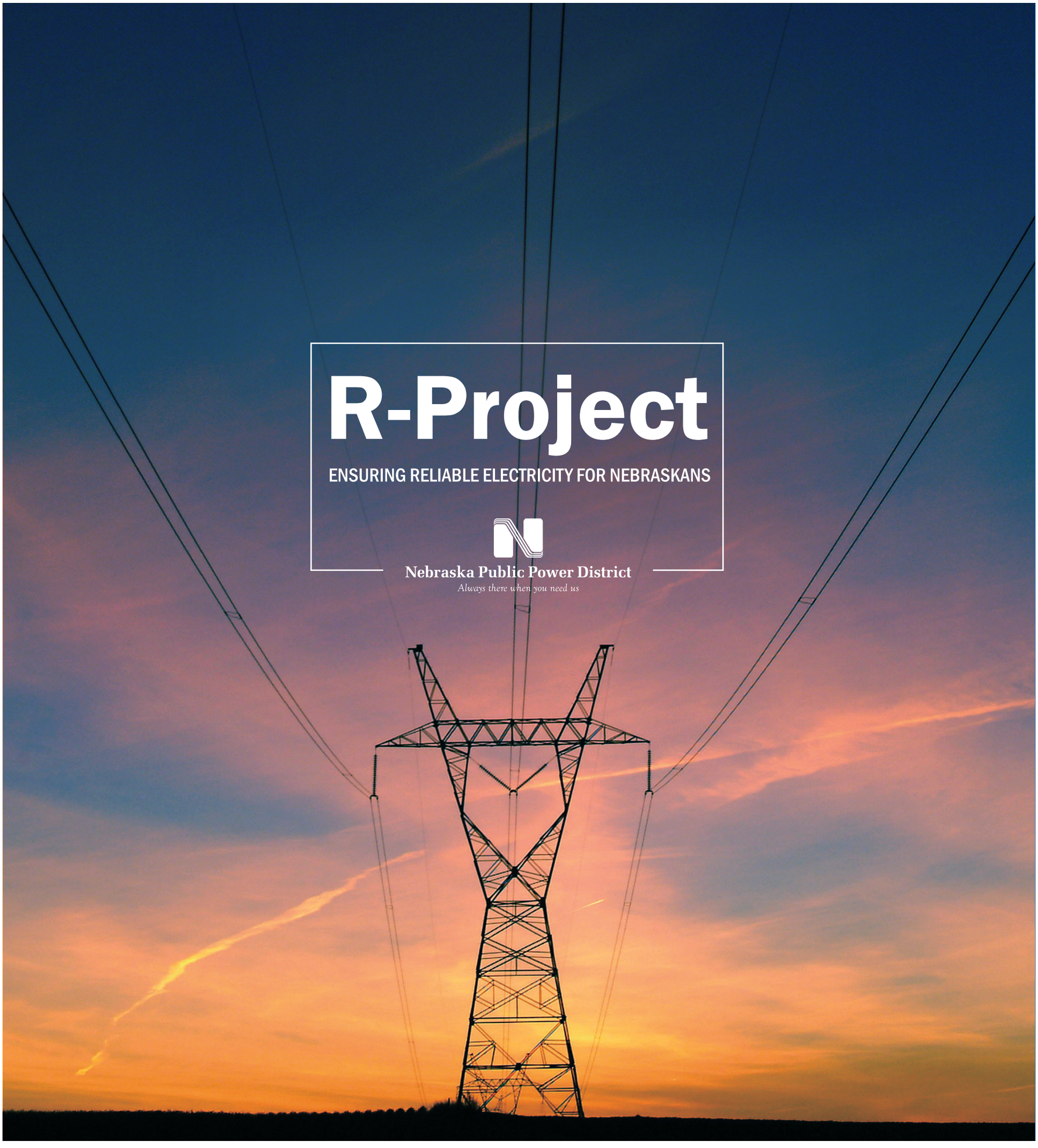

R-Project
ENSURING RELIABLE ELECTRICITY FOR NEBRASKANS
Nebraska Public Power District
Always there when you need us

R-PROJECT = RELIABLE SERVICE

Nebraska Public Power District plans to construct a 345,000-volt transmission line from NPPD's Gerald Gentleman Station near Sutherland to an existing substation east of Thedford. The new line will proceed east and connect to a substation to be sited in Holt County. The power line will deliver electricity to Nebraskans.

