

# LESSONS LEARNED

## The Value of Ecosystem Services in NEPA Reviews

The Council on Environmental Quality (CEQ) hosted an interagency workshop on May 12, 2016, that brought environmental practitioners together to discuss opportunities for incorporating consideration of ecosystem services in environmental reviews under NEPA. The effort was prompted by a memorandum issued in October 2015 by the Office of Management and Budget, CEQ, and the Office of Science and Technology Policy, *Incorporating Ecosystem Services into Federal Decision Making*, which directs agencies to develop and institutionalize policies to promote consideration of ecosystem services in decisionmaking, including under NEPA.

The workshop was based on feedback provided in agencies' descriptions of their current practices. (See *LLQR*, December 2015, page 5.) In her opening remarks, Christy Goldfuss, Managing Director of CEQ, noted that there is a deep connection between ecosystem services and NEPA. The workshop provided an opportunity to get closer to a common understanding of this connection.

### Defining Ecosystem Services

Ecosystem services, as defined by the policy memorandum, are the benefits that flow from nature to people, for example, groundwater purification and recharge provided by a wetland. Often, these services are not traded in markets, difficult to quantify, and not fully considered in decisionmaking. Ted Boling, CEQ's Associate Director for NEPA, noted that while the term ecosystem services might not currently be used by all agencies, it is really "a new way of articulating the central core of NEPA."

The keynote speaker, Lynn Scarlett (Managing Director for Public Policy, The Nature Conservancy), noted that landscape-scale decisionmaking promoted by an ecosystem services approach provides community benefits – by avoiding unintended consequences, promoting resilience, and providing nontraditional benefits – that go beyond the usual approach of analyzing "discrete components."



(continued on page 5)

## Considering Pollinator Protection in NEPA Reviews

*NEPA reviews should consider potential impacts to pollinators – bees, butterflies, other insects, birds, and bats – and potential mitigation should include site-specific best management practices (BMPs) to promote pollinator health and habitat. This is an example of factoring ecosystem services into decisionmaking and a natural outcome of DOE's Pollinator Protection Plan, issued as part of the National Strategy to Promote the Health of Honey Bees and Other Pollinators (May 2015).*

### National Strategy Provides Overarching Goals

The National Strategy was developed by an interagency task force established through a June 2014 *Presidential Memorandum*. It describes decades of habitat degradation and loss, introduced pests and diseases, decline in genetic diversity, and exposure to pesticides and other toxins. These factors have all contributed to significant declines in pollinator populations.



(continued on page 5)

## Inside Lessons Learned

Welcome to the 87<sup>th</sup> quarterly report on lessons learned in the NEPA process. This issue highlights recent developments concerning ecosystem services (the benefits that flow from nature to people) and the value of protecting and preserving pollinators. In addition, we feature lessons learned at the 2016 NAEP conference. Thank you for your continued support of the Lessons Learned program. As always, we welcome your suggestions for improvement.

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*Carol Bongstrom*

Director  
Office of NEPA Policy and Compliance

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## 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 11, 2016, to Yarden Mansoor at [yarden.mansoor@hq.doe.gov](mailto:yarden.mansoor@hq.doe.gov).

### Quarterly Questionnaires Due August 8, 2016

For NEPA documents completed April 1 through June 30, 2016, 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 8. Other document preparation team members are encouraged to submit a questionnaire, too. Contact Vivian Bowie at [vivian.bowie@hq.doe.gov](mailto: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](http://energy.gov/nepa) under Guidance & Requirements, then Lessons Learned. To be notified via email when a new issue is available, send your email address to [yarden.mansoor@hq.doe.gov](mailto:yarden.mansoor@hq.doe.gov). (DOE provides paper copies only on request.)

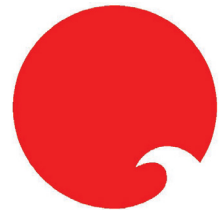
## NAEP 2017 Conference Abstracts – Due September 15 Environmental Awards Nominations – Due October 14

The National Association of Environmental Professionals (NAEP) seeks abstracts for individual speakers, panels, and posters to be presented at its 42<sup>nd</sup> annual conference, which will be held March 27–30, 2017, in Durham, North Carolina. With the theme of *An Environmental Crossroads: Navigating our Ever-Changing Regulatory Landscape*, the conference will cover NEPA and related subjects and is open to environmental professionals in all levels of government, academia, and the private sector. Abstracts for the [2017 conference](#) are due by September 15, 2016. Questions may be directed to Lynn McLeod at [naep2017@battelle.org](mailto:naep2017@battelle.org) or 781-681-5510.

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. [Award nominations](#) are due by October 14, 2016. Questions may be directed to Abby Murray at 856-470-4521.

See the article in this issue, page 11, on the 2016 Conference including, on page 16, the 2016 NAEP Environmental Stewardship award recognizing the Los Alamos National Laboratory Trails Management Program.

*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.*



# Climate Change: A New Focus of the EJ Conversation

This year's National Environmental Justice Conference and Training Program brought into focus the relationship between environmental justice (EJ) and climate change – two subjects important to DOE's NEPA analyses.

Several speakers at the conference, held March 9–12 in Washington, DC, described ways that the environmental consequences of climate change would disproportionately affect low-income and minority populations.

Climate change is not just a long-term change in average temperature or sea level, observed several conference speakers. It can also increase the variability of measures like precipitation and extreme weather events. Speakers explained that the trajectory of climate change for the next few decades is largely set because greenhouse gases remain in the atmosphere and continue to affect climate long after they are emitted.

## Consequences of Inequities

A common theme was the recognition that inequities in current conditions and access to resources could make it more difficult for low-income and minority communities to avoid or mitigate impacts. Examples include difficulties people could encounter protecting their homes or moving in response to sea level rise, upgrading community infrastructure to address declining water quality and quantity, and adapting to longer, hotter summers.

Dr. LaVerne Ragster, Retired Professor and President Emerita of University of the Virgin Islands, emphasized that no one is exempt from climate change impacts. She introduced a video, *Climate Change: A Global Reality*, produced by South Carolina ETV (a public broadcasting network) with the support of DOE and others. In the video, individuals of diverse personal and professional experience, some of whom were speakers at the EJ Conference, discuss the effects of climate change on minority and low-income communities.

## Health and Water Impacts of Climate Change

The human health impacts of climate change fall more severely on minority and low-income communities, said Dr. Mark Mitchel, Co-Chair of the National Medical Association Commission on Environmental Health. Respiratory and cardiac problems are worsened by heat and air pollutant emissions, pollen and mold seasons are becoming longer and more severe, the incidence of heat stroke death is increasing, and insect-transmitted diseases are affecting people in a larger geographic area – these impacts all are worsened by climate change. He cited successful examples of community-based strategies for addressing these challenges: identify and reach out to the most vulnerable individuals, establish cooling stations, and undertake “the greening” of cities to reduce “heat islands” (a metropolitan area that is significantly warmer than its surrounding rural areas due to human activities).

Mr. Jack Moyer, URS Corporation, offered advice on enhancing water supply and security: don't use potable water for irrigation, avoid landscaping with nonnative plants (which often require more water), and increase the production and use of reclaimed water. He noted that flooding disproportionately harms low-income residents, who are likely to have low ability to evacuate, relocate, or invest in measures that improve resilience. Low-income communities often do not have the resources to improve their water system infrastructure, he added.

## EJ after 22 Years: “Are We There Yet?”

In introducing a workshop on incorporating EJ and climate change considerations into NEPA documents, Kim Lambert, Fish and Wildlife Service EJ Coordinator, noted that it has been more than 22 years since the issuance of [E.O. 12898](#), *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. “Are we there yet?” she asked.

(continued on next page)

## Report: Impacts of Climate Change on Human Health

On April 4, 2016, the U.S. Global Change Research Program (USGCRP) issued *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*, a report called for under the *President's Climate Action Plan*. This report synthesizes the scientific literature on current and projected health impacts from climate change in the United States. Its lead authors are USGCRP representatives of the U.S. Environmental Protection Agency, National Institutes of Health, Centers for Disease Control and Prevention, National Oceanic and Atmospheric Administration, and other federal agencies; an academic research center; and a consulting firm.

The report forecasts that in the absence of major action to combat climate change, air quality will be degraded due to rising temperatures, ozone, drought, and wildfires; heavy rains will be more frequent; heat waves will be more intense; and hurricanes will be more severe. These changes in weather and environment would result in major adverse consequences for public health. Predicted impacts include worsened symptoms of lung disease and other chronic illnesses; higher risk of heat stroke and heat exhaustion; new threats of food- and waterborne diseases; and increased hospital admissions for cardiovascular and kidney disorders.

## Climate Change and EJ *(continued from previous page)*

In her view, efforts have fallen short – both in analytical practice and in the outcomes of decisionmaking. The development of guidance documents has not significantly helped, she claimed, as federal practitioners and contractors still struggle to identify and assess climate change and EJ impacts in NEPA documents. For example, she observed, EISs are often many thousands of pages long, but include at most a couple of pages of EJ discussion that generally does not influence the decision.

