

## GEOSCIENCES AND ENGINEERING DIVISION

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### TRIP REPORT

**SUBJECT:** Accounting for Cumulative Effects in the NEPA Process  
(AI No. 06002.01.011.051)

**DATE/PLACE:** February 28–March 2, 2007; Durham, North Carolina

**AUTHORS:** B. Werling

**DISTRIBUTION:**

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## **GEOSCIENCES AND ENGINEERING DIVISION**

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### **TRIP REPORT**

**SUBJECT:** Accounting for Cumulative Effects in the National Environmental Policy Act Process (AI No. 06002.01.011.051)

**DATE/PLACE:** February 28–March 2, 2007; Durham, North Carolina

**AUTHOR:** B. Werling

#### **PERSONS PRESENT:**

B. Werling of the Center for Nuclear Waste Regulatory Analyses (CNWRA) participated in the Accounting for Cumulative Effects in the National Environmental Policy Act (NEPA) Process course on February 28–March 2, 2007, in Durham, North Carolina. See Attachments 1 and 2 for the list of participants and instructors.

#### **BACKGROUND AND PURPOSE OF TRIP:**

This trip was part of ongoing CNWRA professional development training. The course outlined how to account for the cumulative effects when conducting NEPA analyses to support preparing environmental assessments and environmental impact statements. Federal regulations for implementing the NEPA procedural provisions define cumulative impacts in 40 CFR 1508.7 as impacts on the environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. The course was offered by the Duke Environmental Leadership (DEL) Program and cosponsored by the White House Council on Environmental Quality. The DEL Program offers a NEPA certificate, which I am pursuing. This certificate is obtained by attending a minimum of 100 hours of NEPA instruction within the DEL Program and completing a capstone paper. This course counts for 20 hours toward the certification.

NEPA (enacted in 1969) established a national environmental policy and provided a procedural framework for implementing this policy. This act requires federal agencies to consider environmental consequences in the decisionmaking process. Agencies must define the purpose and need for the proposed action, develop alternatives to the proposed action, and evaluate the environmental effects for each option. The goal of NEPA is to foster excellent actions utilizing a transparent process that helps members of the public and agency decisionmakers understand the environmental impacts associated with proposed actions.

#### **SUMMARY OF PERTINENT POINTS AND ACTIVITIES:**

The following points were emphasized by the instructors throughout the course:

- Experience suggests that the most ecologically devastating environmental impacts may not result from the effects of one particular proposal, but from the combined impacts of multiple actions over time (i.e., cumulative impacts).

- Determining cumulative impacts is extremely difficult because it entails examining more than just the impacts from the proposed action. It also involves examining impacts to the affected environment from other past, present, and reasonably foreseeable future actions including nonfederal or private actions.
- Cumulative effects analyses in NEPA documents, particularly environmental assessments, are addressed weekly and therefore one of the ripest areas for subsequent litigation.

The course consisted of lectures, case studies, and group exercises (see Attachment 3 for the agenda). Instructors encouraged interaction during the lectures, including feedback on successes and failures that course participants experienced in accounting for cumulative effects. Case studies and group exercises were designed to reinforce the lecture material.

**CONCLUSIONS:**

Course participants came from diverse organizations including private industry and federal and state government agencies. This diversity provided a wide variety of perspectives and experiences.

**PROBLEMS ENCOUNTERED:**

None.

**PENDING ACTIONS:**

By taking this course, I have completed the minimum hours of instruction through DEL required for the NEPA certificate. The last remaining step in obtaining the certification is the successful completion of the capstone paper. This paper is expected to be about 10 pages long and to represent original research related to NEPA theory or practice based on what was learned in the DEL courses or at work. Topics must be approved in advance, and the completed paper is reviewed by a panel of NEPA experts.

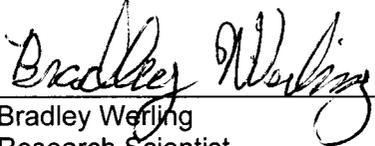
**RECOMMENDATIONS:**

This course would benefit individuals who review or prepare NEPA documents and seek an understanding of how to account for cumulative effects.

**REFERENCES:**

None.

