APPENDIX D
Comments about Individual Training Courses

This section of the report summarizes information collected from the evaluation forms that were distributed to students during each course they attended. Students were asked to respond to a series of questions about the course by selecting from the following choices:

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

The abstract that is provided for each course reflects what was originally submitted by the training team and was not changed to reflect actual content presented. The bar graphs illustrate the responses to that series of questions. In addition, students were asked to submit written comments about various elements of the course, including content, relevance and appropriateness of case studies, and instructional methods. This attachment also provides pie charts that show the percentages of students for each course by job title.

Basic Project Management Skills for RPMs

Thursday, May 24, 1:15 p.m. to 4:30 p.m.

Instructors: Dion Novak, Region 5
Nathan Smith, Project Performance Corporation

The *Basic Project Management Skills for RPMs* course provided participants a foundation in the principles of successful project management. This course focused on project management techniques that increase the probability of RPMs and site managers proactively managing the full range of issues they may encounter during the post-ROD planning, executing, and closing of a remediation project. The course conveyed tools and techniques for project management that apply to the unique circumstances of remediation. Through a series of facilitated group exercises, participants learned best practices to successfully manage a project from initiation to final closeout, including:

- Project challenge management:
  - Identifying potential issues
    Anticipating their impact
    Monitoring for issues during implementation
    Managing the responses to issues
- Work scope planning and management:
    Strategies for work scope planning
    Tools for Work Breakdown Structure (WBS) development
- Schedule management:
    Schedule estimation
    Schedule monitoring

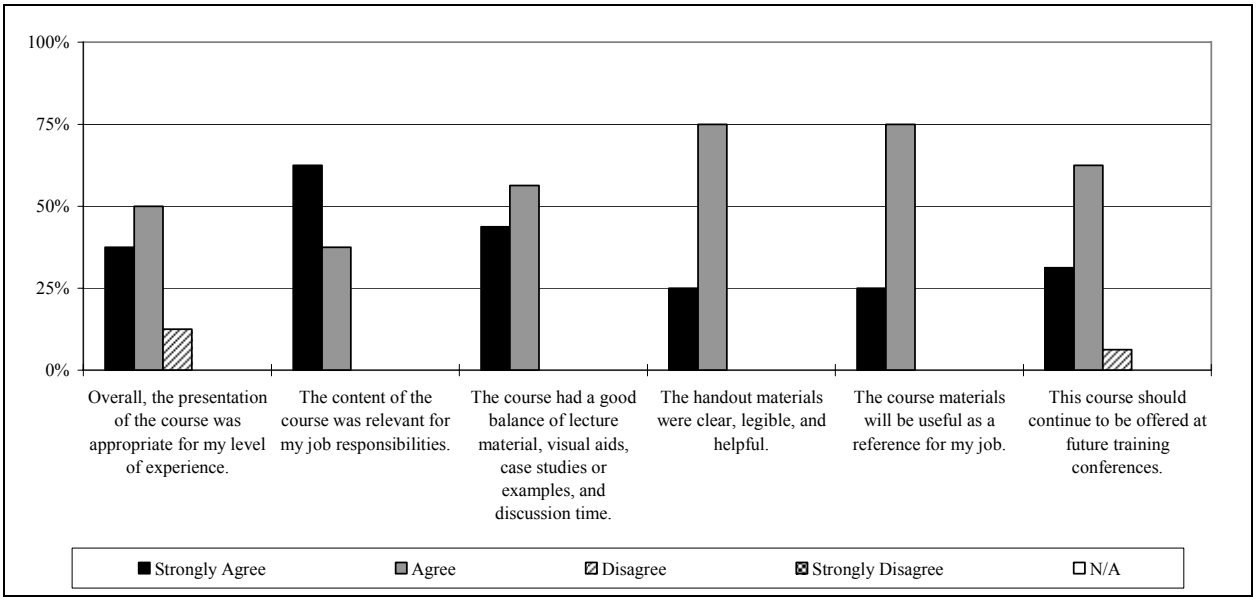
The course also introduced certification programs in project management, such as Project Management Professional, Certified Project Manager, and Registered Environmental Manager, that may have been of interest to RPMs who wished to gain additional skills and recognition.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
28	22	16	4*

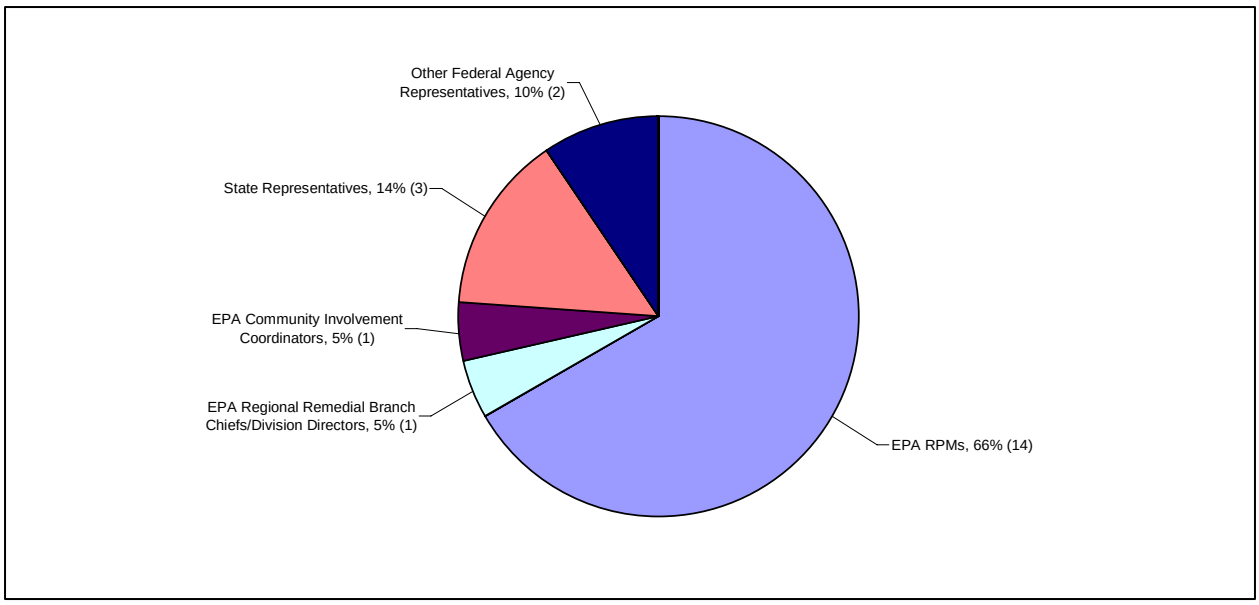
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Basic Project Management Skills for RPMs



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 66 percent of the students.

Students by Job Title for the Basic Project Management Skills for RPMs Training Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- The whole "magnitude of impact" concept eludes me a bit — more explanation would be helpful.
- Needs to be more for new people in the pre-ROD phase.

Comments on course content

Add

- More scenarios to work with.
- Present a bunch of different project management tools.

Lengthen

- Could easily be all day!
- Project prioritization → How to make hard decisions?!
- More group activities.
- Whole class, especially lecture.

Shorten

- The whole last part should be condensed or removed.

Comments on instructional methods and materials

- Thanks!
- Well set-up course. Interactive and thought provoking.
- Both instructors were very knowledgeable and knew the subject matter. I enjoyed the group exercise.
- I liked the opening activity.
- A sample WBS and model SOW would be helpful. *(Two responses)*
- Probably need more time to get in more depth on some of the subjects discussed. *(Three responses)*
- Nathan Smith's section was too long. It did not add to my skills or understanding.
- Need more discussion time and case studies.
- Do more case studies! The group activities worked really well.
- It would have been good to first have discussion about example of tools before getting into the exercise. Also, good examples out there for SOW, construction completion reports, etc., should be shared on EPA intranet, NARPM Web site, etc.
- Three hours is fine – does not need to be longer.
- I think more skills in day-to-day project management as well as planning projects are needed.

Comments on course name and abstract expectations

- I was surprised by the material — I expected more day-to-day project management skills and organizational skills to be discussed based on the title *(Two responses)* — still useful, just different than I expected. This is more planning based.
- I thought we would talk about how to manage meetings and deal with coworkers and PRP.

Comments on recommending course to colleagues

- Yes – I liked the setup and the instructor.

Comments on suggestions for future offerings of this course

- Need a more "basic" class.
- It would probably be better to go back to the longer format.

Be Prepared: Know What to Say and How to Say It, An Advanced Media/ Spokesperson Training Workshop[1]

Instructors: Pamela Avery, Bozell, LLC
Dominic Frederico, Bozell, LLC
Leo Kay, Region 9
Wendy Thomi, Region 8

Be Prepared: Know What to Say and How to Say It was an advanced media and spokesperson training workshop. What you say and how you say it are critical to getting information out to the news media, community groups, and others. This intensive half day workshop was designed to give participants the confidence they need to explain their work and talk about tough issues. By taking this workshop, RPMs learned:

- How to prepare for interviews or public speaking engagements;
- How to craft your organization's messages; and
- How to deliver your messages effectively — even during a crisis.

This highly interactive workshop featured customized scenarios relevant to each participant's programs or projects, and several one-on-one videotaped sessions with professional interviewers. The course was limited to 10 participants from EPA or similar government agencies who had taken the Working with the News Media course or another similar media and spokesperson training workshop.

Wednesday, May 23, 1:15 p.m. to 4:30 p.m.

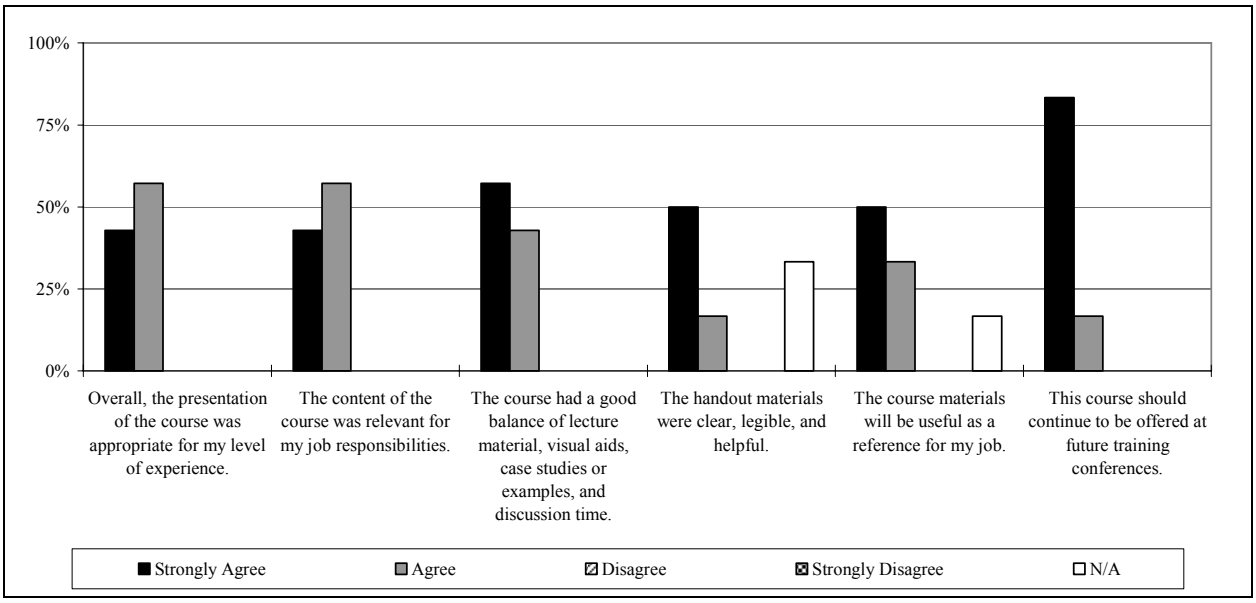
Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
12	12	8	5*

* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

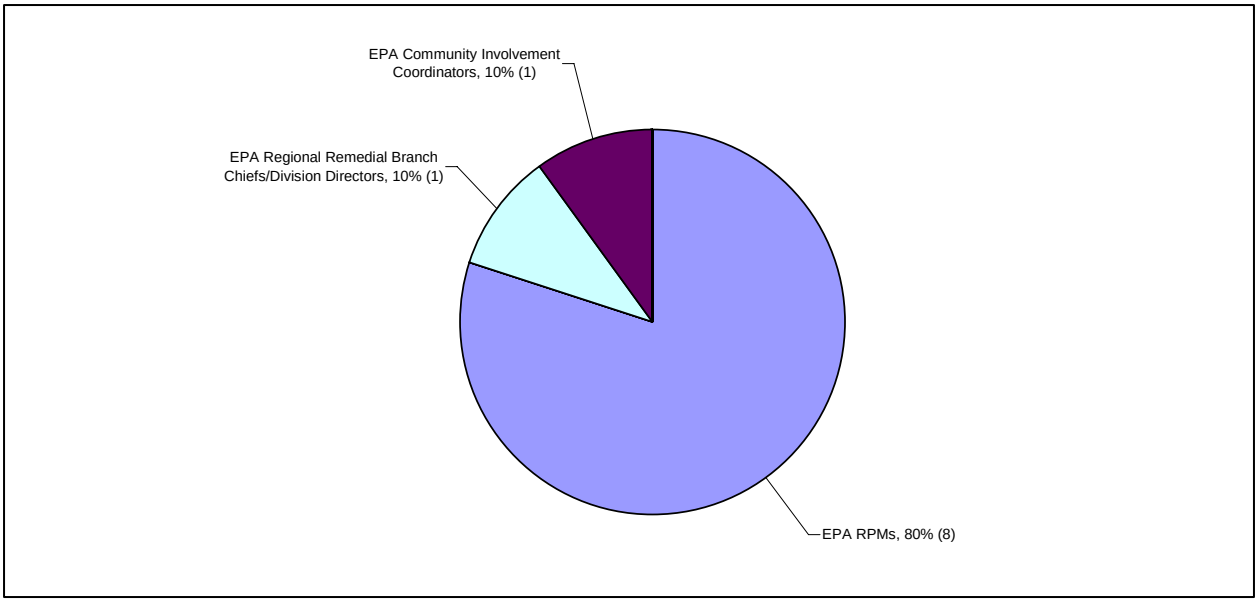
[1] This course was held twice during the week. In addition, due to instructional methodology of the course, classroom size was limited.

Summary of Evaluation Results for Be Prepared: Know What to Say and How to Say It, An Advanced Media/Spokesperson Training Workshop



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 80 percent of the students.

Students by Job Title for the Be Prepared: Know What to Say and How to Say It, An Advanced Media/Spokesperson Training Workshop



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on course content

Lengthen

- Perhaps do a panel format with several speakers talking separate points with one interviewer?

Comments on instructional methods and materials

- This sort of course is really valuable in our day-to-day work.
- A little too much discussion — distracting.

Comments on suggestions for future offerings of this course

- Could (should) be whole day. *(Two responses)*
- Would be helpful to do two rounds of the interviews — one first and then a slightly different slant with followup questions. Great critique. Perhaps have a meeting format with people in front of you creating distractions.

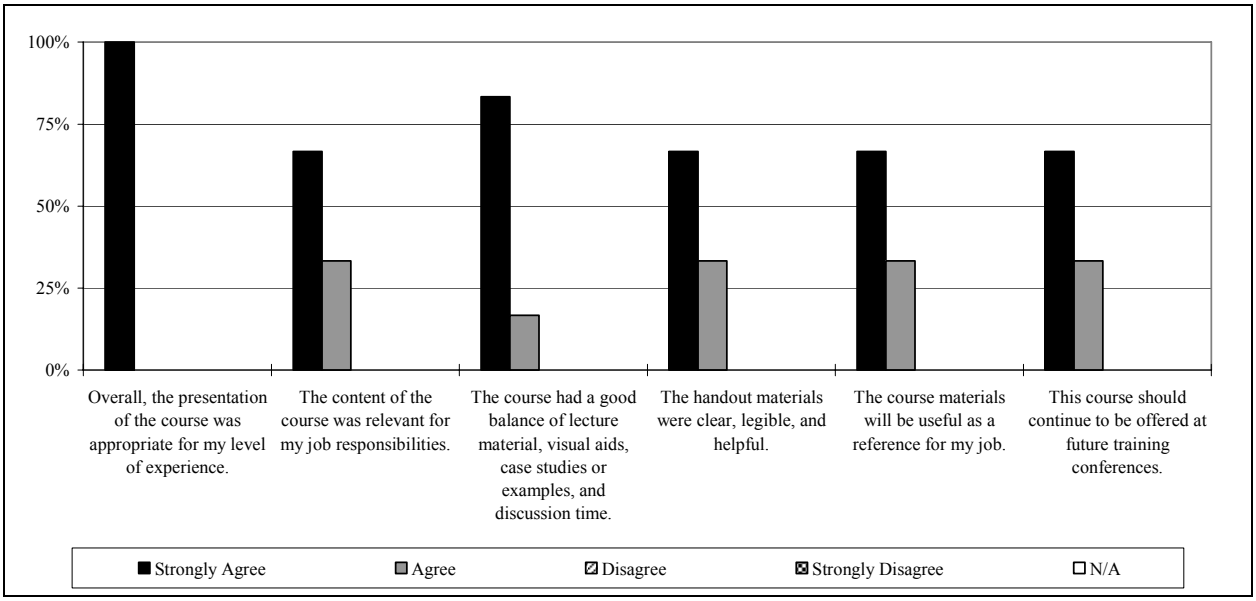
Thursday, May 24, 8:45 a.m. to 12:00 p.m.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
12	12	6	5*

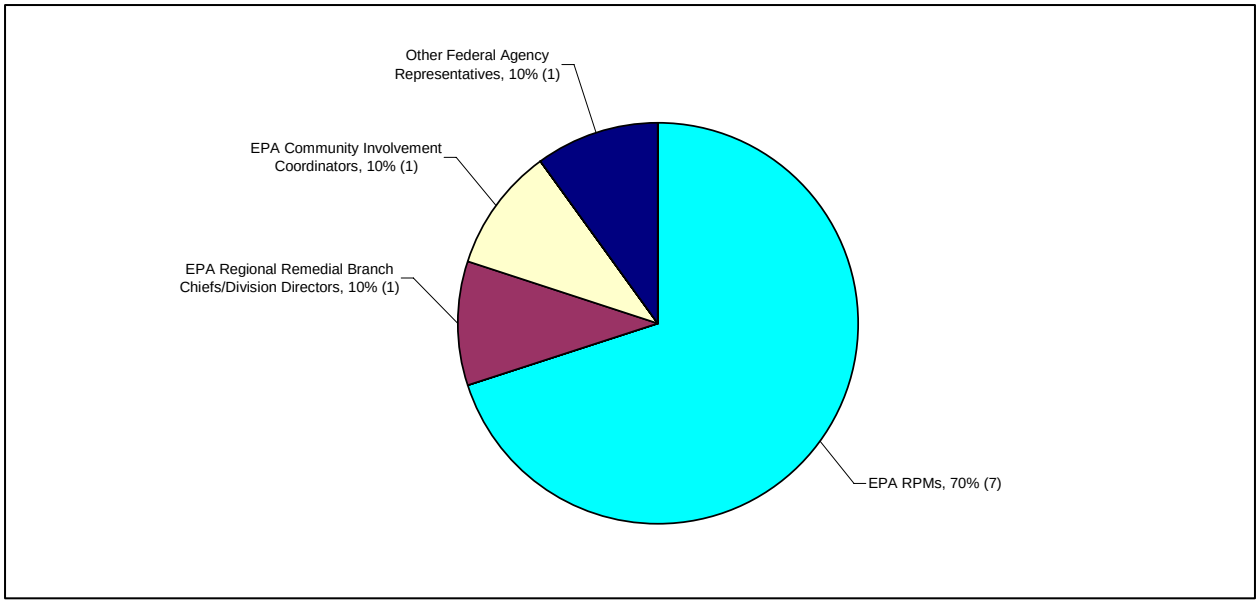
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Be Prepared: Know What to Say and How to Say It, An Advanced Media/Spokesperson Training Workshop



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 70 percent of the students.

Students by Job Title for the Be Prepared: Know What to Say and How to Say It, An Advanced Media/Spokesperson Training Workshop



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Very helpful.
- Perfect.
- It assists in preparing me for media review.

Comments on course content

Lengthen

- Video practice. Do it twice.

Comments on instructional methods and materials

- Very interactive. *(Two responses)* Lots of fun.
- This could be a day long course.
- Good summary of key points.
- Great training!
- Great team work. Video taping was very, very useful. Thank you!!!
- Good discussion of information.

Comments on course name and abstract expectations

- Above and beyond.

