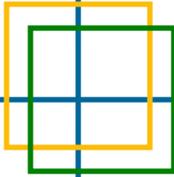




July 2007



Evaluation of EPA's National Enforcement Training Institute



Promoting Environmental Results



Through Evaluation

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EXECUTIVE SUMMARY

BACKGROUND

The National Enforcement Training Institute (NETI) supports the national environmental enforcement and compliance program by training Federal, State, local, and tribal environmental enforcement personnel, including attorneys, inspectors, technical staff, and investigators, in the full spectrum of enforcement program activities. NETI's programs range from general enforcement program activities to detailed, regulation-specific training programs. NETI's goals are to develop a highly skilled and professional enforcement and compliance workforce and to help EPA's Office of Enforcement and Compliance Assurance (OECA) in meeting its goals related to identifying, correcting, and deterring noncompliance and reducing environmental risks.

An evaluation of the NETI program was conducted to determine:

- Whether NETI is meeting its mission of developing a highly skilled and professional enforcement and compliance workforce; and
- How to better measure NETI's contribution to OECA's goal of "By 2008, identify, correct, and deter noncompliance and reduce environmental risks through monitoring and enforcement by achieving: a 5% increase in compliance actions taken during inspections; a 5% point increase in the percent of enforcement action; a 5% point increase in the percent of enforcement actions requiring that pollutants be reduced, treated, or eliminated; and a 5% point increase in the percent of enforcement actions requiring improvements in environmental management practices".

To accomplish these goals, the evaluation answers the following questions:

1. *Is NETI performing the right activities?*
 - a. Does the training cover key topics of concern to management?
 - b. Does the training address the right audiences?
 - c. Does the training address the diverse audiences?
 - d. Is the training promoted effectively?
2. *Are the existing measures that NETI uses sufficient to determine if NETI is meeting the stated objectives of providing a skilled and professional work force? What additional measures could be used?*
3. *Has NETI's training program contributed to a highly trained and skilled work force that can deliver inspections and enforcement cases that can lead to environmental results?*
 - a. Do participants find training valuable and relevant to their jobs?
 - b. Are class participants learning the intended material?
 - c. Does behavior change as a result of training; are the class participants incorporating what they've learned into their day-to-day activities?

- d. Are class participants being given the opportunities to use their training?
4. *What needs to be improved for NETI's training program to:*
 - a. Contribute to a highly trained and skilled work force?
 - b. Meet OECA's Performance-Based Goals?
5. *How can NETI assess if its training programs lead to a more efficient enforcement program?*
6. *How can NETI assess its contribution to OECA's goal of achieving a 5% increase in complying actions taken during inspections; a 5% point increase in the percent of enforcement actions requiring that pollutants be reduced, treated, or eliminated; and a 5% point increase in the percent of enforcement actions requiring improvements in environmental management practices?*
7. *What is the most efficient combination of measurement tools, including pre- and post-tests; peer reviews of inspectors, attorneys, and other staff; follow-up surveys to training participants; and end-user surveys of facilities being inspected*

Data used to answer the evaluation questions came from several sources including NETI Online, (NETI's website and database), information from two course surveys implemented by NETI, staff interviews, and a literature review. Currently, NETI is responsible for coordinating and supporting over 100 training courses sponsored by Headquarters, Regions and others. Coordination and support for these courses involves "the use of NETI Online to advertise courses, register students, present web-based training modules, providing statistical reports of training activities, and serving as a central repository of data about NETI-sponsored courses." Of the 100 courses for which it provides coordination and support, NETI is only directly responsible for the development and delivery of seven classroom courses and 12 distance learning (i.e. web-based, CD Rom) products. This evaluation focused on four classroom courses NETI both developed and delivered. The courses listed below were selected because they represent NETI's core classroom course offerings, have been delivered for a number of years and have sufficient data available to proceed with the evaluation.

- Basic Inspector Course (no. CST109);
- Advanced Inspector Training (no. CST309);
- Advanced Negotiation Skills Training (no. CST304); and
- Enforcement Teamwork (no. CST208).

FINDINGS

Although NETI is responsible for ensuring that training is provided in all aspects of environmental enforcement, regardless of program or jurisdiction, NETI is only directly responsible for the content development and delivery of seven class room courses and 12 distance learning products. During the course of the evaluation, several recurring themes and tensions emerged that warrant further discussion and attention. These include the tension

between direct versus indirect control over course content and delivery as well as the tension between aspects of NETI's mission for which it is held accountable but appears to have little or no direct responsibility. Of equal importance is the challenge of executing its mission within the existing organizational structure and with staff and budget constraints.

Direct Control versus Indirect Control

During the conduction of this evaluation, ERG considered those elements that are directly in NETI's control (e.g., course content and delivery of the four core class room courses) as well as those that are not directly in NETI's control (e.g., development of media-specific courses by other EPA Headquarters, Regional offices and grantees). For example, while part of NETI's mission is to identify training needs that reflect the Agency priorities, NETI does not have direct control in developing or has not exercised its authority to require the development of training courses to fulfill those needs.

Accountability versus Responsibility

Throughout the evaluation, the theme of accountability versus responsibility continued to emerge. NETI is directly responsible for content development and the delivery of 19% of the classroom courses and distance learning products listed in its on-line catalogue. However, the division is held accountable for the performance of the Training Program as a whole including those courses that are developed by other EPA Offices, Regions and grantees. The issue of accountability versus responsibility presents a unique challenge to NETI. While NETI staff understand the distinction between those courses it is responsible for, EPA managers, staff and others alike, may not perceive this distinction. Therefore, from a manager's or course participant's perspective, a poorly developed and delivered course may be perceived as a poorly executed "NETI" course (regardless of who designed the product). Additionally, NETI staff must also collect and report on the performance of all training programs.

Staff and Budget Constraints

NETI is responsible for achieving its mission with a compliment of 22 full time equivalents (FTE), two Senior Environmental Employees (SEE) and approximately \$800,000 - \$900,000 in extramural funds. With these resources, NETI manages day-to-day activities in support of its broad mission. While not the subject of this evaluation, further study may be warranted to determine if sufficient resources are available to execute NETI's existing mission.

Is NETI performing the right activities?

In terms of elements within NETI's control (i.e., the four courses developed and implemented by NETI, as well as supporting the delivery of other training courses), NETI appears to be effective at developing and delivering courses that reach the intended audience, convey the necessary information, and result in behavior changes. As a result of this evaluation, it was apparent that NETI is effective in addressing the course logistics, content, presentations, and instructors associated with delivering a successful training program. For the four courses evaluated, NETI is effecting behavioral change, since participants are using the training skills and referencing the training in performing their jobs.

In terms of elements not completely in NETI's control, enforcement managers raised concerns about the overall enforcement program regarding the timeliness of developing new training programs, and the fact that the training programs do not address the priorities or goals of OECA enforcement managers. Some managers stated they would send more staff to NETI training if the training programs better aligned with their priorities or goals.

Are the existing measures that NETI uses sufficient to determine if NETI is meeting the stated objectives of providing a skilled and professional work force? What additional measures could be used?

NETI currently collects output measures such as: number of people trained; diversity of people trained; number of courses developed, and number of courses delivered. NETI currently tracks these through NETI Online and publishes this data in the NETI annual report. Output measures related to the quality of the training courses, including delivery logistics, quality of instructors, etc. are currently collected using a course Evaluation Form developed by NETI. While important, these measures alone are not sufficient to determine if NETI is meeting its goals and objectives. Outcome measures that assess if students have used training skills/information 3-12 months following the training; assess changes in job performance; and assess if the results of enforcement actions changed after training are needed. NETI currently measures the use of skills six months after the training using a Follow-Up Questionnaire but has not been successful in receiving much input through these forms.

Has NETI's training program contributed to a highly trained and skilled work force that can deliver inspections and enforcement cases that can lead to environmental results?

For this question, the evaluation determined the usefulness of the four NETI-developed courses through responses to the two evaluation forms; and manager and participant interviews. All six of the participants responding to the follow-up questionnaire found the training useful and thorough, and they rated overall course effectiveness from "outstanding" to "good." Although these six participants represent only five percent of participants for the three courses, the consistent rating of "good" to "outstanding" cannot be discounted. Participants indicated on the Follow-Up Questionnaire that they are given the opportunity to use their training during inspections, negotiations, and litigations; and found the training useful.

Half of the enforcement managers interviewed felt that class participants improved job performance after training, with 43 percent indicating "some improvement" and seven percent indicating "much improvement." Thirty-six percent of enforcement managers were unable to rate the improvement of job performance after training, while 14 percent indicated "no improvement." Therefore, it appears NETI's training programs are effective at teaching the participants the intended content and result in some behavior changes for the specific courses evaluated.

Some responses by managers addressed the overall training program including training not directly controlled by NETI. Half of the managers rated the overall training program as "not effective" on staff development. This rating correlates with managers' belief that the training does not meet the needs of their staff in terms of the managers' priorities and goals

During the interviews, several enforcement managers indicated that NETI should develop additional courses to reflect new regulatory requirements and OECA's priorities.

What needs to be improved for NETI's training program to: contribute to a highly trained and skilled work force?; and meet OECA's Performance-Based Goals?

A recurring theme throughout the evaluation was that NETI could have more of an impact on achieving OECA's goals if NETI's overall training program were more focused on those goals. Addressing this concern is not in NETI's direct control, as NETI does not control the content of all the training courses. However, NETI could coordinate with OECA managers to develop systematic approaches for obtaining input from managers regarding goals and priorities. This would help inform NETI as to the types of training programs that should be developed. NETI could then coordinate with the appropriate EPA offices to ensure that the necessary courses are developed.

How can NETI assess if its training programs lead to a more efficient enforcement program?

Managers and NETI staff suggested following-up with participants and/or their supervisors to see if performance changed; conducting regular meetings with enforcement program/media managers for feedback on staff needs and managers' goals; and developing inspector-specific certification would lead to a more efficient enforcement program.

How can NETI assess its contribution to OECA's goal of achieving a 5% increase in complying actions taken during inspections; a 5% point increase in the percent of enforcement actions requiring that pollutants be reduced, treated, or eliminated; and a 5% point increase in the percent of enforcement actions requiring improvements in environmental management practices?

In terms of how to measure NETI's contributions to OECA's goals, NETI is in a challenging position in that many factors outside of its control also contribute to the success of OECA's programs. Because the enforcement process is complex and OECA's success depends on a series of factors (e.g., the effectiveness of a team of EPA personnel, if there is a violation, the severity of the violation, the opportunity for pollutant reductions from an enforcement case), most of which are outside of NETI's control or influence, quantifying NETI's contribution to pollutant reductions or changes in enforcement case outcomes is impractical, if not impossible.

What is the most efficient combination of measurement tools, including pre- and post-tests; peer reviews of inspectors, attorneys, and other staff; follow-up surveys to training participants; and end-user surveys of facilities being inspected?

NETI has implemented two tools to obtain measurement information – the Evaluation Form and the Follow-Up Questionnaire. These tools provide useful information on how NETI is doing with the delivery of the training programs, and if participants are using information from the training program in their day-to-day job functions. However, NETI has received very little response from the Follow-Up Questionnaire, and should consider

implementing techniques to improve survey responses. One such technique is the Dillman Method which the Office of Compliance has used to improve performance measurement efforts associated with compliance assistance programs. The Dillman Method¹ comprises five distinct elements. These elements have been shown to achieve good response rates for mailed and other self-administered surveys. The five elements are:

1. Develop respondent-friendly questionnaires;
2. Implement a five-step process for contacting respondents, including notifying them prior to survey receipt, and contacting them several times after survey receipt;
3. Provide return envelopes with first-class stamps;
4. Develop personalized correspondence; and
5. Provide token prepaid financial incentives.

CONCLUSIONS AND RECOMMENDATIONS

Increased Oversight and Involvement in Non-NETI Developed Courses

Under the existing organizational structure and mission, NETI is held accountable for the performance of the Training Program as a whole, including those classroom courses and distance learning products that are developed by other EPA Offices, Regions and grantees. Those courses not developed by NETI represent 81% of the courses developed. Given this imposed accountability, NETI should consider increasing the level of oversight and involvement in the development or review of non-NETI developed courses. Increased oversight will undoubtedly present a challenge given limited resources but may be a necessary step to ensure the collection of needed performance information and the quality of classroom courses and distance learning products that fall under the umbrella of the NETI Training Program. Increased oversight and involvement could involve the following:

1) Establish a data collection policy requiring offices who advertise courses through NETI to use a course Evaluation Form that will facilitate the collection of specified output and outcome measurement information. Offices could use a standardized form developed by NETI or a feedback form of their own design provided it contains all of the needed performance information prescribed by NETI.

2) Prior to submitting a new course, require each office to specify what knowledge and practical skills participants will take away from the workshop and bring back to their daily work. Questions regarding the new knowledge and skills could then be integrated as part of the end of course evaluation form. NETI could also specify how the course will contribute to any core competencies for inspectors, attorneys etc.

¹ Dillman, Don A., 1999. *Mail and Internet Surveys: The Tailored Design Method*, John Wiley and Sons, New York.

3) Require offices who propose the development of new and existing courses to specify and demonstrate how the proposed or existing course aligns with OECA's existing national priorities goals and objectives. The utility of existing and new courses could be assessed using criteria similar but not limited to the criteria below:

- a) supports existing regulatory enforcement;
- b) aligns with existing national priorities;
- c) aligns with OECA's strategic goals and objectives; and
- d) supports core competencies for a specific job function/position..

4) Create a formal process to solicit senior and mid-level management input and feedback on the identification and development of existing and new classroom courses and distance learning products. The evaluation findings clearly indicate that a majority of staff hear about NETI courses through their managers. This is true for the four NETI-developed courses assessed during this evaluation.

Identification of New Training Courses

Feedback obtained from managers during phone interviews suggests that the development of new course offerings in response to emerging and new regulations may not be timely. The development of a new training course in response to each new regulation may be time consuming and an inefficient use of resources given the overwhelming number of new regulations developed in a given year. However, NETI could consider monitoring the emergence of new regulations that impact enforcement activities and 1) convene a review board (composed of a select number of managers and trainers) or 2) distribute new regulations to senior managers and existing NETI trainers to solicit their input regarding whether the development of a new course is warranted or whether the development of a new module to append to an existing course would be sufficient. A subscription to an electronic/automated legislation service could be obtained or a review of EPA's Regulatory Agenda could suffice.

OECA has identified the following national priority areas for fiscal years 2005 through 2007:

- Financial responsibility/assurance;
- Wet weather (stormwater, CAFOs, CSOs/SSOs);
- Air toxics (maximum achievable control technology – MACT);
- New source review/prevention of significant deterioration (NSR/PSD);
- Mineral processing;
- Tribal concerns; and
- Petroleum refining.

While OECA and others have developed some training programs in these areas, there has not been a coordinated effort through NETI to develop enforcement training programs across all of these areas. Because course development is to some degree out of NETI's control, NETI should consider closer coordination with other EPA offices, as well as with OECA enforcement managers regarding OECA's priority areas, to ensure that these types of courses are developed in a timely manner. Developing and delivering training programs is resource intensive, and having to develop new courses to address each of OECA's priority areas (there are currently

approximately seven different priority areas, which change every few years) may not be cost-effective. However, it may be appropriate to identify which elements or aspects of existing courses address these priorities.

In addition to training on the priority areas and more media/program-specific training, enforcement managers' priorities focused on programmatic aspects of enforcement activities, including targeting, sampling, report writing, implementation of EPA Order 3500.1, electronic discovery rules, and improvement of computer hardware and software skills were also identified and areas needing additional attention. Some of these elements may be appropriate for the four courses developed by NETI. ERG recommends that NETI review these topic areas and consider incorporating them as appropriate into the four NETI-developed courses.

Performance Measures and Data Collection Instruments

This evaluation identified several performance measures and data collection instruments that NETI could use to better evaluate the effectiveness of its training programs, including:

1) Use pre/post tests to assess changes in learning. ERG found that the standard approach to measuring the performance of training programs is Kirkpatrick's four-level approach (Kirkpatrick, 2006)². Under the four-level approach, the impact of training is gauged by developing measures that reflect four levels of training effectiveness:

- Reaction—What did the participants think of the training immediately following the training?
- Learning—What did the participants learn from the training?
- Behavior—Did the participants change their behavior as a result of the training? (Usually measured after some time has passed (e.g., six months))
- Results—Did the training result in meaningful results?

Kirkpatrick suggests that the first of these (Reaction) is essential to evaluating the impact of training and that the other three should be done if time and resources permit. The Evaluation Form and the Follow-Up Questionnaire currently used by NETI capture the reaction and behavior levels of training effectiveness specified in Kirkpatrick's approach. However, data capturing learning is not collected. Information on learning can be measured by administering pre/post tests in which participants are quizzed on their knowledge of subjects that will be covered under the training before instruction begins and then after. Scores are compared to identify any marked changes in knowledge.

All training is geared at some form of improvement of outcomes. This last group measures the extent to which those outcomes are realized as a result of the training. Measuring this level would require comparing outcomes (e.g., changes in compliance rates, changes in

² Kirkpatrick, Donald L., 2006. *Evaluating Training Programs: The Four Levels*. Berrett-Koehler Publishers; 3rd edition.

pollutant releases) associated with those that took the training with the outcomes from those that did not take the training.

2) Ensure the consistent use and collection of course evaluation forms. NETI has designed the implemented the use of a two standardized data collection instruments – the NETI Evaluation Form and the Follow-up Questionnaire for four of its courses. However, this information had not been available consistently. During the course of this evaluation, the analysis of data was hampered slightly by the absence of summary data for specific courses.

3) Consider developing a schedule/cycle for the systematic review of existing training courses. These programs could be reviewed yearly, biannually or coincide with the development of EPA's strategic plan or review of National priorities.

4) In addition to the tools NETI currently uses, NETI could consider additional tools to better evaluate the four training courses that it develops. NETI could also encourage the use of other tools for all courses that NETI facilitates. These tools include:

- Pre/post-tests. NETI does not implement any measurement tools to evaluate if participants are learning the intended information for the four courses developed by NETI. Pre/post-tests are frequently used for this purpose, and could be easily developed and implemented by NETI. However, developing these tests and analyzing the results of the tests will add additional costs to each training delivery.
- Follow-up with participant supervisors to assess the impact of the training on job performance. This follow-up could consist of a paper or electronic survey, or a phone survey similar to the phone survey conducted for this evaluation.
- Systematic follow-up with enforcement managers to evaluate the effectiveness of NETI's programs in addressing managers' goals, and in motivating behavior changes and improving performance among trained personnel. This follow-up could consist of a paper or electronic survey, or a phone survey similar to the phone survey conducted for this evaluation.

A challenge with each of the items identified during this evaluation is the amount of resources required to implement some of these recommendations, as compared to the resources available. For example, implementing the Dillman method to improve survey response rates adds costs to the process, though a repeatable approach could reduce the costs on a per-course basis. The resource implications will need to be weighed against the improvement in the types of information NETI has available to help make future decisions on how to develop and deliver its courses.

1.0 INTRODUCTION

Housed within the Office of Compliance (OC) in EPA's Office of Enforcement and Compliance Assurance (OECA), EPA's National Enforcement Training Institute (NETI) is responsible for developing a highly skilled and professional enforcement and compliance workforce by providing training to federal, state, local, and tribal lawyers, inspectors, criminal investigators, and technical experts in the enforcement of the nation's environmental laws. In January 2005, OC formed a task force to examine various issues associated with training for EPA's national enforcement and compliance assurance program. One area that the task force examined was how NETI measures and evaluates its performance. The task force determined that NETI did not have a system in place to properly evaluate whether it was meeting its mission, and that NETI was too heavily focused on output measures. As a result, NETI, working with EPA's Office of Policy, Economics, and Innovation (OPEI), has undertaken this evaluation to determine: 1) if NETI is meeting its stated mission of developing a highly skilled and professional enforcement and compliance work force; and 2) how OC can better directly measure NETI's contribution to OECA's goals of "By 2008, identify, correct, and deter noncompliance and reduce environmental risks through monitoring and enforcement by achieving: a 5% increase in complying actions taken during inspections; a 5% point increase in the percent of enforcement actions requiring that pollutants be reduced, treated, or eliminated; and a 5 percent point increase in the percent of enforcement actions requiring improvements in environmental management practices." This report describes the data sources, data collection methods, analytical approaches used to answer key questions posed by the evaluation, and the results of the evaluation.

