

September 2, 2014; Issue No. 80

Third Quarter FY 2014

Making the Most of Mitigation

By Karen Oden, NEPA Compliance Officer,
Los Alamos Field Office

The Los Alamos Field Office (LAFO) uses a comprehensive Mitigation Action Plan (MAP) to monitor and manage commitments to mitigate adverse environmental impacts associated with the 2008 *Los Alamos National Laboratory (LANL) Site-Wide Environmental Impact Statement (EIS)* ([DOE/EIS-0380](#)) and multiple project-specific EISs and environmental assessments (EAs). A MAP describes the plan for implementing commitments made in an EIS record of decision (ROD) to mitigate adverse environmental impacts, or mitigation commitments that are essential to render the impacts of a proposed action not significant. The DOE NEPA Order requires a publicly available annual report on progress made in implementing mitigation commitments and the effectiveness of the mitigation. (See *Key Requirements Involving Mitigation*, pages 5-6.)

Reorganizing the MAP Annual Report

The first NEPA document I reviewed as a new DOE employee at LAFO was a draft of the MAP Annual Report for Fiscal Year (FY) 2013. I was amazed by the range of the commitments by the LAFO NEPA program and the complexity of the LANL mission activities. I had many questions and realized that the MAP Annual Report could be a more useful tool if restructured using a consistent outline for each mitigation commitment:

- Why are we doing it?
- What we are trying to achieve?
- What actions were taken?
- Are the actions effective?
- Should we continue doing it?

The purpose of tracking mitigation is to ensure that DOE and LANL follow through on commitments to minimize, avoid, or compensate for the adverse impacts



The current site-wide approach for long-term protection of LANL's threatened and endangered species originated from the 1995 discovery of a nesting pair of Mexican spotted owls near a proposed explosives testing facility. (See LLQR, June 1999, page 1.) (Photo: Chuck Hathcock, Wildlife Biologist, LANL Environmental Protection Division)

of an action and, furthermore, to examine whether mitigation measures are effective and efficient. The reorganized [MAP Annual Report for FY 2013](#) (issued in January 2014) first discusses each mitigation action in the body of the report and then summarizes all actions in a tracking table that also identifies the responsible organization. The FY 2013 MAP Annual Report answers a series of questions:

NEPA and Other Drivers: Which NEPA document, DOE Order, regulation, or program did the mitigation commitment come from?

Mitigation: What is the purpose and goal of each mitigation commitment?

Action Taken: What steps were taken during the past year?

Effectiveness: Was the mitigation effective?

Recommendation: Should the mitigation be continued, modified, or discontinued?

(continued on page 3)



Celebrating 20 years of LLQR!

1994-2014

Inside Lessons Learned

Welcome to the 80th quarterly report on lessons learned in the NEPA process. This issue features the Los Alamos Field Office's use of a comprehensive mitigation action plan to monitor and manage commitments to mitigation measures and DOE's NEPAnode. Thank you for your continued support of the Lessons Learned program. As always, we welcome your suggestions for improvement.

CEQ Draft Programmatic NEPA Review Guidance	7
2014 Stakeholders Directory.....	7
CEQ Affirms Need To Consider Climate Effects	8
Appeals Court Upholds DOE's Biorefinery EA	9
Update on NEPAnode	10
Visualizing the Past, Present, and Future.....	11
NEPAnode: A Quality Assurance Tool	13
NEPA and Collaboration.....	14
NAEP 2014 NEPA Excellence Award.....	15
NEPA Office Summer Interns	16
Learning from Mitigation Action Plans	17
Transitions.....	18
EAs and EISs Completed This Quarter.....	19
New Annual Planning Summary Template	19
Cost and Time Facts.....	20
Questionnaire Results	21

Carol Bongstrom
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 October 17, 2014, to Yardena Mansoor at yardena.mansoor@hq.doe.gov.

Quarterly Questionnaires Due November 3, 2014

For NEPA documents completed July 1 through September 30, 2014, NEPA Document Managers and NEPA Compliance Officers should submit a [Lessons Learned Questionnaire](#) as soon as possible after document completion, but not later than November 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. The electronic version of *LLQR* includes links to most of the documents referenced herein. 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.)

Abstracts Invited for 2015 EJ Conference

“Climate Justice” will be a special focus of the March 2015 National Environmental Justice Conference and Training Program (NEJC), to be held in Washington, DC, with an overall theme of *Enhancing Communities Through Capacity Building and Technical Assistance*. DOE co-sponsors this annual free event with other federal agencies, universities, and private companies.

NEJC invites the submittal of abstracts for panel presentations, workshops, training modules, case studies, best practices, and success stories relating to environmental justice. Abstracts are due to email@thenejc.org by November 21, 2014. Additional information is available at thenejc.org.

SAVE THE DATE

2015 National Environmental Justice Conference and Training Program

Howard University School of Law
2900 Van Ness Street NW
Washington, DC 20008

Washington Marriott at Metro Center
775 12th Street NW
Washington, DC 20005

To volunteer or for sponsorship opportunities and additional information, contact
Lloyd Moore, Conference Coordinator, at email@thenejc.org or
Melinda Downing, U.S. Department of Energy Environmental Justice Program Manager, melinda.downing@hq.doe.gov.

www.thenejc.org

MARCH 11-13, 2015

Mitigation

(continued from page 1)

Analysis of Data To Evaluate Effectiveness

Analysis, not just the reporting of data, is essential for a MAP Annual Report to evaluate the effectiveness of mitigation activities and make recommendations. For example, knowing the significance threshold for each type of impact may be necessary. In some cases, a significant impact to a resource is a quantifiable threshold or objective standard based in regulation. For others, a subject matter expert's professional judgment is used to determine significance. In any case, the NEPA document should describe the impact threshold against which the mitigation's effectiveness can be measured.

Numerous mitigation actions have been completed at LANL. When a mitigation commitment has been fully implemented, it is added to a summary table in the MAP Annual Report with a justification for no longer tracking it as ongoing. When a mitigation commitment is integrated into an established LANL environmental management program, such as the Habitat Management Plan or the Air Monitoring Program, it, too, is no longer tracked in the MAP Annual Report, but is included in the summary table.

Revising the MAP

After restructuring the MAP Annual Report for FY 2013, LAFO revisited the MAP itself. This MAP was developed

in the 1990s and had been updated in 2008 after the first ROD for the Site-Wide EIS. The MAP was revised to incorporate mitigation commitments made in the second (2009) ROD for the 2008 Site-Wide EIS, and then for a 2010 EA and finding of no significant impact (FONSI) on the expansion of two LANL facilities. The MAP also covers commitments to Santa Clara Pueblo as part of ongoing government-to-government relations. The MAP describes the implementation and management steps for LAFO and LANL organizations. The process includes task scoping, funding allocation, tracking, technical implementation, annual reporting, and mitigation action commitment closure.

We revised the MAP to update the commitments and reflect the improved approach developed for the MAP Annual Report. For each program or project in its scope, the MAP now summarizes the objective, identifies the NEPA and other drivers, and lists the specific mitigation commitments. The final section lists mitigation commitments previously included in the MAP that have been completed or integrated into ongoing LANL programs. The revised MAP (just 15 pages) was issued in June 2014. Any mitigation commitments described in future RODs or FONSIs will be incorporated into this MAP.

(continued on page 7)

Example: Mitigations Identified in the Cerro Grande Fire Special Environmental Analysis

NEPA Driver: DOE/National Nuclear Security Administration (NNSA) issued a [Special Environmental Analysis](#) in September 2000 to analyze the emergency fire suppression, soil erosion, and flood control actions taken by DOE/NNSA and LANL between May and November in response to the 2000 Cerro Grande Fire. (See [LLQR, June 2000](#), page 1, and [September 2000](#), page 1.) The Special Environmental Analysis also identified mitigations for these actions. While a majority of the mitigations have been completed, the MAP Annual Report for FY 2013 provides information on three ongoing commitments.

Mitigation Measures:

1. Monitor biota and sediment contamination behind the Los Alamos Canyon Weir and the Pajarito Canyon Flood Retention Structure.
2. Periodically remove sediment from the Los Alamos Canyon Weir based on sedimentation rate and contamination accumulation rate.
3. Complete rehabilitation of cultural resources impacted by the Cerro Grande Fire.

Actions Taken: The MAP Annual Report describes sampling of small mammals and vegetation for radionuclides, heavy metals, and polychlorinated biphenyls (PCBs); sediment removals from the canyon weir; and rehabilitation work on prehistoric archaeological sites, historic homestead-era sites, and historic buildings.

Effectiveness of the Mitigations: The MAP Annual Report finds that ongoing Mitigations Measures 1 and 2 are effective, and that Mitigation Measure 3 is effective and completed.

Recommendations: The MAP Annual Report recommends that biota sampling and sediment removal continue, and that LAFO close out Mitigation Measure 3 and manage any further monitoring and repair work under the existing LANL Cultural Resources Management Plan ([LLQR, December 2002](#), page 10).

LANL: A Unique Environmental Setting and History

Los Alamos National Laboratory (LANL) is located in north-central New Mexico. The 36-square-mile laboratory is sited on the Pajarito Plateau, a series of mesas separated by deep canyons cut by stream channels from the Jemez Mountains to the Rio Grande. With the exception of the towns of White Rock and Los Alamos, the surrounding land is undeveloped. Adjoining lands include the Santa Fe National Forest, Bandelier National Monument, and the Pueblo of San Ildefonso.

The Pajarito Plateau formed as the result of a pair of volcanic eruptions from the Valles Caldera that occurred 1.1 to 1.4 million years ago. The historical significance of the area dates back 10,000 years to the Paleoindians, who used the area as hunting grounds. The Plateau was home to ancestral Pueblo Indians from the 1150s through the 1600s, followed by the Spanish colonial period in the 1600s and 1700s. The late 1800s brought the railroad and the homesteading era. The Los Alamos Ranch School, built in the early 1900s, was responsible for educating more than 600 boys, but was closed abruptly in 1942 by the occupancy of the U.S. Army. Military personnel and a group of scientists moved to Los Alamos with the objective of developing the first nuclear weapon as Project Y of the Manhattan Project.

