

NPPD/NDEQ ENVIRONMENTAL PARTNERSHIP

to sustain Nebraska's environment



2012 ANNUAL REPORT

Introduction

In August 2000, leaders from Nebraska Public Power District and Nebraska Department of Environmental Quality signed a partnership agreement, pledging to work together where possible and practical.

These two entities – the regulated and the regulator – are generally assumed to have divergent points of view; however, over the years, the two organizations have found common ground and have successfully collaborated on a variety of projects

to benefit the citizens of Nebraska and the state’s natural environment.

Over the life of the Partnership, a wide variety of projects has been pursued – everything from capture and use of methane from livestock operations to injecting new life into old bicycles at the Scottsbluff “Recycle Your Cycles Day.” Additionally, the Partnership team has examined issues that are important to both organizations.

The Partnership forum allowed the two organizations to jointly examine and address these issues in ways that

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Pelicans at Sutherland Reservoir.

contribute to the outstanding quality of life that we Nebraskans enjoy.

It is anticipated that the need for dialogue which has resulted from the Partnership will only grow with time. The U.S. Energy Information Administration estimates that the electrical demand in the United States will increase by 18 percent over the next 20 years.

Commensurate with that growth in demand for energy, is an expected growth in related issues and regulations. While sustainability, not regulatory programs, is the

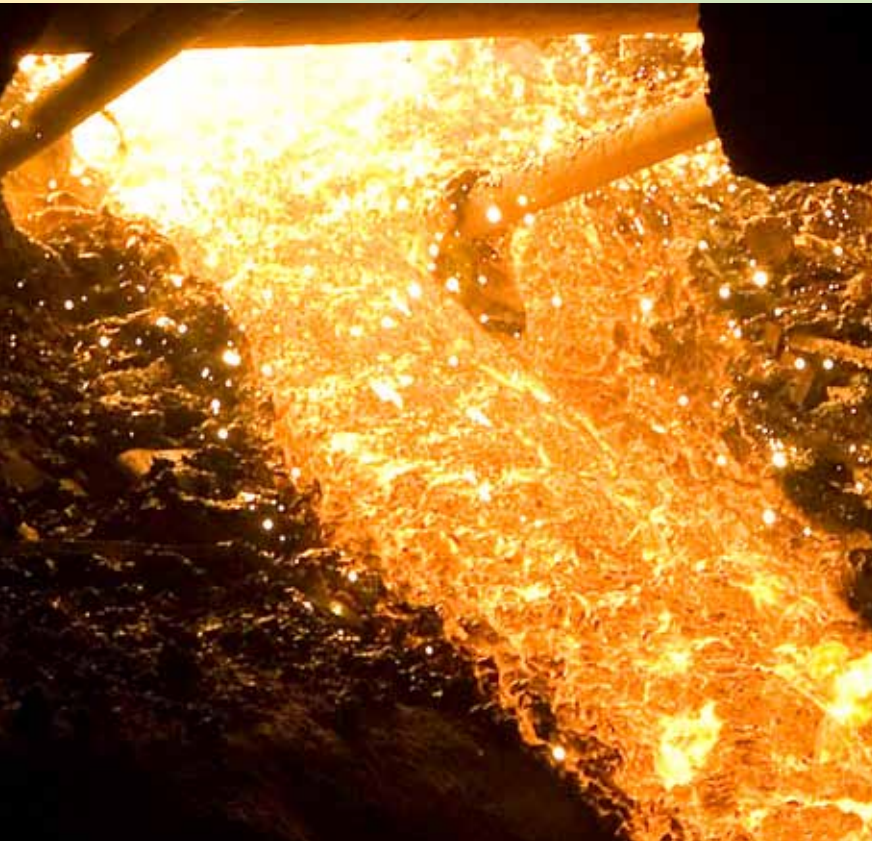
primary focus of the Partnership, the conversations that occur during Partnership activities are beneficial in developing a more comprehensive understanding of issues that may eventually have regulatory implications. These early conversations are also quite beneficial when new issues, which may or may not be regulatory in nature, must be considered. An example of an emergent issue in 2012 was the need for temporary energy generation required for irrigation in drought-stricken north central Nebraska. Related conversations began in a routine Partnership meeting and led to an understanding of the steps that needed to be taken to implement a temporary energy supply program. Countless similar conversations have occurred as a result of Partnership efforts.

The following report provides a summary of all Partnership activities pursued in 2012. Feedback and ideas for Partnership activities are welcomed; please contact Joe Citta, NPPD Environmental Manager, or Joe Francis, NDEQ Associate Director.