She described the activities of the Federal Interagency Working Group on EJ (EJ IWG) and invited workshop participants to provide input to the EJ IWG to help communicate strategies, share success stories and best practices, and identify barriers to better incorporation of climate change and EJ considerations in NEPA documents. The EJ IWG compiled federal agency experience addressing EJ in a recent report, *Promising Practices for EJ Methodologies in NEPA Reviews*. (See *LLQR*, March 2016, page 1.)

### EPA Administrator’s Keynote Address: “Too Many Communities Left Behind”

The Environmental Protection Agency (EPA) is, in essence, a public health agency, said Administrator Gina McCarthy in her keynote address at the EJ conference. She explained that to improve public health, efforts should be targeted to help communities that are disproportionately affected by climate change, pollution, and poverty.

Administrator McCarthy described EPA initiatives that take a localized view of environmental issues. *Making a Visible Difference in Communities*, an agency-wide strategy initiated in 2015, identified more than 50 environmentally burdened and economically distressed communities that are the focus of coordinated action. This strategy involves EPA listening to community leaders and residents to understand their needs and then working with local, state, and federal partners and other stakeholders to more effectively support local goals.

Administrator McCarthy emphasized that today’s action or inaction determines the conditions in the future. Today’s children are the ones who will experience the environmental consequences of today’s choices, she said.

### Limited English Proficiency as an EJ Issue

Ricardo Martinez, Limited English Proficiency (LEP) Program Manager for the U.S. Forest Service (USFS), led a session that described USFS initiatives in conservation


education and community outreach. [Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency](#) (2000), requires federal agencies “to examine the services they provide, identify any need for services to those with [LEP], and develop and implement a system to provide those services so LEP persons can have meaningful access to them.” (DOE’s Office of Civil Rights and Diversity issued [DOE’s LEP Plan](#) in September 2007.)

Mr. Martinez recommended case-specific approaches to LEP participation, such as providing public notices in appropriate languages, providing individual translators, and translating documents – a “sliding scale” that varies in applicability and cost. Other panelists provided recommendations on effective LEP practices, including using the Department of Justice interagency resources website ([lep.gov](#)), especially the mapping tool and census data. They noted that 10 percent of the U.S. population may be considered LEP, and more than that in some states.

Elaine Chalmers, USFS Diversity and EJ Outreach National Program Manager, and Tamberly Conway, USFS National Program Manager for Conservation Education, cautioned that effective translation is not the simple substitution of words from one language to another. Ms. Chalmers advised that cultures – like languages – are not monolithic, and that culturally nuanced translation may be called for. “Know your audience, do surveys to improve your performance, and develop culturally appropriate outreach,” she recommended.



*Cultural differences can lead to different meanings for the same term. In Spanish, “torta” can mean cake or sandwich.*

The 2016 EJ conference was held jointly with the 9<sup>th</sup> Annual National Conference on Health Disparities. Presentations, as well as EPA Administrator McCarthy’s keynote address and Q&A session, are posted on the [Conference website](#). DOE EJ Program Manager, Melinda Downing, served as the Conference Manager. For additional information, contact Ms. Downing at [melinda.downing@hq.doe.gov](mailto:melinda.downing@hq.doe.gov) or 202-586-7703. 

*EPA’s forthcoming “EJ 2020 Action Agenda” will focus EPA’s EJ practice on outcomes that matter to communities, said Administrator McCarthy. EPA invites comments on its [Final Draft EJ 2020 Action Agenda](#) through July 7, 2016, to [ejstrategy@epa.gov](mailto:ejstrategy@epa.gov). Additional information is provided on the [Action Agenda webpage](#).*

## Ecosystems Services *(continued from page 1)*

During the workshop, speakers from the U.S. Geological Survey (USGS), Bureau of Land Management, National Oceanic and Atmospheric Administration, Department of Agriculture, and Duke University shared their experiences integrating ecosystem services into planning and NEPA processes. Lydia Olander, Director of the Ecosystem Services Program at the Nicholas Institute for Environmental Policy Solutions at Duke University, recommended that practitioners take the next step and look not just at the change in a baseline ecosystem condition (e.g., acres of wetlands), but at the “connection to people,” the quantified change in some service provided by that ecosystem (e.g., the water quality and recreational fishery benefits provided by those wetlands).

### Valuing Ecosystem Services


While quantifying ecosystem services can be challenging for nonmarket values, Sarah Ryker, Deputy Associate Director for Climate and Land Use Change at USGS, noted that existing NEPA strategies, such as scoping, can help focus attention on key ecosystem services. According to DOE’s April 2016 submission to CEQ on ecosystem services, environmental information already analyzed in Site Sustainability Plans and Annual Site Environmental Reports can be valuable information sources for DOE practitioners.

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**Section 102(2)(B) of NEPA directs agencies to “identify and develop methods and procedures ... which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations.”**

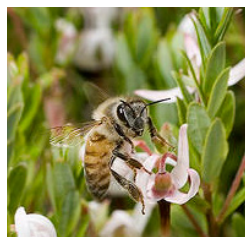
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CEQ plans to issue draft guidance in December 2016 on incorporating ecosystem services into agency decisionmaking, including NEPA. The guidance would be a “living document” subject to changes based on the agency experiences. Following the release of the guidance, as directed by the memorandum, federal agencies will revise and refine their workplans to lay out policies, programs, and projects to meet the goals of the policy memorandum. The Environmental Protection Agency (EPA) Office of Federal Activities will develop, with input from CEQ’s Federal NEPA Contacts, internal guidance on including ecosystem services in EPA’s EIS reviews.

For more information on DOE’s efforts to incorporate ecosystem services into decisionmaking, contact Bill Ostrum, Environmental Protection Specialist in the Office of NEPA Policy and Compliance, at [william.ostrum@hq.doe.gov](mailto:william.ostrum@hq.doe.gov) or 202-586-4149; or John Shonder, Director of the Sustainability Performance Office, at [john.shonder@hq.doe.gov](mailto:john.shonder@hq.doe.gov) or 202-586-8645. 

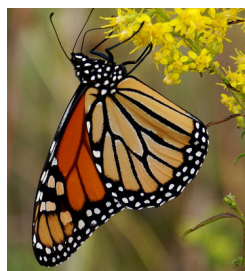
## Pollinator Protection *(continued from page 1)*

The National Strategy outlines current and planned federal actions to achieve three goals focused on honey bees, monarch butterflies, and overall pollinator habitat.



**Goal 1, Honey Bees:** Within 10 years, reduce honey bee colony losses during winter (overwintering mortality) to no more than 15 percent. (Additional goal metrics will be developed for summer and total annual colony loss.)

*Honey bees add more than \$15 billion in value annually to agricultural crops in the United States, almost five times as much as other pollinators. Annual surveys of beekeepers since 2006 indicate overwintering losses averaging around 31 percent, which far exceeds the 15-17 percent average loss rate that commercial beekeepers have indicated is economically sustainable. (Photo: USDA)*



**Goal 2, Monarch Butterflies:** By 2020, through domestic and international actions, and public/private partnerships, increase the Eastern population of the monarch butterfly to 225 million and increase the occupied overwintering grounds in Mexico to approximately 15 acres.

*The monarch butterfly Eastern migration, from Canada across the United States and into Mexico, has steeply declined over the past two decades – with a high of 44 acres of occupied overwintering grounds and a low of 2.8 acres. This is due in part to loss of nectar-producing plants that sustain adult butterflies and milkweed plants that are the exclusive food of monarch larvae. (Photo: USDA)*

**Goal 3, Pollinator Habitat Acreage:** Over the next 5 years, through federal actions and public/private partnerships, restore or enhance 7 million acres of land for pollinators.

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## Pollinator Protection *(continued from previous page)*

The National Strategy recognizes that the federal government, as the nation's largest land manager, can strongly influence private sector actions. It lists ways, within existing budgetary and staff resources, to align agency priorities to state, private sector, and philanthropic activities. In many situations, it also notes, improved pollinator habitat can be budget-neutral or provide cost savings, for example when self-sustaining native vegetation reduces mowing and maintenance costs. In conjunction with development of the National Strategy, the U.S. Department of Agriculture and Department of the Interior compiled information on [pollinator-friendly BMPs for federal lands](#), which can be a useful resource for NEPA practitioners.

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*In the [NEPA] context, if impacts to pollinators are expected, the ... team would describe site-specific prescriptions to prevent those impacts.*

*– Pollinator-Friendly Best Management Practices for Federal Lands*

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### DOE Plan Addresses Sites and Rights-of-Way

DOE directly or indirectly manages millions of acres associated with its field offices, sites, facilities, and national laboratories. As its contribution to the National Strategy, DOE developed a [Pollinator Protection Plan](#) that makes several commitments.