1.1 NETI Background

NETI was first organized under the provisions of the 1990 Pollution Prosecution Act. NETI's mission, as set forth in Section 204 of the Act, provides that:

"It shall be the function of the institute to train federal, state, and local lawyers, inspectors, civil and criminal investigators, and technical experts in civil and criminal enforcement of the nation's environmental laws."

NETI was formed in the Office of Enforcement, the predecessor to OECA. The re-organization into OC was recommended by the December 2003 Management Review of the Office of Criminal Enforcement, Forensics, and Training (OCEFT), NETI's home for the preceding eight years. From its inception, NETI managers and staff have viewed the Institute's role as having broad responsibility for ensuring that training is provided in all aspects of environmental enforcement, regardless of program or jurisdiction, to all involved with enforcing environmental laws and regulations.

NETI's mission is to support the national environmental enforcement and compliance program by:

- Identifying strategic education and training needs that reflect priorities and address important gaps in knowledge and skills of those engaged in assuring compliance with federal environmental laws;

- Ensuring that needed education and training is identified and available through consulting and designing, developing, teaching and/or facilitating quality courses and materials offered through a wide variety of delivery mechanisms designed to build and maintain competency and professionalism for compliance and enforcement professionals;
- Covering the full spectrum of the primary tools to promote compliance, including compliance monitoring, compliance assistance, compliance incentives, and civil and criminal enforcement;
- Being accountable for the quality and effectiveness of NETI training and of NETI leadership in continuous professional education through the use of performance measures and results; and
- Promoting education opportunities, resources and a culture of continuous learning among environmental compliance professionals in federal, state, tribal and local government.

To illustrate the various components of NETI's responsibilities, EPA developed a logic model (Figure 1-1) that graphically depicts the relationship between program resources, activities, outputs and outcomes (short-term, intermediate and long-term). As illustrated in Figure 1-1, NETI is responsible for a wide range of activities targeting a diverse range of customers including EPA, states, and tribal programs. In addition to developing, delivering and maintaining NETI courses (classroom and distance), NETI is responsible for providing support for courses developed by other OECA offices and Regional offices, providing outreach, maintaining training facilities and the NETI Online Registration database, and assisting its partners with course development and delivery. NETI facilitates course promotion, registration, delivery, and tracking of its in-class and online classroom courses through NETI Online (www.netionline.com).

While NETI is responsible for coordinating and supporting the promotion of over 100 courses currently included in NETI Online, NETI staff have direct responsibility for delivering and developing course content for seven classroom courses and 12 distance learning (i.e. web-based CD-Rom) products. For the purposes of this study, the four training courses listed below will be evaluated in detail:

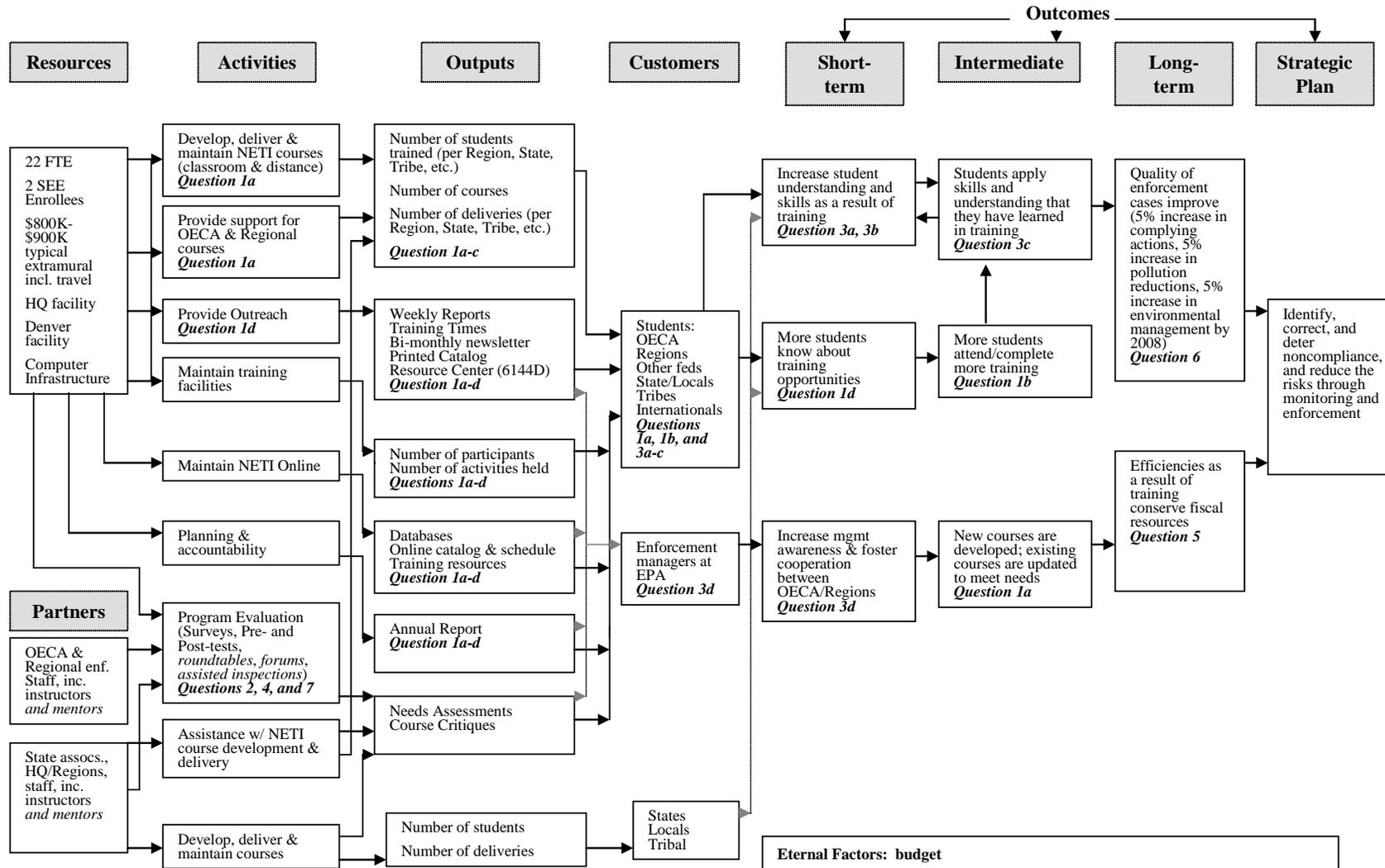
- Basic Inspector Course (no. CST109);
- Advanced Inspector Training (no. CST309);
- Advanced Negotiation Skills Training (no. CST304); and
- Enforcement Teamwork (no. CST208)

These four courses were chosen because they have been in existence for a number of years and because they are the core of NETI's classroom course offerings.

NATIONAL ENFORCEMENT TRAINING INSTITUTE^a

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1-3



a - Corresponding evaluation questions discussed in Section 1.2 are indicated in bold italics.

Figure 1-1. NETI Logic Model

1.2 Evaluation Purpose

This evaluation assesses the effectiveness of NETI's training programs in achieving its mission. Specifically, this evaluation answers the following questions:

1. *Is NETI performing the right activities?*
 - a. Does the training cover key topics of concern to management?
 - b. Does the training address the right audiences?
 - c. Does the training address the diverse audiences?
 - d. Is the training promoted effectively?
2. *Are the existing measures that NETI uses sufficient to determine if NETI is meeting the stated objectives of providing a skilled and professional work force? What additional measures could be used?*
3. *Has NETI's training program contributed to a highly trained and skilled work force that can deliver inspections and enforcement cases that can lead to environmental results?*
 - a. Do participants find training valuable and relevant to their jobs?
 - b. Are class participants learning the intended material?
 - c. Does behavior change as a result of training; are the class participants incorporating what they've learned into their day-to-day activities?
 - d. Are class participants being given the opportunities to use their training?
4. *What needs to be improved for NETI's training program to:*
 - a. Contribute to a highly trained and skilled work force?
 - b. Meet OECA's Performance-Based Goals?
5. *How can NETI assess if its training programs lead to a more efficient enforcement program?*
6. *How can NETI assess its contribution to OECA's goal of achieving a 5% increase in complying actions taken during inspections; a 5% point increase in the percent of enforcement actions requiring that pollutants be reduced, treated, or eliminated; and a 5% point increase in the percent of enforcement actions requiring improvements in environmental management practices?*
7. *What is the most efficient combination of measurement tools, including pre- and post-tests; peer reviews of inspectors, attorneys, and other staff; follow-up surveys to training participants; and end-user surveys of facilities being inspected?*

The NETI Logic Model (Figure 1-1) indicates which aspects of the logic model are connected to the evaluation questions as denoted in bold italics. As depicted in the logic model, this evaluation addresses elements across the entire performance spectrum.

With respect to course development and delivery, the evaluation focuses on the four courses developed and implemented by NETI. The reasons for focusing on these classes are twofold: 1) NETI is in full control of all aspects of course development and implementation for these classes, and 2) the effort required to analyze all of the training programs supported by NETI would exceed the budget and time allocated to complete this evaluation. The collection of new information was limited to EPA employees, since collecting data from more than nine non-federal employees requires an Information Collection Request (ICR) per the Paperwork Reduction Act.

1.3 Report Outline

Section 2.0 presents the data sources used for the evaluation and the data collected during the evaluation. Section 3.0 presents the methodology and the analytical approach used to relate the data sources to the seven evaluation questions. Section 4.0 presents the analysis of the data compiled, and Section 5.0 presents the conclusions from the analysis.

2.0 DATA SOURCES AND COLLECTION

For this evaluation, we used the following data sources:

1. Information stored in the NETI Online database regarding class participants, training courses, and course deliveries;
2. Information collected by NETI through two surveys administered to course participants (the NETI Evaluation Form and the Follow-up Training Questionnaire) of the four NETI-developed courses;
3. Information collected through interviews with enforcement managers, NETI staff, and class participants; and
4. Information on performance measurement metrics found in literature.

This section discusses the data sources and summarizes the data collected for this evaluation. This section also identifies changes from the draft methodology and the limitations of the data compiled.

2.1 NETI Online

NETI compiles statistics on training course participants through the use of the NETI Online Registration. NETI Online comprises twenty data tables that include information on training courses, course participants, course deliveries, etc. This data source has been used by NETI to develop many of its performance metrics that have been presented in annual reports, including the number of courses developed, number of students trained, and affiliation of students trained. NETI Online includes information on those courses developed by NETI, and those facilitated and supported by NETI. Appendix A presents the data fields included in NETI Online. NETI has maintained the data system since the mid-1990s; ERG analyzed this full data set for this evaluation.

Because NETI Online includes information on all class participants, as well as all courses developed and implemented by NETI for more than the past decade, this data source provided valuable information to assess trends over time regarding some of NETI's key outputs including the courses developed and delivered, and numbers and types of people trained. For this analysis, we evaluated class participation for all four courses for which NETI has developed content. We evaluated all of the information in NETI Online for these classes, focusing on trends over time, across training courses, and across class participant type (e.g., EPA Headquarters, EPA region, state, tribal, inspector, and attorney).

ERG used the information in NETI Online to help answer components of Evaluation Question 1 (Is NETI performing the right activities? Does NETI's training address the right audiences? Does it address the needs of diverse audiences?). The data obtained from NETI Online for 2004 through 2006 for the four courses include:

- Course name, delivery date, and media focus (e.g., air, water, RCRA); and
- Participant job type and affiliation.

The NETI Online database ERG obtained from EPA contained course and participant information through September 2006. The status of course completion for participants was not updated for several course deliveries, and we captured both course enrollment as well as course completed information to compile data on courses and participants. A total of 753 participants completed the NETI-developed courses from 2004 through 2006.

In addition to the four NETI-developed courses, data were obtained for all courses delivered from 2002 through 2006 including course name, origin date, and major regulatory focus (e.g., CAA, CWA, RCRA, TSCA). We used this information to evaluate the timeliness of NETI courses with promulgated major EPA regulations (as defined under Executive Order 12866) for these years, in response to Question 1: Is NETI performing the right activities?

2.2 NETI Surveys

ERG evaluated information obtained through two NETI surveys: the NETI Evaluation Form and the NETI follow-up questionnaire.

2.2.1 NETI Evaluation Form

For several years, NETI has solicited training program feedback through end-of-course evaluation forms. In 2003, NETI implemented a standardized form that could be used for all NETI courses. Figure 2-1 presents this form, which collects general information about class participants, such as job classification, employer, program/media, and years of experience. The form then asks the participant to rate various aspects of the course. NETI uses this form for the four courses for which NETI is responsible for course content:

- Basic Inspector Course (no. CST109);
- Advanced Inspector Training (no. CST309);
- Advanced Negotiation Skills Training (no. CST304); and
- Enforcement Teamwork (no. CST208)

The NETI Evaluation Form contains multiple-choice and open-ended questions designed to obtain data on the student (e.g., job classification, years of experience) and their impressions of the training course. At the conclusion of each of the four NETI-developed courses, NETI collects the completed Evaluation Forms and summarizes the responses to the questions for that course. In 2006, NETI revised this form to exclude Questions 12 and 15, and to change Question 7 from “Instructors” to “Overall Course Rating.” ERG used the information in the NETI Evaluation Form to help answer components of Evaluation Question 1 (Is NETI performing the right activities? Does NETI’s training address the right audiences? Does it address the needs of diverse audiences? Is it promoted effectively?) and Question 3 (Has NETI’s training program contributed to a highly trained and skilled workforce that can deliver inspections and enforcement cases that can lead to environmental results?).

NETI Evaluation Form

1. Job classification	2. Employer	3. Program/Media	4. Years Experience
<input type="checkbox"/> Inspector <input type="checkbox"/> Engineer <input type="checkbox"/> Paralegal <input type="checkbox"/> Env. Prot. Specialist (Program Support) <input type="checkbox"/> Attorney: Civil <input type="checkbox"/> Attorney: Criminal <input type="checkbox"/> Civil Investigator <input type="checkbox"/> Criminal Investigator <input type="checkbox"/> Law Enforcement Officer <input type="checkbox"/> Technical Expert <input type="checkbox"/> Administrator	<input type="checkbox"/> EPA: HQ <input type="checkbox"/> EPA: Region <input type="checkbox"/> DOJ <input type="checkbox"/> Other Federal <input type="checkbox"/> State <input type="checkbox"/> Local <input type="checkbox"/> Tribal <input type="checkbox"/> International <input type="checkbox"/> Other	<input type="checkbox"/> Toxics/Pesticides <input type="checkbox"/> Air <input type="checkbox"/> Water <input type="checkbox"/> OPA <input type="checkbox"/> RCRA <input type="checkbox"/> Superfund <input type="checkbox"/> Multimedia <input type="checkbox"/> International <input type="checkbox"/> Compliance Assist. <input type="checkbox"/> Information Mgmt. <input type="checkbox"/> Environmental Justice <input type="checkbox"/> Other	<input type="checkbox"/> 0 - 6 months <input type="checkbox"/> 6 months - 1 year <input type="checkbox"/> 1 yr - 3 years <input type="checkbox"/> 3 yrs - 5 yrs <input type="checkbox"/> 5 yrs - 10 yrs <input type="checkbox"/> 10 yrs - 15 yrs <input type="checkbox"/> Over 15 years

Course Name: _____
Date: _____
Location: _____

RATE THE COURSE DELIVERY AND INSTRUCTORS

	Poor	Satisfactory	Good	Excellent	Outstanding
1. Classroom/Facility	<input type="checkbox"/>				
2. Class Size.....	<input type="checkbox"/>				
3. Pacing of course	<input type="checkbox"/>				
4. Level of detail of course material	<input type="checkbox"/>				
5. Presentation materials (slides, video, graphics, handouts, etc.).....	<input type="checkbox"/>				
6. Exercises, practice or applications, case studies.....	<input type="checkbox"/>				
7. Instructors.....	<input type="checkbox"/>				
8. What about this course did you find most useful? _____					
9. What about this course did you find least useful? _____					
10. What would you change, if anything, to improve this course? _____					
11. How did you hear about this course? _____					
12. How did you register? _____					
13. General Comments: _____ _____					

PLEASE INDICATE YOUR ANTICIPATED ACTIONS AFTER COMPLETING THIS COURSE:

14. Will recommend this course to others.....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
15. Will use NETI Online to register for another course.....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
16. Will perform your job better after taking this training.....	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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Figure 2-1. NETI Evaluation Form

ERG did not receive the individual surveys, but instead received summary reports that had been compiled by NETI for each course delivery. These reports provided a statistical summary of the compiled responses from the course attendees. An example course evaluation report for the Basic Inspector Course (CST 109) is provided in Appendix D. The reports included a PDF file with graphs and pie charts for the multiple choice responses and a Microsoft Word© file with a summary and statistics for the open-ended responses. We obtained course evaluation summaries for 24 of the 38 total deliveries of the four courses for years 2004 through 2006. These reports were not consistent in the information provided. The absence of the individual surveys and inconsistent summary reports, hampered the analysis as discussed in Sections 3.0 and 4.0. The number of course reports collected and number of respondents included in the report summaries by course is listed below:

	No. of Course Reports Obtained	Total No. of Respondents for Reports Obtained
CST 109	11	345
CST 309	7	174
CST 304	4	124
CST 208	2	45

The Basic Inspector Course (CST 109) represents 50 percent of the respondents and 46 percent of the reports evaluated. Table 2-1 summarizes the number of evaluation reports obtained by course and year and identifies the missing data. The report information obtained was varied in completeness and format. All of the reports included general information about class participants. Eighteen of the reports provided the mean of the course ratings (questions 1 through 7) by job classification and only six of these included individual participant ratings. Thirteen of the reports did not have responses to the open-ended questions 8 through 13. The 11 reports with open-ended responses grouped common responses with the number of participants for each response but did not provide the responses by job classification. The incompleteness of the report data affect the evaluation methodology and data analysis as discussed in Sections 3.0 and 4.0.

**Table 2-1. Available NETI Evaluation Reports for
Courses CST 109, CST 309, CST 304, CST 208 (2004 – 2006)**

Year	Course Number/Title	No. of Course Deliveries for Year	No. of Evaluation Reports Obtained	No. of Responses Reported	Data Missing in Reports ^a
Course Evaluation Report					
2004	CST 109 Basic Inspector Course	8	2	40	O,I
	CST 309 Advanced Inspector Training	3	2	54	O,I
	CST 304 Advanced Negotiation Skills Training	3	2	46	O,I
	CST 208 Enforcement Teamwork	1	1	19	O,I
2005	CST 109 Basic Inspector Course	7	5	192	O,I
	CST 309 Advanced Inspector Training	2	2	64	O,I
	CST 304 Advanced Negotiation Skills Training	2	2	49	I
	CST 208 Enforcement Teamwork	0	NA	NA	NA
2006	CST 109 Basic Inspector Course	5	4	113	I
	CST 309 Advanced Inspector Training	3	2	56	I
	CST 304 Advanced Negotiation Skills Training	3	1	29	I
	CST 208 Enforcement Teamwork	1	1	26	None
	TOTAL	38	24	688	

Sources: Evaluation Summary Reports; NETI Online database.

a – Key to Missing data:

O = Open-ended Questions 8-13

I = Individual participant responses not provided; response summaries provided instead.

NA = Not applicable

2.2.2 NETI Follow-Up Questionnaire

At the end of 2005, NETI piloted a follow-up training questionnaire that was sent to class participants six months after completion of three of the training courses. NETI piloted this questionnaire to federal participants of one class each of the Basic Inspector Course (CST 109), the Advanced Inspector Training Course (CST 309), and the Advanced Negotiation Skills course (CST 304). This questionnaire was not distributed for the Enforcement Teamwork Course (CST 208). Figure 2-2 presents a copy of the questionnaire. NETI developed the questionnaire to determine if class participants used the skills they learned in the training during their daily work activities, what aspects of the course they found most beneficial, what aspects of the course they didn't find useful, and how they would rate the effectiveness of the course as it relates to their job needs.

Followup Training Questionnaire

Course Name: Student Name: (Optional)

Instructions: The purpose of this questionnaire is to determine the extent to which the attendees at the above-named course have applied the knowledge/skills learned to their job. The results of this survey will help NETI assess the effectiveness of the training and identify ways in which it can be made more practical for those who attend. Your name is strictly optional; it would be used only to followup. This survey should take no more than 5 minutes of your time. Thanks for helping us improve our training.

1. Have you used any of the knowledge/skills learned in the course in your daily work environment?

Yes No

Please explain:

2. What aspects of the course are you finding most beneficial?

3. What aspects did you find not useful?

4. How would you rate the overall effectiveness of this course as it relates to your particular job needs?

Poor Satisfactory Good Excellent Outstanding

Figure 2-2. Follow-up Training Questionnaire

ERG obtained three course summary reports for the follow-up questionnaire containing responses from six participants as shown below. NETI staff indicated the return rate for this questionnaire has been minimal.