On the Cover: Lake Maloney at sunset. Striking a sustainable balance between people's energy needs and an obligation to be good stewards of Nebraska's natural resources is a goal for both NPPD and NDEQ.



PARTNERING to address emerging issues



One of the primary reasons for creating the Environmental Partnership was to make the best use of 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 on each agenda, and discussions concerning the topics are held at each Partnership meeting.

Molten steel flows in a Nebraska manufacturing facility. The reliable delivery of affordable energy is important to the economic health of the state and its people, but must go hand-in-hand with a commitment to environmental responsibility.

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
- Carbon sequestration
- Clean Water Act, parts 316 (a) & (b)
- Regulatory developments/updates
- Economic development and associated environmental assessments
- Potential changes in coal ash by-products proposed regulations



Hold on tight to the future! It's bound to be an exciting ride.

PARTNERING to enlighten and empower the public



Public Outreach

Public outreach activities held in 2012 included:

- **March 14-15**
“Elkhorn Water Daze”
- Lower Elkhorn Natural Resources District
- **May 19**
“Recycle Your Cycles”
- Keep Scottsbluff/Gering Beautiful
- **November 7**
“Power Summit”
- NPPD and NDEQ



Recycle Your Cycles is an annual Scottsbluff/Gering event.



Decorative "bugs" made from junked-out bicycles by a local artist.

Recycle Your Cycles

NPPD, Keep Scottsbluff-Gering Beautiful, and NDEQ hosted the annual "Recycle Your Cycles" event at the NPPD Scottsbluff Office. This is an NDEQ and NPPD Environmental Partnership public outreach activity.

The public brings in used bicycles, which are then either restored or stripped for scrap metal. Panhandle Community Services then donates

adult bikes to those in need of transportation, and the North Platte Valley Kiwanis distributes the restored children's bikes.

Approximately 50 bicycles were received and about 10 were returned to the public for use. Remaining parts were recycled as scrap. And some, as the accompanying photos illustrate, were transformed into works of art



Power Summit

On Nov. 7, NPPD Environmental Manager Joe Citta and Joe Francis, Associate Director of NDEQ, welcomed utility and environmental

representatives to the eighth annual Power Summit. Sixty-five people attended the NPPD/NDEQ-sponsored day-long event in Lincoln. The summit was an opportunity for individuals involved in electric power production in Nebraska and those who regulate that activity

to get together and discuss current and evolving issues.



Todd Sneller

The day featured Eladio Knipping of the Electric Power Research Institute speaking about various air quality monitoring (and modeling) programs, including those being used and/or proposed for use by the Environmental Protection Agency. Also, Nebraska Ethanol Board Administrator Todd Sneller gave a presentation about the progress ethanol has made in Nebraska and the U.S., and the challenges that face the industry.

Other presentations included Omaha Public Power District's Russ Baker regarding environmental testing of dry sorbent injection

at OPPD's coal-fired power plants; an update on carbon dioxide storage and NPPD's compressed air energy storage program by NPPD Engineer Mike Matheson and NPPD Generation Strategies Manager John Swanson, respectively; and a presentation by NPPD's Vice President of Governmental Affairs and General Counsel John McClure on how global and U.S. political, social and economic conditions and trends may affect Nebraska's electric utility industry.

Other presentations included NDEQ's John Bender on the Keystone XL pipeline's siting approval in Nebraska; NPPD Transmission & Distribution Manager John Humphrey talked about the impacts the drought of 2012 had on electric system operations.

Associate Director Joe Francis and Field Office Supervisor Kevin Stoner of NDEQ joined with NPPD Energy Efficiency Consult Kenneth Young to review a jointly run efficiency project at small municipal wastewater treatment facilities in several locations in Nebraska.

Finally, NPPD Sustainable Energy Manager Dave Rich spoke about sustainability. The Power Summit enables the "regulated" and the "regulator" to sit across the table from each other, to build relationships and to discuss items of mutual interest.

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 the programs, which cover a broad range of topics, including NPPD's compressed energy storage project, Title 122 carbon dioxide sequestration, engineered waste pellet co-burn with coal test results, energy conservation at publicly owned treatment works, general energy



conservation updates, 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 each other's perspective on issues of common interest.

In addition, this regularly occurring activity has enhanced our relationship with those people presenting the information of interest. NDEQ also used Sheldon Station to develop a training film about "How to Conduct an Inspection."