One commitment requires DOE sites to self-assess whether implementation of pollinator-friendly BMPs is appropriate on their property and, if so, to determine the number of suitable acres. Almost all DOE sites have already completed their assessments. Deployment of BMPs, resources permitting, is to occur over a maximum 10-year period; sites will report annually the number of acres on which BMPs were implemented in the previous year.

Another commitment made in the Plan is that DOE will work with land management agencies with land near (i.e., within a mile of) DOE land to determine if those agencies' pollinator protection programs are applicable to DOE land. The Plan also commits DOE's Power Marketing Administrations to incorporate BMPs on transmission system rights-of-way, where feasible under the terms of the right-of-way lease, by working with private land owners, tribes, and federal, state, and local governmental entities.


As specific actions are proposed to adopt pollinator-friendly BMPs, whether as an integral part of larger proposals or as potential mitigation commitments, they would be reviewed in environmental impact statements, environmental assessments, or categorical exclusion (CX) determinations. For example, such BMPs could be considered in actions fitting within CX B1.3: "routine maintenance activities and custodial services for buildings, structures, rights of-way, infrastructures (including, but not limited to, pathways, roads, and railroads), ... and localized vegetation and pest control, ... provided that the activities would be conducted in a manner in accordance with applicable requirements."

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*Site feedback indicates that pollinator-friendly BMPs are already in place on many of the acres DOE manages. It is likely that BMP implementation on some of those acres is attributable to the NEPA process, and we look forward to more acres being added through it.*

*– Beverly Whitehead, DOE Headquarters  
Pollinator Protection Initiative Coordinator*

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The Office of the Associate Under Secretary for Environment, Health, Safety and Security (AU) is the lead for implementing the DOE Pollinator Protection Plan. For additional information, contact Beverly Whitehead, Office of Sustainable Environmental Stewardship (AU-21), at [beverly.whitehead@hq.doe.gov](mailto:beverly.whitehead@hq.doe.gov). 

### Additional Resources

DOE's Powerpedia [page](#) (accessible to DOE staff) on the Pollinator Protection Program provides links to resources and references.

The General Services Administration (GSA) has integrated pollinator protection into its most recent [Facilities Standards](#) (P100), the mandatory design standards for new buildings, repairs and alterations, and modernization of GSA buildings.

# Neutrino “International Mega-Science Project” EA Team Earns Office of Science Award

By Peter Siebach, NEPA Compliance Officer, Integrated Support Center – Chicago Office

DOE’s Fermi Site Office is pursuing research intended to reveal the mysteries of neutrinos – tiny, subatomic fundamental particles – and determine their role in the make-up of the universe.

To support this research, the Fermi Site Office prepared an EA for the Long Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE) and issued a Finding of No Significant Impact (FONSI) (DOE/EA-1943, September 2015).

The EA preparation team, including three NEPA Compliance Officers (NCOs), received a Special Act Award from the Office of Science. The EA team consisted of Mike Weis (Manager) and Rick Hersemann (NCO), Fermi Site Office; Michelle McKown and Brian Quirke, Chicago Office; Gary Hartman (NCO, now retired), Oak Ridge Office; and Kim Abbott, Berkeley Site Office. I served as the Team Lead, NCO for the LBNF/DUNE Project, and NEPA Document Manager. Our team also was a finalist in the Mission Support Team of the Year competition sponsored by the [Chicago Federal Executive Board](#).

## A Unique Project

LBNF/DUNE will employ an existing particle accelerator at the Fermi National Accelerator Laboratory (Fermilab), near Batavia, Illinois, to generate a neutrino beam and direct it 800 miles away. The neutrino beam will travel through the Earth to a detector about a mile below ground at the Sanford Underground Research Facility, a repurposed gold mine in Lead, South Dakota. Neutrinos are so small they can travel directly through the Earth and not be expected to come into contact with a single atom of pre-existing matter.

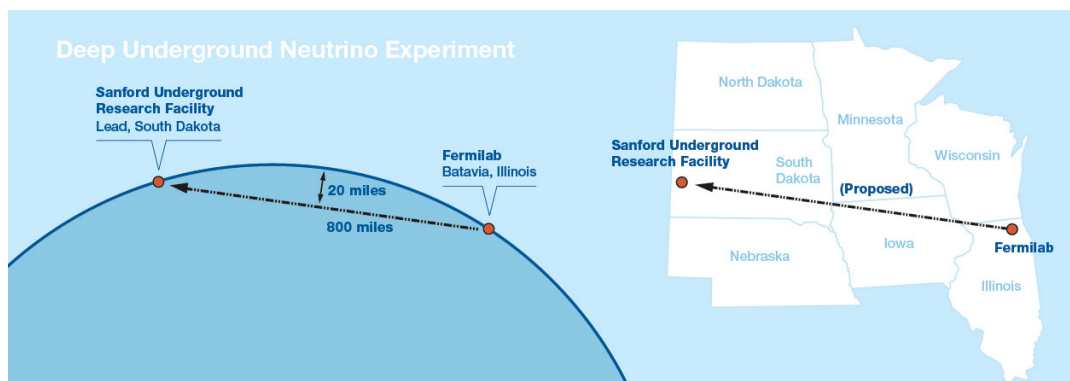
Neutrinos naturally transform themselves by oscillating back and forth between three different states or “flavors” (muon neutrinos, electron neutrinos, and tau neutrinos). As summarized in the FONSI, “LBNF/DUNE would enable the most precise measurements yet of this neutrino oscillation phenomenon, which could potentially help physicists discover whether neutrinos violate the fundamental matter-antimatter symmetry of the Universe. If they do, then physicists would be a step closer to answering the puzzling question of why the Universe currently is filled preferentially with matter, while the antimatter that was created equally by the Big Bang has all but disappeared.”

## Successful Partnerships and Outreach

The EA team’s success depended on innovative internal and external partnerships. A charter signed by four Office of Science field organizations assigned decisionmaking to the Fermi Site Office Manager. The DOE national laboratories associated with these offices and Sanford Underground Research Facility (a state laboratory) also signed the charter, ensuring that all involved in preparing the EA understood their responsibilities and were committed to open communications.

These primary partners reached out to other federal, state, and local government stakeholders to negotiate a programmatic agreement under Section 106 of the National Historic Preservation Act for protecting the mining legacy of the Lead Historic District. The team also established consulting relationships with 19 Indian tribes and, as documented in the programmatic agreement, agreed to sponsor educational and cultural initiatives and engage in ongoing consultations to protect cultural properties.

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Neutrinos created by the LBNF beamline will travel 800 miles to intercept DUNE’s massive, cutting-edge neutrino detector at the Sanford Underground Research Facility. The neutrino beam’s path will lead straight through the earth’s mantle. (Source: LBNF/Dune Project Website.)

## EA Team Award *(continued from previous page)*


The EA team and partnering organizations conducted seven well-attended public meetings, each with a poster session that facilitated one-on-one interactions. One of the meetings was carried live on local cable television. Some stakeholders expressed concerns regarding potential impacts of the neutrino beams. (“Neutrinos arriving at [Sanford Underground Research Facility], or anywhere along their course from Fermilab, would not result in any radiation exposure,” states the FONSI.)

Other concerns involved potential impacts of facility construction at the Fermilab and Sanford sites (e.g., noise, vibration, groundwater contamination, and disposal of excavated rock). As a result of carefully nurtured partnerships and substantial outreach efforts, public concerns were addressed and critical stakeholder relationships were strengthened.

LBNF/DUNE is the largest project currently in development by the Office of Science, which is the Nation’s primary supporter of fundamental research in the physical sciences. The participation of more than 700 collaborating scientists and engineers from 23



*The EA analyzed disposal of 800,000 tons of excavated rock, conveyed by truck or conveyor system to the Homestake Mine Open Cut. Lead’s City Commission in May unanimously approved the conveyor system, the EA’s preferred alternative.*

countries led to LBNF/DUNE being characterized as the “International Mega-Science Project.” Additional information is available on the project’s [website](#) or contact me at [peter.siebach@science.doe.gov](mailto:peter.siebach@science.doe.gov). 



# DOE Embraces EARTH DAY, EVERY DAY!

DOE observed the 46<sup>th</sup> annual Earth Day on April 18–28. At DOE headquarters in Washington, DC, varied activities and displays celebrated DOE environmental achievements and encouraged commitments to future improvement.

The Office of NEPA Policy and Compliance displayed a poster on analyzing climate change in NEPA reviews. The poster (next page) describes several recent DOE projects that included substantive discussion of a proposal’s contributions to climate change, as well as potential impacts of climate change on the proposal. The poster outlines a 5-step approach, based on the Council on Environmental Quality’s 2014 *Revised Draft Guidance on Climate Change and NEPA*:

- Discuss global climate change
- Consider GHG emissions and sequestration
- Analyze cumulative climate change impacts on the environment and project
- Provide a context for evaluating significance
- Explore potential mitigation



*In addition to a poster display, the NEPA Office co-developed a “pledge board” for DOE staff and visitors to post their commitments to “Make Every Day Earth Day.”*

## Other Earth Day Events at DOE HQ


**Leadership Videos:** The Office of Environment, Health, Safety and Security produced a [video montage](#) of DOE senior managers and staff, including Secretary Moniz, discussing this year’s “Earth Day, Every Day” theme. President Obama introduces the video that highlights DOE sustainability efforts and emphasizes DOE commitments to protecting the environment. The video played continuously on displays throughout the observance.