	No. of Course Reports Obtained	Total No. of Respondents for Reports Obtained
CST 109	1	1
CST 309	1	3
CST 304	1	2

We planned to use the information in the NETI Follow-up Training Questionnaire to help address Evaluation Question 3: Has NETI’s training program contributed to a highly trained and skilled workforce that can deliver inspections and enforcement cases that can lead to environmental results? The limited number of responses to this questionnaire affects the evaluation methodology and data analysis and is discussed in Sections 3.0 and 4.0.

2.3 Interviews

ERG interviewed enforcement supervisors (in OECA Headquarters offices and EPA Regional offices), NETI managers and staff, and course participants to obtain information required to address the evaluation questions. The evaluation plan for this project called for 40 phone interviews as follows: 16 interviews with enforcement managers (six with headquarters and 10 with EPA regional managers), four interviews with NETI staff, and 20 interviews with course participants for the four NETI-developed courses. The selection criteria for the interviews are discussed in Sections 2.3.1 through 2.3.3. Prior to the telephone contact to schedule interviews, a NETI manager made preliminary contact via an e-mail explaining the purpose of the interview and attached the applicable interview guide to give the participants advanced notice of the questions that the interview covered and to allow them to gather any information or materials to respond to the questions (if necessary).

ERG made three attempts to contact interviewees to schedule or to conduct the interview. Replacements were selected for non-respondents or per the suggestion of an interviewee using the original selection criteria discussed below. ERG conducted a total of 37 interviews for this evaluation. We documented each of the interviews by preparing a database that includes the date and time of the interview; person contacted, contact title, and contact responsibilities and incorporated the responses for each of the interview questions into the database. Table 2-2 summarizes the number of interviews completed by managers, NETI staff, and course participants.

2.3.1 Enforcement Managers

The management interviews provided the perspective from enforcement managers on the contributions that the NETI overall training program makes toward developing an effective enforcement staff. The intent of the enforcement manager interviews was to obtain input on the effectiveness of the entire NETI training program, including many elements that are outside of NETI’s control (e.g., developing new courses, aligning training courses with OECA’s

Table 2-2. Summary of Interviews Conducted for the NETI Training Evaluation

Enforcement Managers			
EPA/Office	Media/Program	Original Number Planned	Number of Interviews Completed
OC	Multimedia	1	1
OCE	Air	1	1
OCE	Resource Conservation and Recovery Act (RCRA))	1	1
OCE	Water	1	1
OCE	Toxic Substances Control Act/ Federal Insecticide, Fungicide, and Rodenticide Act (TSCA/FIFRA)	1	0 ^a
OSRE	Superfund	1	1
Region 1	Superfund	1	1
Region 2	Toxic Substances Control Act (TSCA)	1	1
Region 3	Toxic Substances Control Act (TSCA)	1	1
Region 4	Emergency Planning and Community Right-To-Know Act (EPCRA)	1	1
Region 5	Toxic Substances Control Act (TSCA)	1	1
Region 6	Water	1	1
Region 7	Toxic Substances Control Act (TSCA)	1	1
Region 8	Air	1	1
Region 9	Water	1	0
Region 10	Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)	1	1
Manager Subtotal:		16	14
NETI Personnel			
Job Description		Original Number Planned	Number Completed
Manager		2	2
Course Developer		2	2
NETI Subtotal:		4	4
Course Participants			
Course Number/Title		Original Number Selected	Number Completed
CST 109 Basic Inspector Course		5	5
CST 309 Advanced Inspector Training		5	5
CST 304 Advanced Negotiation Skills Training		5	5
CST 208 Enforcement Teamwork		5	4
Participant Subtotal:		20	19
Total Interviews:		40	37

a - The TSCA enforcement division merged with the RCRA enforcement division.

priorities, modifying existing courses for which NETI is not responsible for the content). Therefore some of the input from enforcement managers may not be directly applicable to NETI, but instead may reflect the overall enforcement training program.

ERG interviewed managers at both the headquarters and regional levels. At EPA headquarters, we planned to interview six managers in the following offices:

- Office of Compliance (OC);
- Office of Civil Enforcement (OCE); and
- Office of Site Remediation Enforcement (OSRE).

ERG selected the managers of each of the program divisions within OCE (Water Enforcement, Air Enforcement, RCRA Enforcement, and Toxics and Pesticides Enforcement), the manager of the Compliance Assessment and Media Programs Division of OC (this division is responsible for inspector training and management programs), and one manager from within OSRE. However, prior to conducting the interviews, the Toxics and Pesticides Enforcement Division merged with the RCRA Enforcement Division, eliminating one interview. Also, we were unable to interview one EPA regional manager.

At the regional level, many of the enforcement programs are set up by program (e.g., air, water, RCRA, toxics). We selected one enforcement manager from each region (ten interviews total). For each region, we initially selected the manager of the program that sent the most personnel to NETI training programs over the past five years (based on queries of NETI Online). We also attempted to cover each media program at least once across all regions. Based on our initial selection criteria, the EPCRA, RCRA, and FIFRA program areas were not represented. Because Water programs were represented by five regions, we selected the EPCRA, RCRA, and FIFRA managers from Regions 4, 5, 7, and 10 respectively because these programs had sent nearly as many personnel to NETI training as had the Water programs in the regions. We were unable to interview one EPA regional manager representing water enforcement, despite identifying three replacements and trying to contact each three times.

ERG obtained staff organization charts for each regional office and identified potential candidates for the interviews. We submitted the candidate lists to the EPA Work Assignment Manager and NETI personnel to obtain approval prior to making contact with the candidates. Following approval and e-mail notification to candidates by a NETI manager, we contacted the candidates by telephone to determine their willingness to participate and to schedule their interview. We interviewed 14 enforcement managers. Table 2-2 summarizes the number of interviews completed by managers, NETI staff, and course participants.

Appendix B provides the manager interview questions. These questions address Evaluation Questions 1, 2, 3, 4, and 7. Each interview lasted from 30 to 60 minutes, depending on the level of feedback given by the participant.

2.3.2 NETI Personnel

ERG interviewed four NETI personnel to obtain their perspective on the effectiveness of the training program and on assessment methods. We interviewed two personnel who have led course development and implementation activities, and two NETI

managers. The information needed required personnel who have sufficient knowledge and experience at NETI and with OECA's enforcement program. ERG coordinated with the NETI managers who supported this evaluation to help identify appropriate NETI personnel for interviews. Following e-mail notification to candidates by a NETI manager, we contacted the candidates by telephone to determine their willingness to participate and to schedule their interview.

Appendix B provides questions asked in the interviews. These questions focus on Evaluation Questions 2, 5, and 6. The telephone interviews lasted from 15 to 30 minutes, depending on the level of feedback given by the participant. ERG completed interviews with four NETI staff.

2.3.3 Class Participant Interviews

ERG attempted to interview 20 personnel who have participated in the four NETI-developed training courses to obtain more detailed information than is available through the follow-up training questionnaire. Specifically, these interviews further assessed if participants are using the knowledge gained through NETI training, how they are using this knowledge, how NETI can improve its programs, and where these staff received additional training or mentoring. The intent of the class participant interviews was to obtain input on the courses for which NETI has direct control. Therefore, the input from the course participants is directly applicable to NETI activities.

Using NETI Online, we identified all participants who completed the four training courses within the two years prior to evaluation, and, where possible, who completed training at least six months prior to the interviews (this allowed the participants to better evaluate if they have been able to put into practice the information from the training). We limited the participants to the past two years so that the participants would better be able to evaluate the impacts of the training (if too much time has passed since the training occurred, it may be difficult for the participants to assess the impacts of training versus general experience). We randomly selected five participants from each course to interview for a total of 20. We were unable to contact one participant after three attempts. We also attempted to interview several replacements without success. Therefore, we only conducted 19 participant interviews. Two of the nineteen participants interviewed did not remember their course (CST 304 and 309).

Appendix B contains the discussion guides and questions used during the interviews. These questions focus on Evaluation Questions 2, 3, and 4. Each interview lasted from 30 minutes to 60 minutes, depending on the level of feedback provided by the participant.

2.4 Literature Review

There is vast literature on performance measurement of both training programs in general and training programs related to enforcement. Literature on performance measurement of enforcement-related training programs, however, tends to focus on police work. For this evaluation, ERG reviewed literature on performance measurement for training programs in general and enforcement-related training programs. The purpose of the literature review was to identify the types of measures that are used in programs similar to NETI.

2.5 Other Data Sources

ERG considered two OECA tools to help in this assessment: the Case Conclusion Data Sheet (CCDS) and the Inspection Conclusion Data Sheet (ICDS). These tools are discussed below including the limitations of their use. OECA uses these tools to evaluate the outcomes associated with its enforcement and inspection programs.

2.5.1 Case Conclusion Data Sheet

EPA implemented the CCDS in FY 1996 to capture relevant information on the results and environmental benefits of concluded enforcement cases, including pollutant reduction benefits. CCDS information must be provided whenever any formal enforcement case is “concluded.” For civil judicial cases, the information is reported when a consent decree, court order, or judgment is entered (not lodged). For administrative cases, information is reported when an administrative order or final agreement is signed (usually by the Regional Administrator) and issued. The CCDS form collects the following type of information about enforcement cases:

- **Case information.** This includes the case name, the docket number, the EPA attorney, the EPA program contact, the statute and section(s) violated, key dates, and general information as to the type of case (e.g., was it related to an OECA priority area, was it related to environmental justice, was it a multimedia case).
- **Facility information.** This includes general information on the facility, including name, address, and Standard Industrial Classification (SIC) code.
- **Case conclusion information.** This includes the specific action type (e.g., consent decree, Administrative Penalty Order, field citation) and a notation as to if alternative dispute resolution was used for the case.
- **Compliance action information.** This includes information on the types of complying actions the facility took to return to compliance, and the associated pollutant reductions associated with complying actions that reduce pollution.
- **Supplement environmental projects (SEPs).** This includes information on the types of SEPs included in the case (if any) and the anticipated benefits of these projects.
- **Penalty information.** This includes information on the amount of the penalty paid.

The CCDS data could have been used to evaluate the impacts that NETI’s training courses have on the outcomes of enforcement cases (either types of complying actions or pollutant reductions). The information on individuals involved with cases could be matched with

training course attendee lists to identify when each person associated with a particular case participated in a specific training program. One could then evaluate the cases for a specific person before and after training to identify any trends. For example, did the average pollutant reduction increase after an inspector or attorney participated in a training program? Conversely, one could look at the overall cases for a particular program area to assess changes in case conclusions (and pollutant reductions) before and after key courses were developed.

Many potential limitations exist with the CCDS information when evaluating NETI's programs. First, many EPA employees are typically involved in a given case. Therefore, even if one person working on a case participated in a NETI training program, the influence of the training program on the case outcome could be dampened by the others on the case. Also, the complying actions and pollutant reductions may not have anything to do with the training received by those involved in the case. In some cases, opportunities for pollutant reductions are obvious and easily implemented; in others, there may not be any opportunity for pollutant reductions. These situations are not driven by the types of training received by those working on the cases.

In addition, over the past several years EPA has evaluated the CCDS data and identified areas in which improvements are needed. Examples of the types of problems encountered with the CCDS data are:

- A lack of consistency in the time frame used for reporting pollutant reductions from a case;
- Missing pollutant reduction data are prevalent; and
- Pollutant reduction data are misreported.

In addition, EPA's analysis of the CCDS process, including discussion with regional and headquarter managers and staff, identified two main obstacles to completing the CCDS properly. The first was a lack of guidance on how to complete the form particularly in calculating pollutant reductions or chemicals/waste brought under proper management control. EPA has since developed several CCDS guidance documents and tools. The second obstacle affecting the quality and completeness of CCDS data is that insufficient time is spent in completing the form. Input from the regions shows that most offices are spending no more than 5 to 15 minutes to complete each form. OECA expects that each CCDS would require approximately 10 to 30 minutes to complete and will require more time when pollutant reduction/elimination calculations are required. Additionally, while some regional offices employ some level of completeness check of the form prior to entry into the Docket system, most offices do not employ a technical review of the form. An independent technical review of each completed form would resolve many of the problems described above.

2.5.2 Inspection Conclusion Data Sheet

Over the past five years, OECA has introduced the ICDS to collect and evaluate information regarding the effectiveness of EPA inspections. The main purpose of EPA inspections/evaluations is to determine compliance with environmental regulations and enforcement agreements. Secondary purposes include providing a field presence to create a

credible deterrent and provide assistance, when appropriate, to help facilities achieve compliance. OECA designed the ICDS to identify readily observable corrections to deficiencies and compliance assistance activities. ICDS is not designed to capture all observations, findings, and other data contained in the final inspection report. ICDS information is used to collect accomplishments of EPA's national inspection/evaluation efforts; the information is not intended to be used to track individual EPA inspector's performance. The ICDS is used for EPA-led inspections or evaluations, not for oversight inspections of the states. The ICDS information is housed in OECA's ICIS data system, and includes:

- The inspector name and EPA region;
- The facility name and SIC or North American Industry Classification System (NAICS) code;
- The inspection date and media focus (e.g., air, water, hazardous waste);
- Any deficiencies found during the inspection;
- Corrective actions taken by the facility (Complete a Notification or Report, Correct Monitoring Deficiencies, Correct Record Keeping Deficiencies, Implemented New or Improved Management Practices or Procedures, Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.), Reduced Pollution (e.g., Use Reduction, Industrial Process Change, Emissions or Discharge Change, etc.), Request a Permit Application or Applied for a Permit, or Verify Compliance with Previously Issued Enforcement Action - Part or All Conditions); and
- Any assistance provided to the facility.

The information from the ICDS could be used to evaluate trends in the outcomes of inspections (e.g., is there an increase in the number of inspections that identified deficiencies, or an increase in the number that resulted in pollutant reductions). By identifying those inspectors who have undergone inspector training, these trends could be tied to the training programs to determine if inspection outcomes change as a result of inspector training. This approach could also be used to compare trends in inspection outcomes for those participating in the course to those who do not participate in training. However, the ICDS is a relatively new program, so there may not be sufficient information to thoroughly evaluate historical inspection outcome trends. Also, as with the CCDS, many factors influence the outcome of an inspection, and without a large data set these other factors may overshadow the impacts of the training program.

To identify useful data and approaches, we asked enforcement managers for their opinions on options for using CCDS and ICDS data to evaluate NETI's performance in the future.

3.0 EVALUATION METHODOLOGY

ERG collected a variety of qualitative and quantitative information to evaluate the effectiveness of NETI's training programs. Qualitative information were used to determine if current evaluation instruments accurately measure program performance, and if the training program contributed to a highly trained inspection and enforcement workforce leading to environmental results. The quantitative data were used to determine if NETI is reaching the right audience.

This section relates the data sources discussed in Section 2.0 to the evaluation questions. Sections 3.1 through 3.7 address the evaluation questions sequentially, one section for each evaluation question. For each question, we identify the data sources used in the evaluation, and the specific aspects of each data source used for the evaluation. This discussion includes changes from the Draft Evaluation Methodology (August 2006) resulting from the limitations of the data collected for this evaluation.

3.1 Question 1: Is NETI performing the right activities? Does the training cover key topics of concern to management? Does the training address the right audiences? Does the training address the diverse audiences? Is the training promoted effectively?

The first evaluation question comprises several subquestions. The information required to address these subquestions was obtained from NETI Online, the NETI's Follow-Up Questionnaires, and interviews with enforcement managers and NETI staff. Table 3-1 identifies the data sources and analyses used to address these subquestions.

Table 3-1. Is NETI Performing the Right Activities?

Data Source	Comments	Analytical Approach
Question 1: Is NETI Performing the Right Activities?		
NETI Online	<p>One aspect of determining if NETI is performing the right activities is to assess if training courses are being developed in a timely manner for major regulatory activities. For example, if a major new environmental regulation is promulgated, is associated training for permit writers or inspectors developed in a timeframe that will help facilitate implementation of the regulation? We used the information in the NETI Online database to help assess if training courses are being developed in a timely manner for the major regulatory activities. We recognize that many of the training programs that NETI supports are developed by the program offices; therefore, NETI may not be in a position to address some of the conclusions resulting from this analysis.</p>	<p>To address this question, we queried the “Course” table in NETI Online to identify all of the unique courses offered/supported by NETI, their origin date (using the “Origin” data element), and their media focus (using the “Statute_Media” field). We sorted the courses by media, and then by date. For each major media program (e.g., air, water, RCRA, TSCA), we developed a list of promulgated major regulations (as defined under Executive Order 12866) over the past five years, and then cross-referenced the list of regulations to NETI-supported courses to determine which regulations have associated training courses and which do not. We selected the past five years to facilitate completion of the analysis within the budget and schedule available for this project. We also evaluated the timeliness of the training development for those regulations with associated training programs. For those that do not have training courses, we planned to contact NETI personnel and program office personnel to determine if there was a reason why an associated training program was not developed; however the large number of these regulations (103) precluded the follow-up within the allotted budget and schedule.</p>
NETI Evaluation Form	<p>One aspect of “performing the right activities” in developing and implementing training programs is to make sure that the course logistics, content, and instructors meet the needs of the course participants. Questions 1 through 7 of the Evaluation Form request that participants rank, using a scale of one (poor) to five (outstanding), the following aspects of the training: classroom/facility; class size; pacing of course; level of detail of course material; presentation materials (slides, video, graphics, handouts, etc.); exercises, practice or applications, case studies; and, instructors.</p>	<p>For each of the four courses developed and implemented by NETI, we evaluated the compiled responses to Questions 1 through 7 from the evaluation reports to assess if NETI is performing the right activities with regard to these topics. For those aspects that have been rated “poor” by over 10percent of the respondents, we planned to evaluate trends over time to determine if NETI has improved the specific aspects of the training to address the survey feedback, or if there are still concerns related to the specific aspect of the training program. However, as discussed in Section 4.1, none of the aspects were related “poor” by over 10percent of the respondents.</p>

Table 3-1 (Continued)

Data Source	Comments	Analytical Approach
Enforcement Supervisor and Manager Interviews	<p>An important data source in evaluating if NETI is performing the right activities is the enforcement supervisor and manager interviews. Specifically, we used the following questions from these interviews:</p> <ul style="list-style-type: none"> • Mgr-1. How are suggestions for improvements/revisions to training materials and programs conveyed to NETI? • Mgr-2. On a scale of 1 to 3, with 1 being “rarely” and 3 being “almost always,” please rate how frequently your suggestions are adequately incorporated by NETI. • Mgr-3. On a scale of 1 to 3, with 1 being “rarely” and 3 being “almost always,” please rate how timely you feel NETI’s training programs are. 	<p>We analyzed the responses to the first two questions to determine how information is conveyed to NETI on what types of training programs should be developed or modified, and if the managers feel that their suggestions are incorporated. We used the results for Question 2 to analyze for trends based on how suggestions are conveyed to NETI (Question 1). We used the results of Question 3 to further evaluate the timeliness of NETI’s programs, and again analyze for trends based on how suggestions are conveyed to NETI. NETI does not control courses developed by OECA and program offices and the regions, therefore some of this input reflects the overall training program instead of NETI’s performance.</p>
NETI Interviews	<p>We used the NETI interviews to obtain information on how often course materials are reviewed and updated. Specifically, we evaluated the response to Question NETI-1: How often do you review and update course materials? How do you receive input on when to review and update course materials?</p>	<p>We analyzed the results of this question to determine, for each course with content controlled by NETI, the procedures for determining when to review and update the course content, and how often the content of each course has been updated. We used this information in conjunction with the feedback from the enforcement supervisor and manager interviews (discussed above) to assess the factors determining the update of course materials.</p>
Question 1a: Does the Training Cover Key Topics of Concern to Management?		
Enforcement Supervisor and Manager Interviews	<p>The enforcement supervisor and manager interviews were the primary source of information used to determine if training courses cover key topics of concern to management. Specifically, we evaluated the following questions from these interviews:</p> <ul style="list-style-type: none"> • Mgr-4. What are your priorities for enforcement training? • Mgr-5. Are there specific goals or areas of interest that you believe should be addressed by the NETI training program? • Mgr-6. On a scale of 1 to 3 (1 being poor, 3 being excellent), how well does NETI serve the training needs of staff members in your office? 	<p>We evaluated the responses to Questions Mgr-4 and Mgr-5 to identify the top priorities for enforcement training across the regions and headquarters, as well as those areas that the interviewees believed need to be addressed by NETI training programs. We compiled the responses to Question Mrg-6, and evaluated trends based on the responses to Questions Mgr-4 and Mgr-5 to determine if enforcement priorities are being adequately addressed and to identify those that are not being addressed across the entire training program and not specifically the four NETI-developed courses. NETI does not control courses developed by OECA and program offices and the regions, therefore some of this input reflects the overall training program instead of NETI’s performance.</p>

