N E P A

National Environmental Policy Act

LESSONS LEARNED

U.S. DEPARTMENT OF ENERGY

QUARTERLY REPORT

June 2, 2015; Issue No. 83

Second Quarter FY 2015

What Didn't Work – And Making It Work Next Time: Data Collection and Sharing

By: Ralph Barr, Office of NEPA Policy and Compliance

This series highlights reasons why things "didn't work" in the NEPA process, and what can be done to avoid such problems in the future. In this issue, we discuss data collection and sharing – how they can affect NEPA document schedules and how potential problems can be avoided.

Lessons Learned Questionnaire respondents have identified data collection and sharing as potential stumbling blocks in making data analysis work. (Questionnaire responses appear at the end of each issue of *LLQR*.) Below, we present examples of what didn't work well and tips for making it work better next time.

In a nutshell: Plan early to identify data needs, and use a central data repository to share and manage data.

Collecting Data

Why it didn't work:

Several factors can delay initial data collection or require extra rounds:

- Changes in project plans When project plans change, the data needed for NEPA analysis may also change.
 If data have already been collected when plans change in response to scoping or final design review, a second round of data collection may be needed to obtain the new data.
- Delays in getting permission to collect data Many NEPA projects require collection of data on public and private land. This process can be slowed if there are delays or omissions in identifying the region of influence, land ownership, or contact information needed to determine the availability of existing data

or to obtain permissions to access land to collect new data.

- Time required to obtain high-quality data Collecting good data can become a lengthy process due to poor communication with contractors about project needs or delays within the contractor's organization. This can add unanticipated time to a project schedule if a contractor does not request the correct data in a timely manner or there are delays on DOE's end.
- Analysts not given timely or full access to data —
 Lapses in communication, administrative backlogs, or disputes about interagency and inter-office data sharing can cause delays if they result in analysts not receiving full access to needed data in a timely manner.
- Subject-matter experts unavailable to collect data For specialized topics, data collection may depend on in-demand subject matter experts (DOE or contractors) who need to be scheduled months in advance.

Making it work:

• Create a Data Collection Plan.

A Data Collection Plan is a valuable management tool for data analysis that can also help identify poor project design early in the process. An effective plan includes:

 The NEPA schedule. Keep in mind schedule drivers and requirements, including those associated with DOE Order 413.3B (DOE O 413.3B), "Program and Project Management for the Acquisition of Capital Assets," for capital asset projects having a Total Project Cost greater than or equal to \$50 million.

(continued on page 7)

Inside Lessons Learned

Welcome to the 83rd quarterly report on lessons learned in the NEPA process. This issue features recommendations for improving data collection and sharing - another in a series analyzing challenges reported in *LLQR*. Other articles cover the new Executive Order on planning for federal sustainability, the Quadrennial Energy Review on transforming energy infrastructure, the NEPA Office's Earth Day activities, and a retrospective by a NEPA Compliance Officer who has served since DOE established the position 25 years ago. Thank you for your continued support of the Lessons Learned program. As always, we welcome your suggestions for improvement.

25 Years as a NEPA Compliance Officer	3
Executive Order 13693	4
NEPAnode	5
Earth Day 2015	6
NAEP 2015 NEPA Excellence Award	8
EJ Conference Spotlights Climate Change	10
Transitions	11
Quadrennial Energy Review's First Installment.	12
EAs and EISs Completed This Quarter	14
Cost and Time Facts	15
Questionnaire Results	16

Carol Borgatrom)
Director
Office of NEPA Policy and Compliance

Printed on recycled paper

Be Part of Lessons Learned

We Welcome Your Contributions to LLQR

Send suggestions, comments, and draft articles – especially case studies on successful NEPA practices – by July 17, 2015, to Yardena Mansoor at yardena.mansoor@hq.doe.gov.

Quarterly Questionnaires Due August 3, 2015

For NEPA documents completed April 1 through June 30, 2015, NEPA Document Managers and NEPA Compliance Officers should submit a Lessons Learned Questionnaire as soon as possible after document completion, but not later than August 3. Other document preparation team members are encouraged to submit a questionnaire, too. Contact Vivian Bowie at vivian.bowie@hq.doe.gov for more information.

LLQR Online

All issues of *LLQR* and the Lessons Learned Questionnaire are available on the DOE NEPA Website at energy.gov/nepa under Guidance & Requirements, then Lessons Learned. To be notified via email when a new issue of *LLQR* is available, send your email address to yardena.mansoor@hq.doe.gov. (DOE provides paper copies only on request.)

Training Opportunities

The listing of any privately sponsored conferences or training events should not be interpreted as an endorsement of the conference or training by the government.

Call for NAEP 2016 Conference Abstracts and Environmental Awards Nominations

The National Association of Environmental Professionals (NAEP) seeks abstracts for individual speakers, panels, and posters to be presented at its 41st annual





conference, which will be held April 11–14, 2016, in Chicago and hosted by the Illinois Association of Environmental Professionals. With the theme of *Charting the Next 40 Years of Environmental Stewardship*, the conference will cover NEPA and related subjects, and is open to environmental professionals in all levels of government, academia, and the private sector. The call for abstracts is available on the NAEP website; abstracts are due via the website by September 30, 2015. Questions may be directed to Rona Spellecacy at NAEP2016@hdrinc.com.

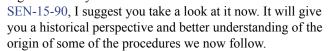
NAEP also invites nominations for its annual Environmental Excellence Awards, which recognize outstanding NEPA achievements and exceptional performance in environmental management, stewardship, education, and other categories. The nominator and nominee need not be members of NAEP, and nominations may include projects or programs recognized by others. The nomination form and submittal deadline will be made available on the NAEP website; questions may be directed to Abby Murray at NAEP2@naep.org. See article on the 2015 NEPA Excellence Award, page 8.

25 Years as a NEPA Compliance Officer

By: Raj Sharma, Office of Nuclear Energy

The DOE NEPA Compliance Officer (NCO) position, required in each "headquarters office with NEPA responsibilities and in each operations office," was instituted through a Secretary of Energy Notice (SEN 15-90) issued by Admiral James D. Watkins on February 5, 1990. Dr. Rajendra Sharma has served as the NCO for the Office of Nuclear Energy continuously since 1990. He is "the survivor" of DOE's pioneer class of NCOs.