NEEDED TO SERVE NEBRASKA

1 The line will enhance reliability of Nebraska's electric transmission system.

2 The line will relieve congestion on existing lines within the transmission system.

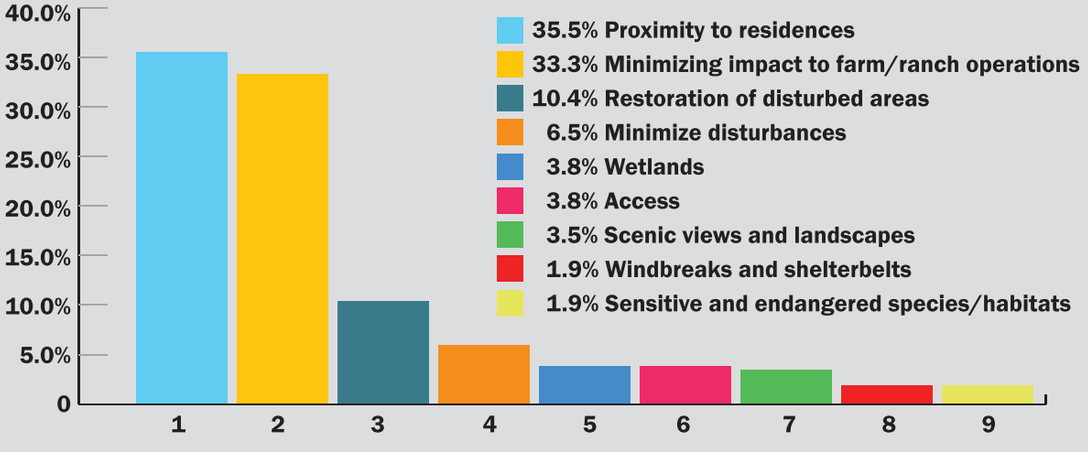
3 The line will help support renewable energy projects — if approved at the local level.

INPUT FROM LANDOWNERS

NPPD used a comprehensive public involvement process to site the R-Project transmission line. More than 1,750 individuals attended at least one of the 20 public open houses and landowner meetings or eight public hearings and contributed approximately 2,500 comments used to help select the route. NPPD will continue to dialogue with landowners and answer questions throughout the project.

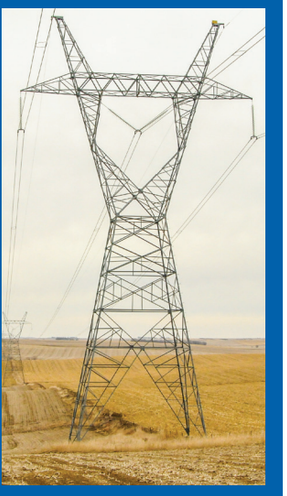
WHAT'S IMPORTANT TO LANDOWNERS?

Based on rank of importance from 486 open house survey respondents



WHAT WILL IT LOOK LIKE?

Steel Pole



Lattice Tower

- Existing roads, two track trails and paths will be used as much as possible. Any damage created along access routes will be restored.
- Steel poles will typically be used on sections of the project that have good access or are near established roads and cultivated fields.
- Lattice towers will be installed on sections of the project with limited access. Lattice towers minimize impacts to fragile soils due to construction options.
- Lattice towers will be erected with helicopters to help minimize damages.
- Helical pier foundations will be used instead of concrete foundations for lattice towers. This will eliminate the need for multiple concrete trucks to access the Right-of-Way.

RESTORATION IS A PRIORITY

NPPD's goal for the entire R-Project is to minimize impacts to property. During the restoration process, we will seek landowner input to develop a good restoration plan.