Construction Oversight: Building a New Foundation

Thursday, May 24, 1:15 p.m. to 4:30 p.m.

Instructors: Fran Costanzi, Region 8
Damian Duda, Region 2
Anne Kelly, Region 2

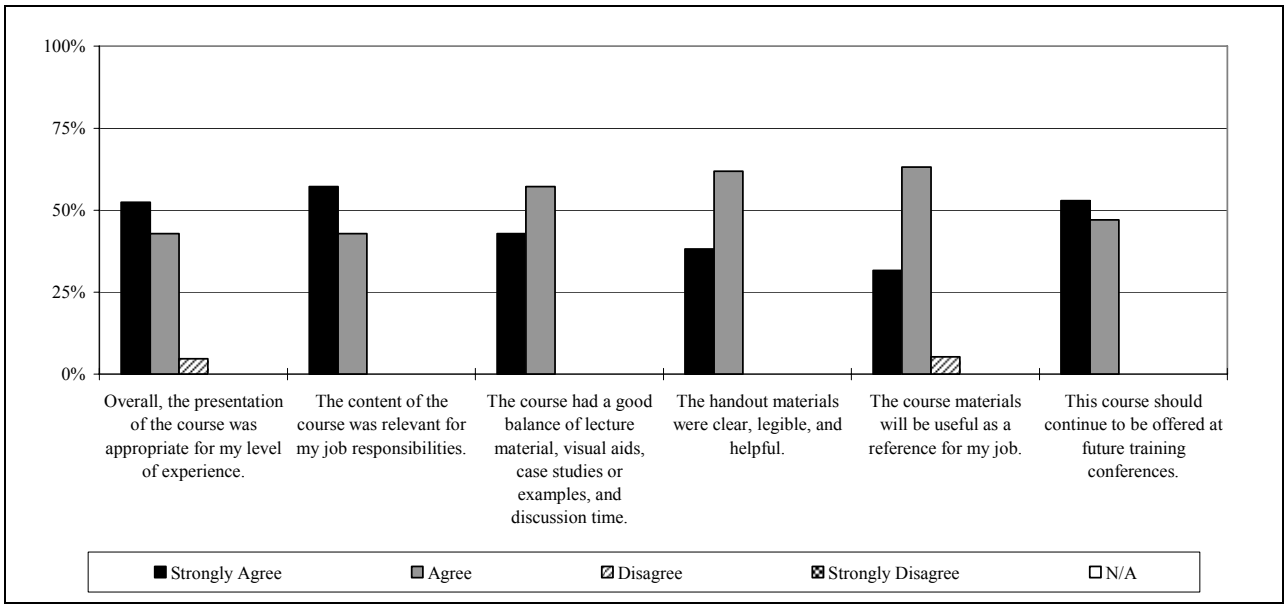
The *Construction Oversight: Building a New Foundation* course examined the RPM's role during remedial action construction and reviewed planning and oversight that RPMs typically conduct when they oversee construction at both fund- and PRP-lead projects. In addition, the course presented several "disaster" case studies that illustrated problems that occurred during construction despite the RPM's careful planning and oversight. Participants had the opportunity to share examples of their experiences in overseeing remedial action construction. A primary goal of the course was to provide the impetus to establish a vehicle for better networking among RPMs to discuss construction oversight and to share remedial action construction experiences. The course was valuable for all RPMs at all levels of experience.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
37	34	21	4*

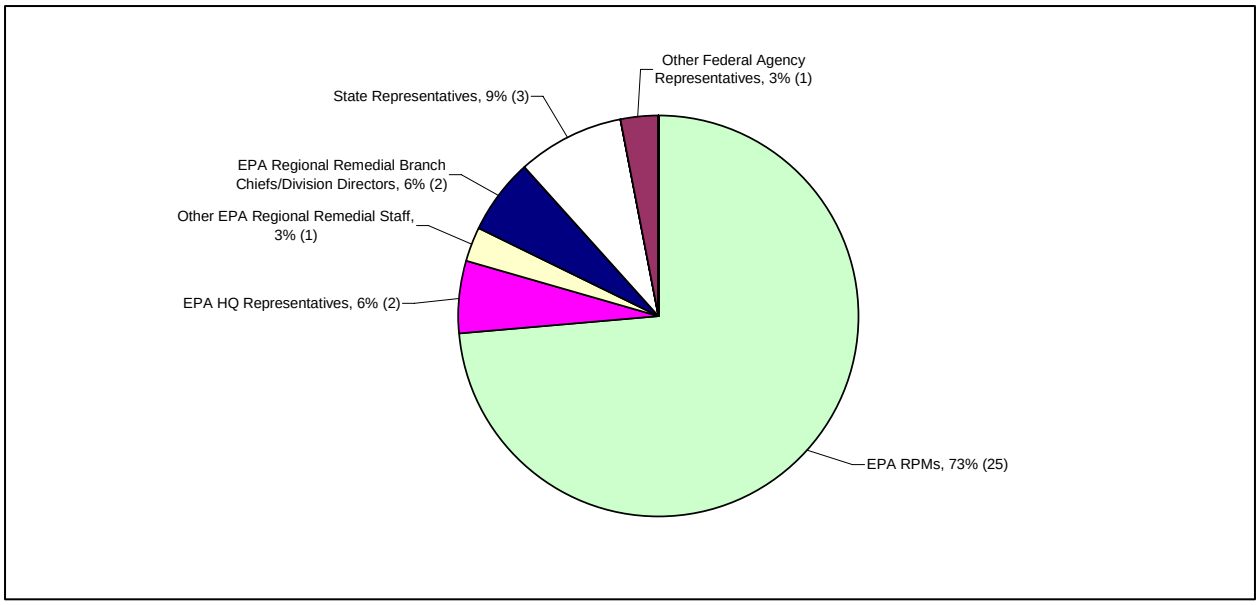
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Construction Oversight: Building a New Foundation



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 73 percent of the students.

Students by Job Title for the Construction Oversight: Building a New Foundation Training Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- This was perfectly targeted to the audience.
- The handout and manual were perfect and I will use it.
- A checklist of items to consider upfront would be useful. A lot of examples were given. A list that one could consider if applied to your site would be helpful.
- Too basic for me. Did not help for my experience level.

Comments on course content

Omit

- Some material covered several times.

Shorten

- Last example about Missouri Electric was too rambling.

Comments on instructional methods and materials

- Very good job. *(Three responses)*
- There are wide variances in requirements at different sites. Expanding upon this is very worthwhile.
- Maybe consider expanding to a full day short course. A "tricks of the trade" or lessons learned list would be useful.
- Present additional case studies from a variety of sites.
- Case study relevance? More information on technical characteristics needed for polychlorinated biphenyls (PCB) example at end of session – Missouri Electric Works.

- I suggest using a federal facility example on a case study next time.
- Having the speakers switch off kept it interesting.
- I liked the "tag-team" module, but it caused that portion to be really long.
- I liked that they added notes to the slides in the handout.
- Too little time for discussion.
- A little slow.
- Unsolicited input from the audience should be minimized to obviate disruption of the flow of the course.

Comments on course name and abstract expectations

- Title is misleading.

Comments on recommending course to colleagues

- Maybe. *(Two responses)*
- Useful for less experienced RPMs.

Comments on suggestions for future offerings of this course

- Some modifications needed for future classes.
- This should be continued and expanded.
- As Headquarters evaluates the use of more expensive remedies, we need to continue to work with RPMs on construction.
- RPMs with less RA construction experience need this type of training.

Contracts Training[2]

Instructors: Mark Heare, EPA OAM
Barbara McDonough, EPA OSRTI
Sallie McElrath, EPA OAM
Marie Noel, Region 7
Matthew Raible, EPA OAM

The *Contracts Training* course was separated into four sessions, which are described below:

- The *SOW: The Key to Getting What You Need* session focused on describing the required elements of a SOW, providing tips on language to ensure ease of the reader's understanding, identifying often-misused words and phrases, and delineating how a SOW differs from a performance work statement (PWS) used in performance-based contracting.
- The *IGCE: A Guide to the Who, What, When, Where, and Why of Everyone's Favorite Contract-Related Activity* session provided a look into the roles and responsibilities of personnel, a step-by-step walk through on why IGCEs are prepared, and various individual elements of costs considered in preparing IGCEs. Resources and examples of IGCEs were provided and reviewed, and questions were encouraged from class participants. The session also addressed new guidance on estimating the cost of USACE project management support.
- The *Invoice Review* session focused on the general areas of concern that pertained to invoice review, contract-related elements a contracting officer's representative (COR) must have to effectively review invoices, tools at the COR's disposal to facilitate review and approval (or suspension) of dollars claimed, and individual elements of costs common to various contract types.
- The *Hot Topics* session focused on reviewing new requirements such as contractor background checks and SmartCards, remedial design value engineering, and COR continuous learning, as well as tips about allocating "WQ" — a general site identifier to obligate amounts funded for a site-specific response. The qualifier is used when the precise amounts that would apply to the individual sites cannot be estimated at the time of obligation. Finally, Hot Topics discussed accounts and other contract management priorities.

Tuesday, May 22, 1:15 p.m. to 4:30 p.m.

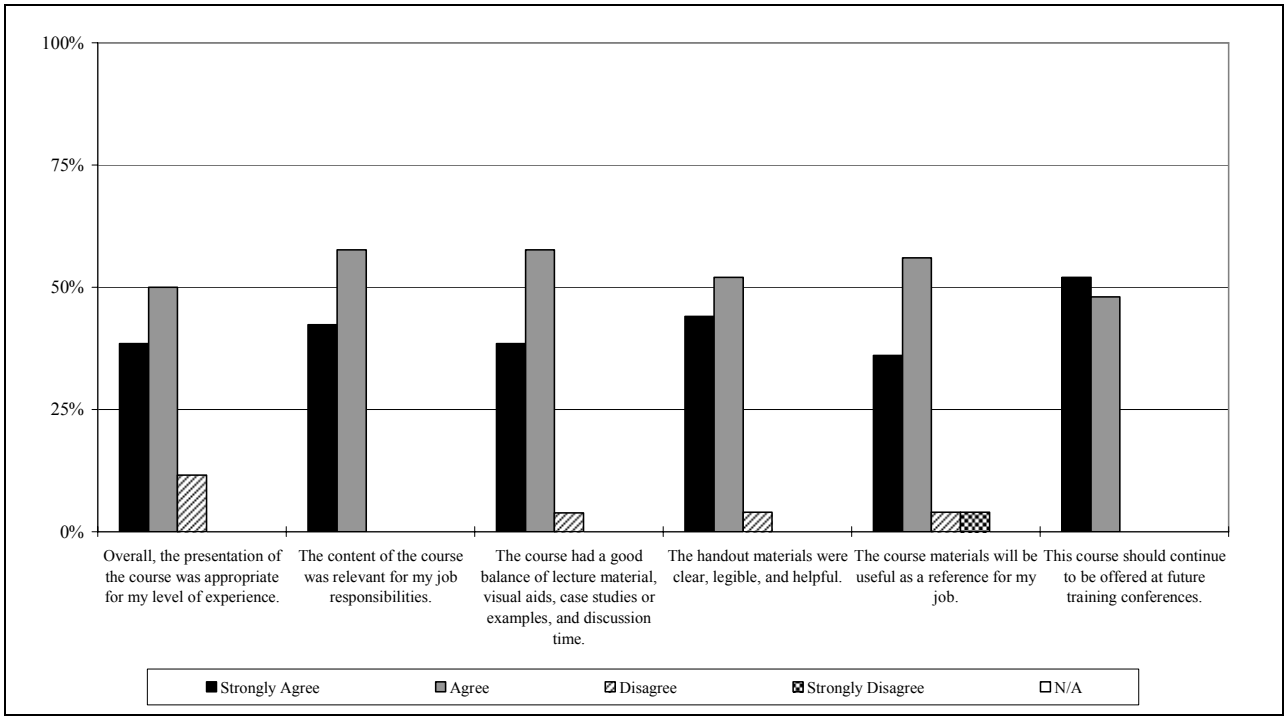
Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
38	33	27	4*

* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

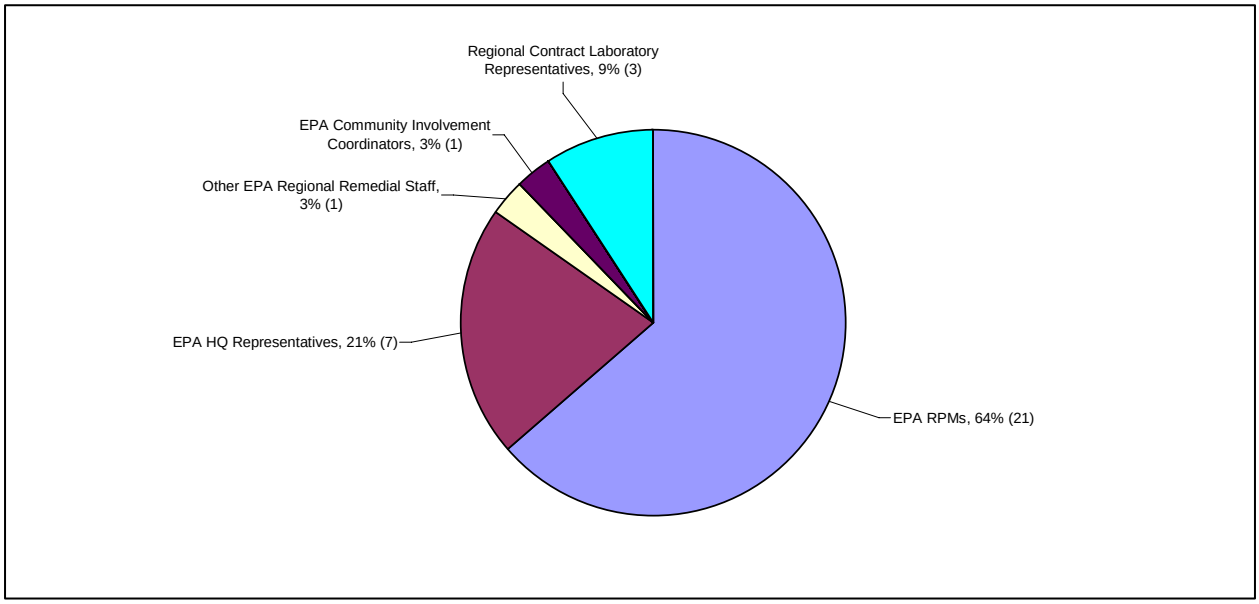
[2] This course was held twice during the week.

Summary of Evaluation Results for Contracts Training



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 64 percent of the students.

Students by Job Title for the Contracts Training Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Discussion was very good. *(Two responses)*
- Too basic. *(Three responses)*

Comments on course content

Add

- Alpha contracting.
- Case studies for remedial work: RI/FS, RD, RA, and operation and maintenance (O&M).
- Interagency agreements (IAG), grants, cooperative agreements.
- More online contracts training.

Omit

- Do not repeat these units. Fixed price on performance based contracts and task orders.

Lengthen

- Tool box (estimators).
- Automated Configuration Management/Integration System (ACMIS) use.

Comments on instructional methods and materials

- The instructor was excellent, very knowledgeable and well prepared.
- Well presented!
- Updates on ACMIS, hot topics, etc., are important and noteworthy.
- Way too many questions from audience that instructors could not supply answers to. Whole ACMIS and Maloney Act issues were discussed without adequate answers. The instructors let unintroduced audience members make explanations.
- Marie Noel is extremely knowledgeable and so is Barbara McDonough.
- Slow to get audience interaction, but once crowd got involved the course was much better.
- The "hot topics" were useful. Most of the rest of the class was too basic.
- Graphics and PowerPoint could be more artful. Black text on white background is boring.
- Need more site specific case studies.

Comments on recommending course to colleagues

- In some cases.
- Only because it is required.
- Because of the 40-hour COR requirement.

Comments on suggestions for future offerings of this course

- Retain "hot issues" and update every year.
- More information on IAGs.
- Better clarified security background check requirements. Not clear presentation.
- Contracts training must be at every NARPM now.
- I would like to hear a discussion on alpha contracting. Is this a new frontier to EPA?
- Should add more contracts classes during NARPM.

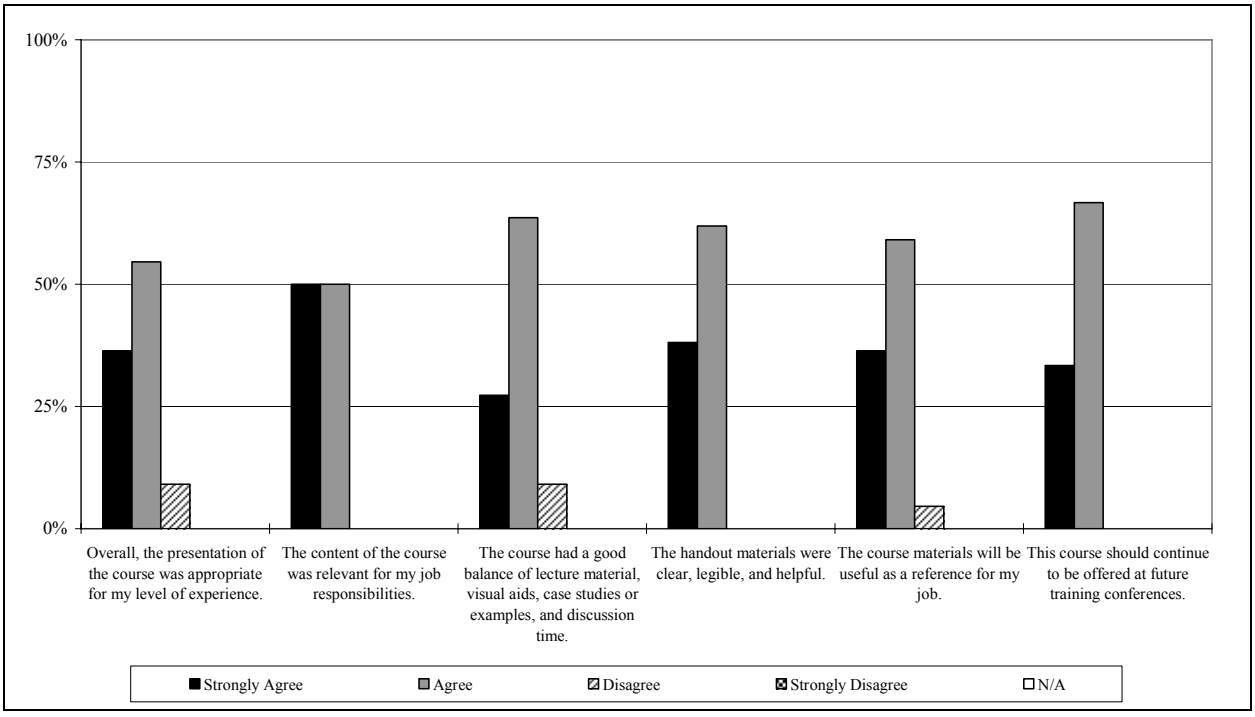
Wednesday, May 23, 1:15 p.m. to 4:30 p.m.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
36	30	22	4*

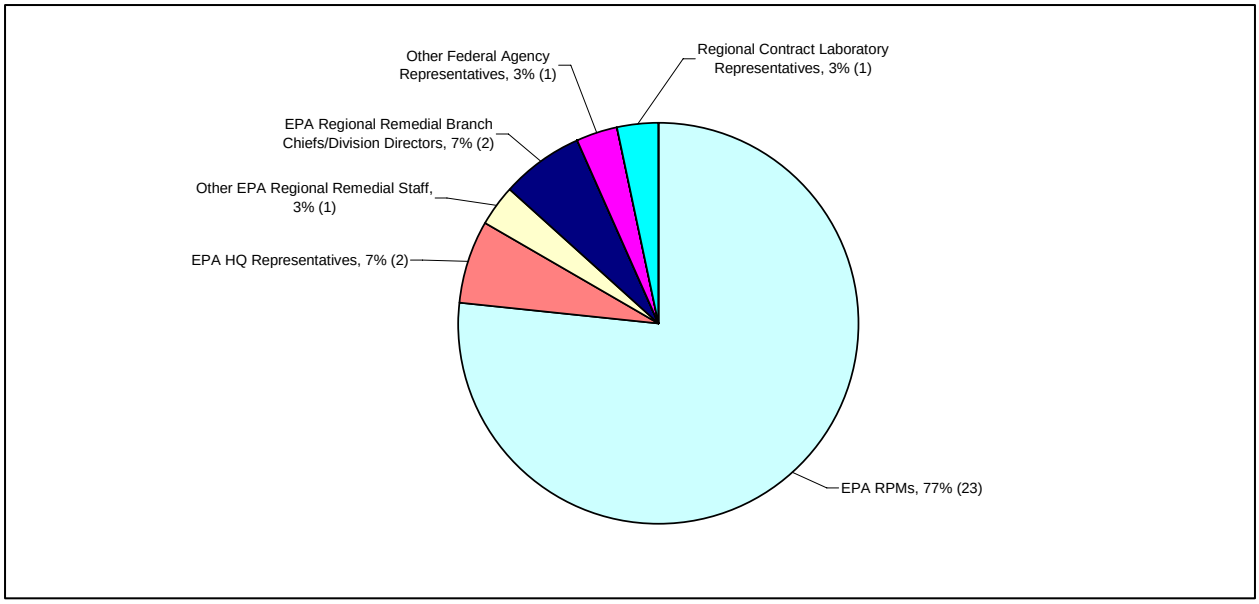
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Summary of Evaluation Results for Contracts Training



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 77 percent of the students.