**Including Daughters and Sons:** 2016 Earth Day activities coincided with Take Our Daughters and Sons to Work Day, held on April 28. The young participants enjoyed hands-on workshops, career talks, energy technology demonstrations, and a tree planting and tour of Earth Day Park (on the east side of the Forrestal Building). The children recorded their own pledges – for example, to turn off unused lights, pick up trash, and plant gardens.

**A Picture Is Worth a Thousand Words:** DOE invited employees and contractors to submit photos illustrating any of five Earth Day subjects: Conservation, Community, Alternative Power, Energy Efficiency, and (new this year) Climate Change Adaptation and Resilience. Over 150 photos were displayed at Forrestal, and the category winners were announced on April 28.



*The winner in the Community category was “Science Night, Woodland Elementary School,” by Lynn Freeny, DOE photographer at Oak Ridge.*

**Play Ball:** As a part of the Earth Day celebration, DOE’s Sustainability Performance Office, in cooperation with the Department of Transportation and Major League Baseball, organized a “Celebration of Sustainability” at Nationals Park on April 22, before the Washington Nationals baseball game against the Minnesota Twins. The pregame events included an Earth Day public service announcement and a [video](#) that shows easy ways to reduce greenhouse gases, prevent pollution and waste, and increase electronic stewardship. Over 250 DOE staff attended the game to support sustainability and had a great time watching the Nationals beat the Twins! 



*To promote workplace sustainability, Department of Transportation’s Assistant Secretary of Administration, Jeff Marootian (far left) and DOE Deputy Secretary Elizabeth Sherwood-Randall (left of mascot “Screech”) participated in the pregame ceremonies and the Nationals’ “Presidents’ Race.”*

# NEPA Analyses of Greenhouse Gas Emissions

DOE has analyzed greenhouse gas (GHG) emissions in National Environmental Policy Act (NEPA) documents for many years, starting with the Clean Coal Technology Program Environmental Impact Statement (EIS) in 1989 (DOE/EIS-0146).

Today, DOE NEPA documents analyze not just the effect of projects' emissions, but also how climate change impacts, such as sea level rise and changes in precipitation, may affect a project.

## DOE Practices for Considering Climate Change under NEPA:

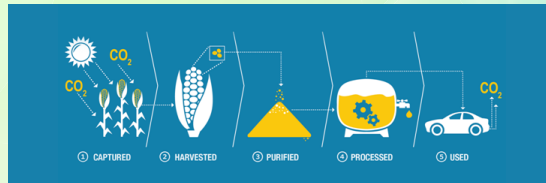
- **Discuss** global climate change
- **Consider** GHG emissions and sequestration over the life of the project
- **Analyze** cumulative climate change impacts on the environment and project
- **Provide** a context for evaluating significance using annual CO<sub>2-e</sub> emissions as a proxy for impacts
- **Explore** potential mitigation such as energy efficiency, renewable energy, and Carbon Capture and Sequestration (CCS)

## Examples



**Energy Efficiency Rulemaking/Standards Environmental Assessments (EAs)** analyze how different energy conservation standards for consumer products and commercial equipment, such as incandescent reflector lamps and general service fluorescent lamps (left) (DOE/EA-1664, 2009), would affect carbon dioxide (CO<sub>2</sub>) emission rates. This helps DOE develop standards to decrease the Nation's carbon footprint.

**Renewable Energy** technologies, such as solar photovoltaics and wind turbines, can produce electricity without generating substantial quantities of GHGs. DOE's EAs and EISs analyze the carbon offsets associated with individual project proposals, as well as environmental impacts associated with siting the project (e.g., impacts to wildlife and habitat, visual impacts, noise).



*The EIS for Engineered High Energy Crops (DOE/EIS-0481, 2015) evaluated the potential impacts of field trials of crops specifically engineered to produce more energy per acre using existing energy infrastructure.*

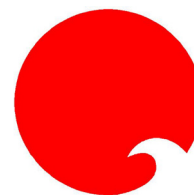


**Carbon Capture and Sequestration (CCS)** EISs analyze the impacts of projects that capture CO<sub>2</sub> exhaust so that it can be permanently stored rather than be released into the atmosphere. DOE funding may be used in demonstration projects like the W.A. Parish Post-Combustion CCS Project (DOE/EIS-0473, 2013), which is designed to capture approximately 90 percent of the CO<sub>2</sub> emissions from one of the existing units of the power plant. DOE NEPA documents examine the positive and negative impacts of the project, and ensure adequate public participation.

The DOE NEPA Office 2016 Earth Day Poster

# NAEP Conference Explored NEPA's Future

By: Yardena Mansoor and Ralph Barr, Office of NEPA Policy and Compliance



The April 2016 conference of the National Association of Environmental Professionals (NAEP), held in Chicago, focused on topics related to a theme of *Charting the Next 40 Years of Environmental Stewardship*. NEPA sessions at the conference focused on approaches for improving NEPA implementation. Four sessions discussed ways to improve NEPA's usefulness to senior decisionmakers and help them become more engaged in the NEPA process, take advantage of NEPA's inherent flexibility, streamline implementation, and adapt NEPA to better serve future decisionmaking needs.

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***NEPA has sustainability built in. As we have become more experienced, we are becoming more aware of the interconnectedness of ecosystems.***

– Lynn Scarlett, Managing Director for Public Policy  
The Nature Conservancy

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Many of the ideas discussed arose from the “Cohen NEPA Summit.” Held in December 2014, the summit engaged approximately 45 NEPA experts from the federal government, states, private companies, nonprofit groups, and academia in an examination of whether NEPA has achieved its objectives and approaches for improving NEPA implementation. The summit honored the work and lifelong service of William M. Cohen who, before his death in 2010, was one of the nation's leading NEPA practitioners, instructors, and mentors. (See *LLQR*, June 2010, page 17.) The summit was sponsored by the Environmental Law Institute, the Nicholas Institute for Environmental Policy Solutions at Duke University, and the law firm Perkins Coie LLP.

At the NAEP conference, moderators, panelists, and members of the audience shared diverse experiences and expressed a range of positions on these topics. A common message was that the best way to address the challenges ahead is not to “do NEPA” the same way it has been done for four decades.



*Ted Boling, Associate Director for NEPA, Council on Environmental Quality (CEQ), reviewed guidance issued (Final Guidance on Effective Use of Programmatic NEPA Reviews, December 2014) and planned (guidance on greenhouse gases and climate change).*

## Recommit Senior Managers

A major finding of the Cohen Summit was that addressing environmental issues along with social, economic, security, and other needs can occur when NEPA staff are appropriately placed within their agency and when senior managers get involved in the NEPA process. The NAEP conference discussants were experienced former high-level agency decisionmakers, led by Dinah Bear, former General Counsel of CEQ.

The panel and members of the audience provided insights and approaches for addressing these challenges:

- A survey performed in preparation for the Cohen Summit found that the biggest issue limiting NEPA effectiveness is lack of access to, and engagement of, top managers. Practitioners believe that NEPA documents have valuable information that the decisionmaker may not be considering.
- A decisionmaker may be held back by ineffective public engagement. One manager had a breakthrough by organizing a potluck dinner with stakeholders; informal discussion unlocked a collaborative approach that allowed the project to proceed.
- In 2012, the Bureau of Land Management issued *Desk Guide to Cooperating Agency Relationships and Coordination with Intergovernmental Partners* to address changes to the Department of the Interior NEPA regulations and incorporate lessons learned from engaging with federal, state, local, and tribal partners on resource management plans.

## Take Advantage of Flexibility

The Cohen NEPA Summit recognized that NEPA, the law, emphasizes analysis and disclosure rather than prescribing process and results. The CEQ regulations allow agencies wide discretion in adopting implementing procedures suitable to their organization's needs. Yet, at this NAEP conference session, participants observed that agency NEPA implementation is often cumbersome and rigid. Participants noted that:

- Agency implementation has been risk averse and conservative, due in part to the threat of litigation. This results in voluminous EISs and EAs and greatly increases the time and cost of the NEPA process.
- The CEQ regulations may not have anticipated the wide use of categorical exclusions, EAs, and mitigated FONSI. CEQ guidance should be reviewed to consider whether it can be improved by incorporating the lessons learned from over 40 years of experience.

*(continued on next page)*

## NAEP Conference *(continued from previous page)*

- Environmental decisionmaking has changed, and should no longer be considered a single-step event. Predictions are not necessarily borne out. More attention should be paid to incorporating adaptive management and tiered decisionmaking into the NEPA process. For example, the [Greater Sage Grouse Management Plan](#) includes provisions for monitoring the effectiveness of efforts to restore the sagebrush steppe ecosystem and modifying mitigation as needed.