The Secretary of Energy sent a wake-up call in early 1990 to rank-and-file staff and senior managers on DOE's faltering compliance with NEPA. SEN-15-90 set forth practices to better comply with the letter and spirit of the law. It laid the responsibility directly at the top – with the Program Secretarial Officers and the Operations Office Managers. The notice outlined specific revisions to the DOE NEPA Order and DOE NEPA guidelines, and directed that the revised NEPA guidelines were to be reissued, after public comment, as regulations. If you are not familiar with



The Secretarial Officers, suddenly under the NEPA spotlight, scrambled to understand the requirements of SEN-15-90. As a first step, they sought qualified individuals to appoint as NEPA Compliance Officers. I transferred from the Office of Civilian Radioactive Waste Management to the Office of Nuclear Energy (NE) on March 7, 1990. On the basis of having prepared several commercial reactor and uranium mill EISs, I was appointed NE's NCO, probably the first NCO appointed by any Secretarial Officer. I confess that I had not yet read SEN-15-90 and had no idea what I was getting into.

Now, reflecting on my 25 years as NCO, I must say that it was mostly enjoyable (despite a few tense moments) and sometimes exciting. I had the privilege of working closely with several dedicated NCOs, including two fellow alumni of Utah State. I worked on some EISs that were completed in record time, some that were canceled after scoping meetings, some that were published as drafts but never finalized, and some that were withdrawn and incorporated into a comprehensive programmatic EIS. (I also worked on an EIS where, after all the sound and fury of urgency, action was not undertaken after a record of decision was published.) Please allow me to share some of my observations and opinions.

Complex-wide NCOs. Establishing an NCO system was an excellent idea. We do not have to hunt for a NEPA contact at another office – just call the NCO. We speak



the same language and communicate efficiently to find responsible officials or additional information. We know the status of NEPA compliance in our programs and sites, and when issues resurface after some hiatus, we know the history. Extremely useful!

Management Responsibilities and the Annual NEPA Planning Summary.

Before 1990, most Secretarial Officers did not pay much attention to the NEPA process. SEN 15-90 changed that, but the pendulum swung too far and their responsibilities became overwhelming. Even a categorical exclusion (CX) determination had to be signed by the

Secretarial Officer. Given the backlog, I processed for NE-1 signature more than 600 CX determinations for NE activities at Idaho, Oak Ridge, Hanford, Paducah, Portsmouth, and other sites, until – in 1995 – authority to make CX determinations was assigned to program and field office NCOs. The requirement for an Annual NEPA Planning Summary now provides the right balance because it gives Secretarial Officers an annual overview of NEPA activities in their programs and sites. Excellent idea!

Support Contractors and NEPA Document Quality. The caliber of a technical support contractor is crucial in NEPA document preparation. As much as possible, the initial draft must be done right the first time. The authors and team leader should prepare a high-quality draft with little need for changes. Relying on GC's NEPA staff review for editing and error correction wastes time and resources. DOE should strive for considerable improvement in this area.

Scope of NEPA Review. A NEPA Document Manager, with the NCO's help, should manage the scope of a NEPA review. Excessive expansion of scope results in a voluminous NEPA document of questionable relevance; this may even spell doom for the document. The "sliding-scale" principle should be applied to keep the focus on the analysis of potential environmental impacts, not encyclopedic descriptions of insignificant details.

Length of NEPA Documents. We need to do a better job of controlling the length of DOE NEPA documents, despite their typical complexity. Creating more appendices does

(continued on page 15)

Executive Order 13693: Planning for Federal Sustainability in the Next Decade

Recognizing the federal leadership role in reducing greenhouse gas (GHG) emissions and promoting sustainability, President Obama signed Executive Order (E.O.) 13693, *Planning for Federal Sustainability in the Next Decade*, on March 19, 2015. Among other things, E.O. 13693 revokes E.O. 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* (2009), which set some specific sustainability goals, but asked federal agencies to establish their own GHG reduction targets.

The E.O. states that there is an opportunity for the federal government to reduce GHGs by up to 40 percent. Each agency head is required to propose specific, agency-wide reduction targets to reduce GHG emissions by fiscal year 2025 (from a 2008 baseline). In addition, the E.O. sets other energy and waste reduction goals that it says will result in more efficient operations across the government. According to the White House, the reduced energy use and costs from implementing the E.O. will save taxpayers up to \$18 billion in avoided energy costs between 2008 and 2025.

Reducing Energy Use and Cost

DOE has addressed climate change in NEPA documents since the 1980s (*LLQR*, December 2007, page 1). However, DOE's NEPA analyses have not generally examined specific sustainability targets. The E.O. provides concrete goals for reductions in resource use, targeting 12 areas of sustainability, including building efficiency, waste reduction, and reduced energy consumption. Federal agencies are to develop and implement an agency-wide strategic process to meet the goals of the E.O. These goals can be incorporated into alternatives analysis during the NEPA process, if appropriate.

The E.O. sets targeted goals for reducing energy and resource use. By 2025, each agency shall reduce:



Solar panels on the roof of DOE's Forrestal Building in Washington, DC. Photo: DOE

- Potable water consumption per square foot of building space by 36 percent (from 2007 baseline),
- Fleet-wide per-mile GHG emissions by 30 percent (from 2014 baseline), and
- Building energy intensity (British Thermal Units per gross square foot) by 2.5 percent annually (from 2015 baseline).

While the E.O. prioritizes reducing energy use, it also notes the role of renewable or alternative energy solutions in meeting sustainability goals and establishes specific goals for increasing the use of clean energy. The E.O. notes that achieving these goals will improve energy and water security while ensuring federal facilities can continue to meet mission requirements.

- By 2020, all new building plans over 5,000 square feet shall be designed to achieve energy net-zero (annual energy consumption is balanced by on-site renewable energy).
- By 2025, 25 percent of building electric and thermal energy shall come from clean energy sources.
- By 2025, 30 percent of building electric energy shall be from renewable energy sources.
- By 2025, zero emission or plug in hybrid vehicles shall account for 50 percent of new agency passenger vehicles

To achieve these government-wide emission reductions and sustainability goals, the E.O. sets a number of short-term milestones. The E.O. directs CEQ to release guidance on implementing the E.O., to be followed by updated "Guiding Principles" for federal buildings, and revised guidance on water efficiency, GHG accounting, and sustainable building and landscaping practices.

Federal Leadership

Under E.O. 13514, DOE established a Sustainability Performance Office, and has, as of 2013, cut the Department's emissions by more than 34 percent relative to the 2008 baseline.