Students by Job Title for the Contracts Training Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- The definitions are nice, but we need more concrete examples.
- Relevant in that I need the training, not in that I actually manage contracts.

Comments on instructional methods and materials

- Good class!
- Excellent presentation.
- Marie is very knowledgeable and a good after lunch presenter because she projects her voice.
- A very good balance of appropriate materials.
- Great dialogue with students.
- Movie kept the topic lively.
- Not enough examples.
- RPMs need more detail, especially about estimates. *(Two responses)*
- Could use more case studies. *(Two responses)*
- Do not read every slide. *(Two responses)*

Comments on recommending course to colleagues

- I would recommend the course. I think RPMs need to be exposed to the material and to also add suggestions.

Comments on suggestions for future offerings of this course

- A COR course needs to be part of NARPM, but the course needs to be improved. It would be nice if a Headquarters staff member gave the entire course.
- With changes, this is a useful course.
- A spinoff IGCE practical preparation course should be added.
- More on IGCE — specific training on cost estimating. *(Two responses)*
- Based on heated course discussion on IGCE resources available to RPMs, perhaps a course specific to EPA IGCE preparation and the resources EPA RPMs can tap into when preparing IGCEs should be considered for a future NARPM. *(Two responses)*

Engineering Design Considerations for Vapor Intrusion (VI) Mitigation

Tuesday, May 22, 8:45 a.m. to 12:00 p.m.

Instructor: Raphael Cody, Region 1
Ronald Curran, Connecticut Department of Environmental Protection
Ronald Mosley, EPA Office of Research and Development (ORD)

The *Engineering Design Considerations for Vapor Intrusion (VI) Mitigation* course provided technical information on the design and operation of active mitigation systems and passive VI barriers. VI typically arises as a result of the migration of contaminated ground water plumes under commercial and residential buildings, although VI may also arise from contaminated soils (for example, from underground storage tanks) or landfills. New or existing commercial and residential buildings that are affected by VI may require engineered systems or barriers or a combination of both to mitigate the risks to human health associated with VI.

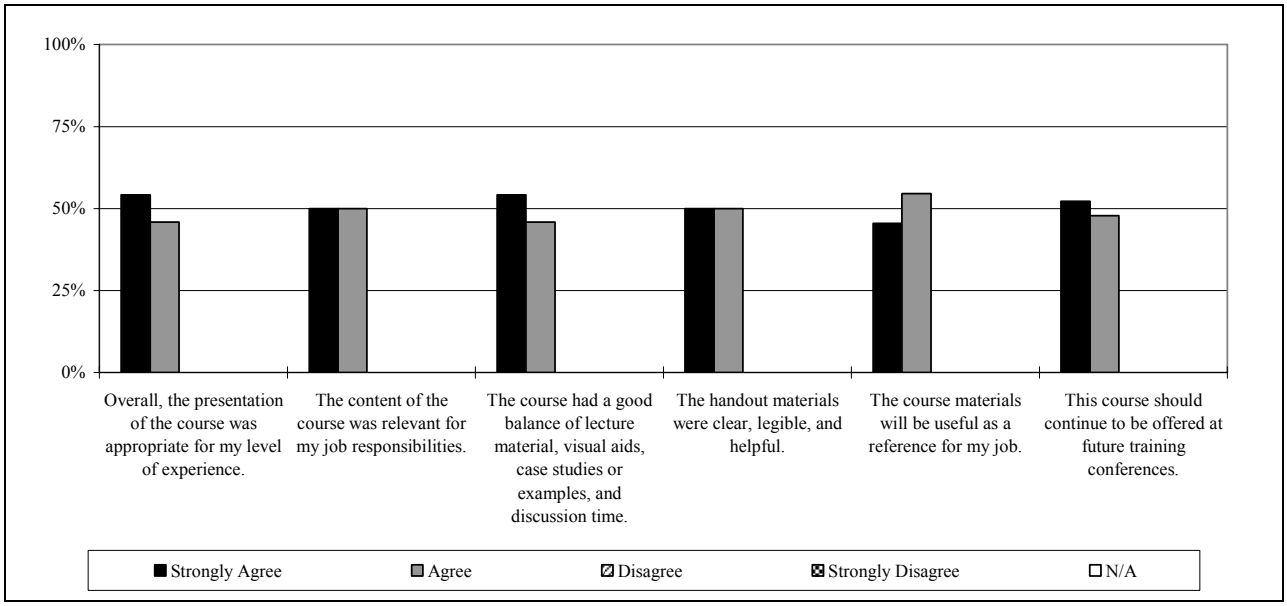
This course was sponsored by the TSP Engineering Forum and EPA OSRTI.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
42	41	24	4*

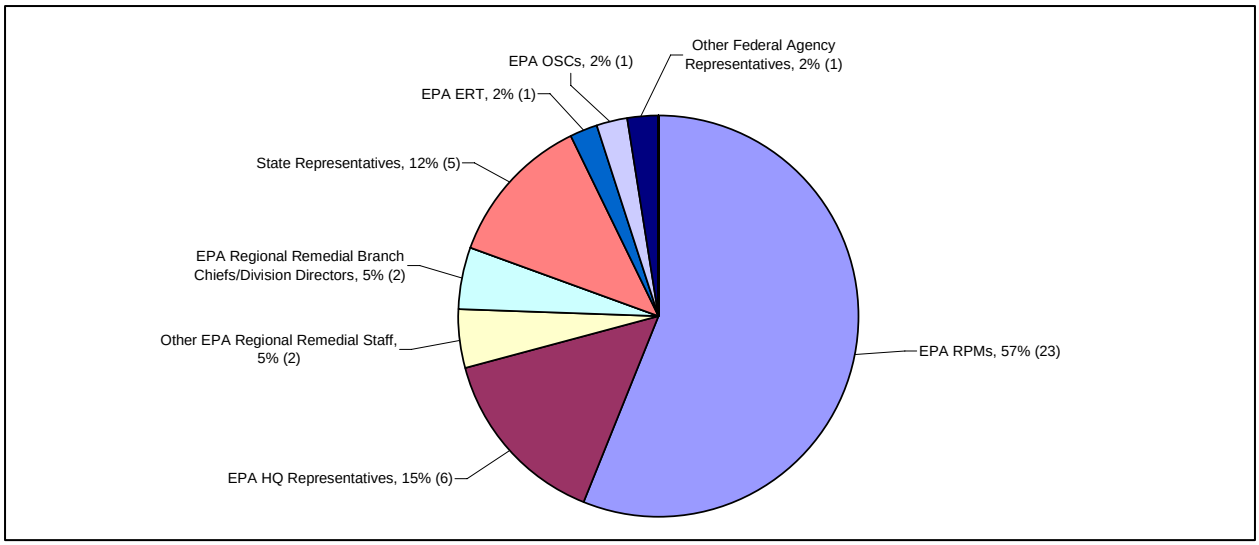
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Engineering Design Considerations for Vapor Intrusion (VI) Mitigation



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 57 percent of the students.

Students by Job Title for the Engineering Design Considerations for Vapor Intrusion (VI) Mitigation Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- I eventually will need to use this material. *(Two responses)*
- R. Cody's presentation was a bit too technical in areas for me. Needed to explain his slides a bit more for a mixed audience. I am science oriented, not engineering.

Comments on course content

Add
- Doing the investigation to determine if mitigation is necessary.

Omit
- Case studies. Raymark would be a good replacement.

Lengthen
- More on how to determine whether vapor mitigation is needed or not.
- Public information.
- Ron Curran's could be lengthened about 15 minutes.

Shorten
- First speaker could go quicker.

Comments on instructional methods and materials

- Great speakers.
- Very useful. *(Two responses)*
- Appreciated that they kept on schedule.
- Good case study.
- Nice handout.
- Thanks for the sample letter.

- Great pictures.
- Good variety of presentations.
- Valuable course in terms of real solutions to soil vapor extraction conditions.
- Very good course, especially liked the first and last presentations. Middle presentation ok, but there is some need to get "level" for all audience members.
- I think I saw this course already, but it was still a good presentation.
- Would have liked to have more discussion from the first speaker on volatile organic compound (VOC) data mitigation. The radon levels were interesting but topic of the day is VOC intrusion mitigation.
- First speaker needed to speed it up a bit.
- Second presenter should be notified that EPA has been using micrograms per cubic meter ($\mu g/m^3$) as units for VOC concentrations versus pounds VOC per pounds material (PP/v).
- Technical charts, graphs, etc., need more explanation for certain audience members.

Comments on course name and abstract expectations

- Title of course should have reflected a "radon" focus.
- Need discussion and case studies on actual VOC mitigation in affected homes.

Comments on recommending course to colleagues

- Course great for someone about to do mitigation.

Comments on suggestions for future offerings of this course

- With updates.

Explosives and Perchlorate Sampling and Analysis Issues

May 23, 1:15 p.m. to 4:30 p.m.

Instructors: Tom Jenkins, USACE
Doug Maddox, EPA FFRRO
Shen-yi Yang, EPA OSWER

EPA SW-846 Method 8330, the primary method for environmental analysis of explosives for more than a decade, was recently updated to Method 8330B. This update included changes specifically designed to address issues related to sample collection, preparation, and analysis of munitions residues on military training ranges and munitions open burn/open detonation (OB/OD) units. Additionally, EPA SW-846 Methods 6850 and 6860 were recently adopted for analysis of perchlorate in soil, water and solid wastes. These methods confirm perchlorate detections and overcome the many interference problems associated with ion chromatography /conductivity suppression analysis for perchlorate (Method 9058). The *Explosives and Perchlorate Sampling and Analysis Issues* course included a short presentation on these methods.

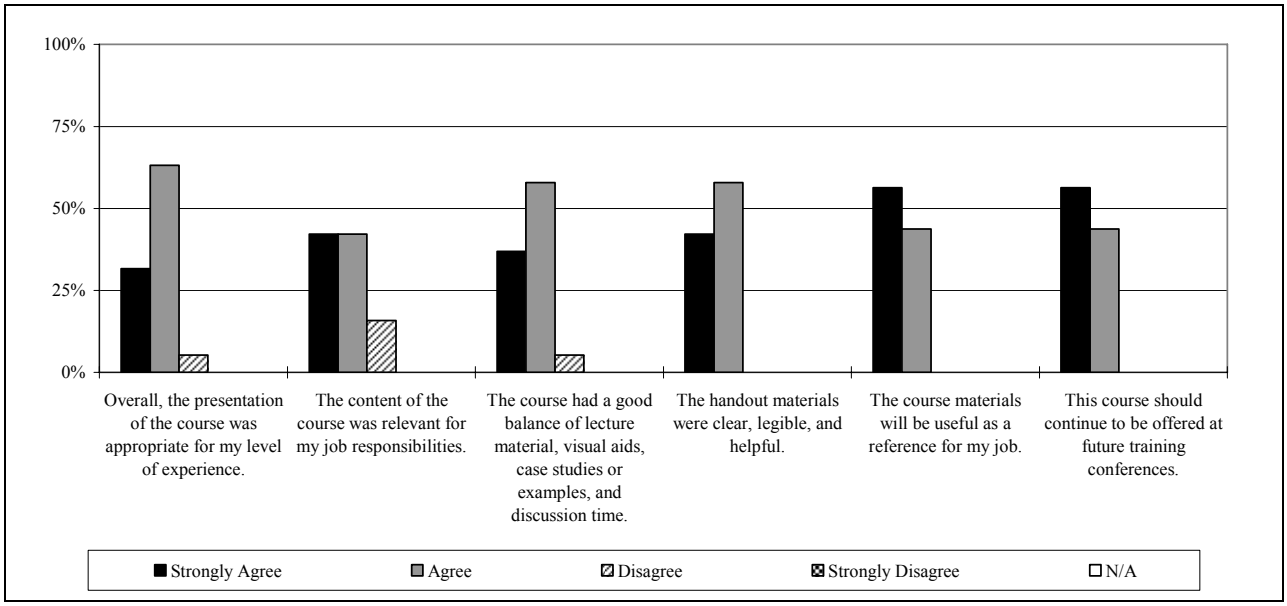
The instructors for the *Explosives and Perchlorate Sampling and Analysis Issues* course were instrumental in developing the changes to the sampling design, sample preparation, and instrumental analysis for the Method 8330B Update.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
57	36	19	4*

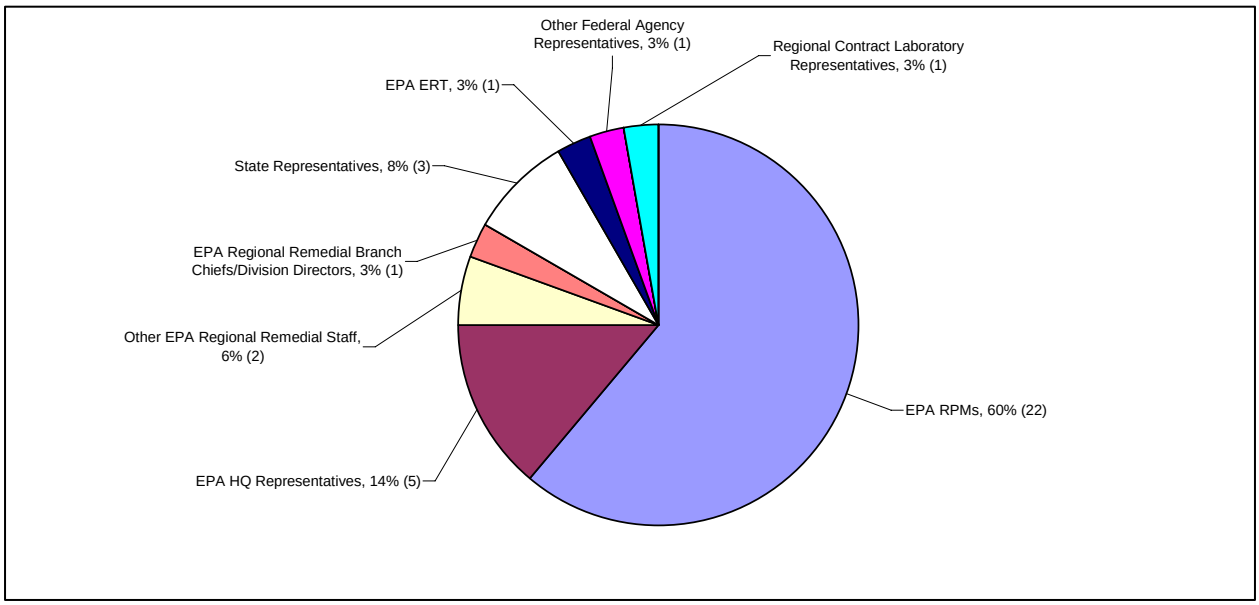
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Explosives and Perchlorate Sampling and Analysis Issues



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 60 percent of the students.

Students by Job Title for the Explosives and Perchlorate Sampling and Analysis Issues Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on course content

Add

- Load remedial technologies (firing ranges).
- DQO and decision units in practice at site investigation and cleanup.
- How to score them on the National Priorities List (NPL).
- Can I use multi-incremental in Hazard Ranking System scoring and sampling for OB/OD and other military munitions issues?

Shorten

- The first module SWX46 methods for analysis of perchlorate in media.

Comments on instructional methods and materials

- Tom Jenkin's presentation was excellent. It was the second time that I heard it and I learned new things.
- Mrs. Yang was too chemically detailed rather than when to use what method and other practical lessons for RPMs. Need to relate to project level.
- Some concepts were not always readily understood but assumed to be correct. I will repeat this material a few times.
- The instructor for SW-846 read from the overheads and also was hard to understand.
- Very, very specific.

Comments on recommending course to colleagues

- The sampling modules I would recommend.
- For those that deal with explosives.

Comments on suggestions for future offerings of this course

- Only if updated information is provided.

Facilitative Leadership – Productive Small Group Meetings[3]

Thursday, May 24, 1:15 p.m. to 4:30 p.m.

Instructor: Mary Wenska, Wenska Communication Works, LLC

Today more than ever, it is crucial to be smart about how to set up meetings, a process that includes identifying who needs to attend and what the issues are, as well as involving all participants and using processes that facilitate broad-based agreements (consensus) about a proposed action or next steps. The *Facilitative Leadership – Productive Small Group Meetings* course was an interactive course targeting how to effectively manage small group meetings (defined as more than two and fewer than 20 people) by emphasizing the following key concepts:

- Making decisions using a consensus-building approach.
- Managing conflict in and around meetings to strengthen rather than endanger or derail successful group outcomes.

Working first with a partner and later in a small group, participants experienced the difference among decisions that were: 1) handed down with little or no input from the group; 2) made by majority rule; or 3) developed and decided through a consensus building approach. In addition to the feedback they received from their partners, other participants and the instructor, students were given a small handbook that summarizes how to use the consensus-building approach and conflict management skills presented in the numerous small-group meetings that likely fill their professional and personal lives. The goal of this course was to provide information to enable participants to "meet together to succeed together."

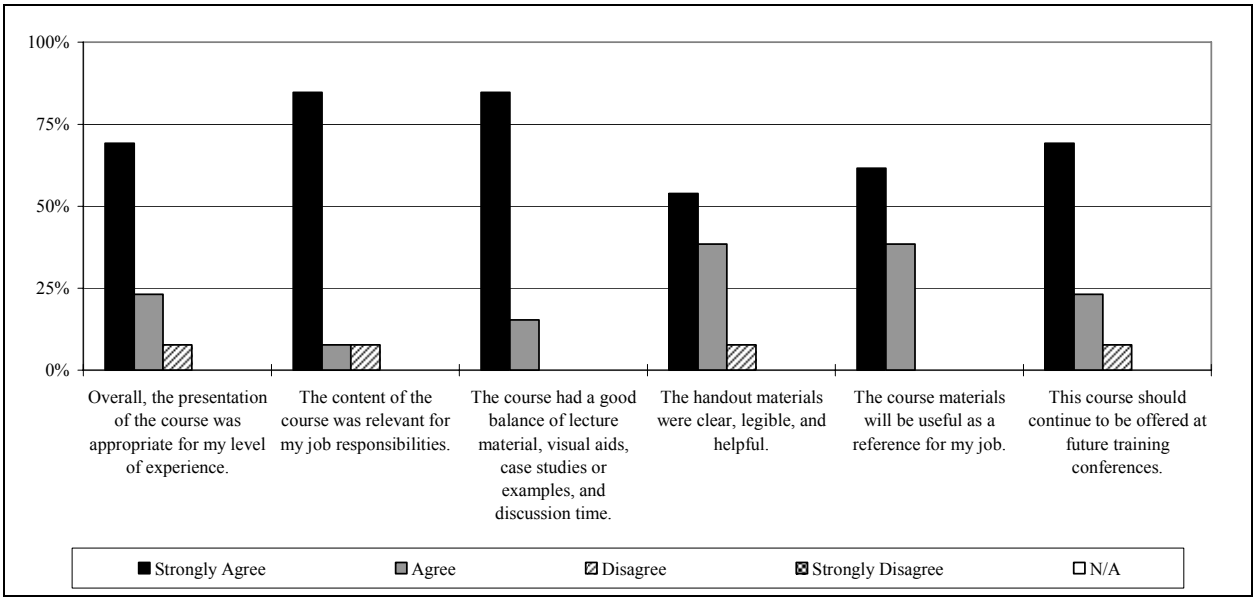
Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
24	15	13	5*

* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

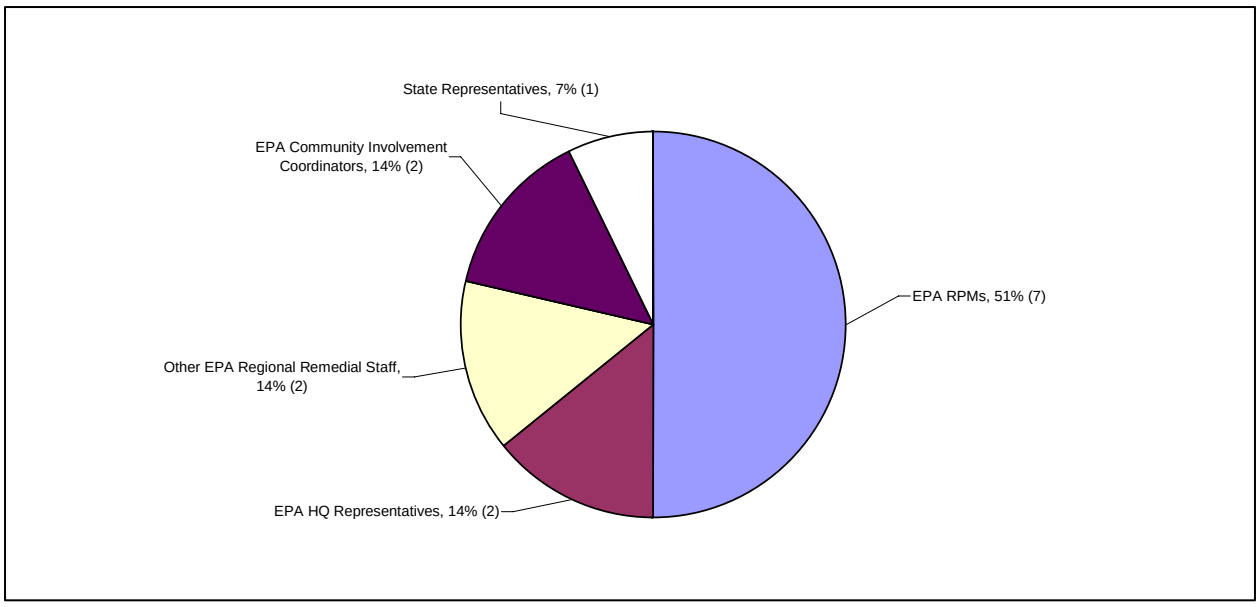
[3] Due to the instructional methodology of the course, classroom size was limited.