After construction, we will restore the property to as close to the original state as possible. NPPD Environmental Restoration Specialist Emma Barnett explains why:

Tell us about yourself

While I am new to NPPD, I am not new to the Midwest. My family is spread across the Nebraska Sandhills and the Black Hills of South Dakota. In 2013, I graduated from South Dakota State University with bachelor's degrees in rangeland science and wildlife and fisheries management.

Why is restoration important?

Promptly stabilizing a site ultimately returns much of the ecological, social and economic function and the overall landscape, whether that be for ranching, wildlife habitat or agriculture. Restoration is about doing the right thing for the communities, both those of plants and wildlife, but most importantly – people.

What is your experience with restoration?

When I was in middle school, my dad was a team lead for a Burned Area Emergency Response team and worked through the restoration process on numerous large-scale fires on federal lands. I have fond memories of talking through the merits of annual cover crops, types of slope stabilization techniques, the need to prevent stream sedimentation and later traipsing through burned forests with a Daubenmire frame to check on vegetative cover following re-seeding efforts.

After college, I took a position with the Washington State Department of Natural Resources (DNR). I worked alongside ranchers and farmers managing agriculture and grazing leases on state-owned lands. While there, we had numerous catastrophic wildfires. I worked with lessees extensively to create new grazing plans and to facilitate a variety of rangeland restoration projects, often through state/federal partnerships, including re-seeding pastures and replacing grazing infrastructure. Many of these fires were in the fine sands of the Columbia Basin. Just as in the Sandhills of Nebraska, these areas were prone to blowing and creating dunes if the vegetation wasn't stabilized quickly.

That said, our success in restoration efforts were due in large part to the many great lessees and surrounding landowners that worked with DNR. Without their extensive history and knowledge of the land, willingness to collaborate, and passion for rangelands, I am sure our restoration efforts would not have been such a success. I am very much looking forward to building those relationships again in Nebraska.

What is NPPD's restoration process?

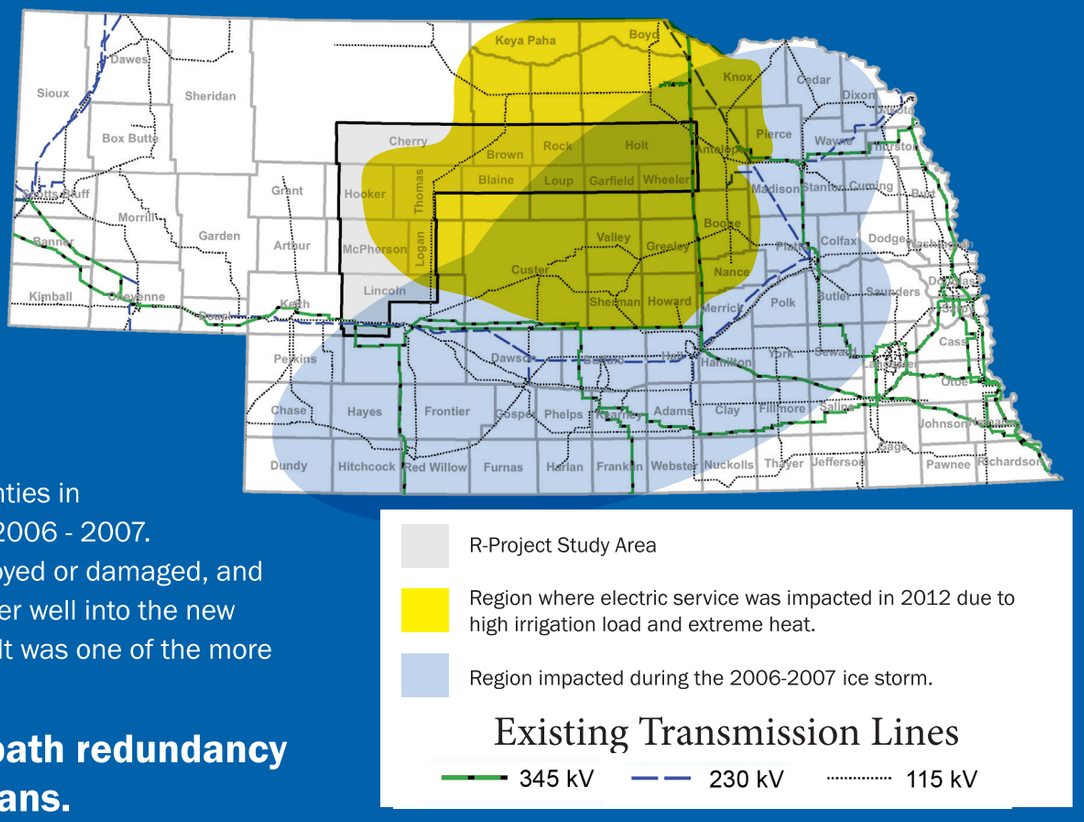
NPPD's general approach to restoration is avoidance of creating damages, followed by minimization of damage, and finally mitigation, which includes stabilization and restoration.