"As the Federal leader in energy efficiency, renewable energy and clean energy research and development, DOE has both a unique opportunity and a clear responsibility to lead by example and integrate sustainability into all aspects of our operations," said John Shonder, Director of the Department's Sustainability Performance Office. "The new Executive Order provides a framework for us to carry out that responsibility over the next decade and beyond." According to the E.O., federal agencies can "drive national GHG reductions" while "fostering innovation, reducing spending, and strengthening the communities in which our Federal facilities operate."

DOE Introduces NEPAnode to Federal NEPA Contacts

DOE's Office of NEPA Policy and Compliance hosted the Council on Environmental Quality (CEQ) Federal NEPA contacts meeting on May 14, 2015. The meeting featured a presentation by NEPA Office staff on NEPAnode, a web application for collaborating on data, maps, and projects for non-GIS experts. "We invite federal agencies to use NEPAnode to help prepare and review NEPA documents," said John Jediny, NEPAnode lead project manager.

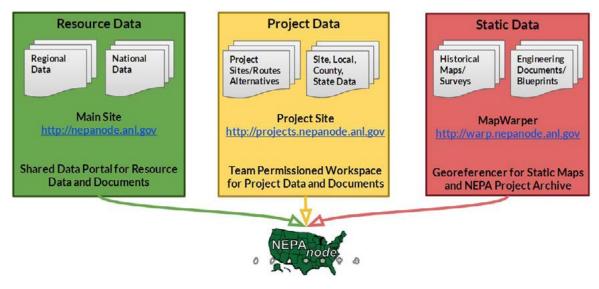
Mr. Jediny highlighted new features of NEPAnode. He introduced the new projects site as a workspace where NEPA project teams can upload project-specific information to be combined with the many data collections from the NEPAnode main site. He also highlighted the MapWarper tool, which allows users to create data layers from images (e.g., scanned maps, figures from engineering studies and planning documents). Finally, he described the new GeoJSON editor, which allows users to create a presentation or blog-like map to which data can be added and displayed using any of three methods:

1. Streaming live data from either the NEPAnode main site or project site.

- 2. Uploading data directly using various file formats.
- Creating new layers from scratch (i.e., points, lines, polygons, and their attributes). "This can be used to quickly annotate a project review or create a web map for public and stakeholder outreach, among other uses," Mr. Jediny said.

Brad Mehaffy, NEPAnode project manager, demonstrated some of the practical applications of NEPAnode. "I'm still new to GIS but use NEPAnode regularly to review EISs. I've found it to be a valuable tool," said Mr. Mehaffy. He provided an overview of available base maps and layers included in the new projects site, as well as the ability to edit and document project information.

Mr. Jediny and Mr. Mehaffy encouraged members of the NEPA community throughout the federal government to use NEPAnode and recommend further enhancements. They can be reached at john.jediny@hq.doe.gov and bradley.mehaffy@hq.doe.gov. For more information about NEPAnode, see *LLQR*, September 2014, page 13, and March 2014, page 3.



NEPAnode has three sites in which NEPA practitioners can upload, view, analyze, and collaborate on data, documents, and projects.

Earth Day 2015 Emphasizes Collaboration and Mitigation

DOE Headquarters observed Earth Day 2015 with almost two full weeks of activities, including displays, workshops, collection of electronics for recycling, a photo contest, and an environmental film series. *Working Together to Reduce Our Environmental Footprint*, this year's Earth Day theme, emphasized two concepts: collaboration to achieve more significant improvements, and mitigation of environmental effects by avoiding, minimizing, rectifying, reducing, or compensating for adverse impacts.

The celebration culminated in a Community Day, held outdoors on a windy April 22. Led by DOE's Office of Environment, Health, Safety and Security, participants included DOE program and field offices, other federal agencies, local elementary schools, and the public. The display and demonstration of electric and alternative fuel vehicles was a popular exhibit.

The Office of NEPA Policy and Compliance display provided information on mitigation under NEPA. The NEPA Office display, staffed by Ralph Barr, Denise Freeman, Emily Orler, and Lettie Wormley, invited viewers to provide examples (written on paper footprints) of how they could mitigate their personal environmental impacts. In a vote by area elementary school students, the NEPA Office earned two first place awards – for providing good information and being the most interactive.



"Your conservation efforts save tropical rainforests and me" was the title of Ralph Barr's photo contest entry. This tree snail, Caracolus caracolla, one of the 34 species of snails found in El Yunque National (rain) Forest, Puerto Rico, can live for 10 years.

How some viewers of the NEPA Office display would reduce their environmental footprints:

- Don't take long showers
- Reuse water bottles
- Buy local produce from local vendors
- Carpool more often
- · Compost using worms
- Don't leave the water running when shaving or brushing teeth
- Use reusable containers (instead of plastic bags) for lunch

Then there's also this way to reduce your footprint:

· Buy small shoes



Data Collection and Sharing

(continued from page 1)

- 2. Internal milestones, including:
- Estimated timeframe for completion
- · Data needed to complete each milestone
 - Identify activities, e.g., preparation of a resource report
 - Determine parameters of data set
 - Identify data needs and sources and issue data requests (data calls)
 - Estimate time to collect, analyze, and prepare deliverable
 - Develop contingency plan to address incomplete data sets, unavailability of data, and data inaccuracy
- Technical expertise and methodology needed for:
 - Data collection
 - Analysis
 - Document preparation
 - Implementation of quality assurance requirements
 - Reviews
- 3. Contingency plans for delays or lack of funding.
- 4. Contractor "buy in" with the schedule, with risks and workaround scenarios identified; contractor deliverables clearly defined and agreed upon.

A successful NEPA document is dependent on the timely receipt and quality of data supporting conclusions of the document.

- Jack Zanger, NEPA Compliance Officer, National Nuclear Security Administration Production Office, Pantex Plant
- Expect and plan for changing data needs.

Many of DOE's projects are unique – for a one-of-a-kind facility or action – and project plans and designs may change during the course of a NEPA review. For example, data needs for NEPA documentation may change when preliminary designs are finalized, additional alternatives are identified in scoping, more current data become available, or the schedule slips at the programmatic level. Accommodating these changes efficiently is a key to maintaining schedule control. Have contingency plans in place that address the time and resources needed for additional data collection.