Table 3-1 (Continued)

Data Source	Comments	Analytical Approach
Question 1b: Does the Training Address the Right Audiences?		
NETI Online	One challenge in determining if NETI’s training addresses the right audiences is to define the “right” audience. For the purpose of this evaluation, we focused on only those courses in NETI’s control, which are aimed primarily at inspectors and attorneys. Our initial approach for this evaluation was twofold. First, we attempted to identify the current inspectors and attorneys in EPA, but that information was not readily available from OC’s Compliance Assessment and Media Programs Division. We were unable to cross-reference the training attendance information with current personnel to estimate the percent of inspectors and attorneys who have undergone the training programs. Our second approach was to assess the number of class participants that took the “basic” courses (e.g., basic inspector training, negotiations skills training) who then took the follow-up “advanced” courses (e.g., advanced inspector training, advanced negotiation skills training).	To evaluate if NETI is training the right audiences, we queried the “Users” table in NETI Online to identify the job type of each participant and identify all of the inspectors and attorneys. We planned to identify the full list of NETI programs in which current inspectors and attorneys have enrolled to assess the percent of the pool of current attorneys and inspectors that have received the training, and the percent of those who have received basic training who have also received advanced training. We did make this assessment for inspector and attorney participants in NETI Online.
NETI Evaluation Form	The NETI Evaluation Form includes information on the job classification, employer, and program/media of the course participants. We used this information to determine if NETI’s training courses are reaching their target audience (e.g., one would anticipate that the inspector courses would be attended primarily by inspectors, engineers, investigators, or technical experts).	For each of the four training courses, we compiled the data for job classification, employer, and program/media from the evaluation reports to determine how well the student distributions match the intended target audience(s). We compared this to the results of the Enforcement Manager interviews (see discussion of Question Mgr-7 below).
Enforcement Supervisor and Manager Interviews	The enforcement supervisor and manager interviews provided useful information to assess if NETI’s training addresses the right audiences. Specifically, we used Question Mgr-7 from the interviews: Are there any staff that would benefit from training that are not targeted by the NETI courses?	We evaluated the responses to Question Mgr-7, grouped the potential additional target staff into categories, and evaluated any trends in the responses based on the affiliation and the enforcement training priorities of the interviewees. We compared these to the analyses of the NETI Evaluation Form discussion above.
Question 1c. Does the Training Address the Diverse Audiences?		
NETI Online	To address this question, we used the information in NETI Online to identify the affiliation of the course participants and tally the number of participants by affiliation (e.g., EPA Headquarters, EPA regions, states, tribes).	To evaluate if NETI’s training is addressing the diverse audiences, we queried the “Users” table in NETI Online to identify the affiliation of the course participants. We then queried the “User_Delivery” table to identify the full list of NETI programs in which they have enrolled. We developed summary statistics on the distribution of affiliations for each of the training programs for which NETI has control.

Table 3-1 (Continued)

Data Source	Comments	Analytical Approach
NETI Evaluation Form	The NETI Evaluation Form includes information on the course participant Employer (e.g., EPA Headquarters, EPA Region, DOJ, state, local, Tribal).	We were unable to evaluate if the responses to course evaluation questions differ based on the affiliation of the course participant as affiliation was not included in the response summary. Because employer was not correlated with the responses to Question 1 through 16 in the evaluation reports, we were unable to evaluate these responses by affiliation (i.e., employer) to determine if certain aspects of the training courses are not meeting the needs of specific affiliations (e.g., specific aspects of a training program do not meet the needs of state or tribal participants).
Question 1d: Is the Training Promoted Effectively?		
NETI Evaluation Form	Question 11 of the NETI Evaluation Form asks participants “How did you hear about this course?” We used the responses to this question to evaluate the effectiveness of NETI’s promotional methods. NOTE: Responses to Question 11 were not available for 13 of the 24 reports obtained.	We reviewed the grouped responses to Question 11 on the evaluation reports for each of the four training courses and evaluated the frequency that the various promotional methods were identified. We compared this to NETI’s promotional methods to determine which methods are the most effective (we obtained information on NETI’s promotional methods from NETI staff involved in this evaluation). This analysis was limited to 11 of the 24 course evaluation reports obtained.
Enforcement Supervisor and Manager Interviews	To address this question, we used the following questions from these interviews: <ul style="list-style-type: none"> • Mgr-8. How do you find out about new or upcoming NETI training courses? • Mgr-9. How are NETI training courses advertised or promoted within your office? • Mgr-10. Do you have any suggestions to improve promotion of NETI courses? 	We evaluated the responses to Questions Mgr-8 and Mgr-9 to determine how the managers learn about NETI training programs, and compared these responses to NETI’s promotional methods. This comparison shows which promotional approaches are the most effective in reaching the target audiences. We qualitatively evaluated the responses for Question Mgr-10 to group similar responses and identify prevalent and practical promotion ideas.

Note: See Appendix B for Mgr: Questions from enforcement manager interviews, NETI: Questions from NETI staff interviews, and Part: Question from participant interviews.

3.2

Question 2: Are the existing measures that NETI uses sufficient to determine if NETI is meeting the stated objectives of providing a skilled and professional work force? What additional measures could be used?

NETI currently uses a variety of output measures to evaluate the effectiveness of NETI training programs. These measures include the number of courses developed and facilitated, the number of people trained, and the types of people trained (both in terms of job function – attorney, inspector, etc. – and employer – EPA Headquarters, EPA Regions, state, tribal, etc.). NETI implemented the survey forms discussed in Sections 2.2 to try to assess certain outcome parameters, such as how course participants have used the information and knowledge obtained through NETI’s training. For Question 2, we confirmed the full list of measures that NETI currently uses, and identified additional measures to better determine the impact of NETI’s training on OECA’s enforcement program. Table 3-2 identifies the data sources and analyses used to determine if these are sufficient, and if not to identify additional measures. We also drew on our experience in evaluating EPA and other government programs.

Table 3-2. Are NETI’s Existing Measures Sufficient, And What Other Measures Could Be Used?

Data Source	Comments	Analytical Approach
NETI Reports, Logic Model	NETI has published several annual reports, and has developed internal analysis documents, that identify the metrics and methods currently used to evaluate the effectiveness of its training programs.	We developed a matrix of methods that NETI currently uses to assess its training programs, identifying the strengths, weaknesses, and data needs associated with each, where information is available. We also compared the current measures to the flow of the NETI Logic Model.
Enforcement Supervisor and Manager Interviews	To address this question, we used the following questions from these interviews: <ul style="list-style-type: none"> • Mgr-11. How do you measure the performance of enforcement personnel and your enforcement program? • Mgr-12. Do you have any suggestions for tracking or evaluating how NETI’s training courses contribute to enforcement success? 	We qualitatively evaluated the responses to Question Mgr-11 to identify the various measures that enforcement managers use to assess performance of enforcement personnel. We used this information to identify additional measures that could be used to evaluate the effectiveness of the entire training program, including items outside of NETI’s control. We drew on existing metrics if possible because the data are currently maintained for these metrics. We also qualitatively evaluated the responses for Question Mgr-12 to group similar responses and identify prevalent and practical evaluation measures, and integrate these as appropriate into the matrix discussed above.
NETI Interviews	To address this question, we used the following questions from these interviews: <ul style="list-style-type: none"> • NETI-2. What methods are currently used to assess the effectiveness of the NETI training program? What are the strengths and weaknesses of each method? What data are needed for each method? • NETI-3. Are there any methods that are not currently being used by NETI that you believe would improve the assessment? If so, do these methods require additional data that are not currently being collected? 	Using the responses to Question NETI-2, we expanded the matrix of methods that NETI currently uses to assess its training programs, identifying the strengths, weaknesses, and data needs associated with each. We used the responses to Question NETI-3 to expand this list with additional potential methods. This matrix was combined with information from the other data sources to develop the comprehensive list of potential methods.
Participant Interviews	Personnel who have participated in NETI’s courses can draw on their experiences in implementing what they’ve learned in these courses to help identify measures that can be used to evaluate NETI’s programs. Specifically, to address this question, we used Question Part-10: Do you have any suggestions for how to track or evaluate the contribution of the NETI training courses to enforcement success?	We qualitatively evaluated the responses for Question Part-10 to group similar responses and identify prevalent and practical evaluation measures, and integrate these as appropriate into the matrix discussed above.
Literature Review	We evaluated the technical literature to identify metrics that might be useful for furthering the assessment of NETI’s programs.	We developed a matrix of output and outcome measures that have been used to assess environmental training programs, and identified those that may be applicable to NETI’s training programs.

Note: See Appendix B for Mgr: Questions from enforcement manager interviews, NETI: Questions from NETI staff interviews, and Part: Question from participant interviews.

3.3

Question 3: Has NETI's training program contributed to a highly trained and skilled work force that can deliver inspections and enforcement cases that can lead to environmental results?

The information required to address Question 3 comes from NETI's Evaluation Forms and Follow-Up questionnaires as well as interviews. The analyses addressed if participants find training valuable and relevant to their jobs, if participants are learning the intended material, if participants are incorporating what they have learned into their day-to-day activities, and if participants are being given the opportunities to use their training. Table 3-3 identifies the data sources and analyses used to address this question.

Table 3-3. Has NETI’s Training Program Contributed To A Trained and Skilled Work Force?

Data Source	Comments	Analytical Approach
NETI Evaluation Form	We reviewed and summarized the responses to Questions 8, 9, and 10 of the Evaluation Forms for each of the four training courses. Because these are open-ended questions, we developed a qualitative assessment of the responses, identifying areas where participants felt the courses were useful and would help them better do their jobs, and areas where participants felt the courses were not useful. NOTE: Responses to Q. 8-10 were not available for 13 of the 24 reports obtained. We also evaluated the responses to Question 16 to assess the impacts of training on job performance.	We planned to evaluate the responses to Questions 8, 9, and 10 as compared to information on the participants to identify any trends by job classification, employer, program/media, or years of experience. However, participant information was not provided in the evaluation reports for Questions 8 through 13. We evaluated the compiled responses reported for Question 16 to determine if a student thought their job performance would improve after the training course. We only evaluated trends in these responses across training job classification because evaluation reports did not include employer, program/media, or years of experience with Question 16 responses.
NETI Follow-up Questionnaire	The NETI Follow-up Questionnaire is a voluntary survey designed to obtain information on outcomes associated with NETI’s training. Specifically, this questionnaire asks how the participants have used the information from training in their day-to-day activities (Question1), and what they found useful and not useful about the training (Questions 2 and 3). The questionnaire also asks the participants to rate the training course (Question 4). Because this is a voluntary questionnaire, we first assessed the percent of class participants who completed the survey. We then evaluated the information from Questions 1 through 4 of the survey to identify if the respondents felt that the training contributed to a trained and skilled work force. NOTE: Only six participants returned questionnaires for 3 of the training courses.	Questions 1 and 4 include closed-ended yes/no or multiple choice questions. We summarized six responses. Questions 1 through 3 include open-ended questions. We reviewed and summarized the six responses. Because these are open-ended questions, we developed a qualitative assessment of the responses, identifying if participants used information from the training in their daily work activities, areas where participants felt the courses were useful and would help them better do their jobs, and areas where participants felt the courses were not useful.
Enforcement Supervisor and Manager Interviews	To address this question, we used the following questions from these interviews: <ul style="list-style-type: none"> • Mgr-13. On a scale of 1 to 3 (1 being no improvement, 3 being much improvement), do you see an improvement in job performance after personnel have taken NETI courses? • Mgr-14. On a scale of 1 to 3 (1 being very little, 3 being very much), how much do you think class participants incorporate what they have learned into their day-to-day activities? • Mgr-15. On a scale of 1 to 3 (1 being not effective; 3 being very effective, how effective is NETI training in contributing to staff development? 	These questions provide information on how well enforcement managers feel that NETI overall training program contributes to a trained and skilled work force. We developed summary statistics presenting the responses to these questions. NETI does not control courses developed by OECA and program offices and the regions, therefore some of this input reflects the overall training program instead of NETI’s performance.

Table 3-3 (Continued)

Data Source	Comments	Analytical Approach
Participant Interviews	<p>Personnel who have participated in NETI’s courses have first-hand experience with how NETI’s training contributed to a trained and skilled work force. To address this question, we used the following questions from these interviews:</p> <ul style="list-style-type: none"> • Part-2. Do you remember taking the {fill in the course name} course? • Part-3. Did your initial impression of the class change over time as you gained more experience? • Part-4. Do you feel that the training courses have made you better at executing your duties on the job? • Part-5. Do you use the information and/or skills presented in the training as a reference during inspections, negotiations, or litigation? • Part-6. Have you incorporated information and/or skills presented in the training into your work? If so, please provide an example. • Part-7. Are there any areas that you have identified from work experience that should have been covered in the training but were not? • Part-8. How would you rate the relative contribution of the NETI training program compared to information and skills that you have learned from other enforcement staff (e.g., mentor) or sources? 	<p>These open-ended questions obtained qualitative information on how NETI’s four training courses helped those who attended the courses. We identified common themes and impressions for each question. We also identified the number of participants that shared the same theme or impression. This allowed us to determine the prevalence or trend of a particular response to each evaluation question. We assessed the range of and evaluated trends in these responses based on the experience level of the course participants (Question Part-1).</p>

Note: See Appendix B for Mgr: Questions from enforcement manager interviews, NETI: Questions from NETI staff interviews, and Part: Question from participant interviews.

3.4

Question 4: What needs to be improved for NETI’s training program to contribute to a highly trained and skilled work force? To meet OECA’s Performance-Based Goals?

The information required to address Question 4 comes from enforcement manager and participant interviews. Table 3-4 identifies the data sources and analyses used to address this question. In addition, the results from Question 1 also provide information for this question.

Table 3-4. What Needs To Be Improved For NETI’s Training Program?

Data Source	Comments	Analytical Approach
Enforcement Supervisor and Manager Interviews	<p>To address this question, we used the following questions from these interviews:</p> <ul style="list-style-type: none"> • Mgr-16. Do you have any suggestions for how NETI could improve training that would improve the skill level of your enforcement staff? • Mgr-17. Do you have any suggestions for improving NETI’s training program to help enforcement staff meet OECA’s Performance-Based Goals? 	<p>These two questions are open-ended questions designed to elicit feedback from enforcement managers on how NETI can improve its overall training program. We qualitatively evaluated the responses for these questions, identifying common comments, quantifying the number of managers providing those comments, and presenting the full range of responses. NETI does not control courses developed by OECA and program offices and the regions, therefore some of this input reflects the overall training program instead of NETI’s performance.</p>
Participant Interviews	<p>To address this question, we used the responses to question Part-9: Do you have any suggestions for how the NETI training program could be improved to better serve enforcement personnel?</p>	<p>This is an open-ended question designed to elicit feedback from course participants on how NETI can improve its training program. We qualitatively evaluated the responses for this question, identifying common comments, quantifying the number of participants providing those comments, and presenting the full range of responses.</p>

Note: See Appendix B for Mgr: Questions from enforcement manager interviews and Part: Questions from participant interviews.

3.5

Question 5: How can NETI assess if its training programs lead to a more efficient enforcement program?

Evaluating the efficiency of OECA’s enforcement program requires a vast amount of information that is beyond the scope of this assessment. This would include information on the budget for enforcement, how this budget is allocated among the various participants in the enforcement program, how many cases are worked on and completed in a single year, and the pollutant reductions and environmental improvements associated with those cases. In addition, many extenuating factors make it even more difficult to evaluate the efficiency of the enforcement program, such as the status of ongoing cases and pollutant reductions and other impacts that occur many years after a case is concluded. For the scope of this evaluation, we focused solely on identifying if there are ways to assess the impact of NETI’s training programs on enforcement program efficiency. We did not attempt to quantify this impact, but instead looked to identify potential approaches and data requirements for doing so. Table 3-5 identifies the data sources and analyses used to address this question.

Table 3-5. How Can NETI Assess Its Impact On The Efficiency Of The Enforcement Program?

Data Source	Comments	Analytical Approach
Enforcement Supervisor and Manager Interviews	To address this question, we used the following questions from these interviews: <ul style="list-style-type: none"> • Mgr-18. Do you have any suggestions on how NETI could better determine if their programs lead to a more efficient enforcement staff? • Mgr-19. In your office, do you have a specific budget allocation for enforcement training, and do you track the man-hours and costs spent participating in enforcement training programs? 	Question Mgr-18 is an open-ended question designed to elicit feedback from enforcement managers on how NETI can evaluate its impact on the efficiency of the enforcement program. We qualitatively evaluated the responses to this question, identifying prevalent and practical ways to evaluate efficiency. We analyzed the responses to Question Mgr-19 to determine if data on training program budgets and expenditures are available to potentially use in comparing training costs to program efficiency.
NETI Interviews	To address this question, we used Question NETI-4: Do you have any suggestions on how NETI can assess its impact on the efficiency of OECA’s enforcement programs?	Question NETI-4 is an open-ended question designed to elicit feedback from NETI staff on how NETI can evaluate its impact on the efficiency of the enforcement program. We qualitatively evaluated the responses to this question, identifying prevalent and practical ways to evaluate efficiency.

Note: See Appendix B for Mgr: Questions from enforcement manager interviews and NETI: Questions from NETI staff interviews.

3.6 Question 6: How can NETI assess its contribution to OECA’s goal of achieving a 5 percent increase in complying actions taken during inspections; a 5% point increase in the percent of enforcement actions requiring that pollutants be reduced, treated, or eliminated; and a 5% point increase in the percent of enforcement actions requiring improvements in environmental management practices?

As with Question 5, trying to quantify NETI’s contributions towards OECA’s goals is beyond the scope and budget of this evaluation. Instead, for this evaluation we focused on identifying approaches and data sources for evaluating the impact of NETI’s training on these goals. ERG considered two OECA tools to help in this assessment: the Case Conclusion Data Sheet (CCDS) and the Inspection Conclusion Data Sheet (ICDS). OECA uses these tools to evaluate the outcomes associated with its enforcement and inspection programs. Both tools provide information that could be used to measure NETI’s contributions to OECA’s goals, but there are also limitations to the information that these tools provide. Enforcement cases and inspections involve many EPA employees and the influence of one or more persons that participated in a specific training program would be only one of many factors that influence the outcome of enforcement cases or the effectiveness of inspections. In our interviews with NETI staff, we asked if they are aware of these tools, if they have any suggestions on how to use them to evaluate the impact of NETI’s training programs, and if they have any suggestions for measuring how the NETI training program contributes to achieving OECA’s overall compliance and enforcement goals (Questions NETI-5 and NETI-6 in Attachment 4). In addition, we asked the enforcement managers for recommendations on using tools to address Question 6 (Question Mgr-20 in Attachment 3). ERG determined to use responses from the enforcement managers and NETI staff to identify useful data and approaches for this evaluation. See Section 4.0 for the analysis of NETI staff and the enforcement managers responses associated with Evaluation Question 6.

3.7 Question 7: What is the most efficient combination of measurement tools, including pre- and post-tests; peer reviews of inspectors, attorneys, and other staff; follow-up surveys to training participants; and end-user surveys of facilities being inspected?

One of the goals of this evaluation is to identify a repeatable evaluation process that NETI can periodically undertake to assess its performance. In doing so, it is important to identify the most efficient combination of measurement tools, in both the veracity of data obtained and the cost-effectiveness of obtaining the data. Much of the insight required to address this question comes from an analysis of the previous six questions. However, we asked the enforcement managers the following (Question Mgr-21 in Appendix B):

Do you believe that the current NETI measurement techniques (i.e., post-training Evaluation Form and follow-up questionnaire) adequately assess the effectiveness of the training courses? If not, do you have any specific suggestions for evaluating the effectiveness of the training courses?

We qualitatively evaluated the responses for Question Mgr-21 to group similar responses and identify prevalent and practical evaluation measures. Coupled with the analysis of the literature review discussed under Question 2, and the analysis of the survey results and interviews, we

identified efficient combinations of data gathering tools, considering costs, data quality, and other factors such as the Paperwork Reduction Act.