The geology, elevation, and climate contribute to a biologically diverse area including four major plant communities (juniper savanna, piñon-juniper woodland, ponderosa pine forest, and mixed conifer forest) and sensitive habitats, such as wetlands, floodplains, and riparian areas. Natural resource management, including habitat protection, is a major component of the Lab's environmental stewardship program. LANL monitors and protects large game (e.g., elk, deer, and bear) and special classes of species such as migratory birds, federally-listed threatened and endangered species (Mexican spotted owl and the Southwestern willow flycatcher) and state-listed species (Jemez Mountains salamander).

Seven primary watersheds drain from LANL directly into the Rio Grande, requiring a sophisticated program for monitoring surface water and sediment samples near and downstream from potential LANL-produced contaminant sources. Severe drought, three major wildfires in the past 30 years, and a 1000-year flood have dramatically affected the landscape, increasing the amount of ash and sediment transported by storm water as well as the loss of habitat, increased runoff, and visual impacts.

LANL has a large and diverse number of historic and prehistoric properties. More than 1,800 prehistoric and 145 historic sites have been recorded at LANL. Protecting the unique historic, cultural, and natural resources of the area is essential in planning and executing LANL's mission. Mitigation commitments range from removing contaminated sediments from canyons to providing for tribal visits to cultural sites. From simple to complex, there are close to 60 ongoing mitigation commitments.



An objective of several LANL mitigation measures is to decrease 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. Mitigation commitments include determining appropriate closures and restrictions, and supporting the use of volunteers for trail maintenance projects. (Photo: Phillip Noll)

Key Requirements Involving Mitigation

Council on Environmental Quality NEPA Regulations (40 CFR Parts 1500-1508)

§1502.14 Alternatives including the proposed action.

[Agencies shall] (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

§1505.2 Record of decision in cases requiring environmental impact statements.

[The record of decision shall] (c) State whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation.

§1505.3 Implementing the decision.

Agencies may provide for monitoring to assure that their decisions are carried out and should do so in important cases. Mitigation (§1505.2(c)) and other conditions established in the [EIS] or during its review and committed as part of the decision shall be implemented by the lead agency or other appropriate consenting agency. The lead agency shall:

- (a) Include appropriate conditions in grants, permits or other approvals.
- (b) Condition funding of actions on mitigation.
- (c) Upon request, inform cooperating or commenting agencies on progress in carrying out mitigation measures which they have proposed and which were adopted by the agency making the decision.
- (d) Upon request, make available to the public the results of relevant monitoring.

§1508.20 Mitigation.

“Mitigation” includes:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

DOE NEPA Regulations (10 CFR Part 1021)

§ 1021.104 Definitions.

Mitigation Action Plan means a document that describes the plan for implementing commitments made in a DOE EIS and its associated ROD, or, when appropriate, an EA or FONSI, to mitigate adverse environmental impacts associated with an action.

§ 1021.322 Findings of no significant impact.

(b) [A DOE FONSI shall include]: (1) Any commitments to mitigations that are essential to render the impacts of the proposed action not significant, beyond those mitigations that are integral elements of the proposed action, and a reference to the Mitigation Action Plan prepared under § 1021.331

§ 1021.331 Mitigation action plans.

(a) Following completion of each EIS and its associated ROD, DOE shall prepare a Mitigation Action Plan that addresses mitigation commitments expressed in the ROD. The Mitigation Action Plan shall explain how the corresponding mitigation measures, designed to mitigate adverse environmental impacts associated with the course of action directed by the ROD, will be planned and implemented. The Mitigation Action Plan shall be prepared before DOE takes any action directed by the ROD that is the subject of a mitigation commitment.

Key Requirements Involving Mitigation, continued

(b) In certain circumstances, as specified in § 1021.322(b)(1), DOE shall also prepare a Mitigation Action Plan for commitments to mitigations that are essential to render the impacts of the proposed action not significant. The Mitigation Action Plan shall address all commitments to such necessary mitigations and explain how mitigation will be planned and implemented. The Mitigation Action Plan shall be prepared before the FONSI is issued and shall be referenced therein.

(c) Each Mitigation Action Plan shall be as complete as possible, commensurate with the information available regarding the course of action either directed by the ROD or the action to be covered by the FONSI, as appropriate. DOE may revise the Plan as more specific and detailed information becomes available.

(d) DOE shall make copies of the Mitigation Action Plans available for inspection in the appropriate DOE public reading room(s) or other appropriate location(s) for a reasonable time. Copies of the Mitigation Action Plans shall also be available upon written request.

DOE NEPA Order (DOE O 451.1B)

4. REQUIREMENTS.

In addition to requirements established in NEPA and the Regulations, DOE's NEPA Compliance Program shall include:

g. Tracking and annually reporting progress in implementing a commitment for environmental impact mitigation that is essential to render the impacts of a proposed action not significant, or that is made in a record of decision.

5. RESPONSIBILITIES.

a. [Responsibilities of a Secretarial Officer or a Head of a Field Organization include]:

(9) [For an EA]:

(e) When a commitment to mitigation is essential to render the impacts of a proposed action not significant, preparing a mitigation action plan for any such commitment before issuing the [FONSI].

(f) Tracking and annually reporting progress made in implementing, and the effectiveness of, any commitment for environmental impact mitigation that is essential to render the impacts of a proposed action not significant.

b. [For an EIS, responsibilities of a Secretarial Officer include]:

(4) Preparing any mitigation action plan required under the DOE Regulations before taking an action that is the subject of a mitigation commitment made in a record of decision.

(5) Tracking and annually reporting progress made in implementing, and the effectiveness of, any mitigation commitment made in a record of decision.

d. A NEPA Compliance Officer shall:

(12) Provide the Office of NEPA Policy and Compliance promptly—generally, within two weeks of their availability—two copies and one electronic file of:

(f) A mitigation action plan and corresponding annual mitigation report. The mitigation report may be submitted on the anniversary of a mitigation action plan or in a combined report (for example, as part of the annual NEPA planning summary) for multiple plans until mitigation is completed.

f. The General Counsel shall:

(2) For an [EIS]:

(c) Evaluate proposed and alternative actions, including alternative mitigation measures, and make any appropriate recommendations to mitigate environmental impacts.

Also see *CEQ Guidance on Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact* (2011).

New CEQ Draft Guidance Encourages Use of Programmatic NEPA Reviews



The Council on Environmental Quality (CEQ) is requesting public comments on draft guidance on how federal agencies can effectively use NEPA programmatic reviews, including programmatic EAs and EISs. In a Notice of Availability published in the *Federal Register* on August 25, 2014 ([79 FR 50578](#)), CEQ requested public comments by October 9, 2014. The draft guidance, "Effective Use of Programmatic NEPA Reviews," is available on [CEQ's website](#).

"Guidance on programmatic NEPA reviews has been requested by the agencies and attention on programmatic NEPA reviews has increased as agencies are increasingly undertaking broad landscape scale analyses for proposals that affect the resources they manage," CEQ said in the Notice.

In the draft guidance CEQ states that "the programmatic approach under NEPA has not been fully used for its intended purpose and when used, it often has not fulfilled agency or stakeholder expectations." The draft guidance states that its goal is "to encourage a more

consistent approach to programmatic NEPA reviews so that the analyses and documentation will allow for the expeditious and efficient completion of any necessary tiered reviews," and that it builds on past CEQ guidance that explains the use of tiering and its place in the NEPA process. (CEQ's 1983 guidance regarding its NEPA regulations is available on the [DOE NEPA Website](#).)

In describing the potential benefits of programmatic NEPA reviews, the draft guidance states that "one of the main advantages of a programmatic NEPA review is the ability to tier subsequent reviews, such as site- or proposal-specific reviews. Tiering has the advantage of not repeating information that has already been considered at the programmatic level so as to focus and expedite the preparation of the tiered NEPA review(s)." "A programmatic NEPA review can also be an effective means to narrow the consideration of alternatives and impact discussions in a subsequent tiered NEPA review," the draft guidance states. 

NEPA Office Issues 2014 Stakeholders Directory

If you are planning to distribute an EA or EIS, or initiate other NEPA public involvement and consultation activities, the Office of NEPA Policy and Compliance encourages you to consult the [Directory of Potential Stakeholders for DOE Actions under NEPA](#). The NEPA Office issued the 31st edition of the directory on July 7. It includes current information for points of contact in federal agencies; states, territories, and state government associations; and

many nongovernmental organizations. It also lists DOE tribal points of contact and reading rooms.

For the 2014 Stakeholders Directory, about one third of the organizations changed their contact information. The NEPA Office updates the directory throughout the year, as new contact information is received. Send updates and questions to askNEPA@hq.doe.gov. 

Mitigation

(continued from page 3)

For more information, contact me at karen.oden@nnsa.doe.gov or 505-667-0886. (The DOE NEPA Website maintains a [webpage](#) for MAPs and MAP Annual Reports. See also related article, page 17.) 

Editor's note: Karen Oden (see Transitions, page 18), an Environmental Engineer and Project Management Professional, has spent most of her 25-year career working for the Department of Defense and credits the

Five-Year Site Review process under the Comprehensive Environmental Response, Compensation, and Liability Act as the model for making the FY 2013 MAP Annual Report more effective and informative. She also acknowledges the contributions of Phillip Noll, Ph.D., an Environmental Scientist with the LANL Environmental Protection Division, who is responsible for overseeing the LANL mitigation program.



