



A Partnership to Sustain
NEBRASKA'S *Environment*

2014 NPPD/NDEQ ANNUAL REPORT

NPPD/NDEQ Environmental Partnership 2014 Annual Report

*~ Sustainability ~
... a practice that balances environmental, economic, and societal
needs, now, and in the future*

INTRODUCTION

At its most basic level, the Nebraska Public Power District and Nebraska Department of Environmental Quality “Environmental Partnership” was formed to make the most effective use of each organization’s resources.

The nexus between energy and environmental issues is undeniable. Thus the Partnership between NPPD, the state’s largest producer of electricity, and NDEQ, the agency responsible for the development and administration of many environmental programs, simply makes sense.

NPPD and NDEQ must address a myriad of issues associated with production of electricity and related environmental impacts. While each organization has a unique perspective on these issues, the overriding goal of NPPD and NDEQ is to serve the citizens of Nebraska in a manner that provides reliable energy in an environmentally sustainable manner.

The following report summarizes efforts of the Partnership in 2014, the fourteenth year of the Partnership.

As has been the case for the last few years, Partnership efforts have been devoted to examining emerging issues associated with production of electricity and its environmental impact; the conduct of outreach activities, most notably the annual “Power Summit”; the examination of potential energy benefits from anaerobic digestion at Nebraska’s significant livestock operations; and advantages of energy conservation at small- to mid-sized municipal waste water treatment plants.

Partnership Team members look forward to another productive year in 2015, and if the reader has suggestions for additional Partnership efforts either Joe Citta, Environmental Manager for NPPD, or Joe Francis, Associate Director for NDEQ, should be contacted.

PARTNERING to Address Emerging Issues

One primary reason for creating the Environmental Partnership was to best use available resources from both organizations. Over the past year, the number of issues related to energy and the environment has grown rapidly.

To stay abreast of these issues, a standing agenda item called “Emerging Issues” is addressed at each Partnership meeting, and discussions concerning those topics are held.

The following represents a sampling of issues NPPD and NDEQ discuss on a regular basis:

- Greenhouse gases
- New Source Review
- Regional haze
- Revisions to National Ambient Air Quality Standards
- Climate change
- Mercury
- Cross State Air Pollution Rule
- Clean Air Act 111(d)
- Carbon sequestration
- Clean Water Act, parts 316 (a) & (b)
- Regulatory developments/updates

Keeping us all safe is the number one consideration when it comes to electric energy and protecting the environment. NPPD’s Louie the Lightning Bug is a kid favorite as he spreads the message: Always think “safety first” when around electricity. Stay away from downed power lines. Water and electricity don’t mix. Don’t use frayed electrical cords. If there’s a question about safety, ask an adult and call an electrician.

- Economic development and associated environmental assessments
- Potential changes in coal ash by-products proposed regulations
- Steam Electric Effluent Regulation
- Brownfields

PARTNERING to Enlighten and Empower the Public

Public outreach activities (and primary sponsors) held in 2014 included:

March 11-12

“Elkhorn Water Daze”

- Lower Elkhorn Natural Resources District and “GreenSchools Workshop”

September 27

“Recycle Your Cycles”

- Keep Scottsbluff/Gering Beautiful

November 19

“Power Summit”

- NPPD and NDEQ



Recycle Your Cycles

NPPD, Keep Scottsbluff-Gering Beautiful and NDEQ hosted the annual “Recycle Your Cycles” event at the NPPD customer center in Scottsbluff.

Recycle Your Cycles works like this: The public brings in used bicycles which are then restored or stripped for scrap metal. The Potter’s Wheel Ministries donates the refurbished bikes to adults and children who are in need.

In 2014, approximately 91 bicycles were received and 18 were returned to the public for use. Remaining parts were recycled as scrap.

Power Summit

On Nov. 19, NPPD Environmental Manager Joe Citta and NDEQ Associate Director



Joe Francis welcomed utility personnel and environmental regulators to the 10th Annual Power Summit. This year’s event featured presentations by electric energy industry peers and the agencies who oversee monitoring and permitting.

Topics ranged from nuclear fusion to invasive species. Each year, the summit provides an opportunity for individuals

involved in electric power production in Nebraska and those who regulate that activity to

come together and discuss current and evolving issues.