4.0 DATA ANALYSIS

This section summarizes the data compiled from data sources using the evaluation methodology presented in Section 3.0 and describes the analyses performed on the data. Sections 4.1 through 4.7 address the evaluation questions sequentially, one section for each evaluation question. This evaluation addresses the goals outlined in Section 1.0 of this report. Some of the input received during this evaluation is directly applicable to elements within NETI's control (e.g., feedback on the four courses developed and implemented by NETI), while other input is applicable to elements outside of NETI's control (e.g., input on what types of courses should be developed, alignment with OECA's priorities). In each of the subsections below, we identify those items that are outside of NETI's control.

4.1 **Question 1: Is NETI Performing the Right Activities?**

To address this question, ERG assessed if training courses are developed in a timely manner, evaluated whether course logistics, content, and presentation meet the needs of the course participants, and analyzed how suggestions on training development and modification are conveyed and if the suggestions are used. The results of these analyses are presented below.

Timeliness

ERG developed a list of major regulations (as defined under Executive Order 12866³) promulgated from 2002 through 2006 and cross-referenced this list to all NETI-supported courses in NETI Online, matching the major media and date to determine which regulations have associated training and which do not. See Appendix C for the complete list of major promulgated regulations. Of the 103 major regulations promulgated from 2002 through 2006, five had associated training courses. No matches were found for 85 percent of the regulations. Appendix C summarizes the major regulations that do or do not have associated training courses. Our initial approach included contacting NETI personnel and program office personnel to determine if there was a reason why an associated training program was not developed for the applicable regulations. The large number of regulations without associated courses precluded this follow-up within the allotted budget and schedule. NETI does not control the development of all training courses; many of the courses are developed by EPA program offices and regions. Therefore, NETI may not be in a position to address some of the conclusions from this analysis.

We should note that the results of this analysis should be viewed cautiously. Although the results of the analysis indicate that only five new courses were developed in association with the promulgation of major regulations, it is possible that the new regulations did not warrant or necessitate the development of a new course. Perhaps a new module was appended to an existing course to address this component. Additionally, we were unable to establish a direct statistical correlation between the promulgation of new regulations and the

³ As defined in Executive Order 12866: Any regulatory action that may: (1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive order.

development of a new course. Given limited resources and time, this and other potential explanations were not explored further.

Interviews with enforcement managers provided input on the timeliness of NETI programs across all the training courses including those for which NETI does not have direct control. Eleven of the 14 managers rated NETI training as either “Sometimes” timely or “Rarely” timely. Two of the managers were unable to provide a rating. The ratings on the timeliness of the overall training program are provided below.

- Always (1);
- Sometimes (6);
- Rarely (5); and
- Unable to rate (2).

Managers’ ratings coupled with the regulations analysis indicate that the enforcement training program is not very timely in development or coordination of new training courses. However, given the number of new regulations and the anticipated costs, developing new training for each new regulation may not be feasible.

Course Logistics, Content, Presentation, and Instructors

ERG evaluated course participants’ ratings for the four courses for which NETI is responsible for content development and implementation. The ratings addressed course logistics, content, presentation, and instructors. ERG evaluated Questions 1 through 7 of the compiled responses from the evaluation reports to identify course aspects rated “Poor” by over 10 percent of the course survey respondents. None of these aspects were rated “Poor” by over 10 percent for any of the four courses. Therefore, NETI appears to be effective in providing course logistics, content, and a presentation that meet the needs of the participants for these courses.

Input on Training Program

Responses to enforcement manager interview Question Mgr-1 indicated that nine of the 14 managers provided suggestions to NETI. These managers conveyed suggestions for improvements or revisions to the overall training program by:

- Direct contact with NETI personnel (8);
- Completing Evaluation Forms (2); and
- Responding to e-mails received from NETI requesting input (1).

However, four of the managers who made suggestions to NETI did not know if their suggestions were incorporated, while two said their suggestions were rarely incorporated. Two managers felt their suggestions were always incorporated, and one felt that suggestions were sometimes incorporated. NETI has direct control over incorporating manager input of the four NETI-developed courses, but does not control whether suggestions are incorporated for training courses developed by other program offices and the Regions.

The factors NETI uses to determine when to review and update course content and the frequency of course updates were provided in responses to Question NETI-1. These

factors generally matched those provided above by the manager interviews. These included input from Evaluation Forms, input from EPA headquarters and regional offices, EPA's Office of General Counsel, and a system of experts.

NETI responses regarding the frequency of updates for NETI-developed courses varied from "monthly" to "as needed" for minor updates and from "twice yearly" to "sporadically" for major updates. NETI stated that course material is updated immediately if a course has a majority of negative Evaluation Forms. One respondent said the negotiation skills course (CST 304) is updated after each course delivery.

This analyses show that managers have opportunity to provide input on training, but there is no systematic approach to incorporate this input across all training courses. However, NETI does not control incorporating managers' input for courses that are not developed by NETI. NETI does not appear to have a standardized approach to reviewing the four training courses it does develop.

4.1.1 Question 1a: Does the Training Cover Key Topics of Concern to Management?

To identify the top priorities for enforcement training across the regions and headquarters, as well as those areas that the interviewees believe need to be addressed for the overall enforcement training programs, ERG evaluated responses to enforcement manager Questions Mgr-4 and 5. We compiled the responses to enforcement manager Question Mgr-6 to determine whether enforcement priorities are being adequately addressed or not. These responses apply to the entire training program and not specifically to the four courses that NETI develops; therefore, addressing concerns raised in this evaluation may be out of NETI's control.

In response to enforcement manager Question Mgr-4, the enforcement managers provided a variety of training program priorities with respect to training content; no more than two responses were provided for each priority identified. Specifically, the types of training content requested by the managers for the entire training program included:

- Specific media/program training (2);
- Targeting (2);
- Sampling (2);
- Report writing (2);
- Implementation of EPA Order 3500.1 (1);
- E-discovery rules (1); and
- Improvement of computer/software skills (1).

The managers also provided input on their general goals for the entire training program. Four managers said that their goal was to ensure that all new employees received training, while four others identified a goal of providing advanced training and courses for their employees. One manager requested that the frequency of course deliveries be increased.

Goals or areas of interest that managers believe the overall training program should address (enforcement manager Question Mgr-5) often matched the training priorities provided in responses to enforcement manager Question Mgr-4 above. Training specific to a

program or media was an area that most of the managers believe should be addressed across the entire training program. Some of the managers mentioned specific programs or media (e.g., TSCA, NESHAP, CWA, and SDW). One manager believed NETI training provides a basic overview of functions performed and could not think of any area that NETI needs to address. Specific goals or areas that managers believe should be addressed for the entire training program include:

- Program or media-specific training (7);
- Skill assessment of inspectors (2);
- OECA priorities (2);
- Computer skills (2);
- Sampling/Field training (1);
- Targeting (1);
- EPA Order 3500.1 (1);
- E-discovery rules (1);
- Increased frequency of course deliveries (1);
- Case development (1);
- State training (1); and
- Update CDs and online training.

Seven of the managers' priorities for enforcement training were also listed as areas managers felt were not being addressed (enforcement manager Question Mgr-5). This may explain the enforcement managers' rating of how well the entire enforcement training program meets the needs of staff in their office. Five managers said "Poorly", three said "OK", three said "Excellent", and three said they were unable to rate. Therefore nearly 50 percent of those who rated the overall training in this area provided ratings of "Poorly". Again it is noted that these ratings apply to the entire training program and not specifically to the four courses NETI develops and controls.

4.1.2 Question 1b: Does the Training Address the Right Audiences?

To address this question, ERG planned to compile data on job type, employer, and program/media from NETI Online and the Evaluation Form to identify NETI programs in which current EPA inspectors and attorneys have enrolled and how well the student distributions match the targeted staff. However, ERG was unable to obtain a list of current EPA inspectors and attorneys to identify a list of training they received and to assess the percent of the pool that have completed both basic and advanced training. NETI Online data indicate 307 inspectors and 42 attorneys completed at least one of the four NETI-developed courses delivered from 2004 through 2006, and 11 inspectors and one attorney completed both the basic and advanced courses.

Table 4-1 presents training course participant demographics information as obtained from the evaluation reports for 2004 through 2006. We evaluated the information from the evaluation reports as opposed to NETI Online because the evaluation reports provided more information regarding program media and years of experience than was available in NETI Online. Also, we identified several discrepancies between NETI Online and the evaluation reports; because the evaluation reports were completed by participants who attended the courses, we felt that this information was likely a more accurate representation of those who actually took the courses.

As shown in Table 4-1, inspectors represented the largest job classification attending the two inspector training courses (CST109 and CST309), followed by environmental protection specialists and engineers. This is consistent with job classifications likely involved in inspections, so it appears that these two classes are reaching the right job classifications. The negotiation course (CST304) was attended primarily by environmental protection specialists (35 percent of participants), engineers (30 percent of participants), and inspectors (19 percent of participants). Personnel in these job classifications are frequently involved in enforcement negotiation activities. Technical experts (7 percent) and attorneys (5 percent) were also represented; these job classifications are also involved in enforcement negotiation. Therefore, again it appears that this class is reaching the right job classifications. Finally, the teamwork class (CST208) was attended by engineers (44 percent of participants), attorneys (21 percent of participants), and environmental protection specialists (16 percent of participants). These job classifications typically work together in enforcement case development activities, so it appears that this class is reaching the right job classifications.

With respect to program media, the major program areas comprise over 90 percent of the participants in the inspector training courses, with a fairly even distribution across media except for the Oil Pollution Act and Superfund. It is not clear how many inspections are performed under these two areas, but it is possible that these two areas are underrepresented in the inspector training courses. The major program areas comprise nearly 90 percent of the participants in the negotiation training, and over 90% in the teamwork training. Again, though, certain program areas (e.g., toxics, OPA, and RCRA for negotiation and OPA for teamwork) may be underrepresented in these training courses.

Nearly 60% of the Basic Inspector Training participants had less than three years of experience, which would be expected since this training is required prior to conducting any inspections. It is expected that those with more experience had recently switched job classifications and moved into an inspector role. Over 80% of the Advanced Inspector Training participants have more than three years of experience, with the majority having more than five years of experience. Again, the inspector training courses appear to be reaching the right audiences in terms of years of experience. More than 65% of the negotiating training participants had more than five years of experience, which would be expected as typically more senior personnel are involved in negotiations. Finally, there was a more even distribution of participants by years of experience for the teamwork training. Again, this would be expected as teamwork activities are performed at any level throughout the enforcement program. Therefore, it appears that the negotiation and teamwork training programs are reaching the right audiences in terms of years of experience.

Table 4-1. Participant Demographics from Evaluation Reports for 2004-2006

	CST 109 Basic Inspector Course	CST 309 Advanced Inspector Training	CST 304 Advanced Negotiation Skills	CST 208 Enforcement Teamwork
Job Classification				
Inspector	201 (63%)	123 (78%)	21 (19%)	19 (44%)
Engineer	40 (13%)	14 (9%)	34 (30%)	1 (2%)
Paralegal	1 (0.31%)	0 (0%)	0 (0%)	0 (0%)
Env. Protection Specialist	62 (19%)	16 (10%)	39 (35%)	7 (16%)
Attorney Civil	3 (1%)	0 (0%)	6 (5%)	9 (21%)
Attorney Criminal	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Civil Investigator	2 (1%)	1 (1%)	4 (4%)	3 (7%)
Criminal Investigator	0 (0%)	0 (0%)	0 (0%)	1 (2%)
Law Enforcement Officer	4 (1%)	1 (1%)	0 (0%)	1 (2%)
Technical Expert	2 (1%)	1 (1%)	8 (7%)	0 (0%)
Administrator	3 (1%)	1 (1%)	0 (0%)	2 (5%)
Total^a	318 (100%)	157 (100%)	112 (100%)	43 (100%)
Program Media				
Toxics/ Pesticides	46 (16%)	22 (14%)	5 (4%)	7 (16%)
Air	48 (16%)	44 (29%)	44 (38%)	8 (18%)
Water	78 (26%)	32 (21%)	18 (16%)	7 (16%)
OPA	1 (0.34%)	0 (0%)	5 (4%)	0 (0%)
RCRA	47 (16%)	27 (18%)	6 (5%)	5 (11%)
Superfund	12 (4%)	1 (1%)	15 (13%)	5 (11%)
Multimedia	44 (15%)	16 (10%)	12 (10%)	10 (22%)
International	0 (0%)	0 (0%)	4 (3%)	0 (0%)
Compliance Assistance	7 (2%)	4 (3%)	2 (2%)	1 (2%)
Information Management	1 (0.34%)	0 (0%)	1 (1%)	0 (0%)
Environmental Justice	1 (0.34%)	0 (0%)	0 (0%)	1 (2%)
Media Other	10 (3%)	8 (5%)	4 (3%)	1 (2%)
Total^a	295 (100%)	154 (100%)	116 (100%)	45 (100%)
Years of Experience				
0-6 months	77 (23%)	3 (2%)	3 (2%)	4 (9%)
6 months-1 year	54 (16%)	10 (6%)	6 (5%)	7 (16%)
1-3 years	67 (20%)	19 (11%)	23 (19%)	11 (24%)
3-5 years	34 (10%)	26 (15%)	8 (7%)	8 (18%)
5-10 years	35 (10%)	30 (17%)	22 (18%)	5 (11%)
10-15 years	15 (4%)	40 (23%)	17 (14%)	6 (13%)
Over 15 years	56 (17%)	46 (26%)	43 (35%)	4 (9%)
Total Years^a	338 (100%)	174 (100%)	122 (100%)	45 (100%)

Source: Evaluation Reports for 24 course deliveries.

a - These totals are inconsistent because participants did not always answer all of the questions.

ERG also evaluated responses to Enforcement manager Question Mgr-7 to identify staff that could benefit from training but are not targeted by the overall training courses and compared these responses to the participant demographics (job classification, program/media, and years of experience) compiled from the evaluation reports (see Table 4-1). Managers identified experienced staff, permit writers, region coordinators, attorneys, and staff from other programs as additional staff that would benefit from the overall training program. Some managers added that they would send more staff to training if media- or program-specific courses were offered. The participant demographics from the evaluation reports show participants with ten or more years of experience represented 21 to 49 percent of course participants across the four courses, and attorneys represented from one to 21 percent of the participants. These data indicate that two of the targeted staff identified by managers are represented in the courses, but other targeted staff are not represented.

4.1.3 Question 1c: Does the Training Address Diverse Audiences?

ERG compiled data from NETI Online identifying the affiliation of course participants to determine the distribution of affiliations (i.e., employer) for each of the four courses. NETI Online was used for this analysis instead of the evaluation reports because the evaluation reports did not represent all course participants. Table 4-2 presents the distribution of affiliation for the four courses.

Table 4-2. Distribution of the Affiliation of Participants for NETI-Developed Courses (2004-2006)

Course No./ Title	Distribution of Participants Affiliation (Number/Percent of Course Participants)							
	EPA HQ	EPA Region	International	Local Government	State Government	Other Federal	Other	Tribal
CST 109 Basic Inspector Course	23 (5%)	136 (27%)	3 (1%)	53 (11%)	191 (39%)	18 (4%)	6 (1%)	65 (13%)
CST 309 Advanced Inspector Training	16 (7%)	67 (30%)	0 (0%)	35 (16%)	88 (40%)	4 (2%)	3 (1%)	7 (3%)
CST 304 Advanced Negotiation Skills Training	31 (14%)	123 (56%)	0 (0%)	16 (7%)	30 (14%)	7 (3%)	11 (5%)	0 (0%)
CST 208 Enforcement Teamwork	10 (20%)	17 (35%)	1 (2%)	6 (12%)	14 (29%)	0 (0%)	0 (0%)	1 (2%)

Source: NETI Online.

For the two inspector training courses, the EPA Regions and State Governments provided most of the class participants, while for the advanced negotiation and enforcement teamwork training; EPA Headquarters also provided a significant portion of class participants. Given that most environmental inspections are performed by state agencies and the EPA regions, the distribution for the inspector training courses appears to be consistent with the distribution of environmental inspections throughout the country. Because EPA Headquarters is more frequently involved with enforcement negotiation and with enforcement teamwork activities (e.g., national cases), it would be expected that EPA Headquarters would provide a higher percentage of course participants to these courses than for the inspector courses. ERG planned to evaluate if the responses to evaluation questions 1 through 13 differ based on participant affiliation; however, affiliation was not included in the evaluation reports obtained and this analyses was not performed.

4.1.4 Question 1d: Is the Training Promoted Effectively?

ERG reviewed the compiled responses to Question 11 in the evaluation reports and the responses to enforcement manager Questions Mgr-8 through 11 to evaluate the effectiveness of NETI's promotional methods and compared these data to identify prevalent and practical promotional methods. The top three promotional methods identified by respondents in 11 evaluation reports were supervisor (63), co-worker/employer (34), and NETI email (24). (Note: ERG was unable to calculate the percentage of participant responses because the individual responses were not provided, and we were unable to determine the total number of responses to each question in the surveys). The top three promotional methods identified by managers were NETI email (93 percent), NETI website (29 percent), and NETI catalog (14 percent).

Respondents to the Evaluation Form identified a wide variety of methods by which they learned about training. These methods and the frequency that they were identified in the evaluation reports are provided in Table 4-3 below.

Table 4-3. Promotional Methods Identified By Course Participants

Promotional Method	Course and Frequency of Response				
	CST 109 Basic Inspector Course	CST 309 Advanced Inspector Training	CST 304 Advanced Negotiation Skills	CST 208 Enforcement Teamwork	Total
Supervisor	48	13	2	5	63
Job (co-worker, employer)	25	3	0	6	34
NETI email	16	4	11	3	24
NETI catalog/LAN	7	4	5	5	21
NETI (not specified)	5	8	7	1	21
EPA Region	5	7	3	1	16
NETI website	12	2	2	0	16
State/Local agency	10	3	2	0	15
Training coordinator	4	0	4	2	10
EPA Headquarters	8	0	1	0	9
Miscellaneous	4	0	0	2	6
IRAC	0	0	4	0	4
Newsletter	1	0	1	0	2
Trainex	2	0	0	0	2
Conference	1	0	0	0	1
Tribes Network	0	0	0	1	1

Source: 11 Evaluation Reports

Since most participants are notified by managers/supervisors, NETI email to the managers/supervisors is the most prevalent and effective promotional method followed by the NETI website. Additional promotional methods suggested by managers were:

- Add user interest preferences on NETI website and email course updates based on interest (2);
- Conduct more visits to potential participants by NETI personnel(2);
- Establish a Web link on the EPA intranet (1);
- Establish regular course intervals (1);
- Develop circulars(1); and
- Increase Region training funds (1).

4.2

Question 2: Are The Existing Measures That NETI Uses Sufficient To Determine If NETI is Meeting The Stated Objectives Of Providing A Skilled And Professional Work Force?

ERG reviewed annual NETI reports, responses to enforcement manager interview Questions Mgr-11 and 12, responses to interview Questions NETI-2 and 3, and responses to interview Question Part-10 to develop a comprehensive list of potential, prevalent, and practical measures to assess NETI's overall training programs. ERG also reviewed technical literature for assessment of training programs to identify measures applicable to the NETI program. ERG compared the current measures to the NETI Logic Model.

NETI's annual Environmental Enforcement Training Report captures training activities at both the Headquarters and Regional level. The annual report uses output measures that include: number of personnel trained, types of people trained, and the numbers and types of new courses and activities.

Responses to enforcement manager Question Mgr-11 identify measures used by managers to assess enforcement personnel and program performance. These measures could be tracked over time to identify trends based on when personnel attended NETI training. Managers' measures addressing personnel performance included:

- Analyzing performance ratings, evaluations, or appraisals over time and evaluating improvements (8);
- Tracking enforcement actions resulting from inspections or other activities (4);
- Setting goals and evaluating the performance in achieving these goals (5); and
- Assessing the ability to comprehend and implement regulations and to represent the office (2).

Enforcement manager Question Mgr-12 responses suggest measures to track or evaluate enforcement success. Many of these suggestions address elements that are not in NETI's direct control. Managers' suggestions for evaluating or tracking the effectiveness of the entire training program in contributing to enforcement success included:

- Develop courses more related to OECA's goals and then track the ability to achieve those goals (5);
- Compare personnel performance of personnel before and after training (3);
- Follow-up with course participants 3 to 6 months after training to see if skills were used (2);

- Review individual development plans (IDP) that indicate if goals met and what benefited staff (1); and
- Obtain feedback from participant's supervisor (1).