CEQ Denies Petition for NEPA Rulemaking, Affirms Need To Consider Climate Effects

The Council on Environmental Quality (CEQ) recently denied a petition requesting that CEQ (1) amend its NEPA regulations to require Federal agencies to address greenhouse gases (GHGs) and climate change effects in their NEPA documents, and (2) issue guidance on how agencies should address GHGs and climate change under NEPA.

The petition had been submitted by the International Center for Technology Assessment (ICTA), Natural Resources Defense Council, and the Sierra Club on February 28, 2008 (*LLQR*, June 2008, page 11). ICTA and the Center for Food Safety, on April 2, 2014, sued CEQ in the U.S. District Court for the District of Columbia, seeking to compel CEQ to respond to the 2008 petition. CEQ responded in a [letter](#) to the petitioners from Acting Chair Michael J. Boots, dated August 7, 2014, and also filed a Motion to Dismiss the lawsuit. On August 21, 2014, the District Court dismissed the lawsuit.

“CEQ and this Administration have taken seriously the urgency of addressing climate change and we are actively moving forward on a comprehensive [Climate Action Plan](#) focused on reducing greenhouse gas (GHG) emissions domestically, preparing for those climate impacts that are already unavoidable, and leading internationally,” CEQ states in the letter. “Nonetheless,” the letter states, “CEQ is denying the requests that we amend our regulations and issue particular guidance, because, among other things, the existing regulations already encompass consideration of climate effects and CEQ is using mechanisms other than guidance to assist Federal agencies in considering GHGs in their NEPA compliance.”

Climate Impacts Are Reasonably Foreseeable

In explaining why it denied the petition requesting that it amend its NEPA regulations, CEQ emphasized its long-standing position that its NEPA regulations are broad enough to encompass reasonably foreseeable climate change effects (*LLQR*, June 2008, page 10).

“With respect to its NEPA regulations, CEQ does not believe that amending the regulations is necessary to fulfill its obligations to issue regulations under NEPA,” CEQ states in the letter. “Moreover, revisions are unnecessary because NEPA and its implementing regulations already require Federal agencies to evaluate the reasonably foreseeable environmental impacts of their actions, including foreseeable GHG and climate change implications. Courts have found that GHG emissions and climate change issues need to be analyzed under the existing NEPA statute and regulations,” CEQ further states.

Guidance Development Process

With respect to the request that CEQ issue NEPA guidance, CEQ noted that it has a process underway to consider issuing guidance and “has already issued draft NEPA guidance regarding consideration of the effects of climate change and GHG emissions, solicited public comments, and is considering how to proceed.” (For a discussion of CEQ’s February 2010 “[Draft Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions](#),” see *LLQR*, March 2010, page 3; and June 2011, page 8.)

CEQ’s letter describes other actions it has taken to support Federal agencies in considering GHGs in their NEPA compliance, including issuing guidance, such as:

- “[Council on Environmental Quality Guidance on NEPA Analyses for Transboundary Impacts](#)” (July 1997), which clarifies the applicability of NEPA to proposed Federal actions that may have transboundary effects;
- “[Guidance on Federal Greenhouse Gas Accounting and Reporting](#)” (October 2010), which establishes an approach for Federal agencies in calculating and reporting GHG emissions associated with Federal agency operations (*LLQR*, December 2010, page 19);
- “[Technical Support Document for Federal GHG Accounting and Reporting](#)” (June 2012), which provides detailed information on inventory reporting approaches and calculation methodologies.

In addition, CEQ’s letter cites a number of other actions taken by the Administration to develop and promote the science and tools for addressing climate impacts. Among them:

- Approval in 2013 of the Intergovernmental Panel on Climate Change (IPCC) Working Group I report, “[Climate Change 2013: The Physical Science Basis](#).” (IPCC’s assessment reports are widely regarded as highly influential and are often cited in DOE NEPA documents; see *LLQR*, December 2013, page 8).
- Release through the U.S. Global Change Research Program of the “[Third U.S. National Climate Assessment: Climate Change Impacts in the United States](#)” (May 2014), which CEQ describes in its letter as “the most authoritative and comprehensive source of scientific information to date on the domestic impacts of climate change.” (See *LLQR*, March 2014, page 3.)

(continued on next page)

Appeals Court Upholds DOE's Biorefinery EA

DOE's EA for a proposed biorefinery plant in Michigan (DOE/EA-1705) "adequately supported its finding that funding the plant would not have a significant impact on the environment," concluded the United States Court of Appeals for the Sixth Circuit in an opinion issued May 21, 2014. DOE completed the [EA and finding of no significant impact](#) (FONSI) in 2011 in response to an application for financial assistance to design, construct, and operate a cellulose-to-ethanol biorefinery.

Plaintiffs initially challenged DOE's FONSI in the United States District Court for the Western District of Michigan (Case No.: 2:11-cv-514). The district court ruled, among other things, that DOE had "complied with NEPA in all respects."

Alternatives Analysis Adequate

On appeal, plaintiffs challenged the EA and FONSI on four grounds. First, plaintiffs criticized the EA for considering only the proposal to fund the project and one alternative – not funding it. The court noted that the EA was organized in this way but that, in fact, the EA went further. DOE made mitigation measures discussed in the EA binding on the applicant, which the court determined "goes beyond just saying 'yes' or 'no' to a funding request."

The court also noted that the EA described alternative sites that the applicant had considered in developing its proposal, potential expansion of the proposed plant, how feedstock (hardwood from area forests) could be varied to avoid depleting resources, and bringing supplies to the proposed plant both via rail and truck. "That is not an analysis preoccupied with one option," the court stated. The court also concluded that DOE had no obligation to consider an alternative for a different type of plant than the applicant had proposed. The court explained that an alternative to use an entirely different feedstock from

what the applicant proposed (based on technology it had developed) "exceeds the 'reasonable alternatives' the Department had to assess."

Second, plaintiffs alleged that the EA failed to adequately consider potential impacts and mitigation. The court, however, concluded that the analysis was sufficient, noting, for example, that the EA included point source emissions of greenhouse gases and "above all the life-cycle *reduction* in greenhouse gases caused by the benefits and burdens of the plant" (emphasis in original).

Mitigation Binding on Applicant

Plaintiffs claimed that mitigation measures discussed in the EA are speculative and unenforceable. The court disagreed, finding it sufficient to rely on future requirements that the state will impose for the plant to receive necessary permits before construction can begin and the funding agreement between DOE and the applicant, which incorporated the mitigation measures and made them binding on the applicant.

Third, plaintiffs argued that DOE should have supplemented the EA based on a press release issued after the EA had been completed that discussed a potential expansion of the plant to a scale larger than analyzed in the EA. The court found this issue moot because the plans had since been abandoned.

Fourth, plaintiffs claimed that the EA failed to consider all of the intensity factors included in the definition of "significantly" in the Council on Environmental Quality's NEPA regulations. To the contrary, the court found that the EA had "considered all of the environmental effects that the intensity factors mention." (*Klein v. U.S. Department of Energy*, 753 F.3d 576 (6th Cir. 2014)) 

CEQ Denies Petition

(continued from previous page)

Historically, DOE has addressed GHGs and climate change in its NEPA documents and CEQ has cited DOE EISs as examples of documents containing such analyses (*LLQR*, March 2010, page 13). As the topic of climate analyses and NEPA has evolved, *LLQR* has

discussed issues and approaches. (See, for example, *LLQR*, December 2007, page 1; *June 2008*, page 1; *December 2008*, page 6; *June 2009*, pages 12 and 18; *March 2010*, page 3; *June 2011*, pages 8 and 10; and *June 2013*, page 10.) 

Update on NEPAnode

Since NEPAnode was introduced in the March 2014 issue of *LLQR*, the NEPA Office has continued to develop this geospatial and document management system, including significant improvements in functionality and usability. “NEPAnode is now a powerful and practical tool for NEPA practitioners and we will continue to develop it to make it more useful, even for those who are not experts in using a geographic information system (GIS),” said John Jediny, Office of NEPA Policy and Compliance.

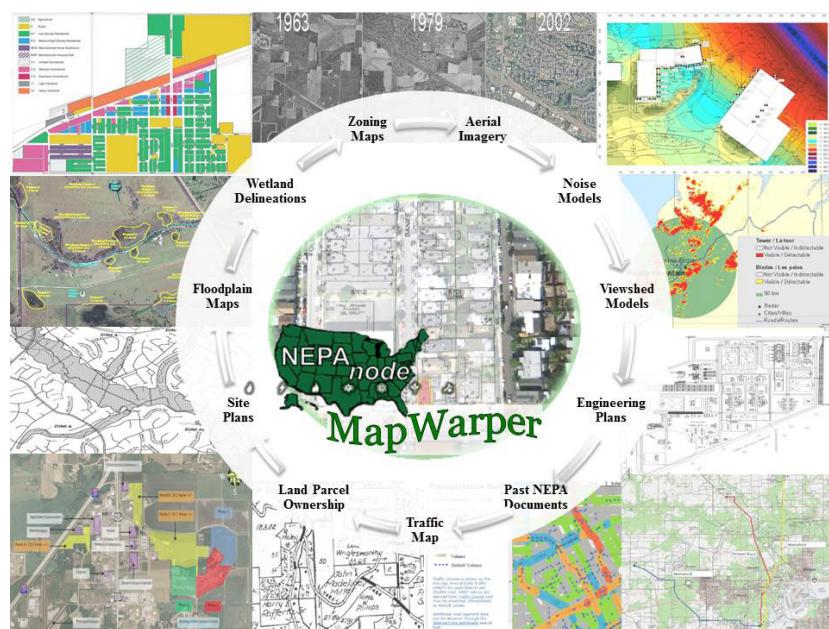
After launching the NEPAnode as a pilot project in February 2014, the NEPA Office has:

- Added more functionality, including
 - More than 200 new map layers that can be used in GIS analyses. (“Map layers,” also referred to as “data layers” or just “layers,” contain geographically accurate representations of “datasets” (information about a resource) that can be combined with other information in a map to enable analysis via GIS.)
 - A blog feature to facilitate training and information exchange among practitioners; and
 - “MapWarper,” a tool designed to make it easy for NEPA practitioners without GIS expertise to make geographically accurate map layers from “static” images and upload the information for GIS analysis.
- Conducted three interactive webinars for the DOE NEPA Community to provide an overview of the tool.