Sharing Data

Why it didn't work:

LLQR respondents report that lack of a central data repository for a project can cause the following problems:

- Ineffective sharing of information among project team members Lack of a central repository can inhibit easy access to data for the whole team, making it harder to share information at crucial steps in the analysis.
- Difficulty managing large volume of data The management and organization of extensive data collections make their accessibility to all team members a challenge.

Making it work:

 Collecting, sharing, and analyzing data for NEPA documents can be a major task. A variety of filesharing tools are available, including some that provide for simultaneous editing of documents. These can facilitate work, especially among teams that are geographically dispersed. (NEPAnode (related article on page 5) provides project teams with a common space to permission and share data and documents used in the NEPA process.)

Project Funding Uncertainties

Why it didn't work:

Insufficient or delayed project funding can put data collection on hold and delay data sharing among team members.

Making it work:

While NEPA document managers have little control over funding issues, budgets, and contracting, the Data Collection Plan can allow for contingencies, within reason. As part of the planning process, build flexibility into the project schedule to accommodate delays caused by gaps in funding, and develop a central data repository to store project data if it needs to be put on hold temporarily. As funding issues are resolved, the project team should verify and validate the data to ensure that the data are current and complete, and augmented as necessary. Always keep in mind, a successful NEPA document is built on a solid foundation of defensible data and analyses.

Using these shared strategies can help make data collection and analysis "work" for you in the NEPA process. Please contact Ralph Barr at ralph.barr@hq.doe.gov with suggestions for other data collection strategies or topics for future articles in this series.

Landscape Restoration and Stewardship EIS Earns NEPA Excellence Award from NAEP

The 2015 NEPA Excellence Award, presented annually by the National Association of Environmental Professionals (NAEP), recognizes the 2014 Landscape Restoration and Stewardship Plan EIS for the Valles Caldera National Preserve in north central New Mexico. In the award citation, NAEP noted that the entire NEPA process and the resulting EIS were especially inclusive and reader friendly. NAEP identified systematic collaboration and adaptive management as strengths that improved decisionmaking.

The plan establishes a restoration and stewardship decisionmaking process for natural and cultural resources in an 89,000-acre volcanic caldera located 18 miles west of Los Alamos. The Valles Caldera contains hot springs, streams, fumaroles (vapor vents), natural gas seeps, and volcanic domes. As a privately owned working ranch for over 150 years, Valles Caldera was intensively logged and grazed, which significantly degraded its forest, grassland, and riparian (river and stream) natural systems.

In 2000, the Preserve was acquired as a unit of the National Forest System under the management of the Valles Caldera Trust, which prepared the EIS. Administration of the Preserve was transferred in December 2014 to the National Park Service.

Accessible, Collaborative NEPA Process; Reader-friendly EIS

Particular effort was devoted to making the NEPA process accessible to the public. "The EIS was very easy to read and understand and models clear explanation of the importance of NEPA in the development of a natural resources management plan. The EIS also did a very good job in describing how the public was brought into the land management process," stated the NAEP Awards Committee in its citation.

In developing the Landscape Restoration and Stewardship Plan and the EIS, the Valles Caldera Trust conducted a collaborative consultation process with the Santa Fe National Forest, the New Mexico Forest and Watershed

Why do we need to take action here and now?

[T]he preserve's ecosystems are completely out of whack! The structure (age and size) of our forests is most noticeably out of whack. Currently, the natural systems of the preserve cannot respond and adapt to current risks and threats, especially high-severity wildfire (along with post-fire flooding and erosion . . .), but also forest pests and disease.

Final EIS Summary

Restoration Institute, the Pueblo of Jemez, The Nature Conservancy, Forest Guild, and WildEarth Guardians. A strategic planning workshop brought them together with additional local, state, and federal governmental organizations (including DOE's Los Alamos National Laboratory), tribes, and nongovernmental organizations.

The workshop began with a collaborative assessment of the current "ecological departure" (i.e., degraded conditions). "Because no one actually uses terms like 'ecological departure' in normal conversation, we began to say 'out of whack," reports Dr. Marie Rodriguez, Director of Stewardship, Valles Caldera National Preserve. "Adopting this term was the icebreaker that got scientists and citizens talking comfortably," she said.

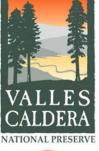
The workshop outcomes – early drafts of the proposed action, purpose and need, and alternatives - were made available to the public, along with 2012 State of the Preserve, which included information from the affected environment chapter of the EIS. Early distribution of EIS sections and preparation of an "easy to read" summary were intended to facilitate public review of the EIS, explained Dr. Rodriguez. "The collaboration is continuing," she said, "as implementation and monitoring is being performed with the same organizations that participated in the workshop along with many citizen volunteers."

Adaptive Management: A Framework for Resiliency

The Landscape Restoration and Stewardship Plan is based on the adaptive management approach of systematically monitoring the environmental outcomes of actions, comparing them to specific environmental objectives, and modifying the actions as appropriate. (See *LLQR*, December 2002, page 8.)

The goal of the Stewardship Plan is to improve the resilience and adaptive capacity of the Preserve's natural systems, protect people and resources from destructive wildfire, and rehabilitate areas impacted by wildfire. "Resiliency," in the plan and EIS, means the ability of a system to remain within or return to its natural path of growth and development ("succession") in the event of disturbances such as fire, insects, disease, severe climatic events, and changing climate.

(continued on next page)





Award

(continued from previous page)

The Stewardship Plan's 10-year **objectives** include moving the preserve's natural systems towards the "reference condition," a state that to the best of the collective knowledge is known to be sustainable and resilient under current and expected regimes of climate change and natural disturbances.

The record of decision selects a collaborative restoration strategy. This strategy integrates restoration and management actions, such as forest thinning, reintroduction of fire as a beneficial natural disturbance, and wetland restoration. Restoration actions can be mixed and matched, and implemented at various intensities. The National Park Service is now considering funding the plan as part of its new Resilient Lands and Waters Initiative.

Additional information is available from Marie Rodriguez at stewardship@vallescaldera.gov.



A firefighter ignites a prescribed burn to restore grassland resilience. Photo: Kristen Honig, Professional Wildland Fire Photographer (all rights reserved)



The Preserve is now a unit of the National Park System. Photo: Rourke McDermott, Landscape Architect, Valles Caldera National Preserve

EJ Conference Spotlights Climate Change

By Denise Freeman, Office of NEPA Policy and Compliance

Climate Change and Climate Justice was the theme of the March 2015 National Environmental Justice Conference and Training Program (NEJC), held in Washington, DC. A diverse group of more than 500 participants – representing federal and state agencies, local governments, tribes, community groups, businesses, and academia – shared best practices and continuing challenges in addressing America's environmental justice (EJ) concerns, that is, disproportionately high and adverse impacts to low-income and minority populations.