First, NPPD undertakes a thorough public planning process for line routing and access selection that avoid impacts to sensitive sites where possible; however, it must be recognized that not all potential impacts can be avoided. NPPD employs construction techniques that help minimize ground disturbance and the need for site restoration. These techniques may include use of low-ground pressure equipment, helicopters and/or ground matting, to name a few. While efforts to avoid and minimize project impacts will be made, it is unrealistic to expect that there will be no impacts or damages.

Once restoration needs are identified, NPPD works closely with landowners and other agencies to create a general restoration plan which includes potential restoration techniques that may be employed across the diverse landscape. We continue to work with each landowner to address site-specific plant communities, soils, and landowner needs until restoration efforts are successful.

NEBRASKA'S WEATHER AND YOUR POWER

During the 2012 drought, electric loads in north central Nebraska, primarily from irrigation, grew to the point where the transmission system was at full capacity and at risk of failure. NPPD was forced to take immediate action and interrupted some customers' electric service in the region to protect the state's transmission system. While NPPD has since made some infrastructure investments, the likelihood of this situation recurring is one important reason for the R-Project.



R-Project Study Area

Region where electric service was impacted in 2012 due to high irrigation load and extreme heat.

Region impacted during the 2006-2007 ice storm.

Existing Transmission Lines

345 kV — 230 kV ····· 115 kV

A ravaging ice storm impacted more than 50 counties in Nebraska between Christmas and New Year's in 2006 - 2007. Nearly 1,400 transmission structures were destroyed or damaged, and more than 42,000 Nebraskans were without power well into the new year. The grid was not fully operational until May. It was one of the more devastating weather events to impact Nebraska.

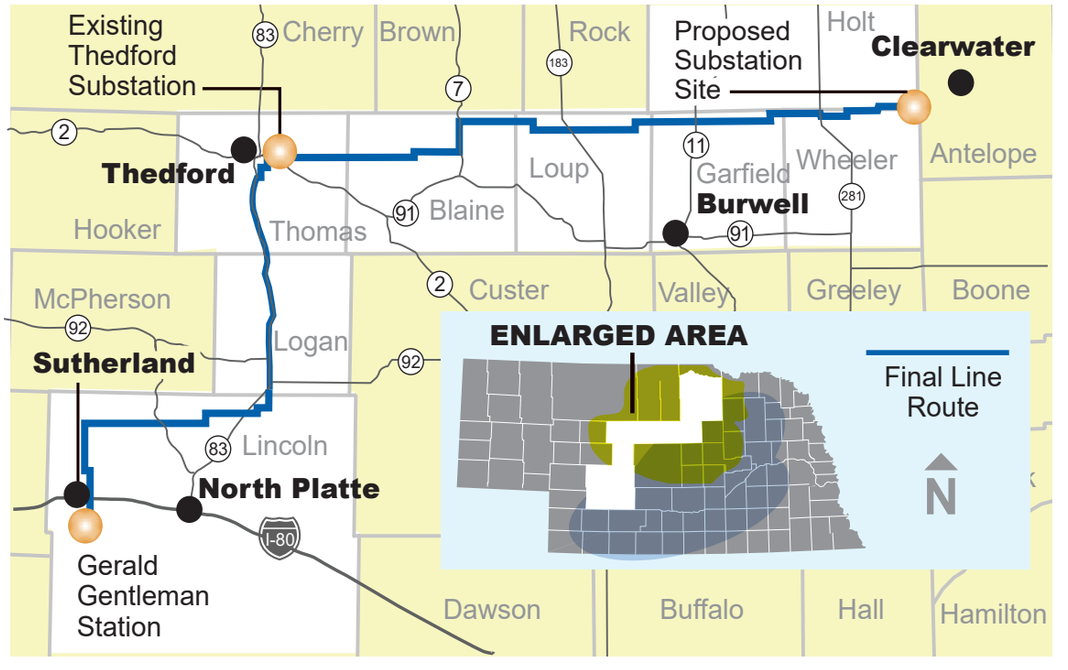
The R-Project will provide power path redundancy to enhance reliability for Nebraskans.