- Added instructional videos to help users at different skill levels.
- Made NEPAnode available to all federal agencies and their contractors. (While anyone may use the information on the NEPAnode website, federal agencies and their contractors can register to upload, combine, edit, and share project data.)
- Received recognition and financial support from the Federal Geographic Data Committee (FGDC), an interagency committee that promotes coordinated development, use, sharing, and dissemination of geospatial data. FGDC’s selection of NEPAnode to be a pilot in this year’s class of “GeoCloud” projects will enable faster development of NEPAnode as a ready-to-use, web-based, security-compliant, and free software solution for federal agencies.

To illustrate some of the ways NEPA practitioners can apply NEPAnode, this issue of *LLQR* presents two articles by NEPA Office staff: John Jediny discusses use of some lesser known datasets and use of the MapWarper tool to facilitate environmental analysis and enhance the NEPA process (page 11) and Brad Mehaffy discusses his use of NEPAnode in conducting quality assurance reviews of NEPA documents (page 13).

For additional information on NEPAnode and DOE’s participation in FGDC’s GeoCloud initiative, contact John Jediny at john.jediny@hq.doe.gov. 



MapWarper makes it easy for NEPA practitioners to use a wide variety of static data sources, such as those presented here, that might otherwise be unavailable for use in GIS analyses.

NEPAnode: Visualizing the Past, Present, and Future

By John Jediny, Office of NEPA Policy and Compliance

When NEPA practitioners think of GIS data, they often think of well-known datasets, such as those for floodplains, wetlands, critical habitats, and populations. Many are not aware of the diverse range of data that can be integrated into an analysis through a tool such as NEPAnode. This article highlights three datasets depicting information from the past, present, and (projected) future to highlight NEPAnode's unique ability to combine information together in a single map to facilitate analysis and enhance the NEPA process. In addition, the article introduces MapWarper, a new tool available through NEPAnode that can expand the range of data sources available for GIS analysis.

Past

Native American Tribes - Historical Ranges

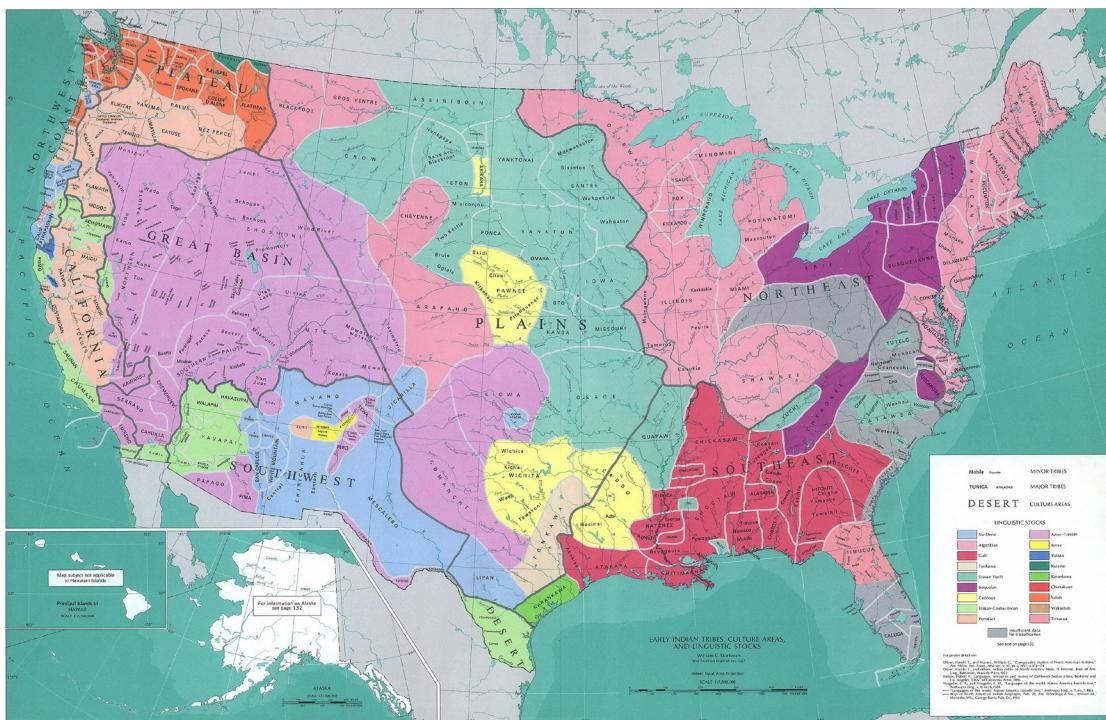
The map (below), “Early Indian Tribes, Cultural Areas, and Linguistic Stocks,” was produced by the Smithsonian Institution in 1967 to depict the general historic ranges of many Native American tribal nations and their shared or divergent cultural and linguistic roots. To make the information more usable than in its static form as a scanned image obtained from the Smithsonian Institution Archives, I “georeferenced” the map to create a geographically accurate layer and uploaded it to

NEPAnode, where the layer can be combined with maps of proposed projects to inform the tribal consultation process.

I chose this example for two reasons. The first is to highlight the importance of considering the historic presence of tribes in a particular region because tribes may value cultural sites at locations within the region of a proposed action that are outside their current geographic distribution. This relatively uncommon layer provides a tool to help identify tribes that should be consulted during the NEPA process.

Secondly, this example illustrates how NEPAnode can be used to unlock information for analysis. Vast amounts of information on many topics are contained in static maps. A new tool offered through NEPAnode called MapWarper is designed to make it easy for users without GIS expertise to digitally align (“georeference” or “rectify”) static maps, such as the tribal historic range map, to match today’s precise digital maps. The resulting rectified maps can then be used in a GIS tool such as NEPAnode where the information can be combined with other project information for visualization and analysis. The graphic (page 10) provides examples of some common sources of static data to illustrate the wide range of data sources that can be rectified for GIS analysis.

(continued on next page)



This map layer showing historical ranges of Native American tribal nations can help identify tribes that no longer reside in the affected area of a proposed action to determine whether that tribe should be consulted in the NEPA process.

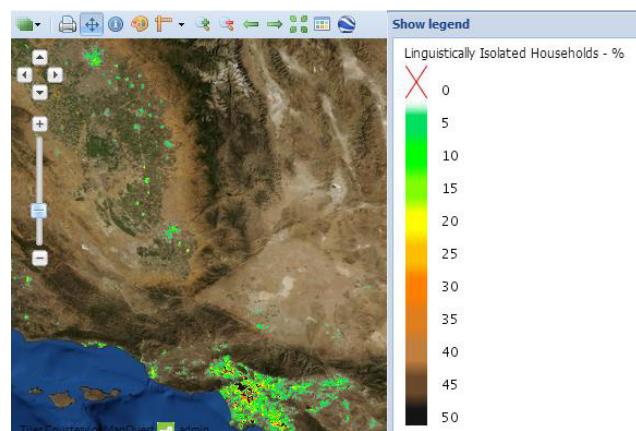
Visualizing

(continued from previous page)

Present

Linguistically Isolated Households

The U.S. Census Bureau defines “Linguistically Isolated Households” as households in which all members aged 14 years and older speak a non-English language and also speak English less than “very well.” This map (right) depicts the percentage of such households based on data obtained from the National Aeronautics and Space Administration’s Socioeconomic Data and Applications Center. This map can supplement other information from outreach efforts and other sources to help NEPA practitioners identify the presence of linguistically isolated households and determine if providing text translations or translators at public meetings would enhance the public participation process.



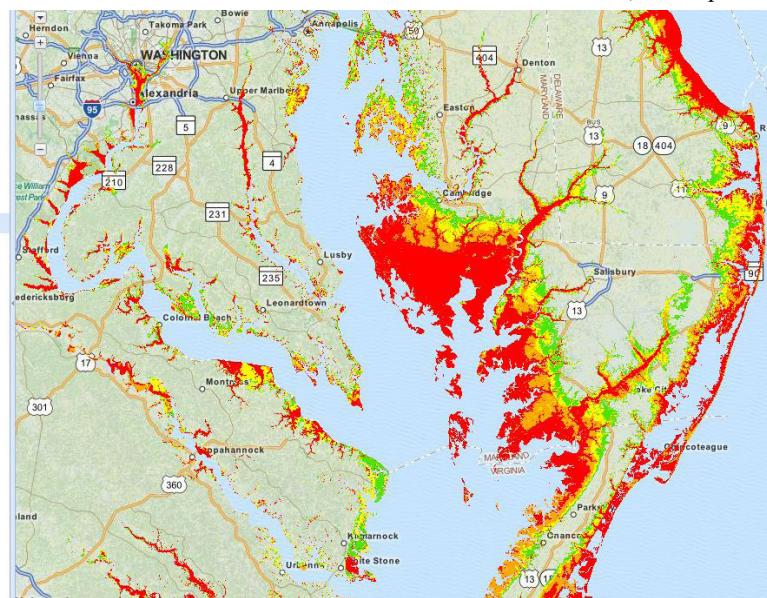
A high concentration of linguistically isolated households exists in the region of southern California shown here. This map layer makes it easy to identify the presence of such households near a proposed action.

Future (Projection)

Potential Storm Surge and Flood Loss

The Federal Emergency Management Agency’s Coastal Flood Loss Atlas depicts projected storm surge and flood inundation risk for hurricane categories 1-5. This layer can be used to inform the siting of proposed actions, such as coastal energy generation facilities and other infrastructure. Vulnerability of infrastructure to flooding, particularly in coastal areas, is a topic of increasing concern because of projected sea level rise and other climate change effects. In several recent reports, for example, the Government Accountability Office highlighted the need to consider such risks to federal assets. (See LLQR, June 2013, page 11.)