### Design for NEPA Efficiency

The Cohen NEPA Summit cited the inefficiencies and delays caused by inadequate funding, which can result in too few staff and insufficient training to manage the NEPA process efficiently. The NAEP panel, moderated by Michael Smith, ENERCON, discussed examples of agency initiatives and guidance that have substantially improved their NEPA process. The message of this session is that NEPA “streamlining” takes more than just a command to “get it done faster.” Two of the initiatives discussed during this session were:

- Federal Highway Administration’s “[Every Day Counts](#)” initiative focuses on “frontloading” the permitting process to resolve issues early. The agency commits to 15 days for legal review, for example, if legal consultation occurred at an early stage of the environmental review. (See *LLQR*, June 2013, page 6.)
- Fixing America’s Surface Transportation Act (“FAST Act,” Pub. L. No. 114-94) is an ambitious attempt to speed infrastructure permitting. Covered actions include construction of infrastructure that: is in a designated energy or transportation sector, is subject to NEPA, and is likely to cost more than \$200 million or is of a size and complexity likely to benefit from enhanced oversight and coordination. Its provisions establish – with time limits – early consultation among parties to the decision, designation of cooperating and participating agencies, participation of state, local and tribal governments, the posting of detailed project review timetables, and dispute resolution.

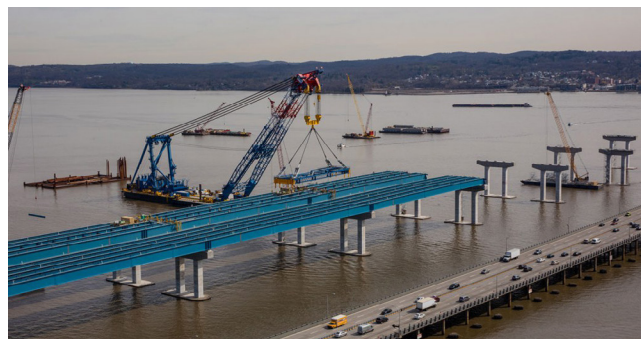
### Reimagine NEPA

One goal of the 2014 Cohen NEPA Summit was to “reimagine NEPA as a fully iterative process for the 21<sup>st</sup> century.” In reporting on this session of the Cohen Summit, the NAEP panel discussed approaches for facilitating decisionmaking, improving NEPA documents, and realigning the incentives of contractors supporting the NEPA process.

- Ray Clark, RiverCrossing Strategies, moderated the panel by providing an overview of 40 years of change

since NEPA was enacted. The CEQ regulations were written 2 years after the introduction of the Apple computer. Since then, he said, we have experienced a revolution in capacity for data collection, analysis, and communications, but we still know little about the marine environment, for example.

- Rick Cornelius, Environmental Consulting and Training (ECATS), pointed out that the stated aims of the CEQ regulations are to reduce paperwork, reduce delays, and support better decisions. Too often, though, the EIS has become an end in itself. He asked the participants to consider three questions: Can we predict impacts well enough? Do we account for resilience? And can we reduce the disconnect between an EIS and the senior decisionmaker?
- Ron Deverman, HNTB Associates, recommended that NEPA document preparers aim for an EIS of less than 200 pages in a reader-friendly format. He also had advice concerning “community engagement,” a term he recommended in place of “public involvement”: tell the story underlying the analysis, emphasize the common ground (the “we” part of the story), and pay attention to each person. (See [Improving the Quality of Environmental Documents](#), American Association of State Highway and Transportation Officials, May 2006.)
- David Mattern, Parametrix, discussed the innovative approach applied to EIS support contracting for the Tappan Zee Bridge [replacement project](#), a Hudson River crossing north of New York City. He summarized a traditional contracting model as based on time and level of effort, in which contractors have an incentive to spend the full budget and depend on repeat business. The alternative model used for the \$2 billion, multiyear EIS incorporated goals of protecting or improving the environment, achieving consensus, and efficiency. The contractor was paid a base cost plus a bonus based on frequently assessed metrics that reflected these three goals.



*After an efficient EIS process, the Tappan Zee Bridge replacement project is now underway.*

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## Other Sessions

### Tips and Techniques

This session presented examples of best practices in NEPA implementation.

- Tom Hale, SWCA Environmental Consultants, discussed effective use of impact indicators in NEPA analyses. A useful indicator species, he said, is an animal or plant that is sensitive to changes in the environment (that is, conditions raised in scoping or important to the impact analysis), and responds to such changes in a manner that is understandable and causally linked to environmental changes, and measurable. Ideally, an indicator species would be responsive enough to distinguish among alternatives. Bird, fish, and amphibian species are often selected as indicators of degradation of their habitat, and there are many candidate indicator species for climate change.
- Owen Schmidt, Owen L Schmidt, LLC, critiqued the practice of expressing the statement of purpose and need as the need for the proposed action. He recommended, instead, an approach that expresses it as a finding (i.e., a noun, for example, the agency finds that [statement of the problem condition]). The action alternatives can then be directly and logically expressed as taking action (a verb) to meet the need.
- Steven Ott, WSP Parsons Brinckerhoff, discussed a resource issued in September 2015 by CEQ, Office of Management and Budget, and nine federal agencies, *Synchronizing Environmental Reviews for Transportation and Other Infrastructure Projects (Red Book)*. Intended for federal, state, and local agencies that review permit applications for, fund, or develop major infrastructure projects, the *Red Book* provides guidance for concurrent or aligned procedures to improve the efficiency of multi-jurisdictional reviews. The goal, he said, is to eliminate redundancy, coordinate schedules, and work with a single document. This handbook incorporates lessons learned from previous synchronization efforts, and includes best practices such as the use of liaisons, innovative mitigation practices, and communication technology.

### 2015 NEPA Litigation Outcomes

An annual presentation at the NAEP Conference is a survey of the past year's litigation decisions involving substantive NEPA issues. This session was presented by Lucinda Low Swartz, an environmental consultant, and Pamela Hudson, Office of General Counsel, Department of the Navy, Ted Boling, and Michael Smith.

In 2015, the U.S. Courts of Appeals issued 14 decisions involving NEPA implementation. (In the past decade, the number of NEPA opinions issued each year range from 14 to 28.) The federal agencies (none of them DOE) prevailed in 11 of the 14 cases. The U.S. Supreme Court issued no NEPA opinions in 2015.

Eight of the substantive appellate decisions where NEPA documents were reviewed involved EAs, with challenges largely focused on the significance determination, connected actions, and cumulative effect assessment. One EA was found to be partially inadequate because it did not discuss a reasonably foreseeable action.

Two of the substantive appellate decisions where NEPA documents were reviewed involved EISs. One case, *WildEarth Guardians v. Montana Snowmobile Association*, 790 F.3d 920 (9th Cir. 2015), involved a challenge to a U.S. Forest Service EIS that considered alternatives that would provide varying degrees of protection for big game wildlife by managing vehicle access to two million acres of public land in the Beaverhead-Deerlodge National Forest. The court held that the EIS did not provide the public adequate access to information about the impact of snowmobiles on big game wildlife and habitat, and that the information included in and referenced by the EIS did not allow the public to “play a role in both the decisionmaking process and the implementation of that decision.”

The complete litigation analysis, including case summaries, will be included in the NAEP 2015 Annual NEPA Report and are the subject of NAEP [webinars](#).

### Tiering Strategies for Programmatic EISs

As part of a panel on using programmatic NEPA reviews, Stacy Mason, NEPA Compliance Officer for the Bonneville Power Administration (BPA), described the use of programmatic EISs and tiered NEPA reviews. A series of interrelated programmatic EISs establish priorities and principles to govern specific decisions and generically analyze the potential environmental impacts of activities, including mitigation measures. Tiered decisions can then be made as needed, incorporating the programmatic results as appropriate. Examples discussed include:

- BPA's Business Plan EIS ([DOE/EIS-0183](#), 1995) established policy to guide BPA decisions, such as setting power rates, acquiring power or interconnecting power generators, promoting energy conservation, and supporting fish and wildlife mitigation and recovery efforts. The tiering strategies used with this EIS include categorical exclusion determinations, EAs, EISs, tiered records of decision, and supplement analyses.

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## NAEP Conference *(continued from previous page)*

- BPA's Transmission System Vegetation Management Program (DOE/EIS-00285, 2000) analyzed the potential environmental and socioeconomic impacts of a program for managing vegetation on 84,000 acres of rights-of-way and at 357 substations and other facilities through a seven-state service area. Tiering strategies include identifying the planning steps for site-specific project implementation and using DOE's supplement analysis process to verify that the actions and impacts are consistent with those analyzed in the EIS.
- The Fish and Wildlife Implementation Plan EIS (DOE/EIS-0312, 2003), was tiered from the Business Plan EIS. It adopted a fish and wildlife program and considered the environmental impacts of typical actions under the plan. BPA's tiering strategies consist of a validation process to ensure compliance with other laws and public involvement, and a process for identifying actions that require additional NEPA review (beyond validation).