WHY CONNECT IN THEDFORD?

1 The Thedford substation in the Sandhills supports north central Nebraska and is located approximately 58 miles from the NPPD Ainsworth substation and 59 miles from the NPPD Maxwell substation on the transmission system. It is a key connecting point for the R-Project transmission line.

2 The Thedford substation is centrally located on the R-Project route. It is approximately 101 miles from the NPPD substation at Gerald Gentleman Station and 124 miles from the new NPPD Holt county substation south of Clearwater.

3 Connecting the new line to these substations provides the most cost-effective and best system-operation solution.



Map is for illustrative purposes only. For a more detailed map, visit **rproject.nppd.com**

56 CRITERIA HELPED DETERMINE FINAL LINE ROUTE

More than 1,750 individuals attended at least one of 20 public open houses and public meetings and eight public hearings, providing NPPD with approximately 2,500 comments related to 56 established routing criteria.

PROXIMITY TO OCCUPIED RESIDENCES, VILLAGES AND TOWNS, AND OTHER NEEDS

PROXIMITY TO PLATTED DEVELOPMENT

AGRICULTURE & OTHER LAND USE

ENVIRONMENTAL SENSITIVITIES

ENGINEERING AND CONSTRUCTION

DELIVERING RELIABLE ENERGY

I am the fourth generation to live on family property in Knox County. Being a rancher for 35 years has given me the opportunity to work outside, live in a beautiful area of the state, and get involved in issues that matter to me.

One of those issues is the delivery of electricity to Nebraska's rural communities. Having reliable power is essential to any business, whether you work with livestock or in a small business.

In 1999, I began serving on the Niobrara Valley Electric Membership Corporation Board. I also served on the Nebraska Rural Electric Association Board until 2011. Even back then, utilities were discussing the need to support the growing loads in the north central part of the state.

As a board member, I saw what happened in 2012 when water for crops and cattle increased the electrical demand on power lines to levels never seen before. NPPD had to shed load for a brief time, which upset a lot of folks.