Question Part-10 requested input from course participants on measures to track or evaluate the contribution of NETI-developed training to enforcement success. Participant suggestions for evaluating or tracking NETI's contribution to enforcement success included:

- Follow-up with course participants 3 to 12 months after training to see if training skills were used (6);
- Compare personal performance before and after training (2); and
- Request immediate participant feedback (via website) when a training skill is used (1).

Current NETI methods used to assess training effectiveness for the four NETI training courses and potential additional methods are provided by responses to Question NETI-2 and 3 and include:

- Participant course evaluations;
- Participant six-month follow-up questionnaire;
- Feedback from course facilitator on instructors' performance and classroom technique;
- Feedback from host supervisor on participants' comments; and
- Feedback from Regions.

Prevalent and practical measures identified above by enforcement managers, participants, and NETI staff are:

- Compare personnel performance before and after training (e.g., inspections conducted, enforcement successes, reports); and
- Correlate course development with OECA's goals and track enforcement success.

ERG's review of the literature on performance measurement of training programs in general and of training for enforcement programs specifically identified some important considerations in assessing NETI's current performance measures. Under another contract, ERG recently compiled a listing of environmental compliance-related literature. Much of the literature regarding environmental compliance focuses on identifying the factors that influence businesses to comply with environmental regulations. Some of the metrics considered in evaluating trends in compliance include compliance rates (which can be difficult to quantify), pollutant releases,

industrial process changes or pollution prevention/control implementation, and other behavioral changes that can improve compliance. However, since NETI is focused on training related to environmental compliance and enforcement, it is useful to consider the types of metrics that have been used to evaluate training programs. ERG found that the standard approach to measuring the performance of training programs is Kirkpatrick's four-level approach (Kirkpatrick, 2006)⁴. Under the four-level approach, the impact of training is gauged by developing measures that reflect four levels of training effectiveness:

- Reaction—What did the participants think of the training immediately following the training? This is done immediately following the training, usually through a customer satisfaction survey. NETI evaluates this for its four courses through the NETI Evaluation Form.
- Learning—What did the participants learn from the training? This can be measured by doing before/after surveys in which participants are quizzed on their knowledge of subjects that will be covered under the training.
- Behavior—Did the participants change their behavior as a result of the training? This is measured after some time has passed (e.g., six months), usually through a survey or interview with the participants. NETI evaluates this for its four courses through the Follow-Up Questionnaire.
- Results—Did the training result in meaningful results? All training is geared at some form of improvement of outcomes. This last group measures the extent to which those outcomes are realized as a result of the training. Measuring this level would require comparing outcomes (e.g., changes in compliance rates, changes in pollutant releases) associated with those that took the training with the outcomes from those that did not take the training.

Kirkpatrick suggests that the first of these is essential to evaluating the impact of training and that the other three should be done if time and resources permit. The Evaluation Form and the Follow-Up Questionnaire are tools that capture the reaction and behavior levels of training effectiveness by Kirkpatrick's approach. Pre- and Post-tests and comparing the performance of trained personnel with untrained personnel are measures not currently used by NETI that would capture the learning and results levels of this approach to measuring training effectiveness.

Table 4-4 presents a matrix of measures currently used by NETI, measures used and/or suggested by enforcement manager and participant interviews; and measures used to assess environmental training programs obtained from the literature review. The matrix includes data sources and a comparison to the flow of the NETI Logic Model.

⁴ Kirkpatrick, Donald L., 2006. *Evaluating Training Programs: The Four Levels*. Berrett-Koehler Publishers; 3rd edition.

Table 4-4. Current and Potential Outcome and Output Measures to Assess NETI’s Training Program

Type of Measure	Performance Measure	Definition/Description of Measure	Data Source	Corresponding Logic Model Element and Evaluation Question
Measures Currently Collected				
Output	Number of students trained per fiscal year	Measure of the total number of personnel trained between October 1 st of a given year through September 30th of the next year.	NETI Online database	Output: Number of students per affiliation and affiliation per course delivery Question 1a-d
Output	Number of students trained by Headquarters offices per fiscal year	Measure of the total number of personnel trained by EPA Headquarters Offices	NETI Online database	Output: Number of students per affiliation and affiliation per course delivery Question 1a-d
Output	Number of students trained by Regional offices per fiscal year	Measure of the total number of personnel trained by EPA’s Regional offices	NETI Online database	Output: Number of students per affiliation and affiliation per course delivery Question 1a-d
Output	Number and percent of students trained via NETI-Direct courses	Measure of the total number of personnel trained in courses developed, taught, managed, distributed or sponsored directly by NETI staff	NETI Online database	Output: Number of students per affiliation and affiliation per course delivery Question 1a-d
Output	Number of students trained by: a) Job classification b) Employer c) Media d) Years of experience	Measure of the diversity of personnel trained	NETI Online database	Output: Number of students per affiliation and affiliation per course delivery Question 1a-d
Output	Number of students trained by delivery method	Measure of the number of persons trained in classroom and non-classroom courses (e.g., CD Rom and web-based training)	NETI Online database	

Table 4-4 (Continued)

Type of Measure	Performance Measure	Definition/Description of Measure	Data Source	Corresponding Logic Model Element and Evaluation Question
Output	Number of courses developed and number of courses delivered by: a) NETI b) OECA c) Headquarters Offices d) Regional Offices e) State Associations	Measure will assess the number of courses developed and delivered by NETI and its partners. Information can be used to understand the number of courses not under NETI's direct control.	NETI Online database	Output: Number of courses Question 1a-d
Outcome	Number and percent of students who use knowledge/skills learned in the course	Measure of the degree knowledge/skills learned in the course are used by the student in their daily work environment	NETI Six-month Follow up Survey Questionnaire	Outcome: Intermediate: Students apply skills that they have learned in the training Question 3c
Outcome	Number and percent of students who rate the course effective	Measure of the overall effectiveness of the course as it relates to the student's job needs	NETI Six-month Follow up Survey Questionnaire	Outcome: Intermediate: Students apply skills that they have learned in the training Question 3c
Potential Measures for Consideration				
Outcome	Average rating for presentation materials, exercises, practices and case studies	Measure of the course presentation and materials. Information could be used to determine if the course is developed and delivered in a way to improve student skills	Responses from course Evaluation Reports. Feedback from course facilitator and from region visits.	Outcome: Short-term : Increase student understanding and skills as a result of training Question 3a, 3b
Outcome	Average rating for course facilitator	Measure of the effectiveness of course instructor	Feedback from course facilitator on instructor and classroom technique	Outcome: Short-term : Increase student understanding and skills as a result of training Question 3a, 3b
Outcome	Number and percent of students who indicate they will perform their job better after completing the training.	Determine if students have the opportunity to apply what they learned, and if they do so.	Response from Follow-Up Training Questionnaire	Outcome: Intermediate : Students apply skills and understanding that they have learned in training Question 3c
Outcome	% Increase in knowledge between pre- and post test scores	Measure of the extent/degree of	Results from Pre- and Post-tests	Outcome: Short-term : Increase student understanding and skills as a result of training Question 3a, 3b

Table 4-4 (Continued)

Type of Measure	Performance Measure	Definition/Description of Measure	Data Source	Corresponding Logic Model Element and Evaluation Question
Outcome	Percent of managers/supervisors reporting an observed change in the student's: a) attitude b) productivity c) efficiency	Compare course development to OECA's goals and enforcement success	Input from manager/supervisor	Outcome: Long-term: Meets OECA's performance-based goals Question 6
Outcome	Number/percent of new courses that align with OECA's goals and enforcement priorities a) Aligns with 1 goal or priority b) Aligns with 2 goals or priorities c) Aligns with 3 or more goals or priorities	Measure of the degree /extent new courses support OECA's performance based goals.	To be determined	Outcome: Long-term: Meets OECA's performance-based goals Question 6
Outcome	Number/percent of existing courses that align with OECA's goals and enforcement priorities	Measure of the degree /extent existing courses support OECA's performance based goals.	To be determined	Outcome: Long-term: Meets OECA's performance-based goals Question 6
Outcome	Cost of training per student Number of cases completed per student per year Level of pollutants reduced per case	Compare training costs to program efficiency	Annual man-hours and costs expenditures for training program. Number of cases worked on and completed annually, pollutant reductions, and environmental improvements associated with those cases	Outcome: Long-term: Efficiencies as a result of training conserve fiscal resources Question 5

NOTE: Corresponding evaluation questions are indicated in bold.

4.3 Question 3: Has The NETI Program Contributed To A Highly Trained and Skilled Work Force That Can Deliver Inspection And Enforcement Cases That Can Lead To Environmental Results

To evaluate the usefulness of the four courses, ERG evaluated grouped responses in the evaluation reports for Questions 8 through 10 and 16; Follow-Up Questions 1 through 4, participant interview Questions Part-2 through 8, and enforcement manager interview Questions Mgr-13 through 15 to evaluate the usefulness of the overall training program. We planned to evaluate trends in the Evaluation Form responses by job classification, employer, program/media, and experience, but the evaluation reports did not provide participant information for these questions. In addition only 11 of the 24 evaluation reports provided responses to questions 8 through 10, and only six participants returned the Follow-Up questionnaires.

4.3.1 Question 3a: Do Participants Find Training Valuable and Relevant To Their Jobs?

To determine if participants find the training valuable and relevant to their jobs, and to identify the most useful and least useful aspects of the four NETI training courses, ERG evaluated grouped responses from the evaluation reports for Evaluation Form Questions 8 through 10, Follow-Up Questionnaire Questions 1 to 4, and participant interview Questions Part-2, 7, and 8. The responses compiled from the evaluation reports for Questions 8 through 10 represent 11 course deliveries. The responses for the Follow-Up Questionnaire represent three course deliveries (CST 109, 304, 309), as this questionnaire was not distributed to CST 208 participants.

Responses to Evaluation Form Questions 8 through 10 identify the most useful and least useful aspects of the course; and suggested changes to the course. ERG was unable to summarize and compare the responses to participant information to identify any trends by job classification, employer, program/media, or years of experience as participant information was not provided in the evaluation reports. Aspects of the course respondents found most useful were the mock exercises, legal background, report writing, inspection process, and interview skills. Respondents found the administrative information, digital photography, mock and court trials, software, chain-of-custody, and NPDES material were among the least useful aspects identified. One common theme was to have fewer slides and more hands-on exercises. Other changes respondents would make included: add more state/local cases, add field training, have less attention to Agency paperwork, add more interaction, and perform a mock inspection. In addition, comments on the audio-visual aids were: slide printouts too small to read, larger print on PowerPoint presentation, handouts not matching slides, and outdated slides and handouts. ERG recommends that NETI review the least useful aspects and suggested changes during course updates.

Follow-Up Questionnaire Questions 1 to 4 also identify the most useful and least useful aspects of the course; indicate if training knowledge or skills have been used; and rate the overall effectiveness of the course. There were six respondents for three course deliveries (CST 109, 304, 309) representing five percent of the total number of participants for the three courses. As noted above this questionnaire was not distributed to CST 208 participants. All six respondents said they had used the knowledge/skill learned in their daily work environment. The

ratings of the overall effectiveness of the course as it relates to their job ranged from “outstanding” to “good” as follows.

- CST 109 (1 respondent): Excellent;
- CST 309 (3 respondents): Good (1), Excellent (2); and
- CST 304 (2 respondents): Excellent (1), Outstanding (1).

Follow-up responses regarding the most beneficial and the least useful aspects of the courses are summarized in the table below.

Most Beneficial and Least Useful Course Aspects

Course No.	Beneficial Aspects	Least Useful Aspects
CST 109	<ul style="list-style-type: none"> • Video 	<ul style="list-style-type: none"> • Shortness of time and days
CST 309	<ul style="list-style-type: none"> • Report writing • Legal background • Enforcement Process 	<ul style="list-style-type: none"> • General talking • Un-engaging and unbelievable interview scenarios
CST 304	<ul style="list-style-type: none"> • Mock negotiations • Instructor’s stories from past experience 	<ul style="list-style-type: none"> • None

Source: Follow-up report.

Course participants provided input through the responses to participant interview Questions Part-2, 7, and 8. ERG evaluated these responses to identify areas participants believe should have been included in the four training courses and also to compare the contribution of these courses to information and skills learned from other enforcement staff (e.g., mentors) or other sources.

Question Part-2 first asks if the participant remembers the course. Only 2 (11%) of the 19 participants did not remember the course. There is no input for the remaining questions from these two participants.

Responses to Question Part-7 were evaluated to identify areas participants believe should have been covered in the training but were not. Ten of the respondents could not identify any additional areas that should have been covered. The areas that some participants believe should have been covered in the four courses include:

- Case development (1);
- Specific programs/media (1);
- CAMEO (online encyclopedia) (1);
- Legal aspects (1); and
- Conducting meetings (1).

The responses to Question Part-8 compare the contribution of the four training courses to the information and skills learned from other enforcement staff or other sources. Seven respondents felt that training and mentoring from other enforcement staff contribute equally in skill development. Seven respondents felt that mentoring from other enforcement staff contributes more than training programs, while two respondents felt that the four courses provided the most significant skill development.

Based on the input received from the various data sources, it appears that participants find the NETI training courses valuable and relevant to their jobs. While there were several suggestions on how to make the courses more valuable and relevant, overall the participants found these courses to be useful to their day-to-day job functions.

4.3.2 Question 3b: Are Class Participants Learning the Intended Information?

Enforcement manager interview Questions Mgr-13 and 15 ask managers to assess if job performance of personnel improves after NETI training and to rate the effectiveness of the training on staff development. The responses to these questions were evaluated to determine if participants are learning the intended information from the training. Managers that could not provide a rating said they do not regularly work with NETI or they do not send staff to the training. Input from the managers applies to the overall training program, not just the four courses developed and implemented by NETI.

Managers were asked to rate the improvement in job performance after training on a scale ranging from “much improvement” to “no improvement.” The most frequent response was “some improvement” while “much improvement” received the least number of response as indicated below. Seven of nine respondents who provided a rating noted improved performance after training. Five managers were unable to provide a rating.

- Much improvement (1);
- Some improvement (6);
- No improvement (2); and
- Unable to rate (5).

Managers were asked to rate the effectiveness on staff development on a scale ranging from “very effective” to “not effective”. Seven of the 14 respondents rated the overall training as “not effective,” four rated the training as “somewhat effective,” and two rated the training as “very effective.” One manager was unable to rate the effectiveness. The frequency of the “not effective” response may correlate with managers’ response listing the goals and areas that the overall training program should address, and the ratings for how well managers feel the overall training program serves training needs of their staff as discussed in Section 4.1.1. In other words, managers appear to be unsatisfied with the overall training from the perspective that courses are not developed and delivered that meet the goals and priorities of the enforcement managers.

4.3.3 Question 3c: Does Behavior Change As A Result of the Training?

To assess the impacts of training on job performance and the amount of training knowledge believed incorporated into daily activities, ERG evaluated responses compiled in the evaluation reports for Evaluation Form Question 16, participant interview Questions Part-3, 4, and 6, and enforcement manager interview Question Mgr-14.

Evaluation Form Question 16 asks if the student thought their job performance would improve after completing the four courses. This question is applicable to the four courses developed and implemented by NETI. The evaluation reports provided these responses as a

mean by job type instead of individual responses. Most course participants believed their performance would improve as a result of training.

Participant interview Questions 3, 4, and 6 ask participants if their impression of the class changed after gaining more field experience, if their performance improved, and if they used the training information and/or skills in their work. These questions are applicable to the four courses developed and implemented by NETI. Most of the participants said job performance improved, and most had used the training skills and/or information to perform their job.

ERG evaluated responses to enforcement manager interview Question Mgr-14 to determine if enforcement managers feel the overall training contributes to a trained and skillful workforce. Input from the managers applies to the overall training program, not just the four courses developed and implemented by NETI. Eight of ten managers who provided a rating noted some improvement. The ratings for the incorporation of training knowledge ranged from very much to very little with “some” being the most frequent response as shown below.

- Very much (3);
- Some (5);
- Very little (2); and
- Unable to rate (4)

4.3.4 Question 3d: Are Class Participants Being Given the Opportunities to Use Their Training?

To address this question, ERG evaluated the responses to interview Question Part-5 that asks if participants use the information and/or skills presented in the four training courses as a reference during inspections, negotiations, or litigation. Thirteen of eighteen participants said they use the information and/or skills as a reference during inspections, negotiations, or litigation. Five participants said they do not currently use the training information or skills. Some examples of use or reference cited were evidence gathering, facility interactions, report writing, awareness of health and safety issues, and writing guidelines for tribal inspectors, and setting meeting agendas. Therefore, for the four NETI courses participants are given opportunity to use training skills and reference training for their jobs.

4.4 Question 4: What Needs To Be Improved for NETI Training To Contribute To A Highly Trained and Skilled Work Force?

ERG evaluated the responses to enforcement manager interview Questions Mgr-16 and 17 and participant Question Part-9 to identify suggestions for improving the overall training program and the four NETI-developed courses to better serve enforcement staff and to meet OECA’s performance-based goals. Summaries of the responses to these questions are presented below.

4.4.1 Question 4a: Improvements Needed To Contribute To A Highly Trained And Skilled Work Force?

Enforcement manager Question Mgr-16 and participant interview Question Part-9 responses provided suggestions that would improve the skill level of enforcement staff.

Implementing many of these suggestions is outside of NETI's direct control, as NETI only controls course content and development for four courses. Program/media-specific training, more course locations, and more online courses were common themes among participant and manager suggested improvements. The focus of the managers' suggestions was the training curricula. The suggestions from managers apply to the entire training program including courses that are not directly controlled by NETI. These suggestions are listed below (the number of managers making each suggestion is included in parentheses).

- More online courses and web casting (5);
- More advanced courses (4);
- Program/media –specific training (3);
- More course locations (3);
- More frequent classes (3);
- Update training based on current industry activities (1);
- Anticipate future program needs (1);
- Offer EPA Order 3500.1 courses (1);
- Field training based on job focus (1);
- Use local case examples (1);
- Regular interface with specific program/media sectors (1);
- Inspector-specific certification (1); and
- Set curriculum of courses for particular staff level (1).

Course activities were the focus of the participants' suggestions. Suggestions from participants are listed below (the number of participants making each suggestion is included in parentheses).

- More exercises (e.g., inspection) (4);
- Offer program/media-specific training (3);
- Improve teaching ability and techniques (4);
- More course locations (2);
- Varied examples (e.g., sampling program, out-of-court negotiations) (2);
- More mock exercises (1);
- Set pre-requisite for courses (1);
- Fewer break-out sessions (1);
- Offer 1-day refresher course (1); and
- Better promotion of courses (1)

4.4.2 Question 4b: Improvements Needed To Meet OECA's Performance-Based Goals

Responses to enforcement manager Question Mgr-17 provide suggestions to help the overall training program meet OECA's performance-based goals of "By 2008, identify, correct, and deter noncompliance and reduce environmental risks through monitoring and enforcement by achieving: a 5 percent increase in complying actions taken during inspections; a 5 percent point increase in the percent of enforcement actions requiring that pollutants be reduced, treated, or eliminated; and a 5 percent point increase in the percent of enforcement actions requiring improvements in environmental management practices." Many of these suggestions match managers' suggestions for improving the skills of enforcement staff. Implementing many of these suggestions is outside of NETI's direct control, as NETI only

controls course content and development for four courses. The suggestions are listed below (the number of managers making each suggestion is included in parentheses).

- Focus on OECA priorities (1);
- Add program/media-specific training (1);
- Regular interface with specific program/media sections (1);
- Include more regulation information (1);
- More advanced courses (1);
- Offer modules on line (1);
- Better software (CDs) (1)
- EPA Order 3500.01 training (1);
- Assess program needs (1);
- Offer measurement courses (1); and
- Add recent OECA retirees to training staff (1).

4.5 Question 5: How Can NETI Assess If Its Training Programs Lead To A More Efficient Enforcement Program?

ERG evaluated enforcement manager interview Questions Mgr-18 and 19, and NETI personnel interview Question NETI-4 to identify potential approaches and data requirements to assess the impact of NETI's overall training program on enforcement program efficiency. Implementing many of these suggestions may be out of NETI's direct control.

Enforcement manager interview Question Mgr-18 and Question NETI-4 ask for suggestions on how NETI could assess if the overall training program leads to a more efficient enforcement staff. ERG evaluated the responses from both managers and NETI staff to identify prevalent and practical ways to evaluate efficiency. Participant follow-up, regular meetings with enforcement program/media managers, and interface with the participant supervisor or manager were frequently suggested by managers in responses to this question.

The list of suggestions from the managers is presented below (the number of managers making each suggestion is included in parentheses).