- Category 1 (Red)
- Category 2 (Orange)
- Category 3 (Yellow)
- Category 4 (Green)
- Category 5 (Blue)
- base Maps
 - MapQuest Imagery
 - MapQuest OpenStreetMap
 - OpenStreetMap
 - Mapbox Terrain
 - Bing Aerial With Labels
 - No background



This map shows, by category (strength) of hurricane, the areas of the Chesapeake Bay region that are potentially subject to storm surge and flooding. The map layer can aid in infrastructure siting by showing the vulnerability of proposed locations to climate impacts.

Other Applications – Cumulative Impacts

The examples above were binned chronologically (past, present, and future) to illustrate the wide range of data that can be analyzed using NEPAnode. While these examples address different resource areas at *different* times, examining datasets for the *same* resource area at different times could help in analyzing trends, and thus provide a context for considering cumulative impacts. For example, mapping trends showing decline of a resource (e.g., forest habitat fragmentation, coastal or other wetlands loss, groundwater depletion) could provide a basis for understanding the potential cumulative impacts of further reductions in the resource. Historical data (e.g., maps embedded in a PDF, aerial photos, site surveys) are more likely to be in a static form than current data, posing an impediment to visual representation and analysis. The ability to easily georeference static data sources using the MapWarper feature available through NEPAnode can overcome this impediment and enable the visualization and presentation of more information for use in cumulative impact analyses.

(continued on page 24)

NEPAnode: A Quality Assurance Tool

By Brad Mehaffy, Office of NEPA Policy and Compliance

NEPAnode can be useful both in preparing NEPA documents and in providing quality assurance (QA). As a QA tool, NEPAnode can be used to verify the quality of information in an EA or EIS and supporting documents (e.g., technical reports, other agency studies or reports, and other documents incorporated by reference). Below are two examples of how I recently used NEPAnode for QA purposes.

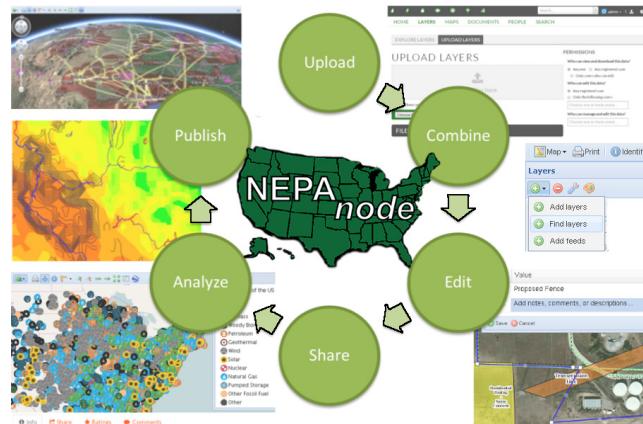
As NEPA documents are prepared, information is collected from numerous sources. Technical reports, for example, contain information compiled from a variety of databases and other sources and are relied upon to support the analyses within a NEPA document. I selected the *Historic and Cultural Resources Technical Report*, a reference in a preliminary draft EIS under review, as my first example. The project's base map (a shapefile), with the proposed project's and alternatives' regions of influence (ROI), had already been uploaded into NEPAnode.

Navigating NEPAnode Layers

Under the word "Layers," I clicked on the green plus sign and selected the "Find layers" feature from the drop-down menu. I did a keyword search using the term "historic." Within the search results, I selected the "National Register of Historic Places [NPS][Jan 2014]" layer to be overlaid on the base map. Zooming in on the project's and alternatives' ROI, I identified three historic places within the ROI, only two of which are mentioned in the project's *Historic and Cultural Technical Report*. As a result of this QA check, I identified the same omission in the preliminary draft EIS and notified the NEPA Document Manager.

NEPAnode can also be used to directly verify information in a NEPA document. For my second example, using the same base map and ROI as in the previous example, I performed a QA check of the land use discussions in the draft EIS. In particular, I looked for a data layer within NEPAnode that identified Wildlife Management Areas and was unable to find one in the layers currently uploaded.

NEPAnode allows for external data layers to be uploaded to the project map. Since such layers are from outside sources, the data layers are only available for project maps that have uploaded them. I found the United States Geological Survey (USGS) has an external data layer of protected areas within the U.S. called "Protected Area Database of the US (PADUS) – USGS GAP Analysis," which contains information on Wildlife Management Areas. To upload an external data layer directly to the project base map, I used the NEPAnode "PAGES" link to the article on "[Adding External Web Mapping Services \(WMS\)](#)," which has instructions and a list of URLs for



data layer sources other than those already available on NEPAnode. I copied the URL for "Protected Area Database of the US (PADUS) – USGS GAP Analysis." Using the "Add layers" function in the green plus sign drop down menu, a second drop down menu entitled "View available data from:" appeared. In that drop down menu, I selected "Add a New Server...," pasted the copied URL into the URL field, and clicked on "Add Server." By double-clicking, I was able to add the data from the "Protected Area Owner Name" server as a new layer to the project's base map in NEPAnode.

NEPAnode overlaid the data layer information on the base map and showed that a specific Wildlife Management Area is located within the project's and alternatives' ROI. I then reviewed the "Parks and Recreational/Natural Areas" discussion in the "Land Use" sections of the draft EIS and found that the Wildlife Management Area was appropriately identified in the draft EIS.

From My Exploration

I concluded that using NEPAnode to check supporting references can be an efficient way to verify and potentially improve the information in a NEPA document. Second, I found that resource category titles in NEPA documents do not necessarily match the data layer names. Multiple NEPAnode data layers may need to be checked to find information for a particular resource category. Third, it is helpful to become familiar with the data layers that are available within NEPAnode, as well as the external data layers that can be accessed. The efficiency of using NEPAnode as a QA tool will be greatly increased if one knows which data layers contain the information being verified. Finally, although the number of data layers available on NEPAnode has grown substantially to over 200, not all resource categories currently have a data layer in NEPAnode, but new datasets or tutorials and training can be requested.

NEPA and Collaboration: A Roadmap for Success

Working collaboratively throughout the NEPA process can offer benefits to both federal agencies and the public. There is often a gap, however, between agencies' and stakeholders' expectations, awareness of available techniques, and even terminology.

To help bridge this gap, the National Forest Foundation has published an electronic toolkit entitled *A Roadmap for Collaboration Before, During and After the NEPA Process*. The *Roadmap* resources were developed collaboratively by *Conservation Connect*, the Foundation's "learning network for collaboration," with the participation of more than 40 governmental agencies, environmental organizations, academic institutions, and consultants. *Roadmap* builds on the Council on Environmental Quality's 2007 *Collaboration in NEPA: A Handbook for NEPA Practitioners* by providing comprehensive, user-friendly resources. (See *LLQR*, June 2007 (multiple articles) and December 2007, page 14.)

Navigating the Roadmap

Roadmap depicts the NEPA process as a road on which federal agencies and stakeholders travel together. It is based on a "NEPA triangle" (below) used in the U.S. Forest Service introductory NEPA course.

The *Roadmap* and related resources are available on the National Forest Foundation's [webpage](#) on collaboration and NEPA.

- The *Roadmap* tool, a 64-page PDF file (also provided as a "Flip Book" suitable for projected presentations), offers detailed resources to support collaboration in the NEPA process. For each step along the road (e.g., developing purpose and need, scoping, identifying alternatives), the *Roadmap* provides perspectives, recommendations, and trouble-shooting tips. Links provide additional information on topics

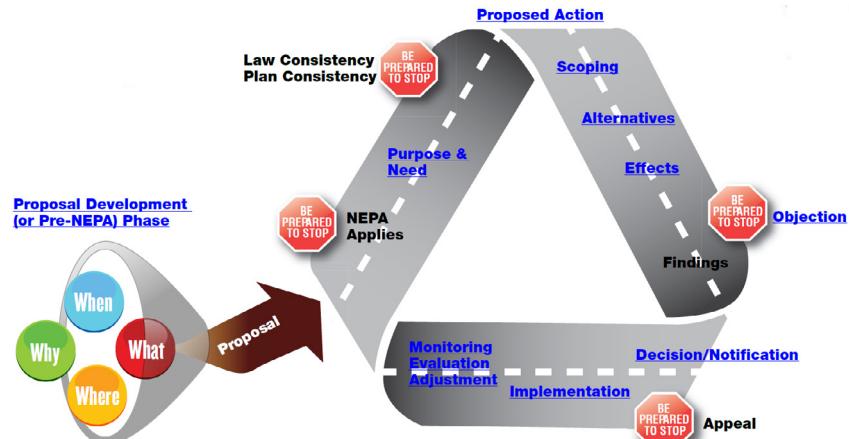
Chartered by Congress, the National Forest Foundation was created in 1993 as the nonprofit partner of the U.S. Forest Service. The Foundation supports community-based and national programs that promote the health and public enjoyment of the National Forest System. It also administers private gifts of funds and land for the benefit of the National Forests.



such as adaptive management, building collaborative groups, collaborating mid-stream, decision documents, communications plans, and public meeting planning.

- The *Roadmap* worksheet, a 7-page Word document, is a table designed for hands-on planning of collaborative activities. It is intended to clarify the process and help develop shared expectations by providing a structure. Based on a list of benefits from collaboration at each stage of the NEPA process, participants identify their desired level of interaction at that stage. Worksheet columns labeled "Tools" and "Notes" are for users to record their commitments to work together, approaches to be used, and preliminary information such as timelines and who will be involved.
- A webcast of a "peer learning session" provides an orientation to the *Roadmap* worksheet and tool.