Summary of Evaluation Results for Facilitative Leadership – Productive Small Group Meetings



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 51 percent of the students.

Students by Job Title for the Facilitative Leadership – Productive Small Group Meetings Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Information is relevant for all jobs in any profession.
- Too elementary.

Comments on course content

Lengthen

- Whole course.
- Dealing with quiet, non-participating people.
- This course should be expanded if possible and concepts expanded.

Comments on instructional methods and materials

- Fantastic activities.
- Interactive.
- Well structured and organized.
- Great course in all aspects of communication. *(Three responses)*
- Exercises were good.
- Mary is a wonderful instructor. *(Two responses)* Course is well designed to provide opportunities to experience and practice the concepts taught. Fantastic course! Thank you!
- Mary did a great job going with flow of group instead of sticking strongly to class plan.
- Could have used more time.
- Course should be longer to allow for fuller, more in-depth consideration and absorption of topic.
- Good skills were learned, but would like more time spent on how to apply skills in a meeting.
- Perhaps learn skills first and then do group exercise.
- Too elementary.
- More handouts could have been helpful or a printout of the PowerPoint presentation.

Comments on recommending course to colleagues

- Everyone that works in a group should take it.

Comments on suggestions for future offerings of this course

- Too elementary level, need more in-depth knowledge.
- Course should be offered and mandatory for everyone.

Additional comments

- Excellent course should be offered at community involvement conference as well.

Interpreting Non-Detect Data Correctly: Statistical Analysis Methods for Data with Non-Detects

Thursday, May 22, 8:45 a.m. to 12:00 p.m.

Instructor: Dennis Helsel, USGS

Measurements of trace chemicals in ground water and other media frequently result in values reported only as less than the laboratory reporting limit ("less-thans," "non-detects," or "qualified values"). Statisticians call these measurements "censored data." Common recommendations in environmental guidance documents for incorporating non-detects are: 1) substituting one-half the reporting limit and continuing as usual; 2) using Cohen's (1959) tables of approximate maximum likelihood estimation (MLE); or 3) using a version of the delta-lognormal method (Aitchison 1955).

These methods are outdated, however, and often result in significant errors. Standard methods for interpreting censored data exist in medical and industrial applications but have rarely been applied to environmental data. Methods are available for computing summary statistics, hypothesis tests, and regression equations. Their results are unequivocal, powerful, and accurate. This course provided an overview of these methods from the author's textbook *Non-Detects and Data Analysis: Statistics for Censored Environmental Data*, published in 2005 by John Wiley.

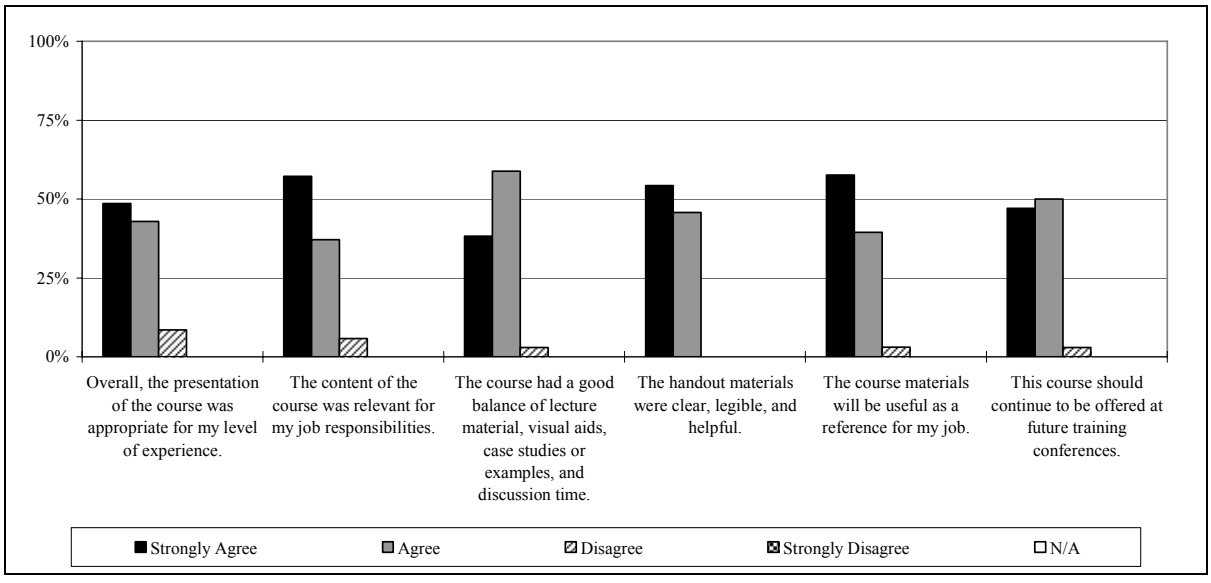
The most important requirement for participants enrolled in the *Interpreting Non-Detect Data Correctly* course was an interest in and need for interpreting non-detect data correctly. If you were frustrated by a statistics course, this session provided an English translator for the few statistical equations reviewed.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
47	44	35	4*

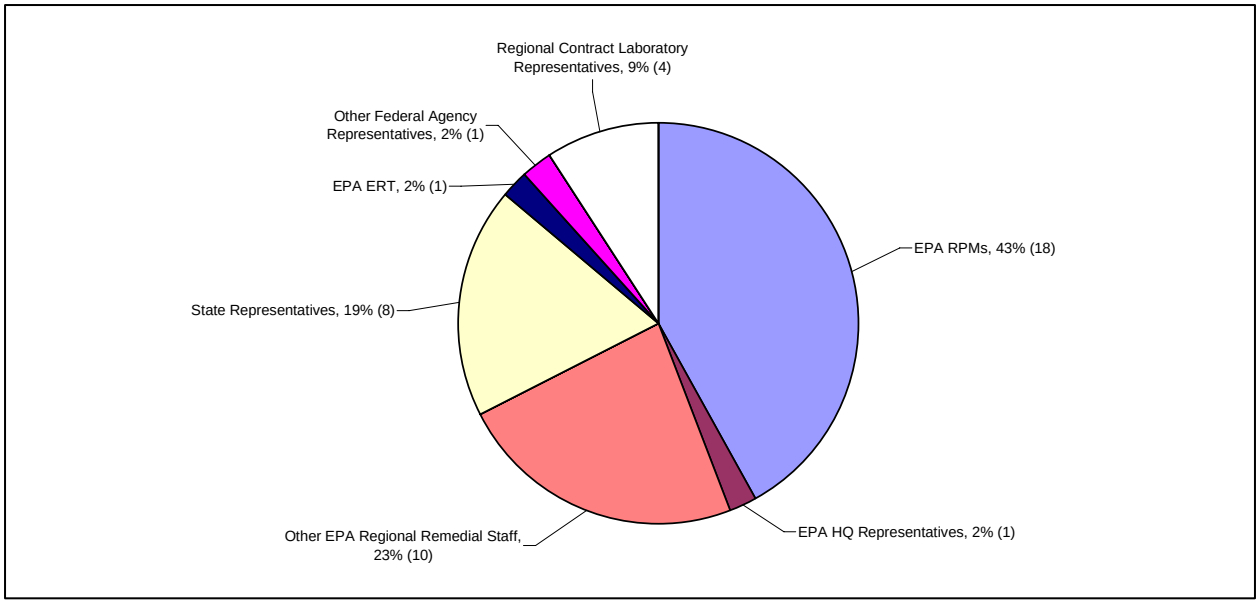
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Interpreting Non-Detect Data Correctly: Statistical Analysis Methods for Data with Non-Detects



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 43 percent of the students.

Students by Job Title for the Interpreting Non-Detect Data Correctly: Statistical Analysis Methods for Data with Non-Detects Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Except for "is there a trend?" using non-detects, I hope.
- A bit too detailed for my needs.
- Very useful. Wish I had this information earlier.
- Advanced course — academic or college lecture.
- Not really relevant for non-statistical RPMs; could not apply it to a Superfund site except for the calculation of descriptive summary statistics. That could be useful.
- I got lost halfway through the presentation.
- Instructor assumed some basic statistical understanding. That is okay for the time limitations of the course.

Comments on course content

Add

- Working through methods in course.
- Problems, practice, data sheets. *(Three responses)*
- Use of surface area, investigated data, several related topics.
- How to handle variable data, relative percent differences (i.e., for soil data can be plus or minus, greater than zero, or 80 percent). How does this affect the data and particular non-detects?
- More application examples specific to our sites and representing the questions we deal with.

- Calculation of background concentrations.
- Could have had a faster pace. Never covered insider censoring, which is relevant to most jobs.

Omit

- Overdid the "substitution is bad."
- T – values.

Lengthen

- Application of bootstrapping.
- t-Test: test relationship to statistical analysis.
- Kernel matching pursuit (KMP) needs a good description of the algorithm.
- This session merits a longer time slot. Make it a full day course. *(Nine responses)*
- How to review consultants' reports.
- How to do a fatal flaw review.

Shorten

- First 10 to 12 slides.
- Introduction.
- Covered methods that do not work as well. Quick explanation is all that is needed.

Comments on instructional methods and materials

- Excellent class!!!
- I wish I had a year to listen to all the information he could present.
- Thank you. Very educational. Will use descriptive statistical methods I hope.
- Great course, but only because of the excellent instructor.
- Good presenter, but dry material.
- He is a fantastic teacher. Huge grasp of the material. *(Two responses)* Interactive speaker and that voice!
- The CD-ROM will be useful.
- Lots of great course materials.
- Great use of CD to include background material and the presentation that can be taken back to the regions and easily shared with other RPMs. This should be done more often when appropriate.
- Good pace.
- Could speed up, but maybe I am a little more familiar than most.
- Little fast, could have included more basic information for non-statisticians. *(Two responses)*
- Needed more time for topic of material, but would not offer it as a longer course at NARPM.
- Last half neglected due to time constraints. *(Three responses)*
- First half was at an appropriate rate, but the second half was too fast.
- Not really any examples to review methods covered with original data.
- The presentation of examples of KMP, MLE, and Robot ROS should be presented in example using the Pyrene data (e.g., K-M on page 22 should use the Pyrene data for consistency and looking at the variability of the methods).
- Needed more data set examples that compared the methods. That way we could see the relevance of using the three presented alternatives.
- It would be nice to add the hands-on component (e.g., computer with appropriate program).
- Incorporate more case studies. To what types of situations could this analysis be applied? *(Two responses)*
- Questions should be limited since they interfere with getting through the material.
- Thank you for using the microphone.
- Not much interaction. Many folks had their hands up and were not addressed.

Comments on course name and abstract expectations

- Even more academic than I expected, but now I know how not to treat non-detect data and how to treat T-values.
- Very well done, just not what I was expecting.
- Could have been better in that it needs a longer session to cover what is useful.
- Thought it would be more geared to Superfund site data and actual use of Superfund data and non-detects issues.

Comments on recommending course to colleagues

- All RPMs need to have a better understanding of statistics and what the data mean.
- If doing statistics. Also very good instructors.
- Not for RPMs.
- This course addresses often seen errors in data handling.

Comments on suggestions for future offerings of this course

- Depending on number of RPMs who need this level of detail.
- What we need is risk assessment and a map of risk.
- I suggest this to be a day long course with the hands-on component.
- Perhaps every 3-4 years.

Introduction to Contaminant Hydrogeology

Wednesday, May 23, 8:45 a.m. to 4:30 p.m.

Instructors: Judy Canova, South Carolina Department of Health and Environmental Control
Kathy Davies, Region 3
Brad Roberts, Kansas Department of Health and Environment
Luanne Vanderpool, Region 5
Jonathan Williams, Region 10

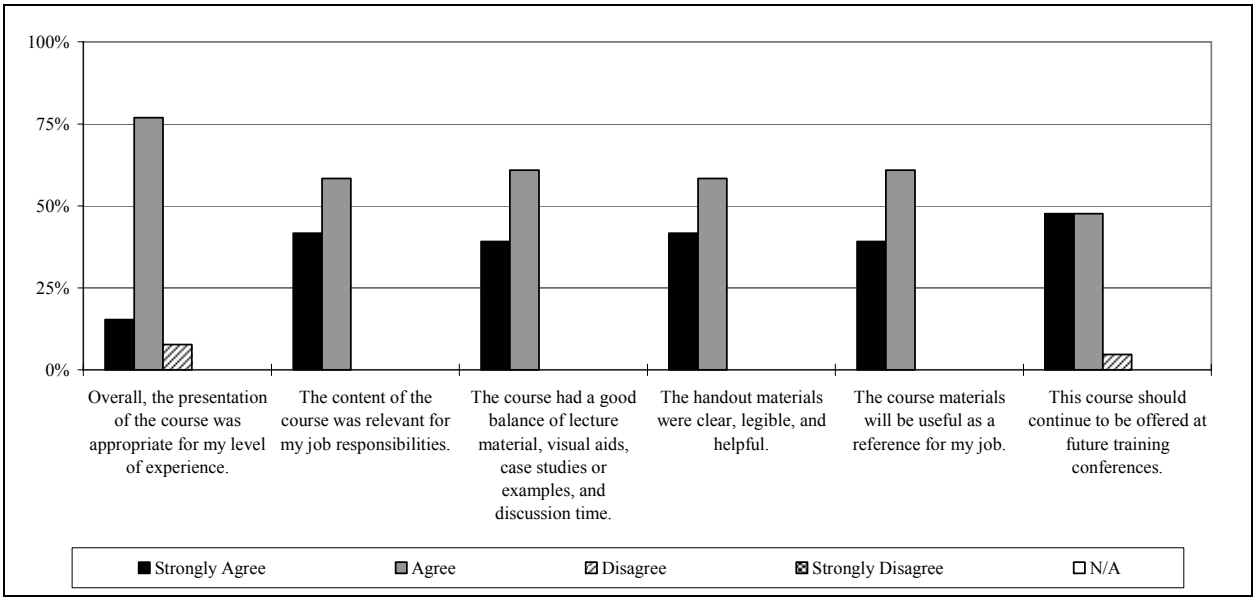
The *Introduction to Contaminant Hydrogeology* course introduced basic concepts of the geologic and hydrogeologic properties of an aquifer, ground water flow, and evolution of the contaminant plume. It included modules on basic concepts in geology, ground water fundamentals, interactions between ground water and surface water, monitoring, site investigations, and contaminant behavior, with special emphasis on hydrogeology as it applies to site characterization and contaminant plume transport. A detailed case study was presented to illustrate hydrogeologic applications, in addition to a hands-on demonstration of a ground water flow system. This course was intended for project managers who have little or no familiarity with basic hydrogeologic concepts and practices or for project managers who were interested in a refresher.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
33	33	26	4*

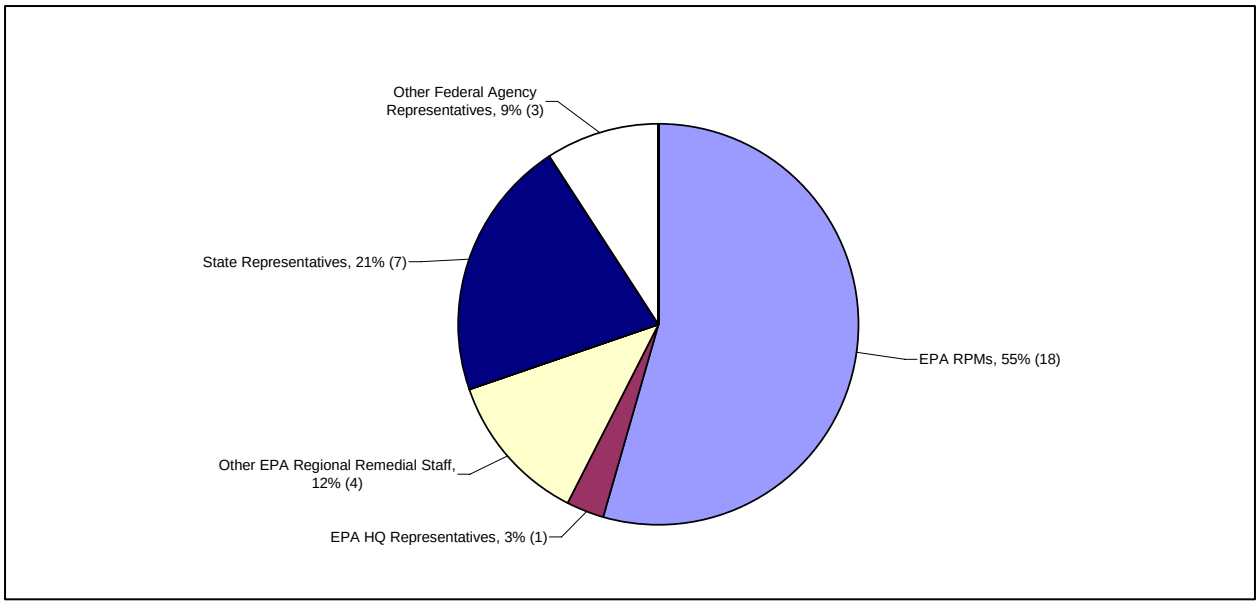
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Introduction to Contaminant Hydrogeology



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 55 percent of the students.

Students by Job Title for the Introduction to Contaminant Hydrogeology Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Several topics and points are directly applicable to work being performed at two of my sites.
- Good refresher for me, but given the title, some folks were probably lost in the early afternoon session.
- A very good course as an introduction for non-geologists or hydrologists.
- This course and last year's basic geology course have been extremely helpful.

Comments on course content

Omit

- In the contaminated behavior section, we do not need 10 to 15 minutes of an introduction to types of contaminants. This is not a basic chemistry course. As RPMs, we should know the chemistry of organics versus inorganics or volatiles versus semi-volatiles, etc.
- Next time you could omit the thermal chemistry case study. It was not really useful.

Lengthen

- Introduction to basic geology.
- Well drilling and development.
- Expand and slow down the contaminant behavior section. Good presentation and very valuable information for RPMs, but not enough time allotted for this discussion.
- Transport of contaminants.

Shorten

- Geology.
- Site investigation.