Presentations included, among others, Anda Ray, Electric Power Research Institute; John McClure, Vice President Governmental Affairs and General Counsel, NPPD; Pat Rice, Acting Director, NDEQ; and Dr. Galen Erickson, University of Nebraska-Lincoln.

GreenSchools: Empowering Students to Make a Difference

The GreenSchools program is an environmentally focused program for students from kindergarten through 12th grade.

The program encourages students to take personal responsibility for improving the environmental quality of their school, home and community.

The GreenSchools program consists of

Photo at bottom, left: NPPD’s Corporate Nuclear Business Manager Alan Dostal informs Power Summit attendees about the current state and future of nuclear energy in the U.S.

Photo at left: The Power Summit is a wonderful opportunity for representatives of the electric utility industry and those who regulate the industry to meet and discuss common points of interest to the benefit of the citizens of Nebraska.

five student-led investigations designed to be carried out in the school setting, and it includes elements where students apply what they are learning in their homes. Students are trained to use diagnostic tools to assess energy usage in their school; thus, the school building becomes a learning lab for students.

This program helps improve students’ academic performance in STEM (science, technology, engineering and math) curricula, and it assists students in developing critical thinking skills and growing as leaders. The GreenSchools program leads students to develop action plans that focus on reducing energy usage at school, increasing the school’s energy efficiency and improving overall environmental quality.

NPPD hosted a free GreenSchools workshop March 2014 for teachers around the state. During the workshop, teachers learned about GreenSchools investigations through hands-on activities and presentations from experts in the field. Guest presenters included representatives from NDEQ, the Nebraska Forest Service, Keep Nebraska Beautiful, the Nebraska Department of Education and NPPD.

Ryan Green, from NDEQ Field Services and Assistance Division, discussed Environmental Quality investigations. These investigations focus on four main areas: transportation, indoor air quality, mercury and other chemicals, and volatile organic compounds.

PARTNERING to Share Our Collective Resources Topical Presentations

At each Partnership meeting, a specific topic of mutual interest is examined in detail.

Subject matter experts present programs which cover a broad range of topics, including: Brownfields Grant Program, Clean Water Act 316(b), Clean Air Act Section 111(d), energy conservation at publicly owned waste water treatment works, general energy conservation updates, water quality, and the Plains Carbon Dioxide Reduction Partnership carbon capture, utilization and storage demonstration activities.

Through topical presentations and discussions, NPPD and NDEQ staff members have developed a better understanding of the other's perspective on issues of common interest.

In addition, this regularly occurring activity has enhanced relationships among Partnership members and those subject matter experts presenting information of interest.

Methane

Methane recovery from livestock operations was one of the first major topics addressed by our environmental Partnership. As part of this early effort, the Nebraska Methane Workgroup was formed.

One early "lesson learned" in pursuit of methane projects was that many organizations play key roles. NPPD and NDEQ were joined by the U.S. Department of Agriculture-Rural Development and the Nebraska Energy Office as critical players on methane efforts.

In 2014, continued interest in methane projects was expressed. Responding to that,



Meetings of the Nebraska Methane Workgroup were held in 2014 to discuss pertinent topics.

NPPD, NDEQ, USDA-Rural Development, and the University of Nebraska met to develop a means of documenting the overall potential of biomethane capability in the agricultural sector of Nebraska.

This document was completed in January of 2015. Partnership members are optimistic there will be continuing developments in 2015 and hope we are able to report significant progress in next year's report.

Small Wastewater Treatment Plants: Energy Efficiency

Without a doubt, the NPPD/NDEQ Partnership Agreement has been good for Nebraskans. One positive accomplishment, among many over the years, began in 2010 when the Partnership turned

its attention to small municipal wastewater treatment facilities.

It is estimated most communities devote from 20 percent to as much as 60 percent of their energy budgets to wastewater treatment facilities. Moving and treating drinking water and wastewater are energy intensive. Realizing this, NDEQ and NPPD began to explore how energy consumption could be reduced, thereby saving Nebraska communities precious resources.

The NPPD/NDEQ Partnership, in conjunction with help from the University of Nebraska Partners in Pollution Prevention (P3) Internship program, developed a program to assist communities.