"Collaboration is not static. Partners come and go, needs change and activities in the *Roadmap* worksheet can (and should) be revised," said Karen DiBari, Director, *Conservation Connect*. "We wanted to create a tool to help collaborative groups and their federal partners work through the NEPA process, talk openly about their roles, and be creative. This is meant to enhance the public engagement required by NEPA, not replace it." 



Source: U.S. Forest Service

NAEP 2014 NEPA Excellence Award

Many agencies' public involvement opportunities for EAs are limited to scoping and review of the draft document. The Bureau of Land Management (BLM), in its EA (June 2012) for the annual Burning Man Festival, went beyond these steps and involved the public in gathering data for the EA, and was recognized for this innovative approach by the National Association of Environmental Professionals (NAEP).

The EA analyzed the potential environmental impacts of issuing a Special Recreation Permit (SRP) for Burning Man, a week-long event around Labor Day that is dedicated to "the spirit of community, art, self-expression, and self-reliance." (See [Burning Man website](#).) Annually since 1990, Burning Man has created the temporary "Black Rock City," laid out in a semi-circle on approximately 3,200 acres in northwestern Nevada. The EA analyzed two action alternatives: up to 50,000 participants and up to 70,000 participants. Based on the EA, BLM issued a finding of no significant impact and a Special Recreation Permit for the 2012 event, followed by a 4-year Special Recreation Permit for the 2013-2016 events.

At its annual conference in April, NAEP presented the 2014 NEPA Excellence Award to BLM, Black Rock City LLC, and Aspen Environmental Group for "using innovative methods to quantify impacts of the event and to mitigate the effects of this large-scale, temporary 'city.' In addition to new data collected during the 2011 event, the EA analysis also uses in-depth historical data collected by volunteers and event participants." (See [NAEP 2014 Conference Program](#), page 16.)

One innovative methodology allowed BLM to quantify the potential impacts of the event on pristine darkness using a Sky Quality Meter to measure sky luminance. Another innovative methodology involved an "Oil Drip Survey" developed and approved by BLM to statistically quantify the total hydrocarbons that could be released from vehicles in the event area.

The NEPA analysis used to support issuing a permit for the event required creative thinking, careful interaction between the NEPA project team, event staff and the public. Due to the unusual nature of the event, innovative methodologies were used to analyze the potential impacts to night skies, air quality, traffic, playa dynamics, noise, and social/economic values. Furthermore, the EA identified creative approaches to mitigation and monitoring of potential impacts.

**Gene Seidlitz, BLM Nevada,
Winnemucca District Manager**

The public's involvement during the preparation of the EA followed similar methods employed by other agencies; the innovation came during the event when the public helped gather information to be used in potential future NEPA documents. 



*"Burning Man" event at Black Rock City, a temporary city, with a population of between 50,000 and 70,000 covers 3,200 acres of northwestern Nevada.
Source: Will Rogers Peterson, Black Rock City, LLC.*



NEPA Office Summer Interns

The NEPA Office benefitted from having two outstanding interns this summer. **Bennett Resnik**, a second year law student at Vermont Law School, is a member of the American Bar Association Section on Environment, Energy, and Resources and a member of the International Association for Energy Economics. His article on mitigation action plans is on page 17. **Brianna Steinmetz**, a rising senior at Tulane University, is majoring in both Environmental Science and International Development. Ms. Steinmetz shared her thoughts on her experiences in the NEPA Office and future goals.

Time Well Spent in the NEPA Office

By Brianna Steinmetz

Throughout my education I planned on pursuing a career path focused on environmental science, drawn to the intricate relationship between man and nature. I quickly noticed a recurring question in my studies: how can we meet the world's energy demands in an environmentally conscious manner, encouraging worldwide development alongside environmental responsibility? While working for the NEPA Office my intention was to gain experience in both the science/technology side as well as the law/policy side of the energy field.



Throughout my internship, I worked on several tasks, gaining experience working with the National Environmental Policy Act (NEPA) from different angles. My main assignment was to work on projects for NEPAnode, a pilot program designed to provide free open source GIS software to help implement NEPA. Although I had only a basic knowledge of GIS, I was interested in learning through first-hand, practical experience rather than college courses. I spent the first week organizing EISs and EAs into topics and categories; the resultant "metadata" will be used as an organizational tool within NEPAnode and the DOE NEPA website. This project expanded my knowledge of EISs and EAs and helped me to better understand the ways in which NEPAnode could be utilized.

I also worked with MapWarper, a web-based tool available through NEPAnode that allows users to upload and "georeference" or "rectify" images. Using MapWarper, I exported and rectified project maps from recent EISs and EAs to help develop a map of all active EISs and EAs. When published, this map will make it easier to find NEPA documents on the DOE NEPA website and foster transparency and efficiency of the NEPA process. I enjoyed using MapWarper because I was able to rectify images, visualize project locations, and truly comprehend the value of maps and how GIS can be applied to improve the NEPA process. Working on NEPAnode has increased my interest in continuing to study and work with GIS within the realm of environmental science. Through my work with GIS I not only improved my ability to create and interpret maps, but have also developed and refined my spatial thinking.

I also spent time working on compiling and analysing comments on DOE EISs from the Environmental Protection Agency (EPA) regarding environmental justice and air quality. In working on this task, I was able to look at NEPA through a different agency's perspective. I gained a better understanding of the quality and depth of detail the EPA expects within an EIS.

My main goal from this internship was to learn and experience the opportunities available at the Department of Energy to grow as an environmental science student. Spending the past two months at DOE has directed me towards a clearer path for my future career. The science behind a project, a project's environmental impacts, GIS modelling, and GIS applications are the areas which excited me most this summer. I would like to pursue a career that focuses on the technical science that drives policy making. I am very grateful for the opportunity to have worked with the NEPA Office this summer. I have gained a new appreciation for the application of scientific principles as well as the inner workings of a government agency. 

Learning from Mitigation Action Plans

By Bennett E. Resnik, Summer Intern, Office of NEPA Policy and Compliance

With a background in energy law and policy and a strong interest in environmental issues related to energy exploration, production, transportation, and consumption, I knew that an internship with DOE's Office of NEPA Policy and Compliance would be worthwhile. Throughout my summer here, I had the opportunity to work on issues related to liquefied natural gas (LNG) exports, NEPA requirements and guidance, the Clean Air Act, environmental impacts, and mitigation action plans (MAPs). Though the work on LNG exports is most aligned with my background and current interests, I learned the most from an assignment to analyze several MAPs.

Under 10 CFR 1021.331, "DOE shall prepare a Mitigation Action Plan that addresses mitigation commitments expressed in the ROD [Record of Decision]. The Mitigation Action Plan shall explain how the corresponding mitigation measures, designed to mitigate adverse environmental impacts associated with the course of action directed by the ROD, will be planned and implemented." (See page 5.)

By comparing several MAPs, I gained perspectives on mitigation, monitoring, and reporting requirements. I found patterns in mitigation approaches relating to air quality and climate change, land use, and water resources.

Reducing Air, Climate Change Impacts

Notably, I found that climate change is a strong consideration in mitigation planning to limit greenhouse gas emissions, recycle, and responsibly use local resources. For example, for climate change mitigation, projects will recycle or salvage non-hazardous construction and demolition debris where practicable and locate staging areas close to construction sites to minimize driving distances. Many mitigation measures relevant to air quality and climate change can be applied, such as using construction emission controls, maintaining engines and equipment, limiting vehicle speeds, turning off construction equipment during prolonged periods of non-use, and using dust control measures.

In addition, I found that MAPs for fossil energy facilities contain specific greenhouse gas reduction requirements.

- The FutureGen 2.0 Project MAP requires that the project achieve at least a 90 percent carbon dioxide (CO₂) capture rate during the demonstration period (the CO₂ will be geologically sequestered). ([DOE/EIS-0460](#))
- The Lake Charles Carbon Capture and Sequestration project MAP requires that the applicant must design and construct the project with the goal of capturing at



BPA installs temporary wood mats over wetlands to minimize impacts from heavy vehicles and equipment during construction of transmission line structures.

least 75 percent of the CO₂ from the treated stream, comprising at least 10 percent of CO₂ by volume, which would otherwise be emitted to the atmosphere. ([DOE/EIS-0464](#))

Reducing Construction-Related Impacts

In the MAPs reviewed, the main impacts to land use, recreation, and transportation stem from an increase in construction-related traffic and activities, which potentially result in erosion and disturbance to property, agriculture, and wetlands.

- The Grand Coulee-Creston Transmission Line Rebuild Project's MAP specifies that Bonneville Power Administration and its contractor are responsible for land use mitigation efforts such as publicizing construction schedules for residents and businesses, and consulting with landowners regarding possible disturbances, as well as employing traffic control measures. ([DOE/EA-1950](#))
- The Alvey-Fairview Transmission Line Rebuild Project's MAP includes commitments to mitigate impacts to land use and recreation by providing construction schedules, compensating landowners for the value of commercial crops damaged or destroyed by construction activities, and coordinating with local agencies. ([DOE/EA-1891](#))
- To address impacts to vegetation, the MAP for the Lake Charles Carbon Capture and Sequestration project requires the applicant to revegetate the rights-of-way and adjacent properties to pre-construction conditions.
- The FutureGen 2.0 Project MAP requires mitigating land use impacts by preserving wetland areas and using soil stabilization measures to reduce erosion.

(continued on page 20)

Transitions

The NEPA Office is pleased to welcome two new leaders to the DOE NEPA Community. As noted in the Department's NEPA regulations, "The General Counsel, or his/her designee, is responsible for overall review of DOE NEPA compliance." (10 CFR 1021.105)

DOE General Counsel: Steven P. Croley

Steven Croley was sworn in as DOE's General Counsel on May 21, 2014. He joined DOE after serving as Deputy Counsel to the President and, earlier, Special Assistant to the President for Justice and Regulatory Policy on the Domestic Policy Council.