Ms. Mason described the challenges involved in this approach, including ensuring that other regulations are being addressed, considering whether additional public outreach is appropriate, and ensuring that a programmatic review remains valid over time (as technology and terminology change).

Additional insights were shared by Shannon Stewart, Environmental Science Associates (ESA) and formerly the Bureau of Land Management (BLM) NEPA Coordinator for the programmatic EIS for *Solar Energy Development in Six Southwestern States* (DOE co-lead; DOE/EIS 0403, 2012). BLM was able to approve three utility-scale renewable energy projects in 10 months, she reported, by tiering EAs from the programmatic EIS.

To use this strategy successfully, Ms. Stewart recommended that senior NEPA staff be assigned responsibility for setting policy, developing guidance, and performing oversight. The agency NEPA leader, therefore, must be well-trained even if much of the technical expertise is provided by contractors. Ms. Stewart further recommended that public involvement be tailored to meet the specific needs of the NEPA review, that irrelevant environmental issues be eliminated from the analysis early, and that a full range of effective mitigation measures be included in the analysis.

### EPA Keynote Speaker: "The Great Lakes are HOMES"

A virtual tour of the Great Lakes was provided by the keynote speaker, Cameron Davis, Senior Advisor to the U.S. Environmental Protection Agency Region 5

### Site Tours after the Conference

Following the NAEP conference in Chicago, DOE and national laboratory staff had the opportunity to visit the Argonne and Fermi Accelerator National Laboratories. The tours were coordinated by Peter Siebach and Rick Hersemann, NCOs respectively for the Argonne and Fermi Site Offices.



*Fermilab's first director established a bison herd onsite to recognize the site's prairie heritage. A double fence around the Fermilab pasture protects the buffalo and the public from each other. (Photo: Fermilab)*

Administrator and coordinator for the Great Lakes Restoration Initiative. He reminded conference attendees that the HOMES mnemonic (Huron, Ontario, Michigan, Erie, and Superior) is so apt because the Great Lakes, with more than 10,000 miles of shoreline and 1,000 islands, support natural and human communities that depend on the lake resources and ecosystems.

The Great Lakes, which contain 90–95 percent of the freshwater available to the United States, have been under stress since the Industrial Revolution, stated Mr. Davis. The causes include decades of dumping of waste into the lakes and rivers feeding into them, invasive species such as lampreys and zebra mussels, and toxic "hot spots" that have allowed discharge and seepage of contaminants into the watershed. By the 1960s, he said, Lake Erie was declared "biologically dead" and rivers had caught fire – including the Buffalo and Chicago Rivers and, most famously, the Cuyahoga River (in 1969, contributing to enactment of the Clean Water Act).

The framework for identifying priorities and implementing actions that improve water quality is the Great Lakes Water Quality Agreement between the United States and Canada, signed in 1972 and updated in 2012. The agreement has become more proactive, with an emphasis on predicting and preventing problems.

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## NAEP Conference *(continued from previous page)*

Mr. Davis described progress to date: stabilization and clean-up of toxic sites, preventing invasive Asian carp from becoming established in the Great Lakes ecosystem, reducing phosphorus runoff from farmland, and restoring and enhancing many acres of wetland, coastal, upland, and island habitat. The initiative uses a science-based adaptive management framework to prioritize ecosystem projects to address.

### Case Study: Northerly Island

The NAEP conference sessions on water resource management focused on projects in urban settings and illustrated the application of stormwater runoff management techniques to benefit ecosystem restoration efforts. The U.S. Army Corps of Engineers (USACE) Chicago District's Northerly Island Great Lakes Fishery and Ecosystem Restoration Project was presented as a notable environmental success story by Frank Varaldi and Robert Sliwinski, Christopher B. Burke Engineering, Ltd.

Northerly Island is a 91-acre artificial peninsula on Lake Michigan, adjacent to Chicago. It served from 1948 until 2003 as the home to the single-runway Merrill C. Meigs Field Airport.

The project's purpose was to create a natural landform that would integrate geology and hydrology to support ecological communities and provide critical migratory bird and fish habitat within the coastal zone. After issuing a Finding of No Significant Impact in September 2012, USACE awarded a 5-year contract to restore 40 acres of the peninsula.



*A restored ecosystem brings natural beauty to land that was once Meigs Field, the busiest single-strip airport in the U.S. (Photo: ENCAP, Inc.)*

Major obstacles had to be overcome: a manmade shoreline, the absence of coastal wetlands and estuary, limited littoral (shoreline) and estuary fish spawning and rearing habitat, limited migratory bird refuges, and limited migratory waterfowl resources. Restoring the ecosystem required establishing the ecological niches needed to support migratory birds and fish, reestablishing natural coastal pond communities, and replacing soils.

So far, as a result of this project, a restored pond, marsh, wet prairie, mesic prairie, and oak savanna are being enjoyed by the Chicago community, as well as resident and migrating bird and fish populations. Although a small area compared to the highly urbanized and industrialized greater Chicago, the project provides a window into the original Lake Michigan ecosystem. **LL**

*Any reference to a nonfederal entity should not be construed as an endorsement on the part of the government.*

## NAEP Environmental Stewardship Award Earned by LANL Trails Management Program

The NAEP Board of Directors presented nine Environmental Excellence Awards for significant achievements in environmental practice.

The 2016 Environmental Stewardship Excellence Award went to DOE's Los Alamos National Laboratory (LANL) Trails Management Program. The use of trails at LANL is one of the benefits of working and living in Los Alamos County, New Mexico. There was no DOE or LANL policy or mechanism, however, to balance recreational trails use on LANL property with environmental, cultural, safety, security, and operational concerns. In 2003, DOE's National Nuclear Security Administration (NNSA) directed LANL to establish such a program and issued an EA, finding of no significant impact, and mitigation action plan.

The LANL Trails Management Program is implemented through individual projects, including measures for planning, repair and construction, environmental protection, safety, security, and end-state conditions assessments. Mitigation commitments include determining appropriate closures and restrictions, and supporting the use of volunteers for trail maintenance projects. The Trails Working Group – representatives of LANL, neighboring jurisdictions, and other stakeholders – has met regularly for 13 years to provide guidance and to integrate trail management decisions across jurisdictional boundaries.



*Mitigation measures decrease the risks associated with recreational use of LANL lands, such as the Anniversary Trail, which offers views of the Rio Grande Valley and Sangre de Cristo Mountains. (Photo: Phillip Noll)*

### State Review Wins NEPA Award

The 2016 NEPA Excellence Award recognized a California Department of Food and Agriculture program environmental impact report (PEIR) for the *Statewide Plant Pest Prevention and Management Program*. The PEIR constitutes the program's compliance with the California Environmental Quality Act (CEQA) and covers a broad range of activities, including pesticide use, trapping surveys, promulgation of quarantine regulations, and rapid response eradication measures. The PEIR's comprehensive human health and ecological risk assessments evaluate hundreds of pest management scenarios, said NAEP's award citation, and incorporate science-based mitigation measures to protect the public, agricultural workers, and the environment. A CEQA tiering strategy allows the efficient incorporation of new technologies and activities as they become available.



# Transitions

## New Staff: Office of NEPA Policy and Compliance

*The NEPA Office's Energy and Waste Management Unit welcomed two Environmental Protection Specialists to its staff in April. Their initial assignments include supporting NEPA reviews for the DOE Offices of Environmental Management and of Electricity Delivery and Energy Reliability.*

### Juliet Bochicchio

Juliet Bochicchio joins the headquarters NEPA team after 5 years with the U.S. Department of Agriculture (USDA), where she was responsible for reviewing NEPA documents for business and community facilities in rural America, including commercial-scale biorefinery and energy efficiency projects. She has a diverse NEPA background, including experience in water quality, wetland and floodplain management, brownfields/hazmat, and Section 106 of the National Historic Preservation Act. Ms. Bochicchio was active in the interagency Federal Flood Risk Management Standard Working Group and USDA's interagency Sustainability Council, and served as the Federal Preservation Officer for the Rural Business-Cooperative Service.

Prior to her federal service, Ms. Bochicchio spent 14 years in the private sector as a research scientist and NEPA consultant and received a Master of Science in soil science from the University of Maryland. Her mantra is "NEPA is an indispensable planning tool" that can avoid major pitfalls and reduce overall project costs while protecting the environment. She can be reached at [juliet.bochicchio@hq.doe.gov](mailto:juliet.bochicchio@hq.doe.gov) or 202-586-7684.

### Janine Cefalu

Janine Cefalu joins DOE with 15 years of NEPA experience with the private sector and the Federal Energy Regulatory Commission (FERC), evaluating environmental impacts from the construction and operation of complex, and sometimes controversial, infrastructure projects for the FERC, DOE, and the National Institutes of Health. While at the FERC, she served as a project manager for NEPA documents and team lead for the analysis and writing of NEPA document sections on biological resources and socioeconomic impacts. Ms. Cefalu coordinated with internal teams and multiple federal, state, and local agencies to develop NEPA documents that would meet the regulatory needs of all parties.

