

## **NEPA Training is Essential: It Shouldn't Just be for Environmental Staff - 15063**

Larry W. Camper\*, Zahira Cruz\*

\*US NRC

### **ABSTRACT**

In times of increasing workloads and flat budgets, it is important that the U.S. Nuclear Regulatory Commission (NRC) use available resources and techniques efficiently and effectively to achieve success in environmental reviews throughout the agency. By implementing a contract with Duke University, co-sponsored by the Council on Environmental Quality, to present courses near the NRC Headquarters in the Implementation of National Environmental Policy Act (NEPA), the NRC major program offices achieved success in training a large number of staff in NEPA in a timely and cost-effective manner. In addition, this training is positioning NRC staff to complete the Duke University graduate-level professional certificate in NEPA.

### **INTRODUCTION**

The U.S. Nuclear Regulatory Commission (NRC) performs environmental reviews under the National Environmental Policy Act (NEPA) for reactors and materials licensees, as well as for sites undergoing decommissioning, including fuel cycle facilities. With the legal assistance of the Office of the General Counsel (OGC), the major NRC offices that conduct NEPA reviews are: the Office of New Reactors (NRO), the Office of Federal and State Materials Management Programs (FSME), the Office of Nuclear Materials Safety and Safeguards (NMSS), and the Office of Nuclear Reactor Regulation (NRR).

In 2007, the offices of FSME and OGC recognized the need for large numbers of the NRC staff to become trained in the requirements of, as well as the opportunities associated with NEPA. NRC staff was open to broader university-based training because of the expected increase in the NRC's licensing and associated hearing activities related to the nuclear renaissance throughout the entire nuclear fuel cycle (e.g., uranium milling, enrichment/fuel fabrication facilities, current reactors, new reactors, transportation of spent fuel, Yucca Mountain Nuclear Waste Repository). All major NRC program offices agreed to participate in an expansive program to train a large number of the NRC project managers, and some of those being trained had minimal environmental background or NEPA experience. The same managers were expected to be called upon to render either recommendations or decisions that would affect applicants and communities.

### **PROBLEM**

In July 2008, the NRC was expecting 20 new and 9 restart/expansion uranium recovery applications in fiscal years (FYs) 2007 – 2011. At that time, the FSME, for example, had not

WM2015 Conference, March 15-19, 2015, Phoenix, Arizona, USA

received the budget to complete all those safety and environmental reviews within the two-year time frame that was the operational goal. Given the resource constraints and in order to complete the environmental reviews required by the regulations (10 CFR Part 51) for in situ recovery (ISR) uranium recovery applications on time, the FSME decided in FY 2007 to complete an ISR Generic Environmental Impact Statement (GEIS) in FY 2009 and then tier off the ISR GEIS with a site-specific environmental assessment.

Several NRC staff, including scientists and managers took their own initiative to find a proper training course to assist them in their work and to become more knowledgeable in NEPA. They attended several courses at the Duke University Environmental Leadership Program ([https://ceq.doe.gov/nepa/training/Duke\\_EL\\_courses\\_2010\\_NEPA\\_lists.pdf](https://ceq.doe.gov/nepa/training/Duke_EL_courses_2010_NEPA_lists.pdf)) and later recommended the program to others involved in the extensive uranium recovery environmental workload.

## **SOLUTION**

Although other entities provide training in NEPA, the Duke University program was the only NEPA program co-sponsored by the Council on Environmental Quality. From 2009 through 2014, NRC employees were trained in the basics of the *Implementation of NEPA* program. Since some of the NRC employees did not have environmental degrees, the Implementation of NEPA course was a good fit for all the managers because it gave a history and context of the development of environmental regulation as well as the fundamental pieces of how the statute integrated into the core mission of the NRC. More importantly, the agency wanted to maintain current awareness of NEPA issues.

The NRC reviewed the principles of the NEPA program at Duke University and determined that they matched the culture and mission of the NRC and are applicable to any agency attempting to train staff on NEPA:

- a. University-based. The Duke University courses were designed to be in an academic setting where expectations are set that this is a learning environment, rich with other learning opportunities, structured and disciplined instruction, and an opportunity to interact with instructors who have written, taught, and spoken widely in the field.
- b. Structured. The course begins with context; a history of environmental and natural resource conservation and regulations. It is important to start providing context on the development of the law and the provisions of the regulations, and work throughout the week to build on knowledge.
- c. Rigorous. The course was designed to be interactive, to expect readings at night, class participation, and feedback to the instructors that those taking the course understand the material.
- d. Multidisciplined. NEPA is a law unlike any other environmental law. There is no one discipline that can comply with the law. The law itself requires “and the use of the design arts and social scientists, engineers, life scientists, lawyers, and the

- design arts, as well as other disciplines. It makes sense, then, that the instructors be from many disciplines, as well.
- e. Interactive. An essential principle is that this course be interactive through dialogue and questions. It is designed to be challenging to the students and the instructors. As a result, there is a much richer learning occurring in such settings.
  - f. Student cross pollination. Students learn from one another, as well as from instructors. Through interactive classes, students learn how other student handled similar situations.
  - g. Focus on education, not training. Every NEPA problem is new, with its own unique signature. Many academics have written about this, requiring an “ecological rationality” [1] or a “rational approach to change” [2], while others have written about the limitations of the law and the philosophy of NEPA, strategies to comply, and NEPA’s relationship to science. It is not enough to teach students how to prepare an Environmental Impact Statement or how to read and understand the case law; it is important to understand the foundation of the statute, its intent, and how to use it purposefully.
  - h. Revitalization of spirit as well as mind. Students leave the Duke University course refreshed, reinvigorated, and ready to apply their new knowledge. All of the instructors understand the complexity of the law, as well as the criticisms of the time and money it takes to comply with the law.