Mr. Croley is on leave of absence from University of Michigan Law School in Ann Arbor. He earned his J.D. from Yale Law School and a Ph.D. in American politics from Princeton University. Mr. Croley is the author of *Regulation and Public Interests: The Possibility of Good Regulatory Government* (Princeton University Press, 2008).

Deputy General Counsel for Environment and Compliance: Kedric L. Payne

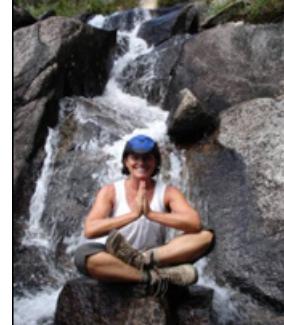
Kedric Payne, who joined DOE in August as Deputy General Counsel for Environment and Compliance, will, among other things, oversee the work of the Office of NEPA Policy and Compliance and the Office of the Assistant General Counsel for Environment.

Mr. Payne came to DOE after serving as Deputy Chief Counsel of the Office of Congressional Ethics. Earlier, he practiced law in the private sector, where he counseled clients on matters related to federal, state, and local laws governing campaign finance, lobbying, and ethics. He is a graduate of Yale University and the University of Pennsylvania Law School, where he was editor-in-chief of the law review.

New NEPA Compliance Officers

Los Alamos Field Office: Karen Oden

Karen Oden is the new NCO for the Los Alamos Field Office (LAFO), which oversees the Los Alamos National Laboratory in New Mexico. Ms. Oden joined LAFO in January 2013 as the Senior NEPA Advisor to George Rael, then the NCO and Assistant Manager for National Security Missions. In addition to leading the Office's NEPA implementation program, she serves as a technical advisor to the [Los Alamos Pueblos Project](#) (which supports four New Mexico pueblo governments in developing and maintaining environmental monitoring programs), and provides oversight for [LANL's Long Term Strategy for Environmental Stewardship and Sustainability](#). Ms. Oden brings to LAFO 25 years of experience as a project manager and environmental engineer for the Department of Defense and an environmental consulting firm. She has a Bachelor of Science in Geosciences, a Bachelor of Science in Communications, and a Master of Science in Civil Engineering. She can be reached at karen.oden@nnsa.doe.gov or 505-667-0886.



On behalf of the DOE NEPA Community, the Office of NEPA Policy and Compliance congratulates George Rael on his May 2014 retirement and offers best wishes for his future endeavors.

Pacific Northwest Site Office: Tom McDermott

Tom McDermott has recently been designated the NCO for the Pacific Northwest Site Office (PNSO), which oversees the Pacific Northwest National Laboratory (PNNL), located in Richland, Washington. Mr. McDermott joined PNSO last year and worked with Theresa Aldridge, the previous NCO, until she retired in November ([LLQR, December 2013](#), page 15). He provides oversight for multiple programs under the purview of the Environmental Protection and Regulatory Program division of PNNL. Before joining DOE, Mr. McDermott served in the Navy as a SONAR Technician on board the fast attack submarine *USS San Francisco*. He has a Bachelor of Science in Environmental Science and a Bachelor of Science in General Biological Science. He can be reached at tom.mcdermott@pnso.science.doe.gov or 509-372-4675.



EAs and EISs Completed April 1 to June 30, 2014

EAs¹

Bonneville Power Administration

[DOE/EA-1891](#) (4/21/14)

Alvey-Fairview Transmission Line Rebuild Project,

Coos and Douglas Counties, Oregon

Cost: \$983,000

Time: 34 months

[DOE/EA-1950](#) (5/27/14)

Grand Coulee-Creston Transmission Line Rebuild Project, Grant and Lincoln Counties, Washington

Cost: \$209,000

Time: 19 months

[DOE/EA-1988](#) (5/27/14)

Northwest Fisheries Science Center Earthen Drainage Channel, Burley Creek Hatchery, Kitsap County, Washington

EA was adopted; therefore cost and time data are not applicable. [National Oceanic and Atmospheric Administration was the lead agency; DOE was a cooperating agency.]

Golden Field Office/Office of Energy Efficiency and Renewable Energy

[DOE/EA-1914](#) (5/14/14)

National Renewable Energy Laboratory National Wind Technology Center Site-Wide, Golden, Colorado

Cost: \$195,000

Time: 37 months

National Energy Technology Laboratory/Office of Electricity Delivery and Energy Reliability

[DOE/EA-1752](#) (5/15/14)

Pacific Gas and Electric Company Compressed Air Energy Storage Compression Testing Phase Project, San Joaquin County, California

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

Time: 50 months

EIS

There were no EISs completed during this quarter.

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/hepa/comments/ratings.html.)

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

New Annual NEPA Planning Summary Template

The NEPA Office is revising the template used in preparing the Annual NEPA Planning Summary (APS) to streamline the process. (See *LLQR, March 2014*, page 8.) A new, easy-to-use one-page template will accommodate all reportable NEPA reviews. The new template will have dropdown menus for data entry and a new user's guide.

In September, the NEPA Office plans to invite NEPA Compliance Officers (NCOs) to review and comment on the new template and user's guide. The revised template and user friendly format will speed up APS preparation,

while ensuring consistency among APSs. When final, the new template and user's guide will be distributed to NCOs.

Under DOE Order 451.1B, *NEPA Compliance Program*, every Secretarial Officer and Head of a Field Organization is responsible for submitting an APS to the General Counsel by January 31 annually. Preparation of these summaries helps ensure that NEPA activities are aligned with program priorities and that resources are allocated to enable timely completion of NEPA documents. APSs are made available to the public on the [DOE NEPA Website](#). 

NEPA Document Cost and Time Facts¹

EA Cost and Completion Times²

- For this quarter, the median cost for the preparation of 3 EAs for which cost data were applicable was \$209,000; the average was \$462,000.
- For this quarter, the median completion time for 4 EAs for which time data were applicable was 36 months; the average was 35 months.
- Cumulatively, for the 12 months that ended June 30, 2014, the median cost for the preparation of 12 EAs for which cost data were applicable was \$209,000; the average was \$338,000.
- Cumulatively, for the 12 months that ended June 30, 2014, the median completion time for 11 EAs for which time data were applicable was 19 months; the average was 24 months.

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.

² As always, the NEPA Office advises that cost and completion time metrics should be interpreted cautiously, particularly when there are only a few documents, as is the case for EAs reported in this quarter. For example, completion times for the four EAs this quarter for which time data are applicable substantially exceed DOE's long-term median/average of about 9 months/13 months for 250 EAs completed during the past 10 years. Costs for the three EAs this quarter for which cost data are applicable also exceed the long-term median/average of \$60,000/\$110,000 for more than 300 EAs. Data for this quarter influence the statistics for the relatively few EAs completed in the past 12 months. Among reasons reported by NEPA Document Managers for the above-average cost and completion time this quarter are project delays unrelated to NEPA, changes in the proposed action during the NEPA process, and challenges in working with cooperating agencies and completing tribal consultations.

Mitigation Action Plans

(continued from page 17)

Reducing Impacts to Water Resources

In these MAPs, the main impacts to water resources stem from groundwater infiltration, erosion from exposed soils, materials and waste, spills, and debris. To mitigate these impacts:

- The Grand Coulee-Creston Transmission Line Rebuild Project includes commitments to design and construct roads to minimize drainage from the road surface directly into water features, install sediment barriers and other related control devices, and ensure that temporary travel routes avoid water bodies and wetlands whenever possible.
- The Alvey-Fairview Transmission Line Rebuild Project commits to mitigating impacts to water resources by re-routing access roads, avoiding construction within wetland areas, and depositing and stabilizing all excavated material not reused in an upland area outside the floodplains.
- The FutureGen 2.0 Project obligates the construction contractor to maintain emergency spill kits, contain and clean up any spills, divert any stormwater runoff

EIS Cost and Completion Times

- There were no EISs completed during this quarter.
- Cumulatively, for the 12 months that ended June 30, 2014, the median cost for the preparation of 3 EISs for which cost data were applicable was \$1,980,000; the average was \$1,690,000.
- Cumulatively, for the 12 months that ended June 30, 2014, the median completion time for 4 EISs for which time data were applicable was 31 months; the average was 28 months.

exposed to the coal storage and ash area to the new lined settling basin or passive water treatment system through berms and above-ground conveyance systems, construct injection wells with corrosion-resistant steel and CO₂-resistant cements, remove construction and demolition waste, and keep construction materials, debris, chemicals, staging, and fueling at a safe distance from surface waters, wetlands, and floodplains.

Some mitigation measures are not of great significance individually, but when used for the duration of a project and in combination with other mitigation methods, they significantly reduce the potential environmental impacts. With increased research and development, we will likely see innovative and technologically advanced mitigation measures that will further reduce environmental impacts.

In my future studies, I look forward to furthering my foundational knowledge of mitigation efforts in energy projects, fostering conservation and environmental management alongside energy development and infrastructure. 

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

- *Early identification of participants.* Several DOE personnel and subject matter experts were identified early and were involved in the EA scoping process to ensure that proposed actions were identified.

What Didn't Work

- *Incomplete mailing list.* Some landowners were omitted from the original EA scoping mailing list. An enhanced mailing list was prepared and an additional scoping meeting was held to make sure that all appropriate landowners were included in the public notifications.
- *Public not aware of scoping.* Adjacent landowners expressed frustration that they were not aware that scoping had occurred (the first time the public heard about the project was when the draft EA was released). DOE was a cooperating agency and did not join the project until after a draft EA had been prepared.