Ms. Cefalu earned an undergraduate degree in international relations, a master's degree in environmental studies, and is working to complete a second masters in conflict analysis and resolution. Her watchword is "NEPA provides the nexus for diverse groups to work together to improve the quality of the environment for everyone." She can be reached at [janine.cefula@hq.doe.gov](mailto:janine.cefula@hq.doe.gov) or 202-586-4790.



*Janine Cefalu (left) and Juliet Bochicchio joined the Office of NEPA Policy and Compliance in April.*

# Transitions

## New NEPA Compliance Officers

### Bonneville Power Administration: Sarah Biegel



Sarah Biegel was designated NCO for the Bonneville Power Administration (BPA) in Portland, Oregon, following the retirement of Kathy Pierce (*LLQR*, December 2015, page 8). Ms. Biegel has 19 years of experience preparing and advising on NEPA reviews. For the past 13 years, she worked for the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service in Massachusetts and Oregon as a NEPA Coordinator advising on NEPA strategy and document development for both the commercial fisheries and endangered species realms. Prior to federal service, Ms. Biegel worked on a variety of natural resource damage assessments and ecological risk assessments as an environmental consultant for NOAA, U.S. Fish and Wildlife Service, the United Nations, and other clients. Ms. Biegel holds a Bachelor of Science in Biological Sciences (freshwater ecology) from the University of Notre Dame and a Master of Science in Biology (marine ecology) from Boston University Marine Program in Woods Hole, Massachusetts. She can be reached at [stbiegel@bpa.gov](mailto:stbiegel@bpa.gov) or 503-230-3920.

### Western Area Power Administration: Matt Blevins

Matthew (Matt) Blevins was recently selected for a long-term detail as Western's Natural Resources Manager and NCO. As the Environment Team Lead for 9 years in Western's headquarters in Lakewood, Colorado, he assisted the NCO by providing technical direction for NEPA planners, biologists, archeologists, and regulatory compliance staff, and by collaborating with Western's five regional environmental managers to maintain a consistent and sound compliance program. Mr. Blevins served as the NEPA Document Manager for the Grapevine Wind Canyon EIS and the Big Stone II Power Plant and Transmission Project EIS. Before joining Western, he worked for the U.S. Army, U.S. Marine Corps, Nuclear Regulatory Commission (where he worked on the Idaho Spent Fuel Facility EIS, the American Centrifuge Plant EIS, the Mixed Oxide Fuel Fabrication Facility EIS, and the National Enrichment Facility EIS, among others), and as a consultant at the West Valley Demonstration Project. Mr. Blevins earned his Bachelor of Science in Chemistry from West Virginia University and Master of Science in Environmental Engineering from Clemson University. He can be reached at [blevins@wapa.gov](mailto:blevins@wapa.gov) or 720-962-7261.



*Western's previous Natural Resources Manager and NCO, Shane Kimbrough, is now on detail serving as Western's Deputy Chief Operating Officer. In that capacity, she is assisting the COO with various managerial, administrative, and supervisory activities.*

# EAs and EISs Completed January 1 to March 31, 2016

## EAs<sup>1</sup>

### **Bonneville Power Administration**

[DOE/EA-1945](#) (3/4/16)

*Northern Mid-Columbia Joint Project*, Douglas and Chelan Counties, Washington

Cost: \$540,000

Time: 41 months

[DOE/EA-1951](#) (2/18/16)

*Midway-Moxee Rebuild and Midway-Grandview Upgrade Transmission Line Project*, Benton and Yakima Counties, Washington

Cost: \$1,140,000

Time: 38 months

[DOE/EA-1959](#) (3/30/16)

*Eightmile Ranch Coho Acclimation Site*, Okanogan County, Washington

DOE and the US Forest Service were co-lead federal agencies; therefore total cost data are not applicable to DOE.

Time: 36 months

### **Office of Fossil Energy**

[DOE/EA-2036](#) (3/11/16)

*Sabine Pass Liquefaction Project (design optimization)*, Cameron Parrish, Louisiana

EA was adopted; therefore cost and time data are not applicable to DOE. [The Federal Energy Regulatory Commission was the lead agency; DOE was a cooperating agency.]

### **Oak Ridge Office/ Office of Environmental Management**

[DOE/EA-2000](#) (2/19/16)

*Property Transfer to Develop a General Aviation Airport at the East Tennessee Technology Park Heritage Center*, Oak Ridge, Tennessee

Cost: \$210,000

Time: 16 months

### **Western Area Power Administration**

[DOE/EA-2013](#) (2/5/16)

*Herbicide Application at Western Area Power Administration Stations*, Maricopa and Yuma Counties, Arizona and Imperial County, California  
DOE and the Bureau of Land Management were co-lead federal agencies; therefore total cost data are not applicable to DOE.

Time: 8 months

[DOE/EA-2022](#) (1/11/16)

*Sleeping Giant Hydropower Project*, Lewis and Clark County, Montana

EA was adopted; therefore cost and time data are not applicable to DOE. [The Bureau of Reclamation was the lead agency; DOE was a cooperating agency.]

## EISs

### **Bonneville Power Administration**

[DOE/EIS-0436](#) (81 FR 7538, 2/12/16)

(Draft EIS EPA Rating: EC-2)

*I-5 Corridor Reinforcement Project*, Multnomah County, Oregon, and Cowlitz and Clark Counties, Washington

Cost: \$12,000,000

Time: 76 months

### **Office of Environmental Management**

[DOE/EIS-0375](#) (81 FR 11557, 3/4/16)

(Draft EIS EPA Rating: EC-2)

*Disposal of Greater-Than-Class C (GTCC)*

*Low-Level Radioactive Waste and GTCC-Like Waste*

Cost: \$8,900,000

Time: 104 months

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

# EAs and EISs Completed *(continued from previous page)*

## National Nuclear Security Administration

DOE/EIS-0288-S1 (81 FR 11557, 3/4/16)

(Draft EIS EPA Rating: EC-2)

*Production of Tritium in a Commercial Light Water Reactor Supplemental EIS*, Tennessee and South Carolina

Cost: \$1,926,000

Time: 53 months

## Western Area Power Administration

DOE/EIS-0370 (81 FR 5740, 2/3/16)

(Draft EIS EPA Rating: EO-2)

*Windy Gap Firing Project*, North Central Colorado EIS was adopted; therefore cost and time data are not applicable to DOE. [The Bureau of Reclamation was the lead agency; DOE was a cooperating agency.]

DOE/EIS-0496 (81 FR 16175, 3/25/16)

(Draft EIS EPA Rating: EC-2)

*San Luis Transmission Project*, Alameda, Merced, San Joaquin, and Stanislaus Counties, California

Cost: \$1,400,000

Time: 28 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 <http://www2.epa.gov/nepa/environmental-impact-statement-rating-system-criteria>.)

## NEPA Document Cost and Time Facts<sup>1</sup>

### EA Cost and Completion Times

- For this quarter, the median cost for 3 EAs for which cost data were applicable was \$540,000; the average was \$630,000.
- For this quarter, the median completion time for 5 EAs for which time data were applicable was 36 months; the average was 28 months.
- Cumulatively, for the 12 months that ended March 31, 2016, the median cost for the preparation of 12 EAs for which cost data were applicable was \$220,000; the average was \$480,000.
- Cumulatively, for the 12 months that ended March 31, 2016, the median completion time for 20 EAs for which time data were applicable was 20 months; the average was 24 months.

### EIS Cost and Completion Times

- For this quarter, the median cost for 4 EISs for which cost data were applicable was \$6,060,000; the average was \$5,410,000.
- For this quarter, the median and average completion times for 4 EISs for which time data were applicable were 65 months.
- Cumulatively, for the 12 months that ended March 31, 2016, the median cost for the preparation of 7 EISs for which cost data were applicable was \$2,000,000; the average was \$5,330,000.
- Cumulatively, for the 12 months that ended March 31, 2016, the median completion time for 13 EISs for which time data were applicable was 52 months; the average was 51 months.

<sup>1</sup> 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. Costs shown are the estimated amounts paid to contractors to support preparation of the EA or EIS, and do not include federal salaries.

# 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.

*The material presented here reflects the personal 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.*

### Scoping

#### What Worked

- *Effective public scoping.* A 60-day public scoping period facilitated great input from the public on alternatives analyses.
- *Scoping was not complicated.* The public scoping process was straightforward and the scope did not change during the EIS process.

#### What Didn't Work

- *Addition to the project's scope.* Additional scoping time was needed due to a second transmission line being added to the original project's scope.
- *Unrealistic original EIS schedule.* The original EIS schedule was unrealistic due to management's very ambitious energy agenda.