Coincidentally, NPPD was also seeking opportunities to develop and implement a comprehensive energy efficiency program and composed a wastewater energy efficiency self-audit checklist that fit perfectly into the project.

Realizing a potential synergy, NDEQ, NPPD and UN-Lincoln began performing wastewater energy efficiency assessments at Nebraska wastewater treatment plants in 2010. In 2014, two more assessments were performed; one each for the communities of Creighton and Ceresco.

Taking part in the assessments in 2014 were NPPD's Energy Efficiency Consultant Kenneth Young, NDEQ's Cay Ewoldt, and UNL intern Skylar Falter. Using the NPPD-constructed self-audit list, Falter evaluated various techniques and technologies for reducing energy consumption.

NDEQ's Ewoldt summarized the efforts: "Wastewater energy audits performed at Creighton and Ceresco are representative of the processes we hope to continue. Working with small Nebraska communities to improve their lives and create a more sustainable future is rewarding for not only the towns, but also the state of Nebraska and the student who worked on the projects. The energy savings created by these audits are vital to our state's small towns' sustainability."

The program continues to identify potential

energy savings in a cost-effective manner, Young said.

"The assessment provides information that allows communities to establish priorities in how they ration their investment in wastewater infrastructure. Once again, the program has shown that much can be accomplished when entities work together for a common good," Young concluded.

Water Quality Sampling

NPPD Environmental Department staff members assisted NDEQ with the Nebraska Recreational Season Water Quality Monitoring Program.

Statewide, NDEQ collects water samples on a weekly basis during the summer (April to September) to gather information on the quality of the state's water resources.

The samples are monitored for E-coli, an indicator bacteria used to determine the presence of other harmful pathogens, bacteria and viruses.

Water sampling results are also used to inform Nebraska citizens of the quality of Nebraska's recreational waters. In 2014, NPPD personnel took water samples from Loup Power District's Lake North near Columbus.

NDEQ provided training and test equipment, and NPPD personnel collected and ran tests on the samples and submitted results to NDEQ.

PARTNERING to Enhance Nebraskans' Quality of Life

Conclusion

An important tool the Partnership has used to address our organizations' mutual challenges is the examination of specific issues at each Partnership meeting. Additionally, many of these issues have been examined in detail at the Power Summit.

One only has to review the long list of these emerging issues examined over the last few years to recognize the challenges our organizations face.

These issues are many, varied, and sometimes surprising; the 2012 annual report examined the difficulties posed by extremely dry weather in North Central Nebraska and the need to have portable stand-by power for increased irrigation load. In 2013, NPPD and NDEQ worked together to address issues related to flooding on the South Platte due to torrential rains in Colorado. The stark contrast of these examples is obvious; however, communication between NPPD and NDEQ enabled our organizations to successfully address challenges posed by both of these situations.

In the coming year, the Partnership expects to continue to support our outreach projects, particularly the Partnership Power Summit. We will also devote resources to helping small communities in Nebraska implement energy conservation processes and projects at their wastewater treatment plants.

The Partnership will continue to coordinate activities of the Nebraska Methane Workgroup in hopes of facilitating establishment of anaerobic digestion facilities alongside livestock operations. We will also continue critical dialogue on new and revised regulations and energy and environmental issues in general.

The Partnership looks forward to contributing to the overall Partnership goal of developing a sustainable Nebraska for our citizens. We welcome any and all ideas on potential Partnership projects. Additionally, if you would like to attend a Partnership Team meeting, contact Chris Ahlstrom: (402)563-5855 at NPPD; or Tricia Scott: (402)471-6974.

This Annual Report is jointly submitted and approved by:



Jim Macy, Director
Nebraska Department
of Environmental Quality



Patrick L. Pope
President & CEO
Nebraska Public Power District



Joe P. Francis, Associate Director
Nebraska Department
of Environmental Quality



Joe L. Citta, Jr.
Corporate Environmental Manager
Nebraska Public Power District

The NDEQ and NPPD share a desire to continue the development of a sustainable Nebraska, which will leave our descendants with the same high quality environment to which we have become accustomed.



Nebraska Public Power District
Always there when you need us

nppd.com



Nebraska Department
of Environmental Quality

deq.state.ne.us



This report is printed on paper with recycled content

CBAFBB81
04/15