- *Visual impact models.* Studies were initiated for visual impacts from proposed wind turbines and meteorological (met) towers. Using readily available high-resolution topographic elevation data, we were able to construct a viewshed model showing locations within the viewshed where the proposed turbines and met towers would be visible. The model accounted for the highest proposed height(s) of the turbines, met towers, and topographic features. This approach allowed us to focus the analysis and select various vantage points throughout the viewshed at set distances from the proposed project location to demonstrate the potential visual impacts.
- *Noise impact models.* Noise impacts were modeled using the most conservative noise levels that could be generated with a full "build out" of the site.

What Didn't Work

- *Project design changes.* Changes to the project design led to the need for additional analyses.
- *Difficulty collecting information.* Data collection was difficult due to the sheer size of the project area: 97 miles of transmission line right-of-way and 160 miles of access road. The entire area had to be surveyed for various natural resources.
- *Obtaining access permissions.* The length of time it took to obtain permission to enter properties was a challenge for data collection as it necessitated several different field visits from each natural resource data collection crew.
- *Lack of central project data repository.* The lack of a robust central data repository for all project information inhibited easy access to all of the information needed to develop the EA. There was a data repository that was supposed to be used, but much of the information needed had to be tracked down manually by asking people in person, over the phone, or by email. This method of collecting information caused significant inefficiencies in the production of the EA.

(continued on next page)

Questionnaire Results

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

Schedule

Factors that Facilitated Timely Completion of Documents

- *Frequent communication.* Frequent communication among program, Headquarters, and contractor staff facilitated timely completion of the EA.
- *Addressing issues promptly.* Promptly addressing any issues proved very important in the timely completion of this EA.
- *Good teamwork.* Good teamwork proved to be effective in the timely preparation of this EA.
- *Effective schedule.* After a project delay, a new schedule was developed that had every single day allocated to complete the EA in time to meet the anticipated construction start date. The final EA was issued on the target date set 9 months previously.
- *Frequent meetings.* Regular team meetings and weekly (sometimes daily) meetings and phone calls with the project manager enabled us to obtain decisions, information, and reviews, as needed.
- *Establishing a lead agency.* Establishing a lead federal agency to be responsible for coordinating regular conference call check-ins, ensuring clear communication, and outlining each agency's process/ responsibilities early in the EA process, helped to keep preparation of the document on track.
- *Use of Microsoft Project.* The DOE NEPA Document Manager used Microsoft Project to create and update the schedule. This kept the project moving forward and tracked completed tasks, action items, due dates, issues, and discussion points.

Factors that Inhibited Timely Completion of Documents

- *Tribal consultations.* The completion of consultations with multiple Indian tribes took longer than anticipated.
- *Lack of coordination.* As a result of the lack of initial coordination between DOE and the lead agency, the project was implemented a year later than desired.
- *Different agency processes.* Coordination between two federal agencies whose processes differed had a negative impact on the document preparation schedule.

- *Limited staff.* Limited staff were available to work on the project due to competing projects' workload.
- *Coordination with cooperating agency.* Coordination with the cooperating agency took much longer than expected. There was confusion as to what data were needed, which made identifying the correct method for completing the NEPA review to the satisfaction of both agencies difficult.
- *Revision of the proposed action.* The description of the proposed action experienced several revisions requiring additional reviews by all stakeholders, including program and Headquarters staff. Since the EA was a site-wide document, covering all proposed activities anticipated over the next 5 to 10 years, it took longer than expected to determine the proposed action and articulate a proper purpose and need.
- *Substantial work for document manager.* Substantial facilitation between different groups and revisions to text by the EA document manager were required to complete the writing of the proposed action.

Teamwork

Factors that Facilitated Effective Teamwork

- *Regular meetings.* Regular meetings of the project team facilitated timely completion of the EA.
- *Good coordination.* The NEPA team made a concerted effort to coordinate with internal team members, the cooperating agency, and outside permitting agencies to ensure that all target dates were met.
- *Daily conversations.* DOE had daily conversations with the project manager and contractor team members. Every two months the EA schedule was reviewed in great detail. The contractor leads attended every team meeting, and interacted independently with DOE staff and other contractors. This proved to be a very efficient and successful approach to identifying problems or information needs and addressing them quickly.
- *Appropriate staff identified early.* Appropriate DOE personnel and subject matter experts were identified early and were involved throughout the EA process to ensure that all topics were addressed properly.

(continued on next page)

Questionnaire Results

What Worked and Didn't Work

(continued from previous page)

Factors that Inhibited Effective Teamwork

- *Internal communication.* Communication between internal departments was ineffective. Sharing of pertinent project information is very important in the preparation of a quality EA.
- *Inefficient contractor relationship.* The DOE program responsible for this EA did not have a dedicated budget for contracting for NEPA document preparation. NEPA contractors are procured by the program management and operating (M&O) contractor. Given this contractual relationship, DOE could not provide direction to the contractor; however, DOE provided comments and guidance through the M&O. DOE was ultimately responsible for the scope and content of the EA.

Process

Successful Aspects of the Public Participation Process

- *No controversies.* There were no controversies associated with this proposed project.
- *Effective notification process.* The DOE public notification process benefitted the project because it involved communicating with the public via letters to adjacent landowners, ads in newspapers, and posting information online. This outreach ensured that adjacent landowners were aware of the project, and resulted in them providing feedback through their review of the draft EA. This comment process resulted in conducting additional analysis which improved the document and allowed us to address landowner concerns that might not have been raised had we not had the public process.
- *Successful public meetings.* The public meetings seemed to be successful in conveying information to interested parties.
- *Meaningful public involvement.* We went beyond the regulatory requirements to involve the public in the NEPA process during scoping and review of the draft EA. These efforts included notices in various media, such as local newspaper postings, on websites, and distribution of several thousand postcards.
- *"Open house" public meeting.* A public informational meeting was held using an "open house" forum. During the open house forum, no formal discussions and presentations took place, and there were no audience seats. Instead, the public received information

at several poster stations staffed with subject matter experts. Information presented included graphics, maps, photos, and handout documents. At least one technical person was at each station, and agency representatives were also positioned at displays or were roaming throughout the room.

- *Helpful public comments.* We received several good scoping and draft EA comments from agencies, local governmental organizations, and the public.

Unsuccessful Aspects of the Public Participation Process

- *Tribal dissatisfaction with consultations.* Indian tribes expressed dissatisfaction with the consultation process but did not provide specific concerns. DOE believes it made a good faith effort to have meaningful consultation and comply with Section 106 of the National Historic Preservation Act and meet the requests made by the tribes.
- *Low attendance at public meetings.* Despite our extra efforts to advertise the public informational meetings, we had relatively low attendance at the meetings.

Usefulness

Agency Planning and Decisionmaking: What Worked

- *Normal NEPA procedures.* Normal EA document preparation procedures were followed and no problems were encountered.
- *Better project decisions.* The EA process, specifically the results of public comments, helped DOE choose the best option for project implementation, and affected how and where the project would be implemented.
- *Selection of alternative.* A build and a no build alternative were considered in this EA. The EA process enabled DOE to identify ways to prevent significant impacts to resources so the decision to build the project was made easily.
- *Better understanding of the proposed action.* This EA process helped the decision makers to make an informed decision regarding the proposed action. They understood the need for the proposed action, the impacts of the proposed action, and recognized the steps taken to minimize potential impacts to human health and the environment.

(continued on next page)

Questionnaire Results

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

Enhancement/Protection of the Environment

- *Wildlife protection.* Wildlife protection measures were included in the final EA to insure that protected species are minimally impacted.
- *Mitigation of environmental impacts.* The environment would be largely protected as a consequence of this EA process. DOE committed to several measures in the EA to avoid, minimize, or mitigate environmental impacts during operation of the proposed action.
- *Enhanced resources protection.* The EA process resulted in the addition of resource protection measures for the project.
- *Mitigation implemented.* The hatchery effluent pipe outlet was screened and riparian and wetland areas were enhanced.
- *Impacts to cultural resources assessed.* DOE provided the State Historic Preservation Office (SHPO) with the results of a viewshed analysis for historic properties within a 2-mile radius of the highest visible feature at the proposed project site. Eleven cultural resource sites were identified within the viewshed, one of which was listed on the National Register of Historic Places (the former Rocky Flats Plant, which has been demolished and the land restored to prairie grassland). The SHPO concurred with DOE's determination that the proposed action would result in no adverse effect on historic properties.

Visualizing

(continued from page 12)

I am really excited about the potential of the MapWarper feature of NEPAnode to serve as a research tool and to further enhance the NEPA process as more “rectified” maps and metadata are added. Adding maps from already-published EISs, for example, would make the large amounts information they contain accessible for use in GIS applications.

To make the information easier to use, we recently enabled users to view the data in NEPAnode using the free version of Google Earth, which many users are familiar with. For any layer in NEPAnode, you can click on the download link and select “View in Google Earth” to access the data online as a web service. Data can be downloaded and used in other formats as well.

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 questionnaire responses were received, 4 respondents rated the NEPA process as “effective.”

- A respondent who rated the process as “5” stated that the NEPA process ensured that protected species are minimally impacted by the proposed action.
- A respondent who rated the process as “5” stated that the NEPA process is extremely important, and is often undervalued by the public. In this project and others, NEPA supported sound agency decisionmaking.
- A respondent who rated the process as “4” stated that the NEPA process facilitated the modification of the proposed project design to minimize impacts.
- A respondent who rated the process as “4” stated that the NEPA process for this project helped the decision makers understand positive and negative impacts of the project on various resources, thereby helping them make an informed decision.
- A respondent who rated the process as “2” stated that for this rebuild project, very few environmental protections were developed under the actual NEPA process (many were developed as part of permitting activities), and the NEPA decision was viewed as a foregone conclusion.

Help Wanted

I am looking for help in contributing to further development of this tool, such as by “rectifying” and uploading additional maps from EISs and other documents. If you are interested in contributing, or just want to learn more about how to apply these features, please contact me at the address below. In addition, I am interested in learning about other datasets or applications for NEPAnode. Recommendations or questions may be addressed to john.jediny@hq.doe.gov. 