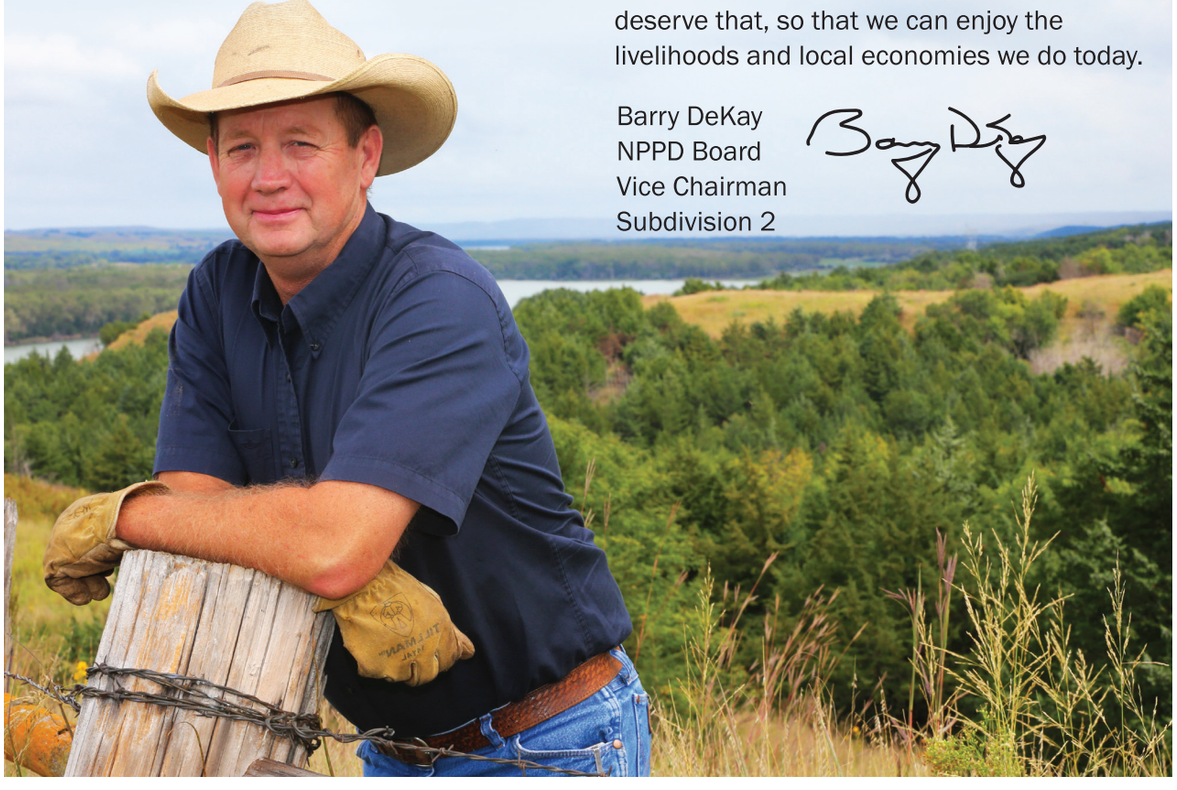
I saw NPPD's loyalty to Nebraskans when they brought in mobile generators, added infrastructure to substations, and built a high-voltage line from Neligh to Hoskins – all to ensure we had power.

That event is one reason why I ran for NPPD's board and have been a board member since 2015. I want to help make decisions which are in the best interest of this state and its people, no matter where they live. I don't consider one area of Nebraska more valuable than another.

Now, there are individuals who do not want a transmission line built through the Sandhills; I have high-voltage power lines less than a mile from my property, too. I have replied to letters from landowners who, like me, raise cattle and enjoy their ranchland; yet, I also know their land is equally as valuable to them as mine is to me and my neighbors' land is to them.