Comments on instructional methods and materials

- Nice overview.
- Was a good core team. I would like to keep the current members.
- Judy Canova was a very good speaker. She knew the subject well. I enjoyed the class.
- Kathy Davies could have been given more time and then she could have expanded on the things she talked about. Different contaminants and generalized discussion of transport assessment. Nice overview of sampling careers and devices.
- Excellent summary!
- Good case studies. The aquifer model was very insightful. Good demonstration! One of the best courses!
- I particularly appreciate the selected pages with extended discussion and talking points. Nice references!
- Excellent 3 ring binder. Greatly appreciated.
- Appreciated having actual photos of item discussed.
- Having the demonstration on the different aquifers, wells, injected contaminant, remediated aquifer, etc., was very helpful!
- 3-D model was excellent. *(Three responses)*
- I like the "more information" tabs and flags that direct the participant to a more complete description of the material.
- This was a very well integrated presentation. The case study was tied into each segment of the training course so that you could easily follow the progression of investigation for one very detailed example. The different presentations also tied into each other very well.
- I enjoyed how the case study was applied to each presentation and brought together at the end of the course.
- Judy Canova did an exceptional job in keeping the class on time for breaks and lunch. Also, handled the question and answer part really well to keep class on time and organized. Great job. Too many topics covered which made it difficult to select only certain topics to sit in for.
- It would have been nice to have a general, but more in-depth geology course.
- Pace was fast. *(Two responses)*
- The end of the contaminant behavior presentation was rushed and too cursory.
- Add definition of "low flow" to glossary.
- Slides presented should match those in course manual. Better definition of hydroconductivity, permeability, and low flow sampling in layman's terms.
- Each presenter could benefit by coordinating to teach to the same level of knowledge.
- If this course is offered again, have that basic introduction be given by Luanne. It was pretty good for a novice.
- Please do not hold questions until the end of a presentation. You need to ask the question when you have it, otherwise the material will be confusing and perhaps extremely confusing if you have a training session that builds upon itself. Thank you for changing after lunch.
- Less information about drilling; a lot of time was spent on NAPL. All contaminants should be emphasized. Use a Superfund site as the example.
- Big variation over the day.
- Overall good course, but Brad was too slow and because of the lack of time, Judy had to rush at the end.
- Some parts were too slow; others were just right for me.

Comments on course name and abstract expectations

- This was advertised as basic and it is.
- I thought it would be more about the geology and science, not so much information on wells and basic water.

- My interests differ from RPMs in that I was interested in the broader concepts and not as interested in speeches of field studies and field equipment. However, I understand the benefit of this portion of the course for RPMs.

Comments on recommending course to colleagues

- If one wanted a basic course.
- I could not figure out what level of professional would benefit most.

Comments on suggestions for future offerings of this course

- I think it should be broken up into multiple courses.
- Perhaps the course could be divided into two separate courses — one which is more of an overview of contaminated hydrogeology, the second which deals with site investigations.
- I think this course would be more appropriate to be offered at an Introduction to Superfund conference, not necessarily NARPM.

Jump-Starting Ecological Revitalization

Tuesday, May 22, 8:45 a.m. to 12:00 p.m.

Instructors: Sally Brown, University of Washington
Harry Compton, EPA ERT
Ken Finkelstein, NOAA
Scott Fredericks, EPA ERT
Melissa Friedland, EPA OSRTI
Steven Handel, Greenshield Ecology
Elaine T. Stanley, Region 1

The *Jump-Starting Ecological Revitalization* course provided information to RPMs that can be incorporated early into planning actions to enhance the ecological structure and services of the site. There are compelling reasons to consider the ecological value of sites, including the contribution to EPA's initiatives for revitalization and beneficial reuse. Reasonable and realistic activities can be incorporated that will not "cramp" the budget. Rather than thinking about how the site will look after the "heavy lifting" is done, start early to promote ecosystem restoration and ecological processes that are of real value — economically and socially — to the community. The RPM can leave a natural legacy; the local community will be grateful; and the legacy can advance EPA's mission to protect the environment. In this course, RPMs learned the importance of native plants and habitats, how to manage invasive species, and executive orders that promote this approach. Concerns about wetlands and leaving waste on site also were addressed.

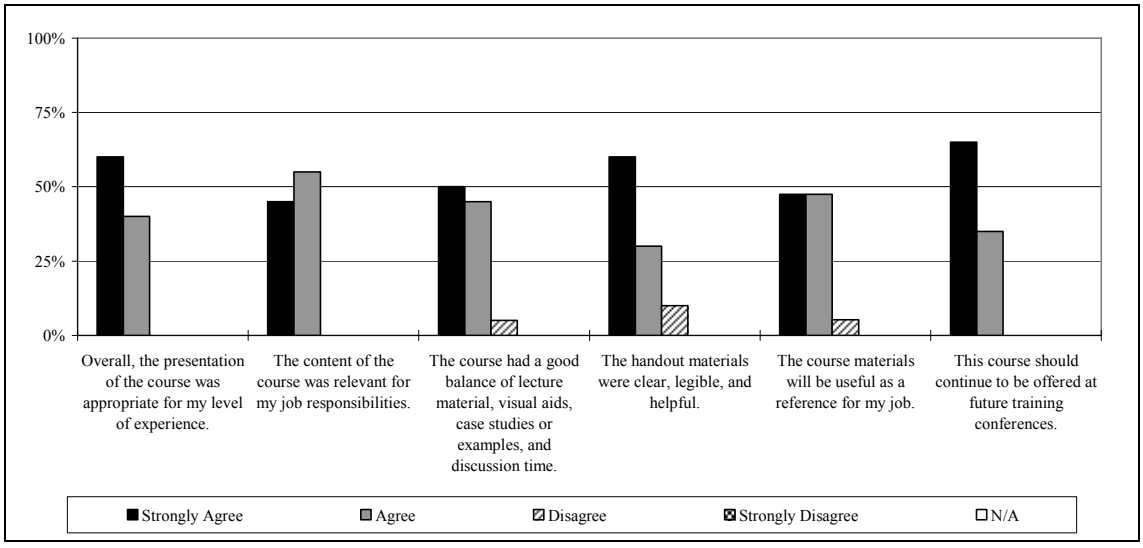
This course was sponsored by EPA OSRTI.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
24	29	20	5*

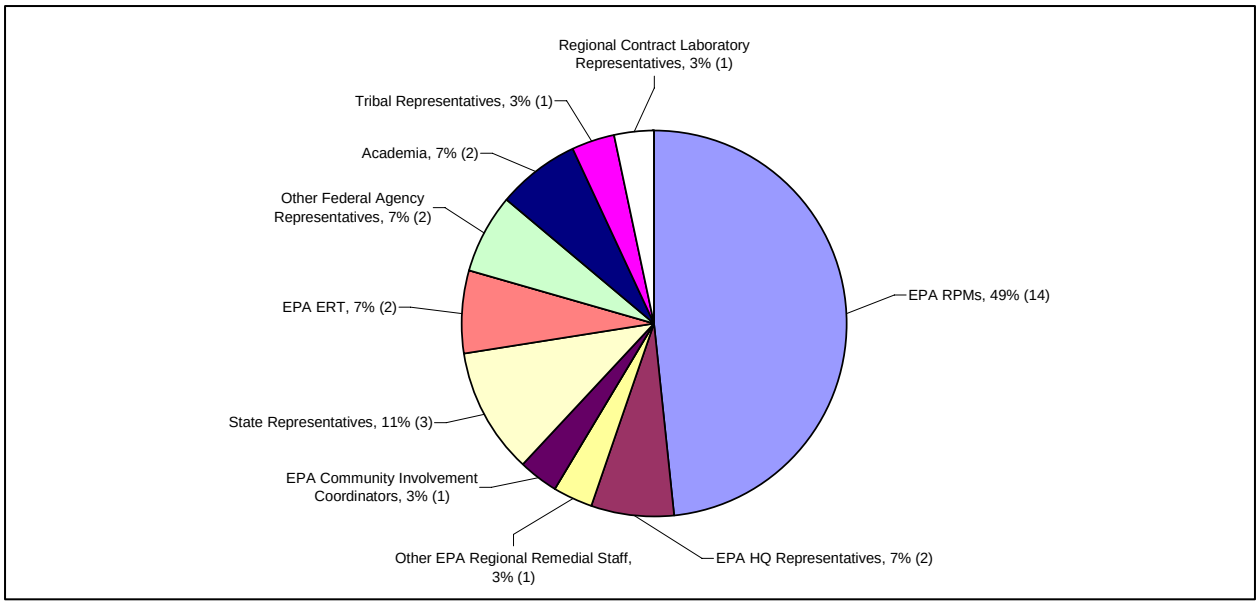
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Jump-Starting Ecological Revitalization



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 49 percent of the students.

Students by Job Title for the Jump-Starting Ecological Revitalization Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Not my position currently, but I plan to be working with this in the future.
- Helpful for explaining information to community members if I ever get a site that uses ecological revitalization.
- It would be nice to dive more into the science processes rather than keeping it general.

Comments on course content

Add
- Other types of eco-restoration and phytoremediation.

Lengthen
- Even more soil science! Metals sequestration.
- Process of site improvement; what to do with invasive species!

Shorten
- Steven Handel — great speaker but made point early.

Comments on instructional methods and materials

- Very understandable! Great instructors.
- Very nice.
- Handel is inspiring. Compton and Brown were very interesting and had useful case studies.
- Great introduction.
- Great PowerPoints and hands-on demonstration.
- Maybe one less speaker to give more time for others.

- Good references and sources. I am not an RPM, but learned a lot.
- This should be a full day course.
- Do this course in the afternoon so you will get an extra hour. *(Two responses)*
- Seemed rushed in sections; more time needed for course. *(Five responses)*
- Shortened time (because of plenary) made them go a little faster than they wanted to. *(Two responses)*
- Photos faded. Maps were hard to see in PowerPoint presentation and handouts.
- Need more discussion time. Lots of questions!

Comments on course name and abstract expectations

- They taught what the title suggested.
- It exceeded my expectations – excellent.

Comments on recommending course to colleagues

- Especially if revitalization is a potential option.
- Most RPMs have an engineering rather than an ecological background.
- Really a new paradigm.

Comments on suggestions for future offerings of this course

- Fine as is.
- Need cases from the arid southwest, like Arizona and New Mexico.
- Should start after lunch so the session is not cut into by the morning plenary session.
- Should be for all RPMs. So relevant and fresh.

Long-Term Ground Water Monitoring Optimization Methods

Wednesday, May 23, 8:45 a.m. to 12:00 p.m.

Instructors: Dave Becker, USACE
Mindy Vanderford, Groundwater Services, Inc.
Kathleen Yager, EPA OSRTI

Recently, new tools have been developed to assist in evaluating and optimizing ground water monitoring networks to ensure that monitoring programs meet the objectives for a site. The *Long-Term Ground Water Monitoring Optimization Methods* course discussed the qualitative and quantitative methods for long term monitoring optimization (LTMO) for ground water, discussed available methods for LTMO, and provided case studies. The course identified information included in a new document prepared by EPA and the USACE, *A Roadmap to Long-Term Monitoring Optimization* (EPA 542-R-05-003, http://www.cluin.org/download/char/542-r-05-003.pdf). The course also expanded on the qualitative aspects of LTMO that could help verify that a monitoring plan supports the objectives for a site. The qualitative review also included an evaluation of sampling locations and frequencies, a review of analytical and sampling methods, data management and visualization practices, and other stakeholder concerns using technical expertise and professional judgment. Quantitative methods discussed in the training primarily employ statistics and geostatistics to identify deficiencies and redundancies in sampling locations and frequencies.

The course was geared toward RPMs responsible for managing sites with ground water contamination and a long-term monitoring program or for RPMs planning for new long-term ground water monitoring programs. Some knowledge of basic statistics was helpful, but was not required for this seminar.

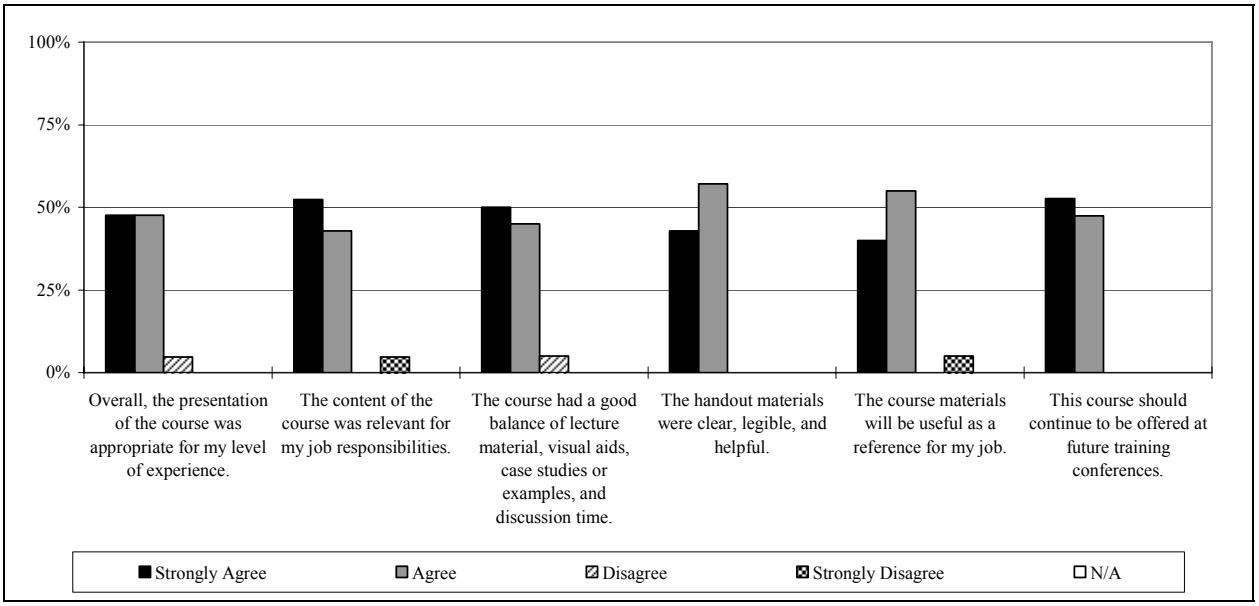
This course was sponsored by EPA OSRTI.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
35	36	21	4*

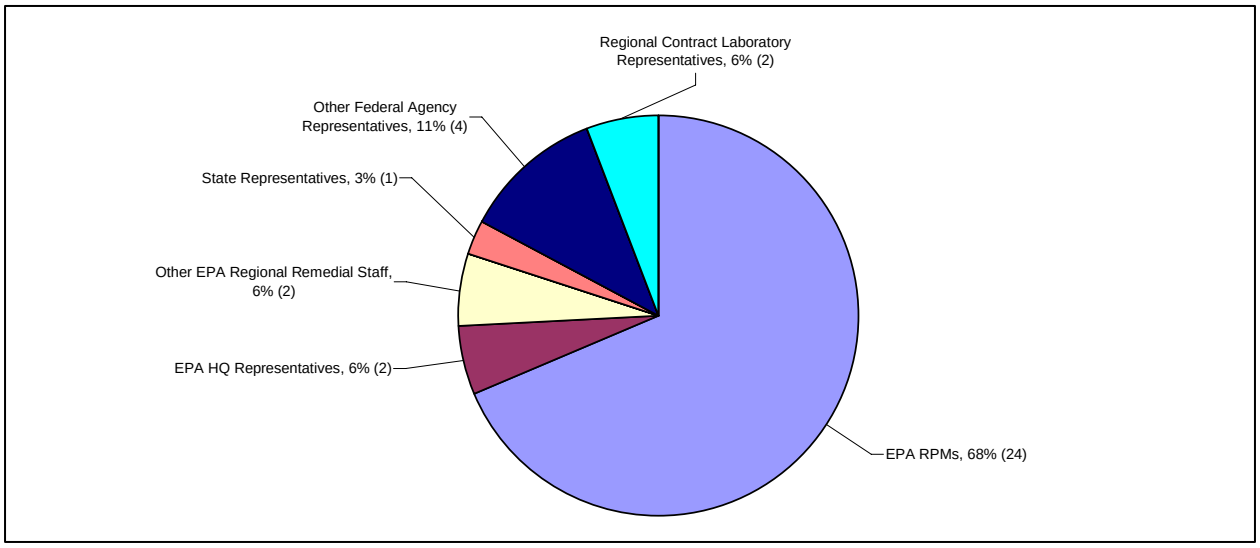
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Long-Term Ground Water Monitoring Optimization Methods



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 68 percent of the students.

Students by Job Title for the Long-Term Ground Water Monitoring Optimization Methods Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on course content

Lengthen

- Real world study (i.e., Wisconsin or other site). Expand to half an hour or so to allow presentation and discussion of methods.

Comments on instructional methods and materials

- Excellent course. All presenters were experts in their fields, who were able to clearly present difficult and complex material in an easy way.
- Appreciate the instructors explaining the analysis of methods used.
- Mindy is a very good presenter; explanation of Mann-Kendall test was good.
- Very good course.
- I really appreciated going through the Monitoring and Remediation Optimization System, analysis-statistical and otherwise.
- Presentation and acknowledgement of several methods for LTMO was very good.
- LTMO would be two very informative analyses to be conducted as a part of five year reviews.
- Could run day and a half course here.
- Unsure how to handle time limitations. May be best to offer as morning and afternoon sessions rather than only half a day.
- Some of the handouts were not completely legible: specific items of Vanderford on pages 14 and 16.

Comments on course name and abstract expectations

- Very practical and focused.
- It was as the title implies and informative.

Comments on recommending course to colleagues

- Mindy is a great instructor and a pleasure to learn from!
- I would keep the present team, all are very good at presenting.
- Would recommend especially in FF — many wells, more money should be optimized and not monitoring endlessly. Too much money is wasted illogically. Need to work at making programs effective and cost effective.

Comments on suggestions for future offerings of this course

- Would benefit from a tie-in to efforts at standardizing data submittals (electronic data deliverables, etc.). (See data management group.)
- Even RPMs without ground water sites should take this course.

Military Munitions Response Program

Wednesday, May 23, 8:45 a.m. to 12:00 p.m.

Instructors: Christopher Evans, USACE
Doug Maddox, EPA FFRRO

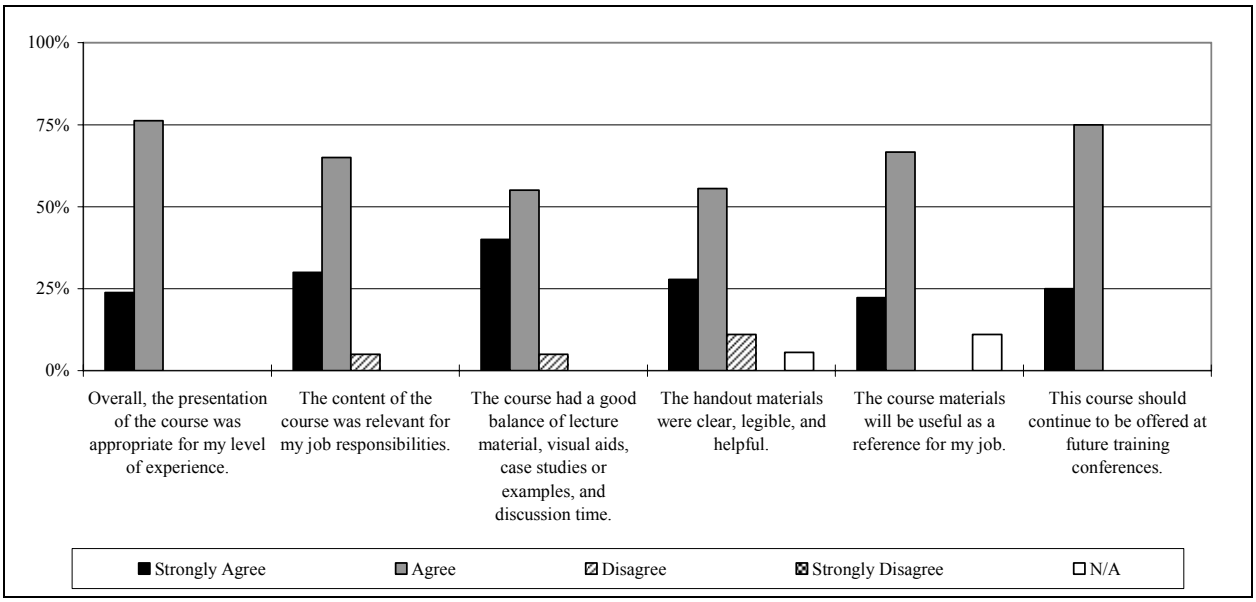
EPA FFRRO interacts with the DoD on a wide variety of issues related to investigation and remediation of military munitions. These efforts include involvement with site-specific issues, as well as national policy and guidance associated with the DoD MMRP. During the *MMRP* course, representatives of FFRRO provided updates on EPA perspectives for the MMRP, including discussions about new guidance for MMRP preliminary assessments/site inspections (PA/SI), EPA munitions response guidelines, and other initiatives currently underway. Representatives of the U.S. Army Headquarters and USACE presented updates on their MMRP programs as well. The session concluded with an open discussion with the Army representatives on current MMRP issues.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
44	34	21	4*

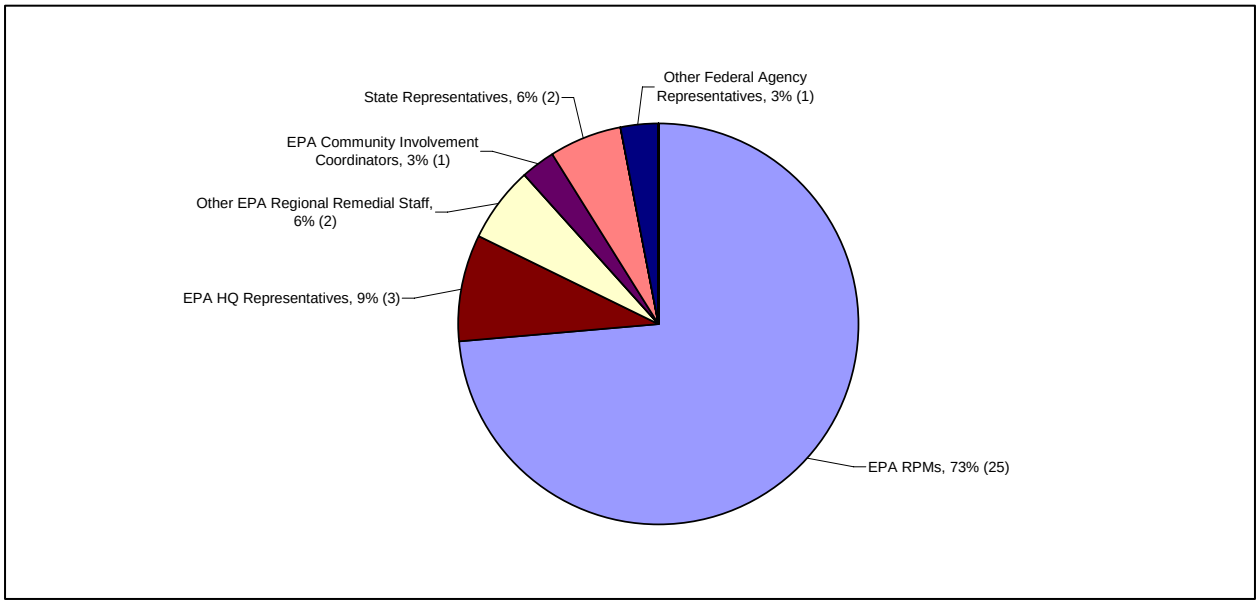
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Military Munitions Response Program



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 73 percent of the students.