On opening day, a Youth and Emerging Leaders' Summit was held in recognition of the growing role of young people in the EJ movement. On day two, Environmental Protection Agency Administrator Gina McCarthy and DOE's Dr. Jonathan Pershing, Principal Deputy Director, Office of Energy Policy and Systems Analysis, served as keynote speakers.

Energy Impacts on EJ Communities

In his keynote address, *Climate Change: Energy and Community Impacts*, Dr. Pershing explained that climate change will have "major consequences for the energy arena" and is "likely to disproportionately affect poor and minority communities." He stated further that the emissions that drive climate change are centered largely in the energy arena and, therefore, so are the solutions to the problem. He cited the Intergovernmental Panel on Climate Change, Fifth Assessment Report, Working Group II, *Summary for Policymakers*, which states, "People who are socially, economically, culturally, politically, institutionally, or otherwise marginalized are especially

NEPA and EJ: Meaningful Public Engagement

During the NEPA process it is essential to engage potentially affected EJ communities early and often, and as appropriate – when defining the affected environment, identifying potentially affected EJ communities, assessing potential impacts to EJ communities, assessing potential alternatives, determining whether potential impacts to EJ communities are disproportionately high and adverse, and developing mitigation and monitoring measures.

Mitigation can increase transparency and promote the involvement of the potentially affected communities. The scoping process can be used to guide mitigation needs and recommendations. This feedback process ensures that agencies develop and maintain an open relationship with potentially affected communities throughout the NEPA process.



Dr. Pershing, Principal Deputy Director, Office of Energy Policy and Systems Analysis at DOE, discussed the relationship between EJ and the Quadrennial Energy Review (related article, page 12). He highlighted EJ analyses in NEPA reviews and "robust public engagement" in the siting, permitting, and review process.

vulnerable to climate change and also to some adaptation and mitigation responses." (See *LLQR*, December 2013, page 8.)

As an example, Dr. Pershing discussed the \$65 billion in damages and economic loss caused by Hurricane Sandy in 2012, including 650,000 homes damaged or destroyed. Of New York and New Jersey registrants for Federal Emergency Management Agency assistance, 43 percent were renters, and of them, about two- thirds were identified as low-income. He also noted that a warming climate will likely increase electricity demand, and would increase electric sector vulnerability.

Congressman Jim Clyburn (D-SC) provided his perspective on EJ in a video message. "Environmental policies . . . must be fair and balanced in their approach," he said, and "must foster the protection of human health and the environment and ensure environmental justice while promoting economic development."

Incorporating EJ Analysis into the NEPA Process

As part of the conference, a cross-agency workshop, Leveraging [NEPA] for Environmental Justice Advancement, examined a hypothetical case study on identifying scoping opportunities, potential impacts, EJ

(continued on next page)

Transitions: New NCO

NNSA: John Weckerle

John Weckerle has been designated an NCO for the National Nuclear Security Administration (NNSA). He is a hydrogeologist by training, with 28 years of experience in NEPA, environmental restoration, and related subjects. Mr. Weckerle began working as a consultant for DOE in 1991, preparing DOE NEPA documents and supporting other NEPA compliance activities. He joined the NNSA Sandia Field Office in 2011 as a NEPA specialist, and, prior to his designation as NCO, served as the NEPA Document Manager for the Site-wide EIS for Ongoing Operations at Sandia National Laboratories, Albuquerque, New Mexico (DOE/EIS-0466). Mr. Weckerle can be reached at john.weckerle@nnsa.doe.gov or 505-845-6026.



E] Conference

(continued from previous page)

communities, disproportionately high and adverse impacts, and mitigation. Workshop presentations emphasized ways that EJ issues can be addressed throughout the NEPA process. For example, the scoping process can identify potentially impacted low-income and minority communities and promote transparency; mitigation can reduce the potential impacts to EJ communities and promote better and more informed decisionmaking. Denise Freeman, DOE Office of NEPA Policy and Compliance, made the presentations on scoping and mitigation.

The final day of the conference included *The Impact* of Social Determinants on Health Disparities, Pure Water, Clean Air and a Healthy Environment . . . for the Generations. This video presentation explored the significant impacts of poverty on health, which in turn

affects quality of life. "While most Americans recognize the role good health plays in their quality of life, many fail to seek quality of life as a precursor to good health. Poverty, location, the water we drink, the food we eat, the air we breathe, access to health care, educational attainment, racism. These and other social determinants affect our health. So much so that zip code is often a better predictor of future health than genetic code. Place matters." (National Educational Telecommunications Association)

The 2016 NEJC will be held March 9–12 in Washington, DC, jointly with the 9th Annual National Conference on Health Disparities. The theme will be *A National Dialogue for Building Healthy Communities*. Additional information is available on the NEJC website.

NEPA Committee on EJ Celebrates Progress

On March 30, 2015, members of the cross-agency NEPA Committee on EJ, part of the Federal Interagency Working Group on EJ, met to celebrate the progress it has made since its launch in 2012. The NEPA Committee's purpose is to improve consideration of EJ in the NEPA process, share promising practices and lessons learned, and provide training.

The committee recently published an *EJ and NEPA Agency Resource Compendium*, prepared with EPA's Office of Environmental Justice. Key references from the compendium are also available on EPA's NEPA Webpage.

The committee is now working to complete *Promising Practices for EJ Methodologies in NEPA Review*, a training product, a lexicon of NEPA and EJ terms, and a 3-year action plan.

Quadrennial Energy Review's First Installment Focuses on Transforming Energy Infrastructure

The NEPA Process could play an important role in DOE efforts to modernize energy transmission, storage, and distribution (TS&D) infrastructure, as envisioned in the first installment of the Quadrennial Energy Review (QER), issued April 21, 2015.

"Well informed and forward-looking decisions . . . can enable substantial new economic, consumer service, climate protection, and system reliability benefits. Good decisions . . . can also provide flexibility in taking advantage of new opportunities to achieve our national energy objectives." This thought, from the QER's "Summary for Policymakers," echoes a statement of NEPA's purpose from the Council on Environmental Quality regulations: "it is not better documents but better decisions that count." (40 CFR 1500.1(c))

The purpose of the QER, as expressed in a Presidential Memorandum (January 9, 2014), is to help ensure that federal energy policy is appropriately matched to the nation's economic, security, and climate goals. The Memorandum established an interagency task force, under DOE management and with its analytical support, to conduct this "first-ever" comprehensive review of energy infrastructure.