## RESULTS

Although the FSME had the NRC lead delivering this training, all major program offices and three of the NRC Regions participated in the NEPA courses taught at NRC headquarters in Washington, DC. All participating program offices achieved success in training a large number of staff in NEPA in the timely and cost-effective training of a large number of staff in NEPA. In addition, the training positioned many NRC staff to complete the Duke University graduate-level professional certificate in “Implementation of NEPA.” In prior years, NRC staff would attend those courses at Duke University in North Carolina, but, by having the courses taught at NRC headquarters, the NRC saved approximately \$1.275 million during the five-year contract, due to tuition discounts and reduced travel costs, including per-diem expenses [3]. These savings were realized while maintaining the university-based structure identified earlier.

The Duke University program was designed for professionals seeking essential skills in the understanding and implementation of NEPA. The professionals were trained over a five-year period and these courses included: (1) “Socioeconomic Impact Analysis under NEPA,” (2) “Accounting for Cumulative Effects in the NEPA Process”, (3) “Tribal Consultation,” and (4) “Preparing and Documenting Environmental Impact Analyses,” (5) “Scoping, Public Involvement and Environmental Justice,” (6) “Current and Emerging Issues in National Environmental Policy,” (7) “The Law of NEPA,” and (8) “Considering Greenhouse Gas Emissions and Climate Change under NEPA,” which were elective courses. The one required course is titled: “Implementation of NEPA.” After taking a requisite combination of courses, an

WM2015 Conference, March 15-19, 2015, Phoenix, Arizona, USA

NRC employee could choose to prepare a capstone paper. If the employee finished the course work and prepared an acceptable paper, Duke University provided an “Implementation of NEPA Certificate.” The NRC is a science-based agency, so the rigor associated with the Duke program and the opportunity for additional professional credentials, appealed to the NRC leadership.

Those courses were specifically designed for mid-level and senior project managers who work to streamline the environmental permitting process for federal facilities and federal regulatory activities; so that they could prepare and review environmental assessments, environmental impact statements, and other NEPA analyses.

All of the Duke University courses were taught by highly experienced NEPA practitioners drawing upon real-world experience as well as their awareness of current NEPA case law. The courses taught at NRC headquarters were attended by attorneys, branch chiefs, division directors, senior level service staff, resulting in a cross section of participation. Those courses provided the tools necessary to address the environmental effects of agency actions and to ensure that environmental impact analyses are substantively and procedurally accurate. Instruction aided students in determining the necessary documentation to fully record and disclose to the public the results of environmental analysis.

## **CONCLUSIONS**

As of December 2014, about 350 NRC employees had taken courses offered through this program. Twenty-four NEPA certificates have been awarded and one more NEPA certificate is pending. The capstone papers developed by the students are preserved in the Duke University Library for future use as reference information and are an integral tool for knowledge management, particularly knowledge transfer among the departments. Those capstone papers are also accessible to NRC staff and other federal employees (NEPA Education and Certificate Program Capstone Papers, <http://dukespace.lib.duke.edu/dspace/handle/10161/3188> ). Experience has shown that having a broad spectrum of technical staff, managers, executives, and attorneys enhances the overall learning process and exchange of information. Great value is gained by involving NEPA practitioners along with other operational staff so as to solicit different perspectives, and thus greatly enhance NEPA functionality. In addition, the benefits of cross-training, mentoring, and knowledge management are well understood and clearly augmented by the NRC-Duke University collaboration.

Those courses provided the necessary tools to address the environmental effects of agency actions and to ensure that environmental impact analyses are substantively and procedurally accurate. Instruction aided students in determining the proper level of documentation to fully record and disclose to the public the results of environmental analysis.

Federal agencies are often called up to complete complex tasks that require specific skills and current awareness. The NRC has a culture that requires rigorous analysis, professional discipline, and efficiency. The NRC also requires that the proper focus to address particular

WM2015 Conference, March 15-19, 2015, Phoenix, Arizona, USA

complex problems affecting the nuclear industry be in place. While the agency relies on contractors to complete some environmental assessment tasks, personnel who are NRC employees are expected to understand the subject matter and requirements they have asked contractors to perform. The agency does not expect the NEPA analyses to be a “check the box” exercise, because the analysis is valued and the critical thinking that NEPA requires is paramount. Participation by NRC staff in the Duke University Environmental Leadership Program (closed in May 2014), greatly contributed to the NRC’s environmental assessment program to satisfy NEPA. Based upon numerous surveys during the five years of the training program, as well as interviews with staff and participating managers, the program was deemed to be a resounding success.

## **REFERENCES**

- 1) R.V. Bartlett, *Ecological Rationality: Reason and Environmental Policy*. *Environmental Ethics* Vol. 8: pp. 221–239 (1986).
- 2) R. Clark, *NEPA: The Rational Approach to Change*. In *Environmental Policy and NEPA: Past, Present, and Future*, R. Clark and L. Canter, eds. St. Lucie Press, Boca Raton, FL, pp. 15–23 (1997).
- 3) US Nuclear Regulatory Commission (NRC), *Memorandum from C. Miller to J.McDermont, et al.: Effort to train the U.S. Nuclear Regulatory Commission staff on the National Environmental Policy Act*. NRC, Washington, DC (2008).