Students by Job Title for the Military Munitions Response Program Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Not sure how this formerly used defense (FUD) MMRP training relates to Navy Sites.
- Interested in learning more about this.
- Course is relevant; however, not as much detailed information as I wanted.

Comments on course content

Add

- Budget issues and concerns.
- A copy of the talking point slides.

Lengthen

- The interaction from the whole group.

Comments on instructional methods and materials

- A few slides have small print that is illegible.
- Some presenters had no handouts. I would have liked a hard copy of the presentation. These materials would have been useful. *(6 responses)*
- Having a USACE representative at the training was very helpful — should always! Have a service representative give presentations.
- Surf City lecture was interesting!
- Both presenters were well-spoken. USACE instructor deserves a "thank you." He dealt with difficult topics well, even if EPA RPMs were not happy with the news.
- Doug also responded well to difficult questions.
- I expected more “meat.” Too much FUD site information.

Comments on course name and abstract expectations

- Abstract did not really explain the course.

Comments on recommending course to colleagues

- Good summary of where the differences are in approach and perception.
- Yes, in a different format.
- If the person has a FUD site. *(Two responses)*

Comments on suggestions for future offerings of this course

- Not as it is.
- Yearly updates would be good.
- When significant, new information generated.
- Add Navy MMRP training.

Nanotechnology: Solutions, Challenges, and Implications for Superfund

Tuesday, May 22, 1:15 p.m. to 4:30 p.m.

Instructors: Glenn Bruck, Region 9
Howard Fairbrother, Johns Hopkins University
Michael Gill, Region 9
Heather Henry, NIEHS
Agnes Kane, Brown University
Warren Layne, Region 5
Charles Maurice, Region 5
Jeff Morris, Office of Science Policy
Martha Otto, EPA OSRTI
Nancy Ruiz, DoD

Nanotechnology has the potential to affect the Superfund program in many ways, both positive and negative. Nanoscale particles have been shown to be effective in degrading chlorinated solvents in ground water. In addition, sensors using nanotechnology are being developed that will assist with site characterization and monitoring. More than 200 products are currently available that use nanoparticles as coatings, paints, and fuel additives to lighten and strengthen sports equipment, create semiconductors, and facilitate solar energy production. These products will be used in biomedical sensing and treatment products that could already be present in landfills or sites that will be remediated and where the risk of use, disposal, and methods of detection in the environment have not been studied. As the industry grows exponentially with many exposure scenarios and possible health effects that are just beginning to be studied, do future problems lie ahead?

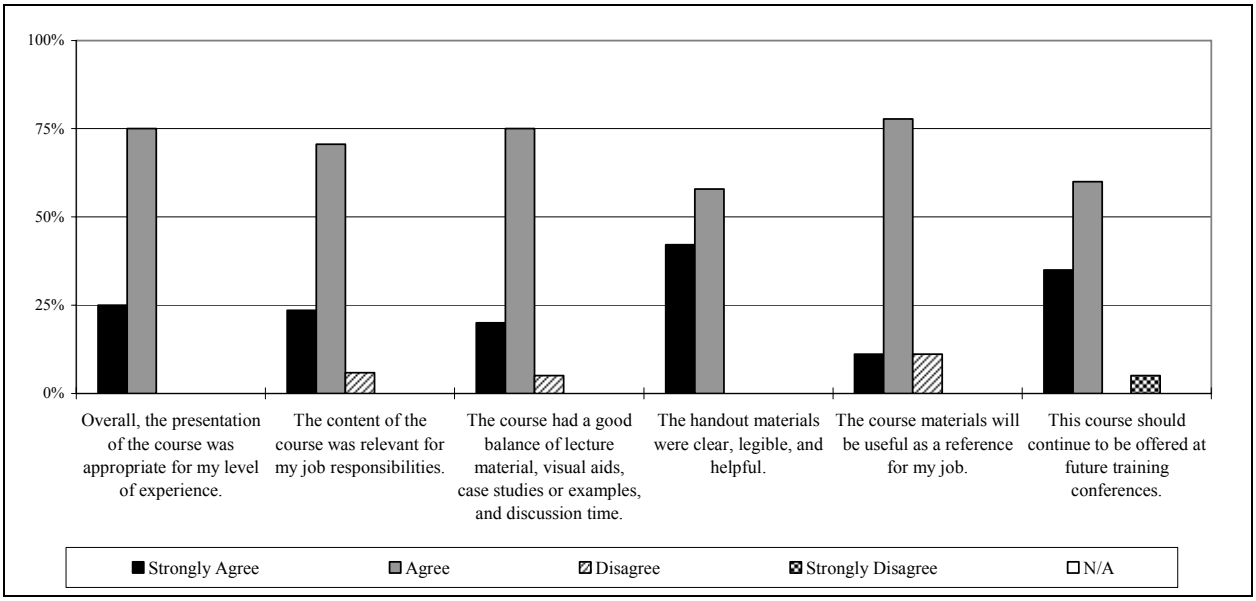
The *Nanotechnology: Solutions, Challenges, and Implications for Superfund* course presented an overview of nanotechnology, a summary of recent NIEHS Superfund Basic Research Program (SBRP) research, applications for site remediation, and environmental health and safety implications. Panel discussions — one on applications and the other on implications — followed each set of presentations during this training course. The members of this veteran team of speakers planned and attended recent EPA nanotechnology meetings, including the September 2006 *Nanotechnology for Site Remediation* workshop in Chicago, Illinois, the November 2006 *STAR Grant Nanotechnology Applications Workshop* in Washington, D.C., as well as the ongoing NIEHS SBRP series of Web seminars on nanotechnology issues (Nanotechnology Risk-e-Learning Series). The speakers brought diverse backgrounds, perspectives, and experiences, from engineering to chemistry to ecotoxicology and from technical support to research and project management. They drew on their collective experiences and shared some of the take-home points from these recent nanotechnology workshops that would be helpful to RPMs in their work.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
37	45	20	4*

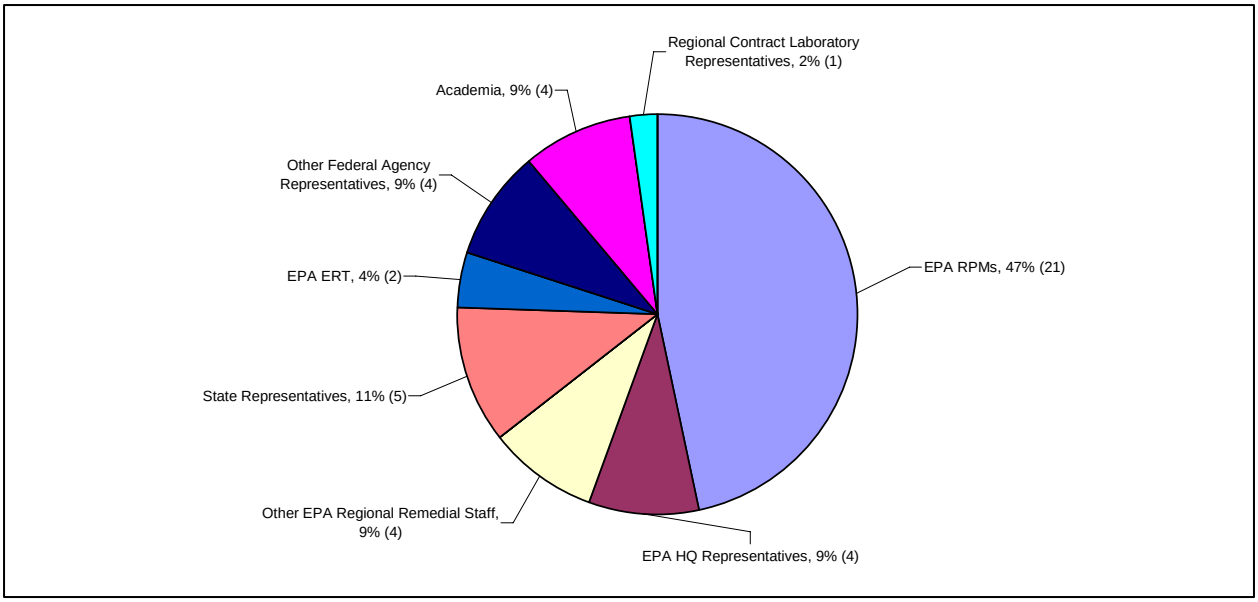
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Nanotechnology: Solutions, Challenges, and Implications for Superfund



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 47 percent of the students.

Students by Job Title for the Nanotechnology: Solutions, Challenges, and Implications for Superfund Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- New technology. EPA should support use.
- Cannot be certain. This technology holds much promise. Many unknowns.

- The applications and case studies were perfect.
- New topic. Very interesting. Need more exposure.
- Not yet. No plans to use. Need to know what is out there.
- The academic researchers made us think, but I think it was still appropriate for our level.
- 200+ credit hours in physics, microbiology, engineering and chemistry. I find this very interesting.

Comments on course content

Add
- Chemistry, how to create nanoparticles.

Lengthen
- New and evolving: perhaps 2 sessions.
- Case studies.

Shorten
- Goodycar presentation: A lot of information not related to nanotechnologies, such as PRP enforcement. Would have preferred to hear more in the application.

Comments on instructional methods and materials

- Very good course. Good mixture on panel covering multiple aspects of the technology (technology, medical, science, environmental case studies).
- Course materials will be useful, but I hope to get a cleaner one from the internet.
- I enjoyed the mix of academia and practitioners. The focus on research was reminiscent of graduate school, while the case studies will be useful as I plan remedies for DNAPL at my sites.
- Thank you very much for this opportunity.
- In the guide for the seminar, include a directory for common acronyms.
- Pace was mixed: some good, some too slow.
- A lot of material packed into a small amount of time.
- A bit overwhelming at times.
- Pace was alright. Because the room was too small, the course started late.
- The PowerPoints as handouts are a little small.
- The slides should be no smaller than two per page.
- The panel time at the end for questions and answers was a great format.

Comments on course name and abstract expectations

- I was unfamiliar with nanotechnology. This provided a good introduction.

Comments on recommending course to colleagues

- Absolutely.
- Yes, because the applications may come to our sites.
- YES!!!
- If they want to learn more about nanotechnology.

Comments on suggestions for future offerings of this course

- Continually update case studies that have applicable uses identified.
- Major changes in this field. Need continual updates.

Real Estate for Environmental Regulators: Taking on the Tough Sites

Tuesday, May 22, 8:45 a.m. to 12:00 p.m.

Instructors: Pankaj Arora, Region 9
Barbra Greenfield, Vita Nuova, LLC
Barry Hersh, Vita Nuova, LLC
Michael Taylor, Vita Nuova, LLC

The *Real Estate for Environmental Regulators: Taking on the Tough Sites* course was an interactive workshop that combined lecture from leading real estate experts with an interactive problem-solving session to brainstorm solutions to challenges in site redevelopment. The focus of the course was to use real estate and planning tools to solve problems at tough sites.

The lecture portion of the course covered mid-level planning, market analysis, risk management, public and private partnerships, and concepts in property transfer applied to Superfund sites. Examples from across the nation were discussed. Key concepts included working with the private sector to negotiate agreements, understanding the private sector process, and integrating cleanup and redevelopment.

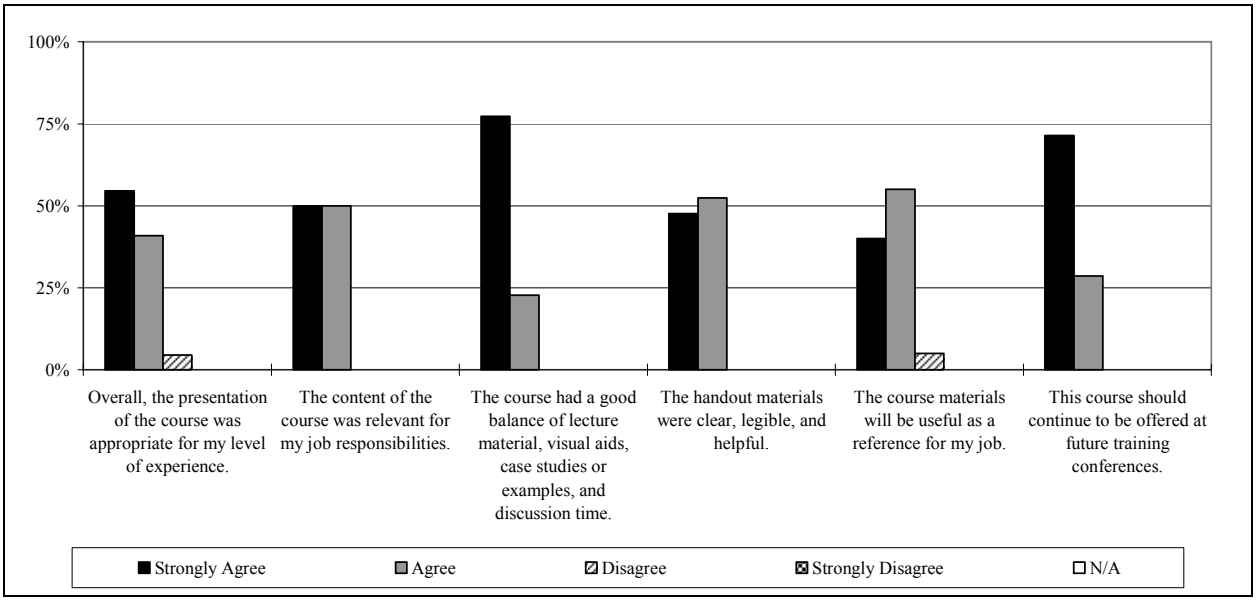
Participants were invited to bring their cases to the interactive problem-solving portion of the course, where experts in real estate, planning, and Superfund law worked with them to identify strategies to promote redevelopment.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
33	28	22	5*

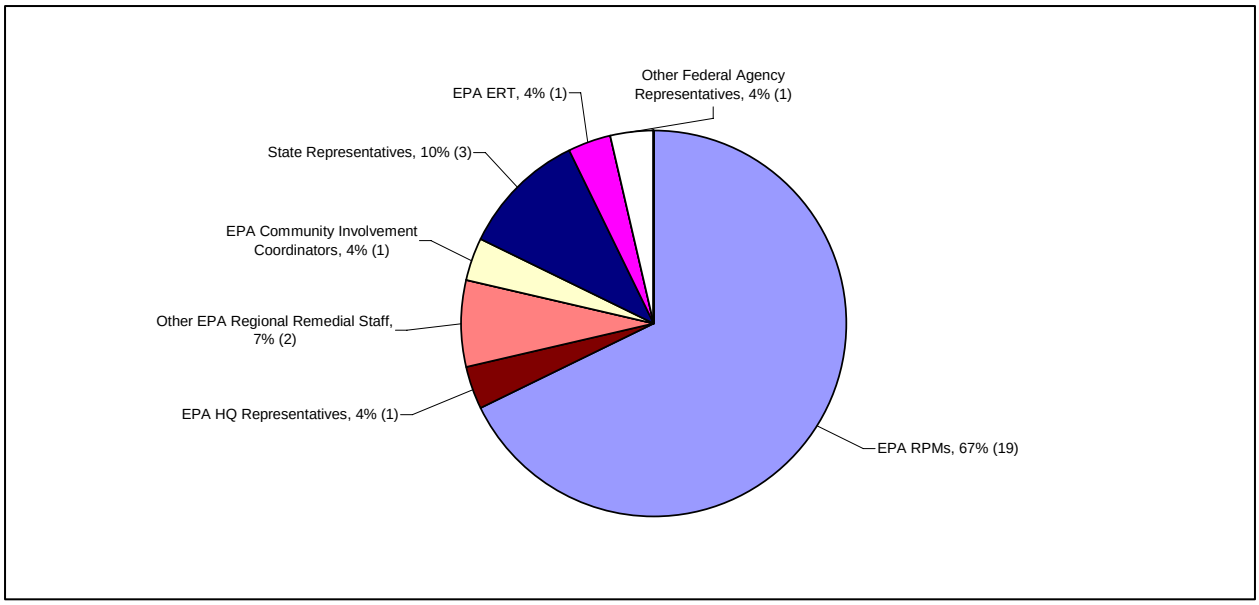
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Real Estate for Environmental Regulators: Taking on the Tough Sites



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 67 percent of the students.

Students by Job Title for the Real Estate for Environmental Regulators: Taking on the Tough Sites Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Only because I want to go to the next level, I already understood 75 percent of the course content.
- Took course to add to my knowledge base of "Brownfields."

Comments on course content

Add
- Give enough time for all case studies.
- Lease; build to site issues; tribal issues.

Lengthen
- All of them.
- Pro forma (perfunctory) exercise and case studies.
- More on the basics and time to do hands-on activities.

Shorten
- Calculation of profit from redevelopment activities

Comments on instructional methods and materials

- Case studies were very useful and applicable to work that is occurring at my sites.
- Examples from within and outside the instructor group were great.
- Very good course! Presenters were knowledgeable and related the course material in a very understandable manner.
- CD of spreadsheet would be helpful.
- Course needs to be shortened and could use more exercises and case studies.

- It was a bit slow at the beginning, but picked up the pace after approximately an hour.
- More time needed to cover all of course material.
- Not enough time to discuss site examples.
- Topics were shortened to accommodate course in half a day. I think the course needs more time, probably a whole day.
- Case examples were somewhat uncontrolled and blew the course schedule.

Comments on course name and abstract expectations

- Helped to understand the real estate community perspective.

Comments on recommending course to colleagues

- EPA needs to be more educated on the whole economic picture and how the Agency affects and can assist in a win/win transaction.
- Very topical course.

Remedial Investigation/Feasibility Study (RI/FS) Scoping: Taking A.I.M. (Anticipate, Identify, and Manage)

Tuesday, May 22, 8:45 a.m. to 12:00 p.m.