Responding to direction in the President's Climate Action Plan, the QER identifies the threats, risks, and opportunities for U.S. energy and climate security. The outcome is designed to enable the federal government to translate policy goals into a set of analytically based, clearly articulated actions and proposed investments over a 4-year planning horizon.

The first QER installment (report) proposes policies and investments to "replace, expand, and modernize infrastructure to promote economic competitiveness, energy security, and environmental responsibility." Future (approximately annual) installments will focus on resource extraction and processing, energy transport and storage, electricity generation, and energy end-use.

NEPA's Role Recognized in QER

The report's discussion of environmental aspects explicitly recognizes NEPA's role in modernization planning. "Some of the most common land-use and ecosystem impacts . . . are analyzed as part of the environmental and historic preservation review processes for energy infrastructure siting. They include those effects most often considered in the context of [NEPA] and its framework for assessing environmental impacts before a Federal agency decides whether to fund, conduct, permit, or otherwise approve proposed TS&D infrastructure. In its analysis, the permitting agency must consider mitigation requirements

that may be imposed as conditions for unavoidable environmental harms."

The report outlines environmental effects to consider in planning TS&D infrastructure projects, such as impacts to ecosystem resources, environmental justice, seismicity, visual resources, and aviation. It notes that impacts are associated with all stages of a project, and that cumulative impacts should be assessed.

The report characterizes greenhouse gas emissions for each energy TS&D system and makes mitigation recommendations. For natural gas, for example, approaches for reducing carbon dioxide (CO₂) and methane emissions are ranked by cost efficiency (cost per metric ton CO₂ equivalent) and total emissions abatement potential is calculated. Cost-effective options for reducing methane emissions from the natural gas system include changing operations and maintenance practices, increasing leak detection and repair, and upgrading equipment.

The report notes, "Policies are needed to ensure that private companies can recover costs of such investments to improve safety and reduce emissions. In addition, while a number of actions may not have net benefits when only accounting for the monetary value of conserved gas, some of these can be cost effective if the climate change and safety benefits are taken into account. To achieve these societal benefits, there is an important role for government – often in partnership with industry – to advance new technologies and encourage investments."

Among the recommendations on environmental issues (text box, next page), the report recommends that DOE should work with other federal agencies to improve data and analysis on environmental characteristics and impacts of TS&D infrastructure.

Infrastructure Siting and Permitting

The QER makes recommendations to address an "urgent" need to improve the siting, permitting and review of infrastructure projects, especially where the involvement of multiple jurisdictions, often with overlapping and conflicting statutory responsibilities, can lead to inefficiencies and delay.

The report identifies a "pre-application" process as a way to achieve more efficient permitting. Under a pre-application process, an applicant provides information and analysis at the outset to reduce the risk that the permitting review will be delayed by missing, incomplete, or inaccurate information. The process also may establish communication with relevant regulators and

(continued on next page)

Quadriennial Energy Review

(continued from previous page)

stakeholders in the early stages of proposal development to identify their issues, and can help an applicant avoid environmentally sensitive areas.

The report cites DOE's 2013 work on a proposed Integrated Interagency Pre-Application Process and notes that DOE is piloting a pre-application process for the proposed Great Northern Transmission Line, for which a draft EIS is being prepared.

The report recommends expanding online project tracking, for example through the Federal Infrastructure Project Permitting Dashboard. Also, it identifies information technology tools already available for use by agencies and public stakeholders, including DOE's NEPAnode, a geospatial and document management system. (See related article on page 5 and *LLQR*, September 2014, page 11.)

Electric Grid Partnerships Announced

The QER rollout was accompanied by the President's announcement of two executive actions to modernize and enhance the resilience of the electric grid. The new Partnership for Energy Sector Climate Resilience will address extreme weather and climate change impacts. The Partnership will begin with DOE convening the chief executive officers of the major domestic providers of electricity services. In addition, the U.S. Department of Agriculture will provide loans to support six new rural electric infrastructure projects, including major investments in solar energy and smart grid projects.

Additional information is available at http://www.energy.gov/epsa/quadrennial-energy-review-qer.

FINDINGS IN BRIEF: Addressing Environmental Aspects of TS&D Infrastructure

- TS&D infrastructure can serve as a key enabler for or barrier to better environmental outcomes.
- TS&D infrastructure contributes a relatively small share of total air and water pollution from the energy sector.
- Energy infrastructure can have direct, indirect, and cumulative land-use and ecological impacts.
- Energy transport, refining, and processing infrastructure contribute to emissions of criteria air pollutants that pose risks to public health and the environment.
- Transportation of crude oil by pipeline, rail, and waterborne vessels has safety and environmental impacts.
- The United States currently has a network of more than 4,500 miles of CO₂ transportation pipelines that can be a critical component of a low-carbon future.

RECOMMENDATIONS IN BRIEF: Addressing Environmental Aspects of TS&D Infrastructure

- Improve quantification of emissions from natural gas TS&D infrastructure.
- Expand research and development (R&D) programs at DOE on cost-effective technologies to detect and reduce losses from natural gas TS&D systems.
- Invest in R&D to lower the cost of continuous emissions monitoring equipment.
- Support funding to reduce diesel emissions.
- Collaborate on R&D on the beneficial use and/or disposal of dredging material.
- Improve environmental data collection, analysis, and coordination.
- Work with states to promote best practices for regulating and siting CO₂ pipelines.
- Enact financial incentives for the construction of CO₂ pipeline networks.
- Enhance TS&D resilience to a variety of threats, including climate change and extreme weather.
- Enhance natural gas safety, efficiency, and lower emissions by reducing natural gas leakage and improving the efficiency and safety of the natural gas infrastructure.
- Accelerate current development of uniform methods for measuring energy savings.
- Partner with the Arctic Council on Arctic energy safety, reliability, and environmental protection.

EAs and EISs Completed January 1 to March 31, 2015

EAs1

Bonneville Power Administration

DOE/EA-1994 (2/5/15)

Jordan/Malheur Resource Area Jonesboro Diversion Dam Replacement Project, Malheur County, Oregon EA was adopted; therefore cost and time data are not applicable to DOE. [The Bureau of Land Management was the lead agency; DOE was a cooperating agency.]