### Data Collection/Analysis

#### What Worked

- *Effective surveys.* On the ground and aerial surveys conducted for biological and cultural resources facilitated resource impact analyses needed for the EIS.
- *Access to good resources.* The NEPA contractor had the appropriate expertise needed for this type of EIS and also used state of the art modeling for analyses.
- *Most data readily available.* The NEPA support contractor and the cooperating agency had access to most of the data needed to support the EIS analyses.
- *DOE data.* DOE provided data to the lead agency and the developer to ensure that all DOE-specific information was correct.
- *Use of GIS approach.* Over 300 miles of right-of-way, over 200 miles of access roads, and 4 substation sites were studied using a predominately GIS approach to facilitate the identification of a preferred alternative.

- *Use of previous EA data.* Use of data generated for a previous EA at the site helped expedite the NEPA process.
- *Use of data in recent EISs.* Use of applicable data in recent EISs helped expedite the EIS process.

### Schedule

#### Factors that Facilitated Timely Completion of Documents

- *Working closely with the EIS contractor.* DOE project management staff worked closely with contractor staff on maintaining the EIS schedule and deliverables. This included the completion of all documentation critical to the finalization of the EIS and record of decision.
- *Good contractor support.* The support of several good environmental contractors working throughout the EIS process helped facilitate timely completion of the EIS.
- *Regular team meetings.* Regular team meetings (twice a month) to keep staff aware of schedules and document status facilitated timely completion of the EA.
- *Tribal meetings.* Monthly meetings with tribes to discuss the proposed project were effective in keeping the EA on schedule.
- *Focus on obtaining approvals.* In order to keep the EIS on schedule, the NEPA document manager focused on obtaining necessary approvals in a timely manner.
- *Knowledgeable contractors.* The EA contractors were very knowledgeable about projects similar to the proposed action. This facilitated the completion of the draft EA in 6 months.
- *Recognized NEPA leaders.* The NEPA document manager and NEPA compliance officer were recognized by their community as responsible shepherds in the preparation of NEPA documents.

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# Questionnaire Results

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

- *Cooperating agency participation.* Cooperating agency participation provided specific expertise and also facilitated the issuance of permits as needed for the project. This ensured that all topics were addressed properly and contributed to the success of keeping the EIS on schedule.

### Factors that Inhibited Timely Completion of Documents

- *Complex issues.* The complexity of issues due to numerous sensitive resources and uncertainty regarding the listing status of the greater sage-grouse during the development of the EA made timely completion of the EA difficult.
- *Several review cycles.* The EIS review process took longer than anticipated due to multiple review cycles involving stakeholder reviewers.
- *Coordinating with the cooperating agency.* Coordinating with the cooperating agency, who had a vested interest in the project and the outcome of the NEPA process, was challenging. Since the agency had its specific goals and ideas about the NEPA process and the project itself, coming to consensus on decisions took significant effort on some occasions.
- *Increased review time.* Working with a co-lead agency added to the review timelines that we were accustomed to when we prepared EAs as the sole lead.
- *Lack of staff support.* EA was written by in-house NEPA document manager. Original document manager left the agency mid-process, and the additional project workload for the second document manager was an issue in dedicating time to this EA.
- *Extensive siting and public outreach.* The proposed project was in a highly populated area and required extensive siting and public outreach processes.
- *Unforeseen circumstances.* Policy changes, administration changes, political implications, and certain unforeseen events at DOE sites inhibited timely completion of the EIS.
- *Long review process.* The EIS review and comment resolution process within headquarters was long (over 5 months) and there were multiple rounds (4) to get the final EIS approved. Conflicting comments were received at times from various headquarter offices who reviewed the final EIS. It was also difficult to field

8 different individuals' requests and direct questions from one office. It would be better to have at most 1 to 2 points of contact from an office, not 8 individuals from 3 internal offices.

- *Inconsistent advice.* Advice received from within individual headquarter offices was not always consistent.
- *Need for the proposed action.* The preparation of the final EA took longer than anticipated because of the need to justify the need for the proposed action.
- *Coordination with other agencies.* Coordination with a separate agency, that was responsible for the design of the transmission line and access roads, took more time than anticipated.

## Teamwork

### Factors that Facilitated Effective Teamwork

- *Team cooperation.* There was good cooperation among NEPA team members on the preparation of the EA and meeting milestones.
- *Interagency meetings.* Interagency meetings were very helpful in resolving issues, especially when they were face-to-face.
- *Agency coordination.* Great coordination among the lead agency, DOE, and the developer facilitated timely completion of the EA.
- *Management support.* Management gave the project team latitude to make timely decisions to keep the project moving. Management was briefed on the status of the project at intervals.

## Process

### Successful Aspects of the Public Participation Process

- *Input at public meetings.* Meeting with landowners and local land conservation easement agencies and groups provided good input for assessing potential viewshed impacts.
- *Interest in project.* The attendance at the draft EIS hearings was good. More people came to address this project during the draft EIS hearings than for the earlier scoping meetings.

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

- *Effective public comments.* Public comments were received on the draft EIS from private landowners, public agencies, and interested individuals; these comments were clear and consideration of them enhanced the final EIS.
- *Addressed public concern.* Many people expressed concern regarding how the proposed project would impact their property. Residents of one small city were very concerned about environmental justice and visual impacts; wildlife agencies were very concerned about impacts to wildlife species; farmers were concerned about impacts to orchards; and tribes were very involved in the cultural consultation under NHPA. All concerns were addressed in the final EA.
- *Project-specific website.* A project-specific website was developed to share information with the public. It was a very effective tool to get information to stakeholders and to get information back from stakeholders. It also had a library of all materials and interactive maps where property owners could locate their property in relation to the project.
- *Project database developed.* A database was developed to collect, track, and organize public comments.
- *Well organized public meetings.* Public meetings were well organized and could accommodate approximately 600 attendees.
- *Pre-meetings on draft EIS.* We had draft EIS pre-meetings where staff was available to help stakeholders navigate the draft EIS while still having time to submit comments.
- *Participation of EIS team members in community meetings.* Management and project team members were invited to and participated in many community meetings.
- *Tribal participation.* Even though DOE had not entered into formal consultation, two tribes were actively involved in regular EIS meetings and outreach.
- *Low public meeting attendance.* This was a low visibility project. Despite extra efforts to advertise the informational meeting, there was very little public participation.
- *Little public interest.* The public was not interested in the proposed project. No non-federal or developer associated people were present at the public meeting.
- *Lack of tribal participation.* The program office produced a listing of tribal organizations that could be stakeholders. Of the approximately 20 listed, none chose to participate.
- *No preferred alternative in draft EIS.* Some members of the public felt that a preferred alternative should have been identified in the draft EIS.

## Usefulness

### Agency Planning and Decisionmaking: What Worked

- *Confidence in decision.* The EA process allowed each participating agency to sign the finding of no significant impacts (FONSI) with confidence that there were no issues associated with the proposed project.
- *Informed decision.* The EA process helped the decisionmakers understand potential positive and negative impacts to various resources that could result from the proposed action.
- *Project design.* The EIS process facilitated a project design that incorporated avoidance and minimization of impacts to the environment.

### Enhancement/Protection of the Environment

- *Mitigation of environmental impacts.* Conservation and mitigation measures were developed during the NEPA process to avoid or minimize impacts to natural resources.
- *Property transfers.* Additional guidance is needed regarding the applicability of categorical exclusions versus the need to prepare EAs for property transfers.
- *Managing contractor performance.* Detailed guidance for NEPA Document Managers on managing contractor performance would be valuable.

### Unsuccessful Aspects of the Public Participation Process

- *Project proponent new to public involvement.* The project proponent was a non-federal agency and unaccustomed to much public involvement.

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## What Worked and Didn't Work

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### 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 5 EA and 5 EIS questionnaire responses were received, 9 respondents rated the NEPA process as “effective.”

- A respondent who rated the process as “5” stated that during the NEPA process, input from agencies, tribes, and the public influenced the location of alternatives considered.
- A respondent who rated the process as “5” stated that the NEPA process identified multiple mitigation measures that could minimize environmental impacts.
- A respondent who rated the process as “5” stated that the NEPA process helped program management to understand the potential impacts of the proposed action.
- A respondent who rated the process as “5” stated that the NEPA process facilitated environmental stewardship, which is fundamental to agency action.
- A respondent who rated the process as “4” stated that the NEPA process facilitated resource avoidance and identified mitigation measures.
- A respondent who rated the process as “4” stated that the NEPA process supported the implementation of a great project that would have provided green carbon-free energy. [Project was withdrawn by applicant.]
- A respondent who rated the process as “4” stated that the NEPA process was helpful.
- A respondent who rated the process as “4” stated that the NEPA process provided “pieces to the puzzle” needed to evaluate potential environmental impacts resulting from the proposed action.
- A respondent who rated the process as “4” stated that the NEPA process was a valid effort to support the evaluation of the proposed action.
- A respondent who rated the process as “0” stated that the NEPA process was a paperwork exercise.