- Follow-up with participant and/or their supervisor to see if performance changed (4);
- Conduct regular meetings with enforcement program/media managers for feedback on staff needs and managers' goals (3); and
- Develop inspector-specific certification (1).

Two NETI personnel responded that they were not certain how to assess NETI's impact on OECA's program. One of these respondents added that NETI is a small part of OECA and many other factors impact the outcome of enforcement programs. A suggestion provided by one NETI interviewee was to follow-up with the participant's supervisor to see if performance changed after training.

Enforcement manager Question Mgr-19 asks if there is a specific enforcement budget and if training hours and costs are tracked. ERG analyzed the responses to determine if data on training program budgets and expenditures are available to potentially use in comparing training costs to efficiency. Four managers have a specific training budget, and they track both hours and costs. One manager has a specific training budget, but only tracks costs. Five other managers have a specific budget but do not track costs or hours. Three managers do not have a specific training budget, while one was uncertain regarding a training budget. Therefore, most of the managers have information available to track training costs, and could compare that to changes in performance to assess if the training costs are well spent.

4.6 Question 6: How Can NETI Assess Its Contribution To OECA's Goal of Achieving a 5% Point Increase In the Percent of Enforcement Actions Requiring Improvements In Environmental Management Practices?

To address this question, ERG evaluated the responses to NETI personnel interview Questions NETI-5 and 6, and enforcement manager interview Question Mgr-20 to identify approaches and data sources for evaluating the impact of NETI's training on these goals.

NETI personnel interview Question NETI-5 asked if the interviewees were familiar with Case Conclusion Data Sheet (CCDS) or the Inspection Conclusion Data Sheet (ICDS) and if they had suggestions for using these tools to assess NETI's contribution toward meeting OECA's goals. Two of the respondents were not familiar with CCDS or ICDS. One of these respondents thought it would be difficult to link what a person did in a course to the outcome of a case. Suggestions for using these tools included (the number of NETI personnel making each suggestion is included in parentheses):

- Compare ICDSs of inspector before and after training (1); and
- Assess how the enforcement team contributed to the case or inspection outcome (1).

NETI personnel interview Questions NETI 6 and enforcement manager interview Question Mgr-20 asked how to assess NETI's contribution to OECA's goals. A common theme of managers and NETI staff was to base training on OECA's goals. Suggestions from NETI staff included (the number of NETI personnel making each suggestion is included in parentheses):

- Compare quality of inspections before and after training (1);
- Revamp courses to tie in to OECA's goals (1); and
- Review administrative practices (1).

Suggestions from the managers included (the number of managers making each suggestion is included in parentheses):

- Base courses on OECA's national priorities and goals (4);
- Assess trained staff for improvement or change (2);

- Track if staff reporting they are meeting OECA’s goals completed a NETI course (2);
- Use ICDS to identify compliance actions (1); and
- Conduct regular meetings with specific program/media offices (1).

4.7 Question 7: What Is The Most Efficient Combination of Measurement Tools, Including Pre- and Post- Tests; Peer Reviews of Inspectors, Attorneys, And Other Staff; Follow-Up Surveys To Training Participants; And End-User Surveys of Facilities Being Inspected?

To develop a repeatable evaluation process to assess NETI’s performance, ERG evaluated the responses and suggestions provided for the previous six evaluation questions. In addition, enforcement manager interview Question Mgr-21 asked if current measurement techniques are adequate and solicited suggestions for other measurement techniques. Suggestions for other measures to assess the effectiveness of the training were included (the number of managers making each suggestion is included in parentheses):

- Follow-up with participant (via questionnaire or some other survey mechanism) to determine the aspects of the training being used (4). NETI currently implements the Follow-Up Questionnaire for the NETI-developed courses;
- Conduct training pre- and post- tests (3);
- Pre-screen participants prior to course delivery to determine what they want to learn; (2); and
- Perform independent class evaluation (e.g., videotape class for later evaluation) (1).

In reviewing the responses to address this question, several themes appear. First, for the inspector training courses, OECA could evaluate the quality of inspections prior to and after training. The ICDS would be the best tool to use for this analysis, as it is an existing tool that inspector’s use and could provide the information needed for the analysis. However, this would only apply to the Advanced Inspector Training Course, as all inspectors are required to have Basic Inspector Training prior to conducting inspections (i.e., there would be no “before” timeframe for the evaluation). Two managers suggested tracking if personnel reporting they are meeting OECA’s goals have completed a NETI course; it is unclear how personnel report that they are meeting OECA’s goals. This approach could be further pursued.

Second, several interviewees suggested developing overall training courses that are tailored to OECA’s priority areas and goals or to specific media or program areas. This issue was identified in response to earlier questions also. While not specifically addressing the issue of how to assess NETI’s contribution to achieving OECA’s goals, this response highlights the concern that enforcement managers have about a lack of timely training programs that are targeted to OECA’s goals. However, these responses apply to courses developed by OECA and

program offices and Regions that are not directly controlled by NETI. Conducting regular meetings with OECA and both the enforcement managers and the specific program/media offices could help provide NETI with a feedback loop to ensure development and delivery of timely and relevant training programs.

In reviewing the responses from all the questions in this evaluation, along with the specific recommendations in response to the enforcement manager interview Question Mgr-21, several measurement tools can be used to evaluate the effectiveness of NETI's training:

- Pre- and Post-Tests to evaluate if the participants understand the course content.
- Training Evaluation Forms such as those currently used by NETI to evaluate the course delivery.
- Six-Month Follow-Up Forms such as those currently used by NETI to evaluate if the participants are using the information obtained in the training.
- Interviews with course participants and managers to evaluate if job performance has improved after training.
- Review of ICDS forms, inspection reports, or other inspection documentation for inspectors before and after training to evaluate if the quality of inspections improved as a result of training.
- Analysis of NETI Online to evaluate NETI outputs (number of people trained, diversity of people trained, number of courses developed, number of courses delivered, etc.
- Periodic forums/discussions with enforcement managers from across EPA to identify priorities and goals for training, and assess how effectively these have been incorporated into training programs.

Section 5 presents recommendations on which of these would be most appropriate for subsequent NETI analyses.

5.0

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this evaluation was to determine: 1) if NETI is meeting its stated mission of developing a highly skilled and professional enforcement and compliance work force; and 2) how OC can better directly measure NETI's contribution to OECA's goals of "By 2008, identify, correct, and deter noncompliance and reduce environmental risks through monitoring and enforcement by achieving: a 5 percent increase in complying actions taken during inspections; a 5 percent point increase in the percent of enforcement actions requiring that pollutants be reduced, treated, or eliminated; and a 5 percent point increase in the percent of enforcement actions requiring improvements in environmental management practices." To assess the effectiveness of NETI's training program in achieving its mission, this evaluation answers the following questions.

1. *Is NETI performing the right activities?*
 - a. Does the training cover key topics of concern to management?
 - b. Does the training address the right audiences?
 - c. Does the training address the diverse audiences?
 - d. Is the training promoted effectively?
2. *Are the existing measures that NETI uses sufficient to determine if NETI is meeting the stated objectives of providing a skilled and professional work force? What additional measures could be used?*
3. *Has NETI's training program contributed to a highly trained and skilled work force that can deliver inspections and enforcement cases that can lead to environmental results?*
 - a. Do participants find training valuable and relevant to their jobs?
 - b. Are class participants learning the intended material?
 - c. Does behavior change as a result of training; are the class participants incorporating what they've learned into their day-to-day activities?
 - d. Are class participants being given the opportunities to use their training?
4. *What needs to be improved for NETI's training program to:*
 - a. Contribute to a highly trained and skilled work force?
 - b. Meet OECA's Performance-Based Goals?
5. *How can NETI assess if its training programs lead to a more efficient enforcement program?*
6. *How can NETI assess its contribution to OECA's goal of achieving a 5% increase in complying actions taken during inspections; a 5% point increase in the percent of enforcement actions requiring that pollutants be reduced, treated, or eliminated; and a 5% point increase in the percent of enforcement actions requiring improvements in environmental management practices?*

7. *What is the most efficient combination of measurement tools, including pre- and post-tests; peer reviews of inspectors, attorneys, and other staff; follow-up surveys to training participants; and end-user surveys of facilities being inspected?*

This section presents the answers to these questions based on conclusions from the data analysis and makes recommendations for meeting NETI's stated mission.

As discussed in Section 1.0, although NETI is responsible for ensuring that training is provided in all aspects of environmental enforcement, regardless of program or jurisdiction, NETI is only directly responsible for development and implementation of four training courses. In performing this evaluation, we considered those elements that are directly in NETI's control (e.g., course content and delivery of the four training programs) as well as those that are not directly in NETI's control (e.g., development of media-specific courses). For example, while part of NETI's mission is to identify training needs that reflects priorities, NETI does not have direct control in developing or requiring development of training courses to fulfill those needs.

In terms of elements within NETI's control (i.e., the four courses developed and implemented by NETI, as well supporting the delivery of other training courses), NETI appears to be effective at developing and delivering courses that reach the intended audience, convey the necessary information, and result in behavior changes. As a result of this evaluation, it was apparent that NETI is effective in addressing the course logistics, content, presentations, and instructors associated with delivering a successful training program. For the four courses evaluated, NETI is effecting behavioral change, since participants are using the training skills and referencing the training in performing their jobs.

In terms of elements not completely in NETI's control, enforcement managers raised concerns about the overall enforcement program regarding the timeliness of developing new training programs, and the fact that the training programs do not address the priorities or goals of OECA enforcement managers. Some managers stated they would send more staff to NETI training if the training programs better aligned with their priorities or goals.

A recurring theme throughout the evaluation was that NETI could have more of an impact on achieving OECA's goals if NETI's overall training program were more focused on those goals. Addressing this concern is not in NETI's direct control, as NETI does not control the content of all the training courses. However, NETI could coordinate with OECA managers to develop systematic approaches for obtaining input from managers regarding goals and priorities. This would help inform NETI as to the types of training programs that should be developed. NETI could then coordinate with the appropriate EPA offices to ensure that the necessary courses are developed.

In terms of how to measure NETI's contributions to OECA's goals, NETI is in a challenging position in that many factors outside of NETI's control also contribute to the success of OECA's programs. Because the enforcement process is complex and OECA's success depends on a series of factors (e.g., the effectiveness of a team of EPA personnel, if there is a violation, the severity of the violation, the opportunity for pollutant reductions from an enforcement case), most of which are outside of NETI's control or influence, quantifying NETI's

contribution to pollutant reductions or changes in enforcement case outcomes is impractical, if not impossible. Instead, there are several other measures that NETI can use to better measure the effectiveness of the four NETI-developed courses. NETI could also coordinate with other EPA offices that develop training courses to encourage the use of these measures.

- Output measures such as number of people trained, diversity of people trained, number of courses developed, and number of courses delivered. NETI currently tracks these through NETI Online and publishes these in the NETI annual report.
- Output measures related to the quality of the training courses, including delivery logistics, quality of instructors, etc. NETI currently tracks these through the Evaluation Forms.
- Outcome measures related to how much of the training course content was retained immediately after the course, and at some point after the course (e.g., six months after the course). NETI does not currently measure this.
- Outcome measures related to behavior changes resulting from the training courses. NETI currently tries to measure this through the Follow-Up Questionnaire (discussed below) but has not been successful in receiving much input through these forms.

NETI has implemented two tools to obtain measurement information – the Evaluation Form and the Follow-Up Questionnaire. These tools provide useful information on how NETI is doing with the delivery of the training programs, and if participants are using information from the training program in their day-to-day job functions. However, NETI has received very little response from the Follow-Up Questionnaire, and should consider implementing techniques to improve survey responses. One such technique is the Dillman Method which the Office of Compliance has used to improve performance measurement efforts associated with compliance assistance programs. The Dillman Method comprises five distinct elements. These elements have been shown to achieve good response rates for mailed and other self-administered surveys. The five elements are:

1. Develop respondent-friendly questionnaires;
2. Implement a five-step process for contacting respondents, including notifying them prior to survey receipt, and contacting them several times after survey receipt;
3. Provide return envelopes with first-class stamps;
4. Develop personalized correspondence; and
5. Provide token prepaid financial incentives.

In addition to the tools NETI currently uses, NETI could consider additional tools to better evaluate the four training courses that it develops. NETI could also encourage the use of other tools for all courses that NETI facilitates. These tools include:

- Pre-/post-tests. NETI does not implement any measurement tools to evaluate if participants are learning the intended information for the four courses developed by NETI. Pre- and post-tests are frequently used for this purpose, and could be easily developed and implemented by NETI. However, developing these tests and analyzing the results of the tests will add additional costs to each training delivery. In addition, NETI could tailor the Follow-Up Questionnaire to specific courses to determine how much of the course content is retained after a certain period of time. However, this approach would likely discourage participants from completing the survey because of the additional effort involved, and because of perceived ramifications if they have not retained the material.
- Follow-up with participant supervisors to assess the impact of the training on job performance. This follow-up could consist of a paper or electronic survey, or a phone survey similar to the phone survey conducted for this evaluation.
- Systematic follow-up with enforcement managers to evaluate the effectiveness of NETI's programs in addressing managers' goals, and in motivating behavior changes and improving performance among trained personnel. This follow-up could consist of a paper or electronic survey, or a phone survey similar to the phone survey conducted for this evaluation.

A challenge with each of the items identified during this evaluation is the amount of resources required to implement some of these recommendations, as compared to the resources available. For example, developing and delivering training programs is resource intensive, and having to develop new courses to address each of OECA's priority areas (there are currently approximately seven different priority areas, and these change every few years) may not be deemed to be cost-effective. Also, implementing the Dillman method to improve survey response rates adds costs to the process, though a repeatable approach could reduce the costs on a per-course basis. The resource implications will need to be weighed against the improvement in the types of information NETI has available to help make future decisions on how to develop and deliver its courses.

Specifically, OECA has identified the following national priority areas for fiscal years 2005 through 2007:

- Financial responsibility/assurance;
- Wet weather (stormwater, CAFOs, CSOs/SSOs);
- Air toxics (maximum achievable control technology – MACT);
- New source review/prevention of significant deterioration (NSR/PSD);
- Mineral processing;
- Tribal concerns; and
- Petroleum refining.

While OECA and others have developed some training programs in these areas, there has not been a coordinated effort through NETI to develop enforcement training programs across all of these areas. Because NETI does not control selection of new courses to be developed NETI should consider closer coordination with other EPA offices, as well as with OECA enforcement managers regarding OECA's priority areas, to ensure that these types of courses are developed in a timely manner.

In addition to training on the priority areas and more media/program-specific training, enforcement managers' priorities focused on programmatic aspects of enforcement activities, including targeting, sampling, report writing, implementation of EPA Order 3500.1, electronic discovery rules, and improvement of computer hardware and software skills. Some of these elements may be appropriate for the four courses developed by NETI. ERG recommends that NETI review these topic areas and consider incorporating them as appropriate into the four NETI-developed courses.

5.1 Question 1: Is NETI Performing the Right Activities?

To address this question, ERG assessed if training courses are developed in a timely manner, recognizing that new courses are developed outside of NETI's direct control but instead are indicative of the overall training program. For the four NETI-developed training courses, ERG reviewed feedback from course participants on course logistics, content, instructors, and presentation; analyzed how suggestions on training development and modifications are conveyed and if the suggestions are used; and evaluated whether course logistics, content, instructors, and presentation meet the needs of the course participants.

The comparison of major regulations promulgated from 2002 to 2006 with deliveries of all NETI-supported courses revealed that 85 percent of the major regulations did not have associated courses. In addition, managers interviewed rated the timeliness of NETI training across all the courses as "Sometimes timely" (43 percent) or "Rarely timely" (36 percent). These results indicate that the overall training program is not developed in a timely manner. However, many of the training courses NETI supports are developed outside of NETI, and NETI may not be in a position to address some of the conclusions from this analysis. Because selection of courses for development is to some degree out of NETI's control, NETI should consider closer coordination with the regulatory program offices to ensure that training courses are developed in a timely manner.

Based on the input from the NETI Evaluation Forms, NETI is doing a good job with the delivery of their courses. The participants did not identify any overall deficiencies with the logistical elements of four NETI-developed training courses, and felt the content, instructors and presentations were sufficient. Designing and developing quality training courses is part of NETI's mission; this includes revising and updating these courses to meet the needs of NETI's students and their managers. Managers that made suggestions to NETI's overall training most frequently conveyed them by contacting NETI directly, and NETI personnel stated that input from EPA headquarters and regions was one of the factors used to determine when to review and update course content. However, approximately half of these managers did not know if their suggestions were incorporated. NETI has direct control over incorporating manager input for the four NETI-developed courses, but does not control the incorporation of the suggestions for

training courses developed by OECA and program offices and the Regions. NETI personnel responded that courses were updated at frequencies ranging from monthly to twice a year. NETI may want to consider setting a schedule or timeframe to review course content, conveying the schedule to managers, and announcing updated courses via NETI's various promotional vehicles (e.g., NETI Online, email, catalog, and newsletter).

5.1.1 Question 1a: Does the Training Cover Key Topics of Concern to Management?

To answer this question, ERG used input from managers regarding overall training programs; this input was not specifically about the four NETI-developed courses. Therefore, the following observations apply to the overall training program including courses developed outside of NETI.

Seven of the training priorities identified by managers were also listed as areas the training program needs to address, and nearly 50 percent of the managers that provided a rating gave the overall training program a poor rating on serving the training needs of their staff. A continuing theme among managers as well as course participants interviewed was the lack of program or media-specific training, as well as a lack of training in OECA priority areas. Specifically, OECA has identified the following national priority areas for fiscal years 2005 through 2007:

- Financial responsibility/assurance;
- Wet weather (stormwater, CAFOs, CSOs/SSOs);
- Air toxics (maximum achievable control technology – MACT);
- New source review/prevention of significant deterioration (NSR/PSD);
- Mineral processing;
- Tribal concerns; and
- Petroleum refining.

While OECA and others have developed some training programs in these areas, there has not been a coordinated effort through NETI to develop enforcement training programs across all of these areas. Because selecting courses for development is not within NETI's control, NETI should consider closer coordination with other EPA offices, as well as with OECA enforcement managers regarding OECA's priority areas, to ensure that these types of courses are developed in a timely manner.

In addition to training on the priority areas and more media/program-specific training, enforcement managers' priorities focused on programmatic aspects of enforcement activities, including targeting, sampling, report writing, implementation of EPA Order 3500.1, electronic discovery rules, and improvement of computer hardware and software skills. Some of these elements may be appropriate for the four courses developed by NETI. ERG recommends that NETI review these topic areas and consider incorporating them as appropriate into the four NETI-developed courses.

5.1.2 Question 1b: Does the Training Address the Right Audiences?

Target audiences for the four courses evaluated include attorneys, inspectors, investigators, and technical experts. The analysis of participant demographics from the evaluation reports indicates NETI training addresses the right audiences (see Table 4-1). Survey respondents identified permit writers, more experienced staff, region coordinators, and staff from other programs as additional personnel who could benefit from the training. The evaluation reports do show participants with 10 or more years of experience are well represented in the courses. For these four courses, NETI is training most of the target audiences, and should reach out to additional staff identified by managers.

5.1.3 Question 1c: Does the Training Address Diverse Audiences?

The evaluation of the distribution of the affiliation (employer) of participants shows that NETI trains a diverse audience from EPA headquarters and regions, local and state governments, tribal, international and other Federal employees (see Table 4-2). Given that most environmental inspections are performed by state agencies and the EPA regions, the distribution for the inspector training courses appears to be consistent with the distribution of environmental inspections throughout the country.

5.1.4 Question 1d: Is the Training Promoted Effectively?

This evaluation identified those methods used by NETI to promote training courses that were most effective in reaching enforcement managers and participants. The list of over five different methods identified each by participants and managers is evidence that the training is promoted effectively. Managers listed seven different promotional methods that provided them training course information. The top promotional methods listed by managers were NETI emails (93 percent), NETI's website (29 percent), and the NETI catalog (14 percent). The top promotional methods as reported by participants were supervisors, co-workers, NETI emails, and the NETI catalog. (ERG was unable to calculate the percentage of participant responses because the individual responses were not provided, and we were unable to determine the total number of responses to each question on the survey).

Survey participants identified other promotion ideas NETI might consider:

- Add user interest preferences on the website and email course updates based on interests;
- Conduct more visits to potential course participants by NETI personnel;
- Establish a Web link from EPA's intranet; and
- Establish regular course intervals.