Rocky Mountain Oilfield Testing Center/ Office of Fossil Energy

DOE/EA-1956 (1/29/15)

Site-Wide Environmental Assessment for the Divestiture of Rocky Mountain Oilfield Testing Center and Naval Petroleum Reserve No. 3, Natrona County, Wyoming

Cost: \$165,000 Time: 31 months

Western Area Power Administration

DOE/EA-1972² (3/13/15)

Electric District 2 to Saguaro No. 2 Transmission Line

Rebuild, Pinal County, Arizona

Cost: \$217,000 Time: 16 months

DOE/EA-2002 (3/30/15)

Right-of-Way Application for the Tucson-Apache 115-kV Transmission Line, Pima County, Arizona This EA was prepared in-house; therefore, contractor cost is not applicable.

Time: 4 months

EISS

Bonneville Power Administration

DOE/EIS-0451 (80 FR 3588, 1/23/15)

(Draft EIS EPA Rating: EC-2)

Hooper Springs Transmission Project, Caribou

County, Idaho Cost: \$1,470,000 Time: 55 months

Western Area Power Administration

DOE/EIS-0485 (80 FR 2414, 1/16/15)

(Draft EIS EPA Rating: EC-2)

Interconnection of the Grande Prairie Wind Farm,

Holt County, Nebraska

The cost for this EIS was paid by the applicant; therefore cost information does not apply to DOE.

Time: 34 months

ENVIRONMENTAL PROTECTION AGENCY (EPA) RATING DEFINITIONS

Environmental Impact of the Action

LO - Lack of Objections

EC - Environmental Concerns

EO - Environmental Objections

EU - Environmentally Unsatisfactory

Adequacy of the EIS

Category 1 - Adequate

Category 2 - Insufficient Information

Category 3 - Inadequate

(For a full explanation of these definitions, see the EPA website at www.epa.gov/compliance/nepa/comments/ratings.html.)

¹ EA and finding of no significant impact (FONSI) issuance dates are the same unless otherwise indicated.

² No FONSI has been issued.

NEPA Document Cost and Time Facts¹

EA Cost and Completion Times

- For this quarter, the median and average costs for the preparation of 2 EAs for which cost data were applicable were \$191,000.
- For this quarter, the median completion time for 3 EAs for which time data were applicable was 16 months; the average was 17 months.
- Cumulatively, for the 12 months that ended March 31, 2015, the median cost for the preparation of 11 EAs for which cost data were applicable was \$195,000; the average was \$673,000.
- Cumulatively, for the 12 months that ended March 31, 2015, the median completion time for 17 EAs for which time data were applicable was 19 months; the average was 23 months.

EIS Cost and Completion Times

- For this quarter, the cost for the preparation of 1 EIS for which cost data were applicable was \$1,470,000.
- For this quarter, the median and average completion times for 2 EISs for which time data were applicable were 44 months.
- Cumulatively, for the 12 months that ended March 31, 2015, the cost for the preparation of 1 EIS for which cost data were applicable was \$1,470,000.
- Cumulatively, for the 12 months that ended March 31, 2015, the median completion time for 3 EISs for which time data were applicable was 50 months; the average was 46 months.

25 Years as an NCO

(continued from page 3)

not reduce EIS length because appendices are still part of the EIS and may need the same level of review as the chapters. A bulky EIS translates to more production time, errors, review time, and printing cost – but less usefulness to decisionmakers and the public.

Senior Management Mandate. It is an excellent idea for the Secretarial Officer to emphasize the importance of a particular EIS at the initial start-up meeting with all the key players. If the EIS needs inter-programmatic coordination and input from other sites, depending on the importance of the EIS, consider getting the mandate from an even higher level.

Over the past 25 years, the DOE NEPA Community has met and may have exceeded the expectations set forth in SEN 15-90. Let us focus not only on documentation (NEPA Section 102(2)(c)), but also on the reason for undertaking it, as laid out in Section 101(b). It has been an exciting journey and I am quite certain that we will continue to evolve.

In this article, Raj has offered valuable insights and useful recommendations regarding the role of NCOs. We appreciate his many contributions to the DOE NEPA compliance program.

¹ For EAs, completion time is measured from EA determination to final EA issuance; for EISs, completion time is measured from the Federal Register notice of intent to the EPA notice of availability of the final EIS.

Questionnaire Results

What Worked and Didn't Work in the NEPA Process

To foster continuing improvement in the Department's NEPA Compliance Program, DOE Order 451.1B requires the Office of NEPA Policy and Compliance to solicit comments on lessons learned in the process of completing NEPA documents and distribute quarterly reports.

views of individual questionnaire respondents, which (appropriately) may be inconsistent. Unless indicated otherwise, views reported herein should not be interpreted as recommendations from the Office of NEPA Policy and Compliance.

The material presented here reflects the personal

Scoping

What Worked

- Preparation of a case study for the project. The
 program staff prepared a detailed case study for the
 proposed project that explained the purpose and need,
 described alternatives, and provided a conceptual level
 project description and high-level schedule. Most
 of the information in this case study was used in the
 preparation of the EA.
- Good NEPA Document Manager. The NEPA
 Document Manager identified the proposed project, responsibilities, and proposed schedule in the EA
 Determination Memo. This detail saved time by helping the EA contractor and NEPA team understand the project.
- Comments addressed. Scoping comments were received from several agencies. All scoping comments were considered and addressed during preparation of the EA.

What Didn't Work

NEPA approach changed. The EA's proposed action
was initially incorporated in a programmatic EIS, but
changed to a stand-alone EA because the programmatic
EIS was taking too long.

Data Collection/Analysis

What Worked

- Use of available data. The NEPA Document Manager obtained data from the regional security manager's staff to support the analysis of intentional destructive acts.
- Most data readily available. The various resource impact analyses presented in the EA were mostly supported by existing and readily available data.

What Didn't Work

- Delayed field work. The state land managing agency took a long time to issue a right-of-entry for areas adjacent to the proposed project's right-of-way, which delayed biological and cultural field work.
- Large program area. The programmatic EIS covered a large geographical area and required data that were not always available.