Instructors: Robin Anderson, EPA OSRTI
Sheri Bianchin, Region 5
Therese Gioia, Tetra Tech

The *RI/FS Scoping: Taking A.I.M. (Anticipate, Identify, and Manage)* course was a refresher for experienced RPMs but was also useful for newer RPMs. The course helped experienced RPMs to refine and sharpen existing skills and newer RPMs to develop important management skills. The course examined how to scope a RI/FS in light of several important emerging issues related to site characterization and remedy selection. The course also reviewed the general scoping process and identified planning tools and opportunities for addressing difficult issues that arise at many Superfund sites. The emerging issues discussed included planning the RI/FS to achieve the following:

- Developing the conceptual site model.
- Substantiating the lines of evidence for monitored natural attenuation of ground water.
- Applicable or relevant and appropriate requirement (ARAR) issues, including supporting TI waivers.
- Identifying and addressing emerging contaminants.
- Evaluating the potential for VI.
- Assessing environmental justice (EJ) indicators.
- Incorporating reuse and redevelopment concerns.
- Planning for and adequately addressing institutional controls.

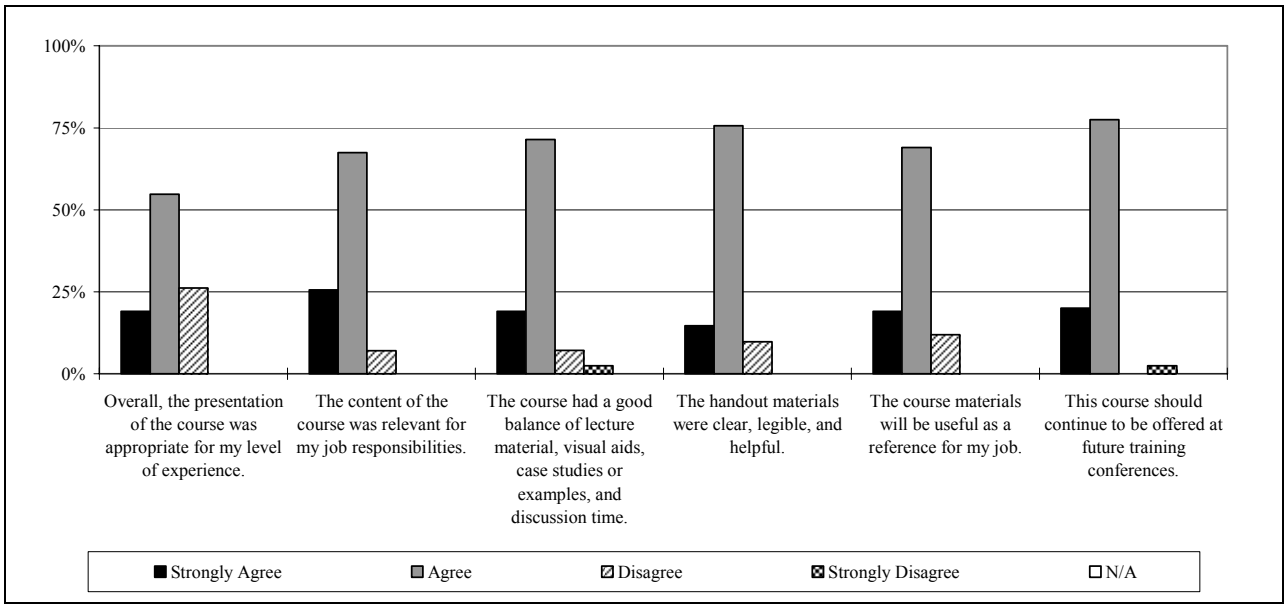
Several case studies illustrated how emerging issues arise and how they are addressed. After completing this course, participants were better able to anticipate, identify, and manage issues.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
65	63	43	3*

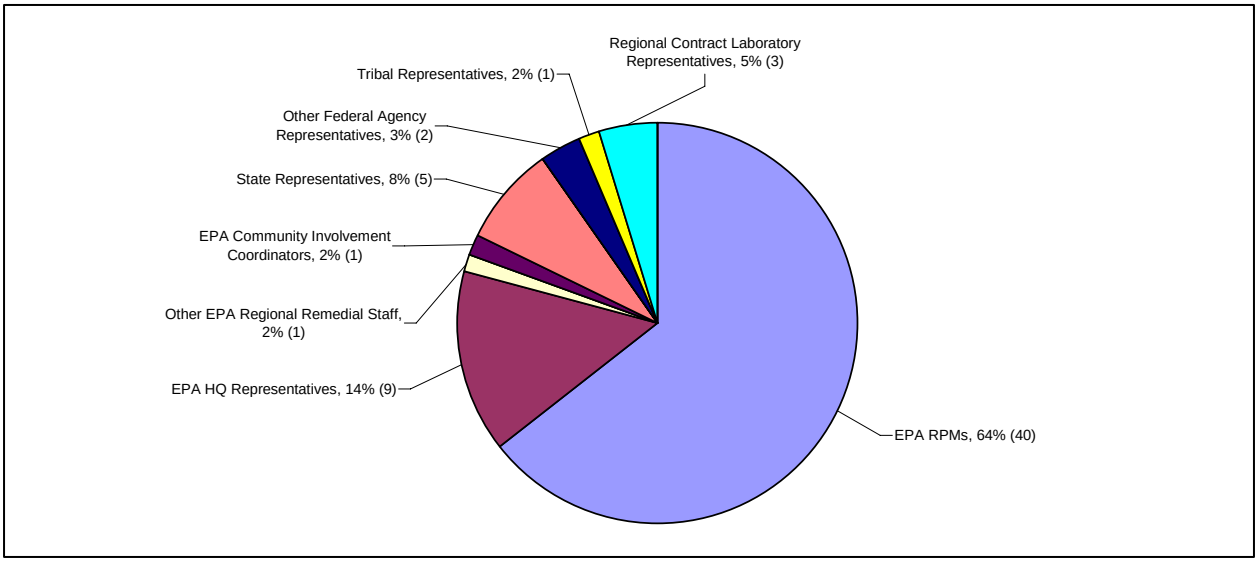
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Remedial Investigation/Feasibility Study (RI/FS) Scoping: Taking A.I.M. (Anticipate, Identify, and Manage)



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 64 percent of the students.

Students by Job Title for the Remedial Investigation/Feasibility Study (RI/FS) Scoping: Taking A.I.M. (Anticipate, Identify, and Manage) Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Information was too general and basic overall. *(Six responses)*
- Too technical.
- Great overview on process except for comments provided on back.
- The course was too basic and I have only been at the EPA for one year. Should be more advanced!
- I am in contracting and relatively new to EPA and the Superfund Program. This course was geared more for the technical.
- An entry-level course but a good refresher, with useful updates on the latest policy and guidance information.
- There was a good mix of RPMs at three levels of experience.
- Portions of the material were sufficiently advanced.
- Some modules were very basic; others are new areas to consider.

Comments on course content

Add
- Brief discussion on the use of Triad process; consideration of Triad can affect RI/FS planning.
- Consultation and coordination guidance with tribal government and government to government relations.
- Documentation.

Omit
- Lecture.
- Purpose and process of scoping.
- Slides which were skipped for lack of time.

Lengthen
- ARARs.
- "New issues" such as recently discovered contaminants and VI.
- EJ case study and how it may or may not affect CSM.
- Interaction and group activity.
- Summary of common problems and suggested solutions.
- The management of the issues identified, especially tools and techniques.

Shorten
- EJ — confusing because it does not seem to have any impact on the process if done properly.
- Lecture.
- EJ and "Ready for Reuse."

Comments on instructional methods and materials

- Excellent presenter for scoping – Robin.
- The first module was most helpful and engaging. Helped trigger a couple of concerns regarding my site, which I appreciated.
- Each of the instructors did an excellent job. The information in the course manual and handouts was very thorough and will be useful as a future reference.
- Case studies were good, CSM models good, instructors handled questions well.
- Excellent. Thank you for the bound document with pocket.
- Good mix of information and examples.
- Should be more interactive — maybe include a workshop on RI/FS activities. *(Two responses)* This would engage experienced RPMs.
- Information presented on analytical levels is outdated.

- Good links to additional resources such as ICs. It was good to mention the Environmental Covenants Act and future implications. It is new now, but it may be more prevalent in the future. Probably will have more experience with it by next NARPM.
- Example cases were helpful.
- Too slow and cursory to help experienced RPMs.
- Is there guidance on a good RI/FS, because a ROD guidance is useless without a good RI/FS report. MNA is important for scoping RI/FS, but consider designing a class on MNA that highlights MNA as a failed remedy and how it might be fixed. This is an issue and will continue to be an issue as MNA remedials go under 5 year review.
- Some good discussion on land use, ICs, and ARARs, but I found much of the course to be of little value. The course started very late. Emerging contaminant discussion was not up to date and poor; Triad mention was incorrect; initial speaker seemed to talk "down" to RPMs.
- The case studies were not discussed in enough detail. Less generic information on ARARs, etc.
- Presentation did not encourage discussion, particularly Module 3.
- The "lecture style" presentation is fairly dull. A more interactive training may be more helpful, particularly with a group of experienced RPMs, who the course description purports to target as an audience. *(Two responses)*
- Could have been a little more advanced and the case studies could have been more integrated into the presentation, especially lessons learned. Sampling strategies as part of Concept Design could have been discussed in more detail.
- It was too scattered. The main theme of scoping was lost in a myriad of presentations on many different topics that one can encounter throughout the RI/FS process. However, just to say "consider all this during RI/FS" is not helpful.
- Instructors were all good and knowledgeable. The problem seemed to be that the modules covered were short on depth, and the material that was presented was beaten like a drum. *(Three responses)*
- Would be a great all day course if each module was treated like a full blown topic. *(Two responses)*
- Good introduction for the other courses.
- A summary of common problems or pitfalls, which even experienced RPMs tend to encounter, would be helpful.
- Rushed at the end, not sure why.
- The course needs to be either an hour or hour and a half or an all day class.
- Some information (case studies) quickly addressed, other information repeated.
- A little slow, but very well orchestrated and carried out.
- EPA RPMs should be trained on the unique and sensitive relationship with government to government consultation with Tribes and how their cultural values and practices may include ecological uses not typically included in a standard EPA CSM and/or risk evaluation.
- The instructors mentioned "Coordinate with the State," but they did not mention the order to coordinate or consult with a tribal government or to treat the tribal government as a state when conducting planning, etc. There was also no mention of a Tribe to promulgate their own ARARs for Remedy consideration. This information would be helpful.
- Most of the course materials were legible, with the exception of slides 3-22 (example of graphical CSM), 3-23 (example of pictorial CSM), 3-38 (G CSM), etc., in Module 3. Also a few slides in Module 4.
- ICs are to complement an adequate RD/RA. The Exxon versus Cornerstone Church suggest that ICs are ok to use instead of property cleanup. That misperception should have been addressed.
- I would like to see this course incorporating Triad, UXO and all the new tools that have been recently developed.
- List of site links most helpful; booklet too long, but also too cursory to be really useful afterward.

- Some slides had too much information and so ended up being illegible. Some tables and graphs were not clear in the handout. Suggest putting larger view in course materials. *(Seven responses)*
- Acronyms helpful.
- The acronyms and abbreviations list does not have all of the ones in the handouts. VI, TI, monitored natural attenuation, etc., are examples. These are needed for new RPMs.
- Too many slides: Perhaps too many topics were covered as a result.
- Booklet was too much paper — 3 slides to a page. Too much room for notes, better to reduce number of pages or make some slides large to be more readable. *(Two responses)*
- Some of the graphics we could not read on screen. In the handout they were too small to read, but they were essential for CSM model examples.
- Avoid CSM slides with asterisk symbols.
- Some of the visual aids did not match the presenter's discussion.
- More speakers because a change of face, voice, and delivery style keeps audience more interested.

Comments on course name and abstract expectations

- Course title made me believe it was a "new" experimental approach to RI/FS.
- Too much unfocused information. Abstract suggested a focused summation.
- Thought it would be more specific.
- Misleading: too basic, too much lecture, one way only.

Comments on recommending course to colleagues

- For new RPMs — strong yes. *(Two responses)*
- As either a refresher or to a new RPM.
- Even though I have heard all of this before, it is important to re-hear it.
- Specify that it is a beginner level course.
- Course would be best once they have a little exposure to the program versus brand new RPMs.
- There was some "wheat with the gaff" that made the course worthwhile.
- On point, good overview.
- Only if they were from the Program Office.
- I am in contracting and relatively new to EPA and the Superfund Program. This course was geared more for the technical.
- In the future, I would recommend the course if it is revised to be more interesting, dynamic, and interactive.
- No, because my colleagues are from tribal nations and there is no consideration given to tribal expertise, technical issues, or legal issues.
- Not as presented.

Comments on suggestions for future offerings of this course

- An abbreviated fact sheet might be more useful than many pages of bulleted information in slides. I would not wade thru this booklet in future. Summarize the talking points.
- The concept is good, but the presentation could be improved to be more engaging.
- When talking about EJ, get someone from EJ or expert to talk about EJ. It seemed like the speakers breezed through the information and were not comfortable with talking about or expanding on the topic of EJ.
- Make sure to update with new RAU guidance for next year.
- It needs to be revised to reflect the experience of the RPMs. Needs to be a more advanced course so that RPMs can get the maximum benefit out of this type of course.
- DQO material needs to be discussed earlier in the process. May be better developed as a full day course.

- More comment on sub bullets (i.e., What are presumptive remedies? What is the Office of Enforcement and Compliance Assistance?).
- Would make sense to offer the course at every other NARPM Conference.
- Needs improvement; format changes. *(Three responses)*
- Not every year, but it would be good to bring it back again at some point.
- Use an EJ case study example that includes consultation and coordination with affected Tribes.

Remedy Selection

Tuesday, May 22, 1:15 a.m. to 4:30 p.m.

Instructors: Robin Anderson, EPA OSRTI
Sai Appaji, Region 6
Matthew Charsky, EPA OSRTI
Robert Stites, Region 8

The *Remedy Selection* course examined the process for selecting a remedy and how RPMs can prepare a complete and well-written ROD for the selected remedy. The course specifically addressed common and emerging issues in writing a ROD, how to deal with them, and ensuring that the ROD includes the information necessary. Participants achieved the following objectives by attending the course:

- Examined the statutory and National Contingency Plan (NCP) requirements for selecting and documenting a remedy.
- Learned to use EPA guidance to write well-documented RODs.
- Identified and corrected "fatal flaws" often found in RODs.

The targeted audience for this course included new RPMs or novice ROD writers. The instructional methodologies for this course included both lecture and case study examples.

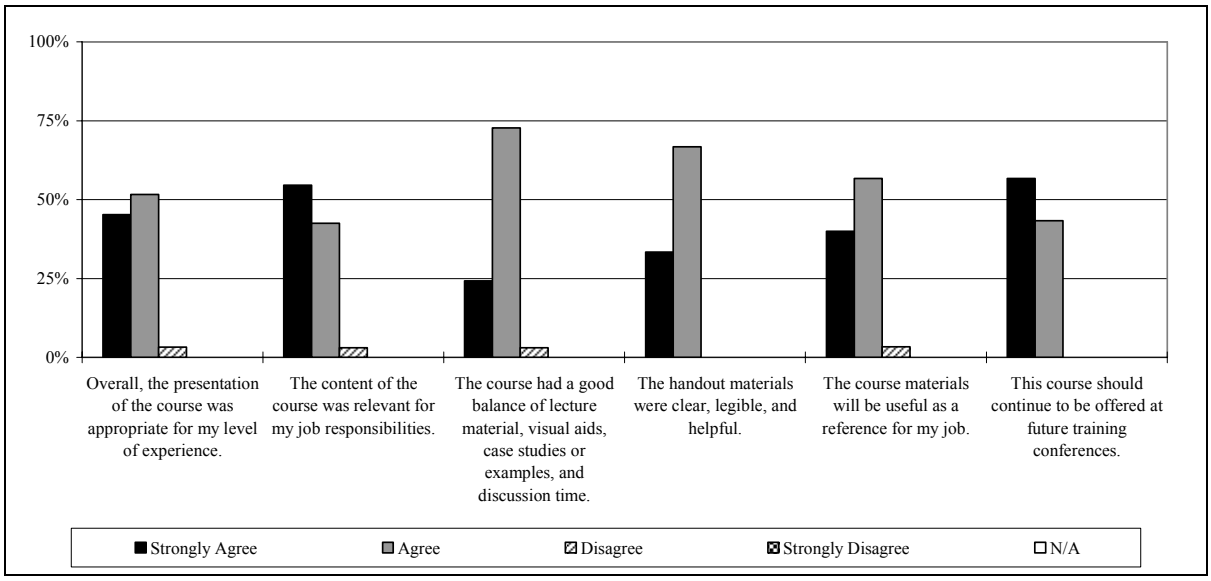
Prerequisite course and experience: participants completed the CEC *Fundamentals of Superfund* or *Remedial Process* courses.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
48	47	36	4*

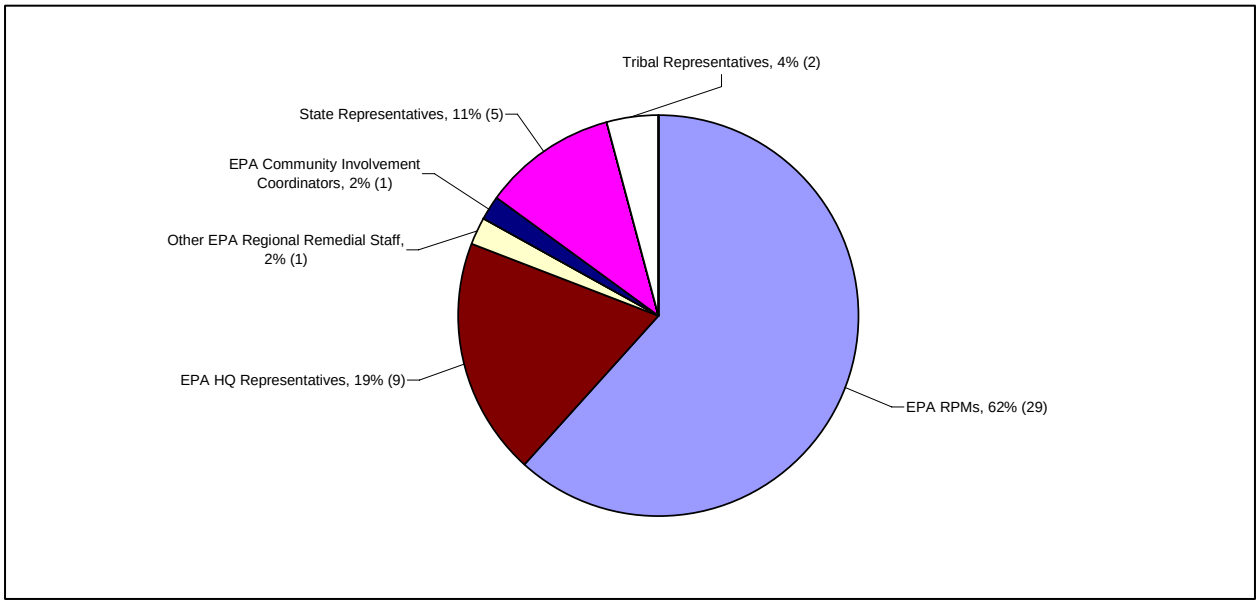
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Remedy Selection



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 62 percent of the students.

Students by Job Title for the Remedy Selection Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- I have a ROD in review now.
- I am an experienced RPM, and need more policy and specific content.
- Not too much, but it was good background.
- Not really because I am a fairly new RPM, but very informative.

Comments on course content

Add
- Treatment technology decision process as part of ROD.
- ARARs.

Omit
- MNA if it is a training course on its own.
- Why should I write a ROD.

Lengthen
- Yes. Too much information for given amount of time.
- What is the thought process of remedy selection? Basis for taking action and cleanup levels.

Shorten
- Site-specific discussions should be limited by moderator.

Comments on instructional methods and materials

- Robin is a great speaker and good at explaining concepts. Thanks! *(Two responses)*
- I would have liked Robin to present more of the material.