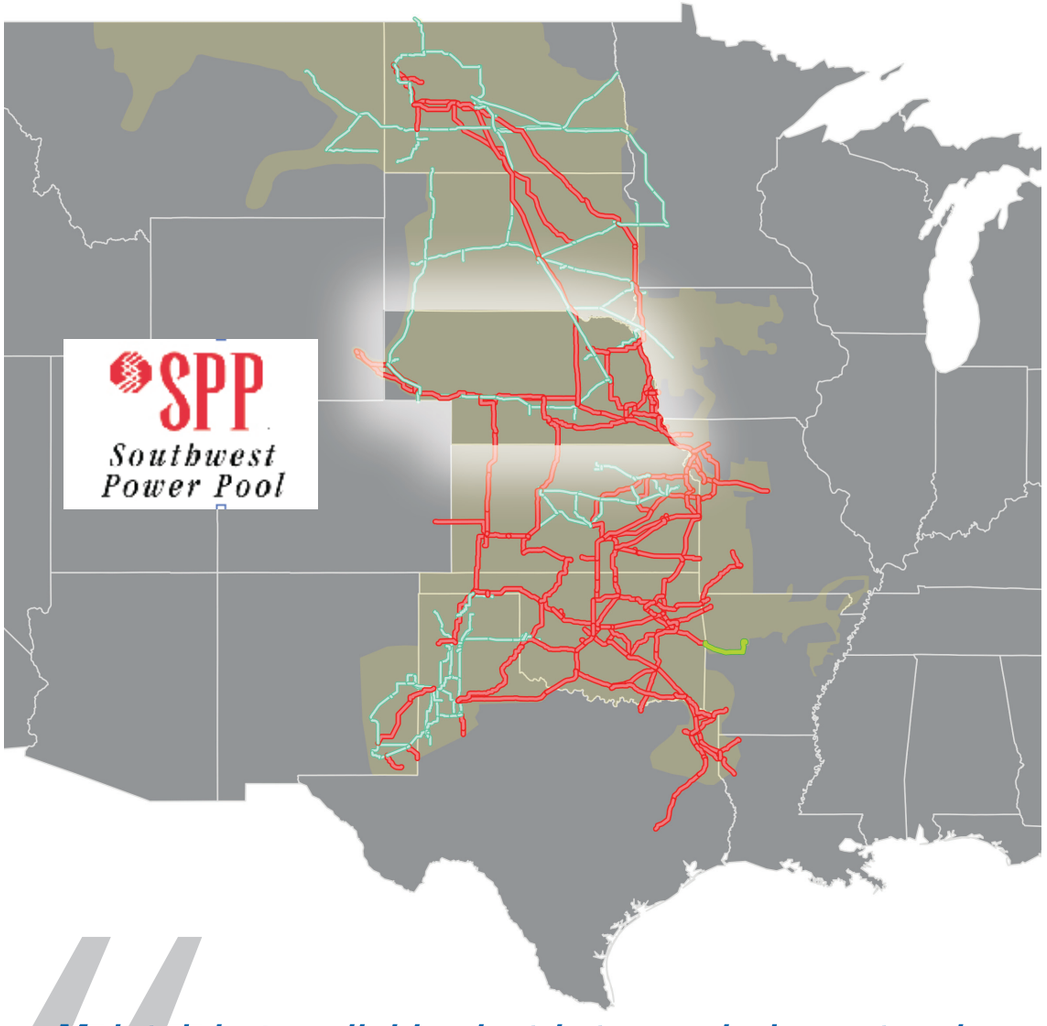
NPPD needs to build the R-Project power line to ensure electricity is available in an area of the state that has not had the infrastructure investment other places have. Nebraskans deserve that, so that we can enjoy the livelihoods and local economies we do today.

Barry DeKay
NPPD Board
Vice Chairman
Subdivision 2



NEBRASKA IS IN A REGIONAL GRID

NPPD is a member of the Southwest Power Pool (SPP), a non-profit regional transmission organization in the central part of the United States. SPP is regulated by the Federal Energy Regulatory Commission and is charged with ensuring that customers in the region receive reliable power, adequate transmission infrastructure and competitively priced electricity. SPP and its members coordinate the flow of electricity across more than 65,000 miles of high-voltage transmission lines spanning 14 states. The R-Project will add to the reliable delivery of power through Nebraska.



"Maintaining a reliable electric transmission network is an ongoing effort, and we continue to evaluate the best, most cost-effective ways to ensure we can keep the lights on today and in the future. Our integrated transmission planning process helps SPP and its members prepare the power grid for a reliable future."

— Lanny Nickell
Southwest Power Pool
Vice President of Engineering

A Q&A ABOUT THE SOUTHWEST POWER POOL

NPPD often mentions it belongs to the Southwest Power Pool, but the public may not understand what that means.

This Q&A is designed to help answer some commonly asked questions

How Is NPPD's R-Project related to the SPP?
SPP annually develops an Integrated Transmission Plan (ITP) that determines what transmission expansion is required to address reliability, economic and public policy needs in its region. In 2012, that planning process determined a new 345 kV line was needed, which eventually became the R-Project. After conducting the assessment with support from NPPD's planners, SPP issued NPPD a notification to construct the line.

Why doesn't the SPP just build the line?
NPPD could have allowed SPP to identify another company to plan and construct the line, but NPPD wanted to be responsible for the project as a statewide utility because the line is in our service territory. If NPPD did not build the R-Project, the SPP would find another entity to do so. NPPD would rather have this line built by Nebraskans and knows Nebraskans would, too.

Are members of the public involved in this process?
Yes. NPPD's Board of Directors are publicly elected and make decisions on behalf of their constituents and the public. The Board understands SPP's planning process and votes on notifications to construct, if and when they are issued. Following more than 20 public meetings, numerous newsletters and press releases, meetings with county commissioners, and hundreds of one-on-one discussions with Nebraska landowners along the route, not to mention the state-required public hearings, a final route for the R-Project was announced in January 2015.