Schedule

Factors that Facilitated Timely Completion of Documents

- Weekly conference calls. Weekly conference calls kept everyone aware of EIS schedules and progress.
- Regular team meetings. Regular team meetings to keep staff aware of schedules and document status facilitated timely completion of the EA.
- Good communication. Weekly communication between the project manager and the NEPA Document Manager on the EA facilitated timely completion of the EA.
- Weekly status meetings. Weekly status meetings with the EA contractor and DOE kept the project moving forward and tracked completed tasks, action items, due dates, issues, and discussion points.
- Realistic schedule. Monthly communication among program, Headquarters, and contractor staff to ensure a realistic schedule facilitated timely completion of the EA.

Factors that Inhibited Timely Completion of Documents

• Long Section 106 consultation process. The National Historic Preservation Act (NHPA) Section 106 process was longer than anticipated due to consultations with many Indian tribes.

(continued on next page)

Questionnaire Results

What Worked and Didn't Work (continued from previous page)

- Programmatic agreement. The NHPA Section 106
 process led to the establishment of a programmatic
 agreement. However, the agreement was not finalized
 within the original schedule.
- Coordinating with other agencies. Coordinating with other agencies was challenging. Since each agency had its specific goals and ideas about the NEPA process and the program itself, coming to consensus on decisions took longer than anticipated.
- Schedule delay. The completion of this EA was delayed while awaiting a biological opinion which was later incorporated into the document.
- *Route changes*. There were changes to alternative routes for the proposed action based on public and local government interest in the project.

Teamwork

Factors that Facilitated Effective Teamwork

- Adherence to schedule. Adherence to the EA schedule proposed by the contractor and approved by the DOE team was the single most important tool in facilitating teamwork.
- Good working relationships. The good working relationship, among the many persons and multiple agencies involved in the preparation of this programmatic EIS, facilitated timely completion of the document.
- Good communication. Good communication among EA team members facilitated timely completion of the document.
- Responsive team members. All core project team members were responsive and available throughout the EA process.
- Cooperating agency participation. Cooperating agencies participated in preparing scoping materials, attended the scoping meeting, reviewed documents, and were effective team members.

Factors that Inhibited Effective Teamwork

 Coordination with the regional historic preservation officer. The preservation officer did not think that NEPA and NHPA Section 106 processes should be integrated. Therefore, the NEPA decision document

- was delayed because the Section 106 process was not completed in a timely manner.
- Terminology disagreement. A NEPA team member thought that a term should be removed from the EA, even though the word was being used correctly and was defined in the approach to impact analysis. This person's persistence disrupted the team, required several people to review DOE EA guidance material, and took several meetings to resolve.

Process

Successful Aspects of the Public Participation Process

- Clear public comments. Public comments received on the draft EA were clear and consideration of them enhanced the final document.
- Explanation to public. The public participation process provided an opportunity for DOE to explain the project and the EA process to the public.
- *Tiered off current EIS*. The public participation process was tiered off an EIS for a larger process that included the project area for this EA.
- Positive tribal support. Tribal members were in favor of completing the proposed project, which was located entirely on tribal land.

Unsuccessful Aspects of the Public Participation Process

- Participation of tribal government representatives.
 The public scoping meeting was not successful in part because the regional historic preservation officer refused to contact tribal governmental representatives and invite them to the public scoping meeting or to set up a separate government-to-government scoping meeting.
- Lack of public comments. Federal and state agencies provided comments during the NEPA process, but local residents did not.
- Staff participation. Halfway through an open-house-style public meeting, several NEPA team members left because they were bored when no one showed up.

(continued on next page)

Questionnaire Results

What Worked and Didn't Work (continued from previous page)

Usefulness

Agency Planning and Decisionmaking: What Worked

- Plan development. The EA process caused the project designer to work collaboratively with the NEPA team to minimize the number of new structures located within sensitive resources.
- Informed decision. The EA process helped the decisionmakers understand positive and negative impacts to various resources by the proposed action, therefore helping them make an informed decision.

Enhancement/Protection of the Environment

- Conservation measures. Cultural and historic properties were set aside for protection as a result of NEPA and the NHPA Section 106 processes.
- Mitigation of environmental impacts. Conservation and mitigation measures were developed during the EIS process to address potential adverse impacts to natural resources.
- Protection of environment. The resource protection measures listed in the EA were added to the construction contract, which should result in environmental impacts being avoided or minimized.
- Endangered Species Act. The environment was protected in part due to the conservation measures detailed in the EA's biological assessment due to compliance with the Endangered Species Act.

Other Issues

Guidance Needs Identified

- Property transfers. Additional guidance is needed regarding the applicability of categorical exclusions versus the need to prepare EAs for property transfers.
- *Qualitative vs. quantitative analysis*. More guidance is needed on the appropriateness of using qualitative vs. quantitative analysis when preparing EAs.
- Integrating NEPA and NHPA Section 106. More guidance is needed on integrating NEPA and NHPA Section 106 processes. A policy statement encouraging cooperation and integration would be helpful. [Note to reader: NEPA and NHPA: A Handbook for Integrating

NEPA and Section 106, jointly prepared by the Council on Environmental Quality and the Advisory Council on Historic Preservation, provides advice to federal agencies, applicants, project sponsors, and consultants on how to take advantage of existing regulatory provisions to align the NEPA process and the NHPA Section 106 review process.]

Effectiveness of the NEPA Process

For the purposes of this section, "effective" means that the NEPA process was rated 3, 4, or 5 on a scale from 0 to 5, with 0 meaning "not effective at all" and 5 meaning "highly effective" with respect to its influence on decisionmaking.

For the past quarter, in which 4 EA and 2 EIS questionnaire responses were received, 5 respondents rated the NEPA process as "effective."

- A respondent who rated the process as "5" stated that the NEPA process allowed the developer to avoid or minimize environmental impacts that were disclosed in the EA.
- A respondent who rated the process as "5" stated that the NEPA process facilitated the implementation of reasonable and prudent measures to minimize the take of listed species.
- A respondent who rated the process as "5" stated that the NEPA process assessed impacts to environmental resources and those who live in the project area.
- A respondent who rated the process as "3" stated that even though the proposed project was not categorically excluded, the EA did not add any real value.
- A respondent who rated the process as "3" stated that program staff were unprepared to make decisions at the end of the EA process because the NHPA Section 106 process had not been completed.
- A respondent who rated the process as "2" stated that the EA was for the renewal and expansion of an existing project which could have occurred using a categorical exclusion. However, because the proposed action included an expansion, an EA was prepared. No new environmental impacts were identified.