**SIGNATURES:**

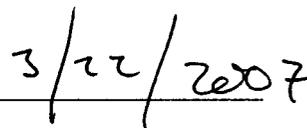
  
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3-22-2007  
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**CONCURRENCE:**



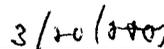
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Date



Pat Mackin  
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**ATTACHMENT 1**

# ACCOUNTING FOR CUMULATIVE EFFECTS IN THE NEPA PROCESS

DUKE ENVIRONMENTAL LEADERSHIP PROGRAM  
NICHOLAS SCHOOL OF THE ENVIRONMENT AND EARTH SCIENCES  
DUKE UNIVERSITY

February 28 – March 2, 2007

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**ATTACHMENT 2**

# ACCOUNTING FOR CUMULATIVE EFFECTS IN THE NEPA PROCESS

DUKE ENVIRONMENTAL LEADERSHIP PROGRAM  
DUKE UNIVERSITY'S NICHOLAS SCHOOL OF THE ENVIRONMENT  
AND EARTH SCIENCES

FEBRUARY 28 – MARCH 2, 2007

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**ATTACHMENT 3**

# ACCOUNTING FOR CUMULATIVE EFFECTS IN THE NEPA PROCESS

DUKE ENVIRONMENTAL LEADERSHIP PROGRAM  
NICHOLAS SCHOOL OF THE ENVIRONMENT AND EARTH SCIENCES  
DUKE UNIVERSITY

February 28 – March 2, 2007

## AGENDA

**WEDNESDAY  
FEBRUARY 28, 2007**

8:30 - 8:40	Welcome Deb Wojcik, Jes Miller and Jen Nelson
8:40 - 9:15	Overview of Course and Introduction of Participants Ray Clark
9:15 - 10:15	Cumulative Effects: Definitions and Principles Ray Clark
10:15 - 10:30	Break
10:30 - 11:00	EPA Review of NEPA Analyses Ray Clark
11:00 - 12:15	Exercise: Case Study Analysis
12:15 - 1:30	Campus Tour and Lunch
1:30 - 2:30	STEPS 1, 2, 3, and 4: Scoping for Cumulative Effects Ray Clark
2:30 - 2:45	Break
2:45 - 4:00	Cumulative Effects Case Law Ted Boling
4:00 - 4:15	Break
4:15 - 5:15	STEPS 5, 6, and 7: The Affected Environment as a Dynamic System Ray Clark
5:15 - 6:15	Social for Course Participants, Instructors and DEL Program Staff Hug Lobby, Nicholas School of the Environment and Earth Sciences

- Homework: Review CEQ Regulations (found in Reference Section)
- Suggested Reading: Churchill County v. Gale Norton and Klamath-Siskiyou Wildlands Center v. Bureau of Land Management (found in Reference Section)

*Please note: Agenda times are approximate and may be changed to accommodate class discussion.*

**THURSDAY  
MARCH 1, 2007**

- 8:30 - 8:50            Review Yesterday's Session
- 8:50 - 9:50            Steps 8, 9, and 10: Determining the Environmental Consequences of  
Cumulative Effects  
                         Gary Williams
- 9:50 - 10:00           Break
- 10:00 - 11:00           Determining the Geographic Scale for the Analysis  
                         Ray Clark
- 11:00 - 11:15           Break
- 11:15 - 12:15           Adaptive Management  
                         Ray Clark
- 12:15 - 1:15            Lunch
- 1:15 - 2:15            Methods for Cumulative Effects Analysis: Networks, Modeling, Trends,  
Questionnaires, Interviews, Panels, Checklists, and Matrices  
                         Gary Williams
- 2:15 - 2:30            Break
- 2:30 - 3:00            Step 11: Monitoring and Mitigation  
                         Gary Williams
- 3:00 - 3:15            Break
- 3:15 - 4:30            Case Study: Mid-Currituck Sound Bridge  
                         John Page
- 4:30 - 5:15            Case Study Panel Discussion  
                         John Page, Gary Williams and Ray Clark
- Homework: Read Lance McCold article (found in Reference Section)

**FRIDAY  
MARCH 2, 2007**

- 8:30 - 8:45            Review Yesterday's Session
- 8:45 - 9:45            Exercise: Identifying Cumulative Effects Issues
- 9:45 - 11:00           Agency Compliance & CEQ Initiatives  
                         Gary Williams
- 11:00 - 11:30           Class Discussion, Evaluation and Wrap-Up
- 11:30                    Adjourn

*Please note: Agenda times are approximate and may be changed to accommodate class discussion.*