NET Television Network produced and directed the film. Both NPPD and NDEQ employees were featured in the film.



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. Since that time, highly successful Methane Recovery Workshops were held in York in 2002 and again in 2009.

One of the first lessons learned in the pursuit of methane projects was that many organizations played key roles. NPPD and NDEQ were joined by USDA-Rural Development and the Nebraska Energy Office as critical players on methane efforts.

In 2010, many members of the Nebraska Methane Workgroup formally joined the EPA AgStar State Partnership. Joining organizations include the Nebraska Pork Producers, the Nebraska Cattlemen's Association, the Nebraska Department of Agriculture, the

Nebraska Energy Office, the Nebraska Department of Natural Resources, Olean Energy and PRIME BioSolutions.

The primary goal of the AgSTAR State Partnership is to ensure that the latest information on technologies, financial resources, and general developments in livestock related methane capture and recovery are readily available to interested parties.

During 2012 there was some interest expressed in methane projects. Responding to that, NPPD, NDEQ, USDA-Rural Development, and the Nebraska Energy Office met to determine if there was a role we could play in facilitating potential methane recovery projects in Nebraska. We are optimistic that there will be continuing developments in 2013 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.

Moving and treating drinking water and wastewater are energy intensive. (It is estimated most communities devote from 20 percent to as much as 60 percent of their energy budgets to this effort.) Realizing this, NDEQ 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 Environmental Protection Agency Region VII and the University of Nebraska Partners in Pollution Prevention Internship program, developed a program to pursue the project.

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 UNL performed two wastewater energy efficiency audits at Nebraska wastewater treatment plants. In 2012, three more assessments were performed.

Taking part in the assessments in 2010 and 2012 were NPPD's Energy Efficiency Consultant Kenneth Young, NDEQ's Field Office Supervisor Kevin Stoner, Liz Boyer

and Jacob Martinez, UNL interns. Using the NPPD-constructed self-audit list, the interns evaluated various techniques and technologies for reducing energy consumption.

NDEQ's Stoner summarized the efforts: "Nebraska has a lot of small communities that are vital to our state, and our efforts are aimed at making their lives easier and more sustainable for today and the future. We hope, by going through this process, communities will continue to evaluate their current practices in all areas to find energy savings."

The program identified potential energy savings of up to one-third of plant utility costs, Young said. "I expect there will be a demonstrable level of energy savings," he commented. "But even beyond that, I think the teamwork displayed and the relationships formed with a project like this – where regulator, regulated and objective research share resources to improve the lives of Nebraskans – are great examples of what can be accomplished when we work together."



Conservation and the efficient and wise use of water are the responsibility of all Nebraskans. This is certainly recognized by UNL intern Jacob Martinez who worked closely with NPPD and NDEQ on the wastewater efficiency project.





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.

The water sampling results are also used to inform Nebraska citizens of the quality of Nebraska's recreational waters. In 2012, 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

The NPPD/NDEQ Environmental Partnership continues to be an interesting and successful example of collaboration.

As in past years, any achievements that the Partnership has enjoyed can be attributed to the communication that occurs among the members.

This communication happens not only at our quarterly meetings, but because of the relationships that have been built through

Partnership activities in our everyday activities. Whether it is a simple matter of knowing the best contact for a regulatory interpretation, or finding someone with expertise in an emerging environmental issue, the contacts established through Partnership activities facilitate the free and effective flow of information.

Over the next year the Partnership anticipates supporting many of the same efforts as we have over the life of the Partnership. There has been an increase in interest related to the recovery and use of methane.

While the economics of capture and use of methane from livestock operations are challenging, the potential environmental benefits are significant and the Partnership is committed to staying abreast of the latest developments. Along with the University of Nebraska Department of Biosystems Engineering, we will continue to examine

ways to conserve energy at small municipal wastewater treatment plants. As in years past, we will sponsor what has become an annual event, the Partnership Power Summit.

Finally, because early predictions are that the drought of 2012 will carry into the summer of 2013, the Partnership has added this as a standing topic for all meetings. The laudable Partnership objective of achieving a sustainable Nebraska will undoubtedly be a continuing challenge.

The Partnership has been an effective tool in the pursuit of that challenge and Partnership Team members look forward to continuing our efforts in 2013. Partnership meetings are typically held on a quarterly basis. We welcome anyone who would like to attend the meetings. Contact Chris Ahlstrom (NPPD) or Julie Ward (NDEQ) for an agenda – we'd love to have you join us!



This Annual Report is jointly submitted and approved by:



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



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