5.2 **Question 2: Are The Existing Measures That NETI Uses Sufficient To Determine If NETI is Meeting The Stated Objectives Of Providing A Skilled And Professional Work Force?**

To answer this question, the evaluation compared existing NETI training assessment measures with measures used by managers to assess enforcement personnel and program performance, and reviewed suggestions from participant and manager interviews. Before the implementation of the two course evaluation forms, NETI’s focus was output measures (e.g., participant and course statistics) rather than assessing outcome measures of the training program. The Evaluation Form assesses course logistics, content, and delivery while the Follow-Up Questionnaire assesses if students have used training skills and information in their daily work in the six months since the training. Managers analyze performance ratings and evaluations for improvements over time to assess personnel performance. To assess program performance, they track enforcement actions resulting from inspections or other activities. The prevalent and practical measures identified by this evaluation to determine if NETI is providing a skilled and professional work force are:

- Assess if students have used training skills/information 3-12 months following the training;
- Assess changes in job performance; and
- Assess if the results of enforcement actions changed after training.

Implementation of the two evaluation forms is a measurement tool NETI already has in place. However, the response to the six month follow-up questionnaire has been minimal, and NETI may need to develop an incentive to encourage completion. OECA’s Office of Compliance has studied use of the Dillman Method for surveys and data collection; NETI could consider implementing some of the approaches recommended by Dillman when conducting follow-up surveys as discussed above in Section 5.0. Assessing changes in job performance and contributions to enforcement successes requires follow-up with participant managers or supervisors.

5.3 **Question 3: Has The NETI Program Contributed To A Highly Trained and Skilled Work Force That Can Deliver Inspection And Enforcement Cases That Can Lead To Environmental Results?**

For this question, the evaluation determined the usefulness of the four NETI-developed courses through responses to the two evaluation forms; and manager and participant interviews. All six of the participants responding to the follow-up questionnaire found the training useful and thorough, and they rated overall course effectiveness from “outstanding” to “good.” Although these six participants represent only five percent of participants for the three courses, the consistent rating of “good” to “outstanding” cannot be discounted. Participants indicated on the Follow-Up Questionnaire that they are given the opportunity to use their training during inspections, negotiations, and litigations; and found the training useful. They also identified areas they believe should have been covered (see Section 4.3.1); ERG recommends NETI evaluate these areas during course updates and revisions.

Half of the enforcement managers felt that class participants improved job performance after training, with 43 percent indicating “some improvement” and seven percent indicating “much improvement.” Thirty-six percent of enforcement managers were unable to rate the improvement of job performance after training, while 14 percent indicated “no improvement.” Therefore, it appears NETI’s training programs are effective at teaching the participants the intended content and result in some behavior changes for the specific courses evaluated. Participant interview responses indicate that, for the four courses developed by NETI, most are given the opportunity to use their training and find the training useful.

Some responses by managers addressed the overall training program including training not directly controlled by NETI. Half of the managers rated the overall training program as “not effective” on staff development. This rating correlates with managers’ belief that the training does not meet the needs of their staff in terms of the managers’ priorities and goals as discussed in Section 5.1.1. During the interviews, several enforcement managers indicated that NETI should develop additional courses to reflect new regulatory requirements and OECA’s priorities.

5.4 Question 4: What Needs To Be Improved for NETI Training To Contribute To A Highly Trained and Skilled Work Force? To Meet OECA’s Performance-Based Goals

To answer this question, ERG identified potential improvements to NETI’s training program to better serve enforcement staff and also to meet OECA’s performance-based goals. Managers and participants provided a list of over 10 suggestions each for this evaluation. The prevalent and practical suggestions for improving the skill level of enforcement staff and the suggestions to help the staff meet OECA’s goals are summarized in the sub-questions below.

5.4.1 Question 4a: Improvements Needed To Contribute To A Highly Trained and Skilled Work Force?

While evaluation participants felt that NETI’s current training programs were effective, a recurring theme throughout the evaluation was the need for additional training programs, primarily focused on program or media-specific training, more advanced training, and training in OECA priority areas. Regarding the delivery of courses, evaluation participants requested more course locations and more on-line courses. Regarding course activity, the most prevalent recommendations were more exercises, improvement in teaching ability and techniques, and use of varied examples such as sampling and out-of-court negotiations. Section 4.4.1 presents the specific recommendations.

5.4.2 Question 4b: Improvements Needed To Meet OECA’s Performance-Based Goals

The managers suggested 11 improvements needed to meet OECA’s performance-based goals. These improvements apply to NETI’s overall training program and not specifically to the four NETI-developed courses. Many of these suggestions match those for improving the skills of enforcement staff presented in Section 4.4.1, such as focusing on OECA priorities, adding program- or media-specific training, and developing more advanced courses. Section 4.4.2 presents the specific improvements suggested for the overall training program.

5.5 Question 5: How Can NETI Assess If Its Training Programs Lead To A More Efficient Enforcement Program?

To answer this question, ERG evaluated suggestions from managers and NETI staff on how to assess NETI's impact on enforcement program efficiency. The top suggestions to determine if performance changed were following up with participants and/or their supervisors; and soliciting input through regular meetings with enforcement program/media managers. See Section 4.5 for specific recommendations.

ERG also evaluated whether specific budgets existed and if costs and hours were tracked to determine if these data were available to potentially use in comparing training costs to efficiency. Twelve (86 percent) of the managers interviewed had a specific training budget. Of these 12, four track both costs and hours; three track costs only, and the five remaining do not track costs or hours. Therefore some budget data are available that NETI could consider evaluating to compare the training expenditures to the perceived improvement in performance (determined through follow-up with enforcement managers).

5.6 Question 6: How Can NETI Assess Its Contribution To OECA's Goal of Achieving a 5% Point Increase In the Percent of Enforcement Actions Requiring Improvements In Environmental Management Practices?

ERG evaluated responses from NETI staff and managers to identify approaches and data sources to evaluate the impact of NETI's training on OECA's goals. NETI staff were also asked if the Case Conclusion Data Sheet (CCDS) and/or the Inspection Conclusion Data Sheet (ICDS) could be used to assess NETI's contribution towards OECA's goals.

There were no suggestions made as to how to use the CCDS to assess NETI's contributions. One suggestion for using the ICDS was to compare the ICDS forms of an inspector before and after training. Because the ICDS was implemented in the past few years, and continues to evolve, this approach can be used moving forward, but won't be as informative to evaluate past courses. Another suggestion was to assess how the enforcement team contributed to the case and link it to the Enforcement Teamwork course. A challenge with this approach, though, is that an entire team will likely not take a teamwork course concurrently, so it is difficult to evaluate the impact of one person who has taken the course on the entire team. One NETI interviewee pointed out that many course participants are not EPA employees and they would not be reflected through these data sheets. Also, as with the CCDS, many factors influence the outcome of an inspection and without a large data set these other factors may overshadow the impacts of the training program. Overall, it appears that the best method for evaluating the impacts of NETI's training program using these tools is to evaluate inspectors' ICDSs forms before and after taking inspector training. However, this is likely only applicable to the Advanced Inspector training, given that inspectors are not supposed to be performing inspections prior to receiving Basic Inspector Training.

ERG evaluated other suggestions on how to assess NETI's contributions to OECA's goals. Common themes of managers and NETI staff were to base training on OECA's goals in order to tie the training to achievement of these goals, assessing the performance of trained staff before and after training, and tracking if personnel reporting they are meeting

OECA's goals completed a NETI training course. While most of these suggestions relate to NETI providing a skilled work force, they do not provide methods to assess NETI's contribution toward achieving OECA's performance-based goals. Any assessment method would involve the evaluation of enforcement successes, identifying associated trained personnel, and assessing the performance of those personnel.

5.7 Question 7: What Is The Most Efficient Combination of Measurement Tools, Including Pre- and Post- Tests; Peer Reviews of Inspectors, Attorneys, And Other Staff; Follow-Up Surveys To Training Participants; And End-User Surveys of Facilities Being Inspected?

To answer this question, ERG analyzed responses to the six preceding evaluation questions to identify a repeatable evaluation process that NETI can periodically undertake to assess its performance. In addition, ERG evaluated managers' responses and suggestions regarding NETI's current measurement techniques in response to enforcement manager question Mgr-21.

The evaluation process presented below incorporates some of these managers' suggestions and also incorporates suggestions discussed in the preceding Sections 5.1 through 5.6. This process will assess if NETI is achieving its mission and will help measure NETI's contribution to OECA's performance-based goals. ERG proposes that NETI obtain input to evaluate performance at five steps of the training program: 1) program and course development and planning; 2) course delivery; 3) course evaluation (post- and follow-up); 4) participant follow-up; and 5) course review and update (tying back to step 1). The following describes the steps of the proposed evaluation process.

1. Program Planning and Course Development
 - a. Interface regularly with enforcement managers across EPA headquarters and regions to identify their priorities and goals for training using manager interview questions (e.g., Mgr- 4, 5, 7, 12, 16, 17).
 - b. Provide feedback to managers' input/suggestions.
 - c. Assess program needs based on information obtained from step 1a above and develop, revise, or update training using managers' input and suggestions.
2. Course Delivery
 - a. Obtain feedback on the course delivery (logistics, teacher performance, course content) through Evaluation Form responses, and provide additional instructor training where needed improvement is identified.
 - b. Implement pre- and post- training tests.
3. Course Evaluation and Follow-Up
 - a. Evaluate usefulness of training and identify most and least useful course aspects by developing follow-up forms specific to each course and relating to sections within each course.

- b. Conduct participant interviews or follow-up questionnaires (addressing the low response rate for the follow-up questionnaire) to evaluate behavior change associated with training.
 - c. Evaluate demographics of participants (e.g., employer, job classification) to determine if reaching target audience and to identify additional staff per managers' input.
 - d. Track the number of people trained and the number of courses developed and delivered.
 - e. Put Evaluation Form responses in a consistent and compatible database format for future evaluations and ensure the data are complete.
4. Participant Follow-Up
- a. Follow-up with participant supervisor to assess impact on job performance.
 - b. Identify other measures to assess impact of training (e.g., skill assessment of inspectors, comparison of personnel before and after training).
5. Course Review and Update
- a. Address areas needing improvement identified in participant evaluations or follow-up questionnaire.
 - b. Evaluate responses from participants' supervisor to identify potential updates. Evaluate feedback from course facilitator, host sponsor, and region to identify potential updates and additional training for instructors.
 - c. Develop potential schedule for regular course updates and notify enforcement managers and course participants.

5.8 Recommendations

5.8.1 Increased Oversight and Involvement in Non-NETI Developed Courses

Under the existing organizational structure and mission, NETI is held accountable for the performance of the Training Program as a whole, including those classroom courses and distance learning products that are developed by other EPA Offices, Regions and grantees. Those courses not developed by NETI represent 81% of the courses developed. Given this imposed accountability, NETI should consider increasing the level of oversight and involvement in the development or review of non-NETI developed courses. Increased oversight will undoubtedly present a challenge given limited resources but may be a necessary step to ensure the collection of needed performance information and the quality of classroom courses and distance learning products that fall under the umbrella of the NETI Training Program. Increased oversight and involvement could involve the following:

- 1. Establish a data collection policy requiring offices who advertise courses through NETI to use a course Evaluation Form that will facilitate the collection of specified output and outcome measurement information. Offices could use a standardized form developed by NETI or a feedback

form of their own design provided it contains all of the needed performance information prescribed by NETI.

2. Prior to submitting a new course, require each office to specify what knowledge and practical skills participants will take away from the workshop and bring back to their daily work. Questions regarding the new knowledge and skills could then be integrated as part of the end of the course evaluation form. NETI could also specify how the course will contribute to any core competencies for inspectors, attorneys etc.
3. Require offices who propose the development of new and existing courses to specify and demonstrate how the proposed or existing course aligns with OECA's existing national priorities goals and objectives. The utility of existing and new courses could be assessed using criteria similar but not limited to the criteria below:
 - a. Supports existing regulatory enforcement;
 - b. Aligns with existing national priorities;
 - c. Aligns with OECA's strategic goals and objectives; and
 - d. Supports core competencies for a specific job function/position.
4. Create a formal process to solicit senior and mid-level management input and feedback on the identification and development of existing and new classroom courses and distance learning products. The evaluation findings clearly indicate that a majority of staff hear about NETI courses through their managers. This is true for the four NETI-developed courses assessed during this evaluation.

5.8.2 Identification of New Training Courses

Feedback obtained from managers during phone interviews suggests that the development of new course offerings in response to emerging and new regulations may not be timely. The development of a new training course in response to each new regulation may be time consuming and an inefficient use of resources given the overwhelming number of new regulations developed in a given year. However, NETI could consider monitoring the emergence of new regulations that impact enforcement activities and 1) convene a review board (comprised of a select number of managers and trainers) or 2) distribute new regulations to senior managers and existing NETI trainers to solicit their input regarding whether the development of a new course is warranted or whether the development of a new module to append to an existing course would be sufficient. A subscription to an electronic/automated legislation service could be obtained or a review of EPA's Regulatory Agenda could suffice.

OECA has identified the following national priority areas for fiscal years 2005 through 2007:

- Financial responsibility/assurance;
- Wet weather (stormwater, CAFOs, CSOs/SSOs);
- Air toxics (maximum achievable control technology – MACT);
- New source review/prevention of significant deterioration (NSR/PSD);

- Mineral processing;
- Tribal concerns; and
- Petroleum refining.

While OECA and others have developed some training programs in these areas, there has not been a coordinated effort through NETI to develop enforcement training programs across all of these areas. Because course development is to some degree out of NETI's control, NETI should consider closer coordination with other EPA offices, as well as with OECA enforcement managers regarding OECA's priority areas, to ensure that these types of courses are developed in a timely manner. Developing and delivering training programs is resource intensive, and having to develop new courses to address each of OECA's priority areas (there are currently approximately seven different priority areas, which change every few years) may not be cost-effective. However, it may be appropriate to identify which elements or aspects of existing courses address these priorities.

In addition to training on the priority areas and more media/program-specific training, enforcement managers' priorities focused on programmatic aspects of enforcement activities, including targeting, sampling, report writing, implementation of EPA Order 3500.1, electronic discovery rules, and improvement of computer hardware and software skills were also identified and areas needing additional attention. Some of these elements may be appropriate for the four courses developed by NETI. ERG recommends that NETI review these topic areas and consider incorporating them as appropriate into the four NETI-developed courses.

5.8.3 Performance Measures and Data Collection Instruments

This evaluation identified several performance measures and data collection instruments that NETI could use to better evaluate the effectiveness of its training programs, including:

1. Use pre/post tests to assess changes in learning. ERG found that the standard approach to measuring the performance of training programs is Kirkpatrick's four-level approach (Kirkpatrick, 2006)⁵. Under the four-level approach, the impact of training is gauged by developing measures that reflect four levels of training effectiveness:
 - a. Reaction—What did the participants think of the training immediately following the training?
 - b. Learning—What did the participants learn from the training?
 - c. Behavior—Did the participants change their behavior as a result of the training? (Usually measured after some time has passed (e.g., six months))
 - d. Results—Did the training result in meaningful results?

Kirkpatrick suggests that the first of these (Reaction) is essential to evaluating the impact of training and that the other three should be done if time and resources permit. The Evaluation Form and the Follow-Up Questionnaire currently used by NETI capture the reaction and behavior levels of training effectiveness specified in Kirkpatrick's approach. However, data

⁵ Kirkpatrick, Donald L., 2006. *Evaluating Training Programs: The Four Levels*. Berrett-Koehler Publishers; 3rd edition.

capturing learning is not collected. Information on learning can be measured by administering pre/post tests in which participants are quizzed on their knowledge of subjects that will be covered under the training before instruction begins and then after. Scores are compared to identify any marked changes in knowledge.

All training is geared at some form of improvement of outcomes. This last group measures the extent to which those outcomes are realized as a result of the training. Measuring this level would require comparing outcomes (e.g., changes in compliance rates, changes in pollutant releases) associated with those that took the training with the outcomes from those that did not take the training.

2. Ensure the consistent use and collection of course evaluation forms. NETI has designed the implemented the use of a two standardized data collection instruments – the NETI Evaluation Form and the Follow-up Questionnaire for four of its courses. However, this information had not been available consistently. During the course of this evaluation, the analysis of data was hampered slightly by the absence of summary data for specific courses.
3. Consider developing a schedule/cycle for the systematic review of existing training courses. These programs could be reviewed yearly, biannually or coincide with the development of EPA’s strategic plan or review of National priorities.
4. In addition to the tools NETI currently uses, NETI could consider additional tools to better evaluate the four training courses that it develops. NETI could also encourage the use of other tools for all courses that NETI facilitates. These tools include:
 - a. Pre/post-tests. NETI does not implement any measurement tools to evaluate if participants are learning the intended information for the four courses developed by NETI. Pre/post-tests are frequently used for this purpose, and could be easily developed and implemented by NETI. However, developing these tests and analyzing the results of the tests will add additional costs to each training delivery.
 - b. Follow-up with participant supervisors to assess the impact of the training on job performance. This follow-up could consist of a paper or electronic survey, or a phone survey similar to the phone survey conducted for this evaluation.
 - c. Systematic follow-up with enforcement managers to evaluate the effectiveness of NETI’s programs in addressing managers’ goals, and in motivating behavior changes and improving performance among trained personnel. This follow-up could consist of a paper or electronic survey, or a phone survey similar to the phone survey conducted for this evaluation.

A challenge with each of the items identified during this evaluation is the amount of resources required to implement some of these recommendations, as compared to the

resources available. For example, implementing the Dillman method to improve survey response rates adds costs to the process, though a repeatable approach could reduce the costs on a per-course basis. The resource implications will need to be weighed against the improvement in the types of information NETI has available to help make future decisions on how to develop and deliver its courses.

5.8.3.1 Potential Changes to the NETI Evaluation Form

Consider the following changes to the NETI Evaluation Form:

1. Include a question regarding the overall course rating. This could be added after Question 7.

Example:

How would you rate this course overall?

Poor Satisfactory Good Excellent Outstanding

2. Add a question asking whether the participant’s knowledge or understanding of the subject has improved.

Example:

a) As a result of taking this course, my knowledge/understanding has improved: Greatly Some Not improved

b) Overall, my knowledge or understanding of the subject has increased. Strongly agree Agree Disagree Strongly disagree

c) To what extent has your knowledge/understanding of the subject improved or increased as a result of this course?

A lot

5	4	3	2	1
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 Little

If you scored 3, 2 or 1, please explain why you have given this rating.

3. Add a question asking the student to explain how their new skills or knowledge can be applied to their job.

Example:

Please list two examples of how you can apply what you learned today to your job.

1) _____

2) _____

4. Add a question asking whether the student will participate in a post-training debriefing with their manager.

Example:

Has a post-training debriefing meeting been arranged with your line manager?

Yes No

5. Add a question asking whether NETI can contact the student for a follow-up questionnaire.

Example:

Do you agree that NETI can contact you to ask questions about how you are using the skills and knowledge you gained during this class?

Yes No

6. Regarding Question 8: What about this course did you find most useful? Consider rephrasing the question to ask: What did you find most useful about this course?

7. Regarding Question 9: What about this course did you find least useful? Consider rephrasing the question to ask: What did you find least useful about this course?

8. Regarding Question 11: How did you hear about this course? Consider giving the user specific choices/methods based on a review of the most frequent responses seen from the evaluation feedback forms and then provide a space for “Other”.

5.8.3.2 Potential Changes to the NETI Follow up Questionnaire

Consider the following changes to the NETI Follow-Up Questionnaire:

1. Regarding Question 1: Change this question from a Yes/No to asking the participant to rate the extent they used the information.

Example:

To what extent have you used the knowledge/skills learned in the course in your daily work environment?

Please list two examples of how you have used these skills in your work environment.

1) _____

2) _____

2. Send a feedback form to the Line Manager. The questions below were developed by Alan Chapman 2002 www.businessballs.com free online training resources but adapted for potential use by NETI.

Line-Manager Training Feedback Form

As the line manager of _____ (Student name), who attended the _____ course on _____ (date), it will be helpful for us to have your feedback on the following points. Please take the time to complete this brief questionnaire and return to _____ by _____ (date).

Since _____ (Student name) attended the course,

Have you noticed any change in his/her attitude at work and if so in what way?

Yes No

If yes, in what way? _____

Have you noticed a change in his/her productivity (i.e., more or less output)?

Yes No

If yes, in what way? _____

Have you noticed a change in his/her efficiency (e.g., making better use of time and resources)?

Yes No

If yes, in what way? _____

What specific feedback if any has the student given you about the course (e.g., content, arrangements, enjoyment, worthwhile)?

Any other points (e.g., other noticeable changes, would you consider sending other people from your team on the course, suggested improvements to the course).