NEBRASKANS WILL BENEFIT FROM THE R-PROJECT

Electricity is essential to our everyday lives, yet we rarely even think about it. It powers homes, farms, ranches and schools and makes Nebraska's businesses and communities thrive. Investing in improvement efforts, like the R-Project, ensures electricity will continue to be there for you, your family and neighbors each and every day.

U.S.News & WORLD REPORT
BEST STATE RANKINGS

In 2018, Nebraska ranked as
THE BEST STATE
for power grid reliability

1. Nebraska
2. Arizona
3. North Dakota
4. Rhode Island
5. Nevada

Q&A ABOUT THE R-PROJECT AND WIND ENERGY DEVELOPMENT

Is the R-Project transmission line being built to facilitate the development of any specific wind project(s)?
The R-Project is being built for reliability, relief of congestion, and the potential of new renewable energy development if pursued and approved at the local level. The line is not being built to meet the needs of any specific wind developers.

What is meant by approved at the local level?
Approved at the local level has two parts. First, it means that landowners are willing to have turbines on their property that will fit the needs of the developer. The second part concerns local county or city zoning that may or may not allow for the development of industrial-sized wind farms. Private wind development companies would have to meet any zoning requirements that are set, and they do not have the right of eminent domain.

Has NPPD been approached by wind development companies?
Yes. Many wind development companies meet with NPPD about their projects. NPPD operates most of the transmission system in the state and therefore needs to be discussing the developers' plans to determine what impact wind generation will have on the system.

"The R-Project transmission line is important for Custer Public Power District customers and all electric customers across the state. If Nebraska doesn't have this line, there could be a repeat of 2012 when customers' electric service had to be turned off due to heavy demand... and it won't have to happen on a hot, dry summer day."

— Rick Nelson, General Manager
Custer Public Power District, one of 20 member utilities of the Nebraska Electric Generation & Transmission Cooperative

PROTECTING SANDHILLS' SPECIES AND HABITATS

The American Burying Beetle is a federally listed endangered species that lives in the Sandhills of Nebraska. NPPD believes construction of the R-Project could affect the beetle; therefore, in order to comply with the Endangered Species Act, NPPD applied for an Incidental Take Permit (Permit) from the U.S. Fish and Wildlife Service (USFWS).

As part of the application process, NPPD prepared a Habitat Conservation Plan (Plan) that outlines actions that would be taken to avoid, minimize and mitigate impacts on the beetle, as well as several other endangered or threatened species that the project may affect. One of the other species of high interest in Nebraska is the whooping crane. Included in the Plan is analysis that shows that the likelihood of taking of a crane falls below the threshold that would merit applying for a take permit. However, since the possibility of a take is not zero, NPPD has agreed to implement measures identified in the USFWS Region 6 Guidance on Whooping Cranes and Power Lines. For example, NPPD will spend more than $1 million on whooping crane conservation by installing bird flight diverters on portions of the R-Project line and NPPD's existing transmission system. The diverters help to make the line more visible to birds, including the whooping crane.

Under the National Environmental Policy Act, the USFWS has prepared an Environmental Impact Statement (EIS) that assesses the impacts on the natural and human environment from the USFWS action, which is the issuance of the Permit. Since the Permit is needed to construct the R-Project, it is also reviewed in-depth in the EIS.

COMMITTED TO LAND RESTORATION

The landscape of the Sandhills is truly unique, which is why NPPD's engineering team and environmental experts have identified low-impact methods to use to construct the transmission line.

Over the years, NPPD built and continues to operate approximately 500 miles of transmission lines in the Sandhills. We partner with landowners, local agencies, and restoration experts to ensure the landscape is returned to its natural state following construction.

For more information, visit **nppd.com/rproject**

Contact Us
Thedford Field Office: 308-645-2318
Project Hotline: 1-888-677-3412 (toll-free)
Email: powerline@nppd.com

Nebraska Public Power District

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