- Rob was a very engaging, thoughtful, experienced and articulate speaker. 10 points! Robin was a very experienced and knowledgeable speaker, and engaged the class well. 8.5 points!
- It was good that speakers allowed questions during the lecture.
- This is one of the sessions I most looked forward to.
- Course materials are very helpful, especially the easy to read CERCLA.
- Speaker/supplemental notes would have been helpful. Having a copy of CERCLA/NCP was a bonus.
- Good summary. If we have notes on the course questions, I would recommend incorporating the answers.
- Examples of good and poor RODs would be helpful.
- Should have made more time for community involvement issues.
- Should be one day course with more examples.
- More time, or less material, or different format.
- Try to determine the experience level of attendees and tailor to that, if possible.
- The slides are too general to be useful for reference. The CERCLA and NCP book is always a good reference though.
- Over half of the class was a restatement of the ROD guidance.
- Recommend adding slides with aerial photo and site maps for visual aids to make the site case more relatable.
- The class had a lot of discussion that started a dialogue between the regions and Headquarters.
- VI was too important to squeeze in at the end of the session. Also, VI is still controversial in terms of testing, remedial methods, etc., to be presented as an easy package.
- Do not use so much paper (i.e., two slides per page)! *(Four responses)*
- Please define some of the acronyms used in the slides.
- It would be good to give more examples of ROD language that is acceptable.
- A few more case study examples would have been nice.
- Suggest making the case studies data assessment table more clear by changing the order of the tetrachloroethylene numbers or at least providing an explanation.
- Cut down the beginning description of what a ROD is.
- Had to breeze through a lot of information because of time and the experience of the attendees.
- Too much information for the limited time. Pace was rushed because of number of presentations. Consider limiting number of speakers. *(Two responses)*
- The beginning of presentation was too slow, but the pace picked up after the afternoon break.
- A little fast, but should be expanded with some more examples for a full day course.
- This should be presented as a panel session. This perspective was a strict interpretation of the NCP. RPMs have to deal with many perspectives when making a decision. It may be nice to have regulatory, technical, risk, and legal perspectives at the same session. TI and MNA should be minimized.
- MNA is important during RI scoping and remedy selection; but we should be speaking and training RPMs on how to deal with MNA RODs that did not have the correct components and may not have been selected as the remedies. How to deal with PRPs and communicate and prove MNA's effectiveness using advanced statistics.
- Course was too hurried. More remedy selection and RI/FS courses should be taught at NARPM.
- I expected more of a bigger picture discussion and less discussion of the parts of a ROD. Some of the sessions were good; others got bogged down in details. The TI waiver part was good.
- Questions and answers took LOTS of time.

Comments on course name and abstract expectations

- I thought "Remedy Selection" was more of a discussion on various treatment technologies. This should be titled "Developing a ROD."
- Course title is misleading for the content presented.

- The course was incorrectly named. Please see my comments below.
- Remedy Selection is just one aspect of ROD development.

Comments on suggestions for future offerings of this course

- This course should be offered, but course needs to be improved greatly.
- While this presentation was good for "traditional" sites, all of it does not pertain to sediment sites. With the growing number of sediment sites, it would be nice to have this same presentation, but focused on them.
- Definitely if time, content, and/or format are adjusted.
- Call this course ROD development or ROD overview.
- The name of this session was "Remedy Selection." The content was "How to write a ROD." The session did not present information on how to select a remedy. Please consider a session that does provide information on how to select a remedy.
- Should possibly be a longer session or a panel session to allow for more questions and answers. (*Five responses)*

Risk Communication[4]

Wednesday, May 23, 8:45 a.m. to 4:30 p.m.

Instructors: Vincent Covello, Center for Risk Communication
Joi Ross, APEX Direct, Inc.

The *Risk Communication* course was an intermediate-level course designed for RPMs. The course provided a framework and basic principles for effectively communicating risk with local residents and other stakeholders during remedial site activities. One of the most difficult tasks an RPM undertakes is to clearly communicate risks associated with activities at the site. An RPM's audience for risk communication varies from concerned citizens and elected officials to the news media and business entities, and the type of risk to be communicated varies across the wide spectrum of site remediation.

Through a combination of slide presentations, videotapes, and class exercises, participants learned the principles and rationale behind risk communication techniques and their importance. Participants also had the opportunity to examine the critical role of key messages and, through interactive examples, learned how to develop key messages for use in a variety of situations. The course also included scenario exercises and role-plays during which RPMs spent time applying the principles of risk communication to specific situations. Scenarios were developed specifically for this course and were based on information from actual projects that involved situations RPMs encounter regularly.

By taking the course, participants:

- Learned how to effectively prepare for interactions with the public and the media and avoid miscommunications and pitfalls.
- Explored the principles and rationale behind risk communication techniques and gained a better understanding of their importance.
- Examined the critical role of key messages and, through interactive examples, learned how to develop key messages for use in situations that involve communication with the public or media.

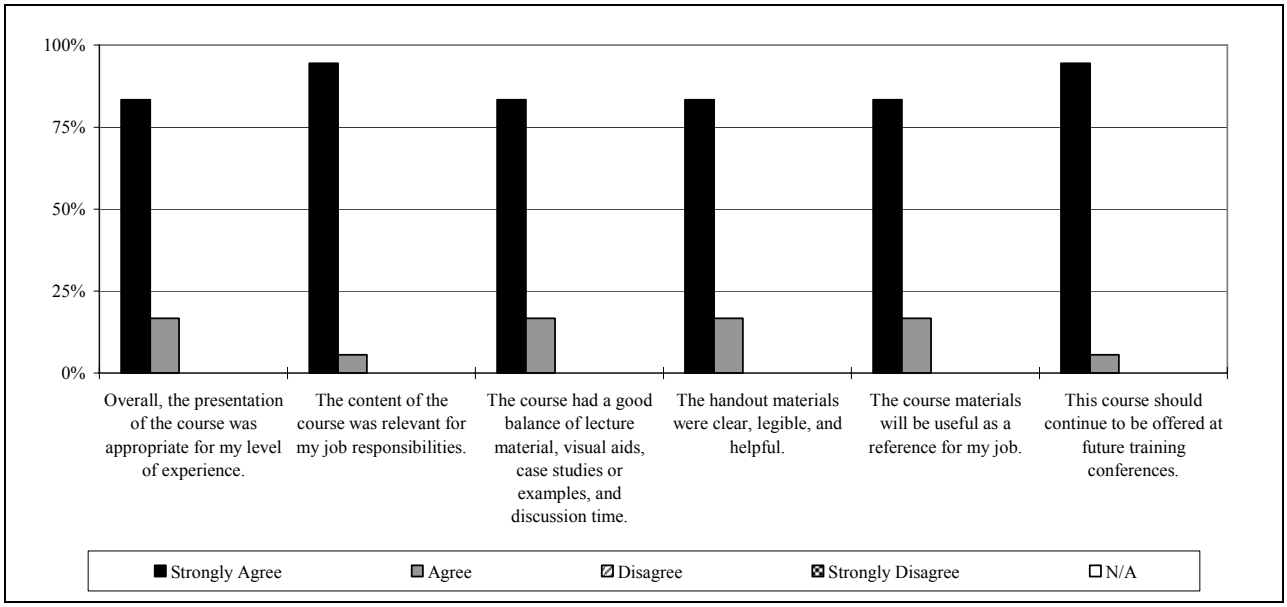
Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
21	25	18	5*

* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

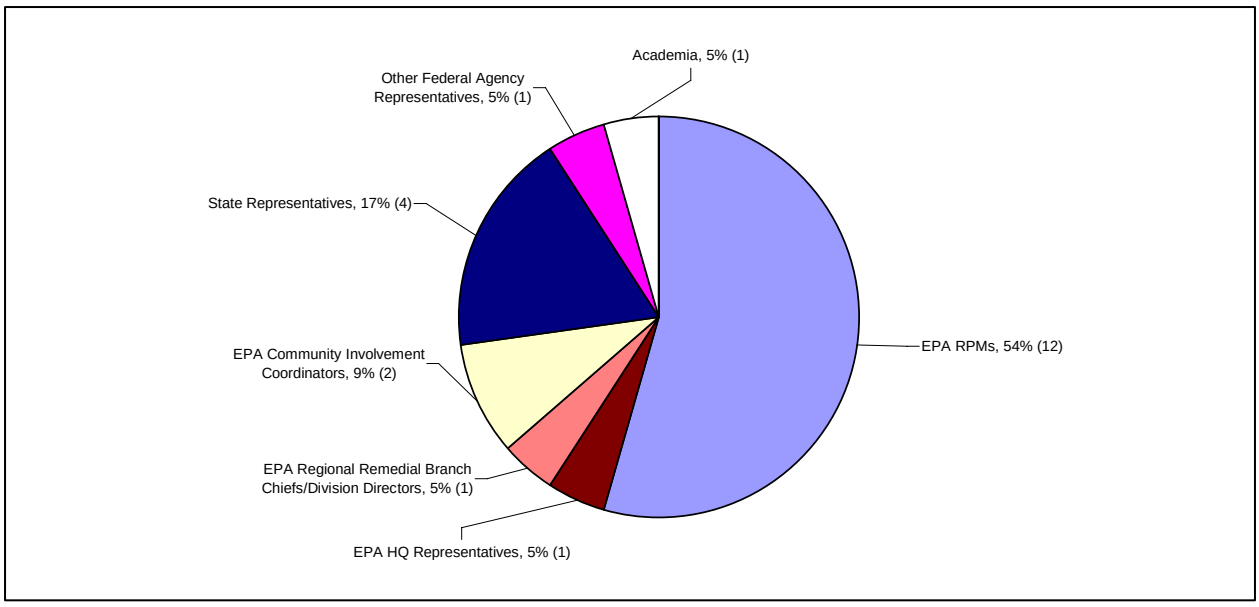
[4] Due to the instructional methodology of the course, classroom size was limited.

Summary of Evaluation Results for Risk Communication



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 54 percent of the students.

Students by Job Title for the Risk Communication Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- I plan to take a look at them before big public meetings.
- Especially to prepare for public meetings.
- Communication with the public is important.
- I deal with people that might ask very difficult questions.
- Very understandable for any experience level.
- Excellent course.
- Lots of new information.

Comments on course content

Lengthen

- More information that can be learned.
- The whole thing should be lengthened.

Comments on instructional methods and materials

- It was perfect.
- A great reference.
- Very good mix of video, slides, lecture and small group work.
- Dr. Covello was excellent. Class exercises were very beneficial.
- Wonderful. It should help me greatly at my next community meeting.
- Great use of audio/visual materials, discussion and exercises.
- Interactive and very stimulating.
- Case examples were very relevant.
- Best course at NARPM this year.
- This was a very useful course. Before an RPM can communicate with the public, he must decide what information is useful to the public. This can be difficult for someone with a detailed, comprehensive knowledge of the site. The template concept is an effective tool to choose important facts about a complicated subject.
- Excellent course! Thank you.
- The instructors did not always demonstrate the Rule of 3. Joi especially should give the 3 overarching messages before giving the supporting information.
- It was a lot of information to cover and we all got so excited that it was hard to stay on track. Excellent session.
- Budget permitting, please bring Dr. Covello back. Can we get his permission to tape and show his class to peers?
- Terrific class. Needs to be available as a CEC class (3 days). Need to develop message template for Superfund.
- Jumped around some.
- We needed more time to complete the example.
- More time was needed to do more exercises.

Comments on course name and abstract expectations

- Some thought it was a risk assessment communication course.
- Perhaps should be re-titled to not just specify "risk." Perhaps communication in high stress situations.
- From the name I thought that "risk" would be human-health, environmental concentrations or standards.
- Great information on communication strategies. Nothing about risk or science communication.

Comments on recommending course to colleagues

- Something that everyone who deals with people, media, and communities should know.
- Everyone should attend this course.
- Best course I have ever had at NARPM!
- Very useful.
- Could be a 2-day workshop. *(Two responses)*
- Follow-up on message mapping.
- What about an on-line course or on-line discussion?
- Additional time would be appropriate. It is a very good and worthy course.
- A separate or different course on how to express human health and risk would be helpful.
- Course on body language.

Comments on suggestions for future offerings of this course

- Also offer an advanced message mapping; put course in Community Involvement (CI) University.
- Should be used at CI Conference.
- Yes, at future NARPM and at National CI Conference.

Sediment Remediation

Thursday, May 24, 1:15 p.m. to 4:30 p.m.

Instructors: Steve Ells, EPA OSRTI
James Hahnenberg, Region 5
Danny Reible, University of Texas
Paul Schroeder, USACE

The *Sediment Remediation* course focused on some of the biggest issues that face RPMs in evaluating contaminated sediment sites. By taking this course, RPMs learned:

- The basis for the recommendations developed by the National Research Council (NRC) committee that evaluated the effectiveness of dredging at Superfund megasites, and EPA's possible response.
- The key findings and recommendations developed at the recent workshop on Resuspension, Release, Residuals, and Risk from Dredging Contaminated Sediments.
- The use of a simple model to predict the thickness of a sand cover needed to control contaminant flux into the overlying water.
- The data and rationale used at the Fox River Superfund site to amend the 2003 remedy to substitute engineered caps and thin sand covers for dredging areas of the site.
- The advantages and limitations of dredging, capping, and MNA at typical sites.

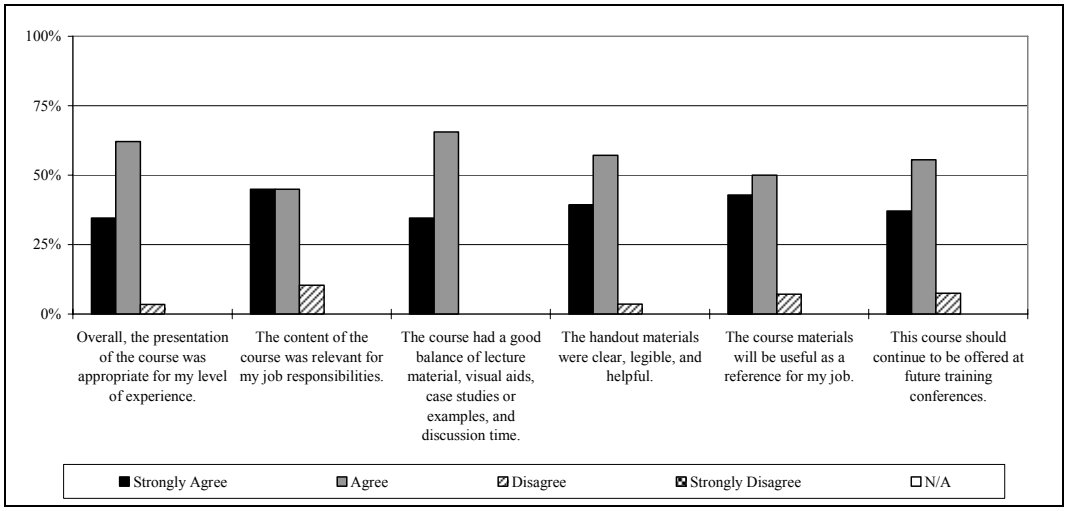
Instructors for this course included sediment experts from academia, the USACE, EPA regional offices, and EPA Headquarters. The target audience was RPMs who have had or may have had a contaminated sediment site. The presentation was followed by a panel-led group discussion of the key issues.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
43	42	29	4*

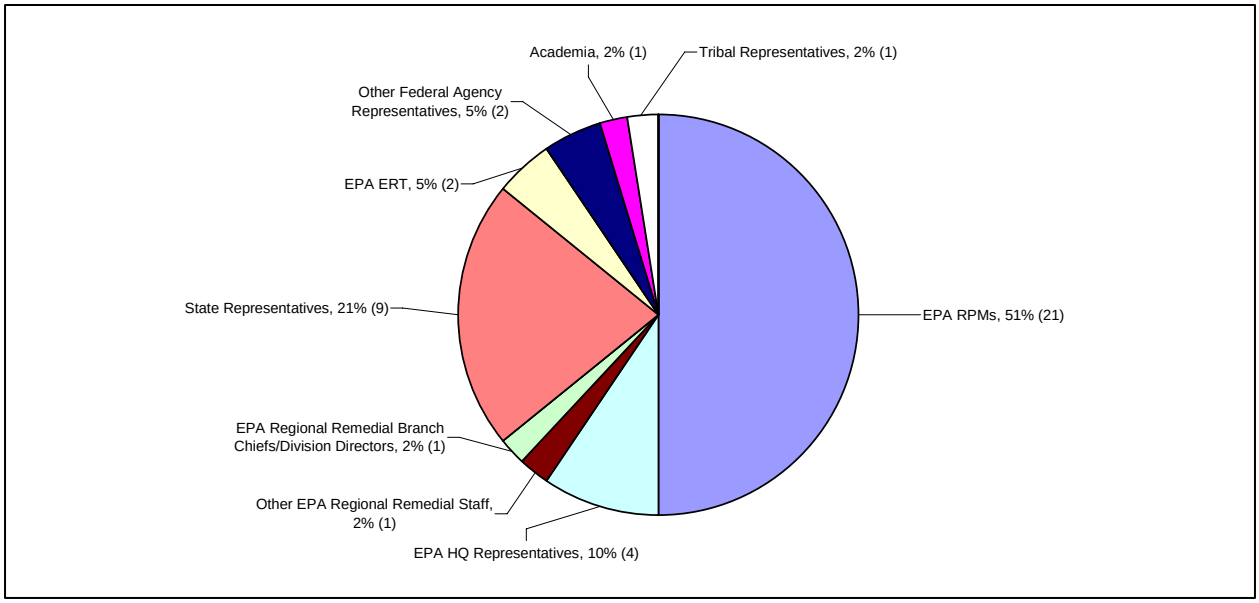
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Sediment Remediation



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 51 percent of the students.

Students by Job Title for the Sediment Remediation Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Would be if I had sediment sites.
- Too much on dredging.
- Do not have sites with this type of remedial need, but informative.
- Most all sediment remediation courses/classes have dealt with either harbor scenarios or large rivers — would like to hear more about long "more narrow" streams and wetland (surrounding) areas. How does the fact that some trustees may have problems with natural-resource damages to wetlands impact the remedy.
- Mostly interested in learning more about it.
- I understood the material but I could have used a primer. Also, little on small-scale sediments (creeks, etc.)
- For someone trying to gather info on a new field of dredging, this was a bit too academic. Could be more beneficial if toned down some.

Comments on course content

Add

- Source control effectiveness — how do you measure it; how do you address it effectively in the ROD?
- Information about the importance of ground water advection.

Omit

- Cap residuals effectiveness — unless ground water is considered.

Lengthen
- Offer more than one case study that will utilize a variety of tools. Fox River is a very good example.

Comments on instructional methods and materials
- Excellent on all accounts!
- It was a good team that brought various view points to the table.
- As usual, Hahnenberg did a great job!
- Fox River presentation was excellent.
- Good discussion between break, but it threw class off schedule.
- Content was well spaced out for length of the class.
- Questions were taken throughout class and were handled well.
- Case studies were very relevant.
- Good graphs and figures in presentation. Some parts were slow.
- Significant improvements are possible. Illustrations, definitions and some proposed standard calculations for residuals would be very useful.
- Some slides need color.
- Several slides had way too many bullets. Slides presented too much information in too little space.
- Ground water and surface water information needs to become a major aspect of sediment presentation at NARPM and elsewhere. This is the case from source control, RD/RA for dredging, and capping feasibility standpoints. Sediment at many, if not most, CERCLA and RCRA sites has a ground water component.
- 44 counted in attendance. Is this consistent with registration? Is this an aged course? Good audience interaction.
- Moderator needs to make sure speakers stay on schedule for breaks and end time. Need to address very specific questions during break or after the session. *(Two responses)*
- Focus on cap modeling in absence of ground water flux was not useful except as a simple demonstration of theory.

Comments on course name and abstract expectations
- The presentation was more about dredging; not enough about sediments themselves.

Comments on recommending course to colleagues
- If they are versed in the subject.
- This is an excellent course for mangers and RPMs alike.

Comments on suggestions for future offerings of this course
- There will always be a need to address sediment issues.
- Particularly with inclusion of the recent National Academy of Science review.
- Future course should discuss the appropriateness of MNA in sediment remediation — its role, when and how it should be applied.
- Include more on sediment disposal, please. Less theoretical stuff.
- I think it would be a good idea to keep this course and update it annually to reflect newly developed information. New case studies each year would also be a good idea.
- I wonder if there is enough general information to warrant a whole afternoon session.

Subsurface Characterization for Vapor Intrusion

Tuesday, May 22, 1:15 p.m. to 4:30 p.m.

Instructors: Kathy Davies, Region 3
Helen Dawson, Region 8
Gary Newhart, EPA ERT
Howard Orlean, Region 10
Richard Willey, Region 1

The *Subsurface Characterization for Vapor Intrusion* training course focused on subsurface sampling and analysis strategies that could be used to evaluate whether vapors from a subsurface contaminant source could intrude into inhabited buildings and pose an unacceptable risk to human health. Specific topics addressed include:

- Potential vapor intrusion scenarios and site characterization strategies appropriate for the type of scenario under investigation.
- Ground water, soil gas, and sub-slab sampling methodologies suitable for evaluating the vapor intrusion pathway.
- Data analysis and interpretation methodologies.

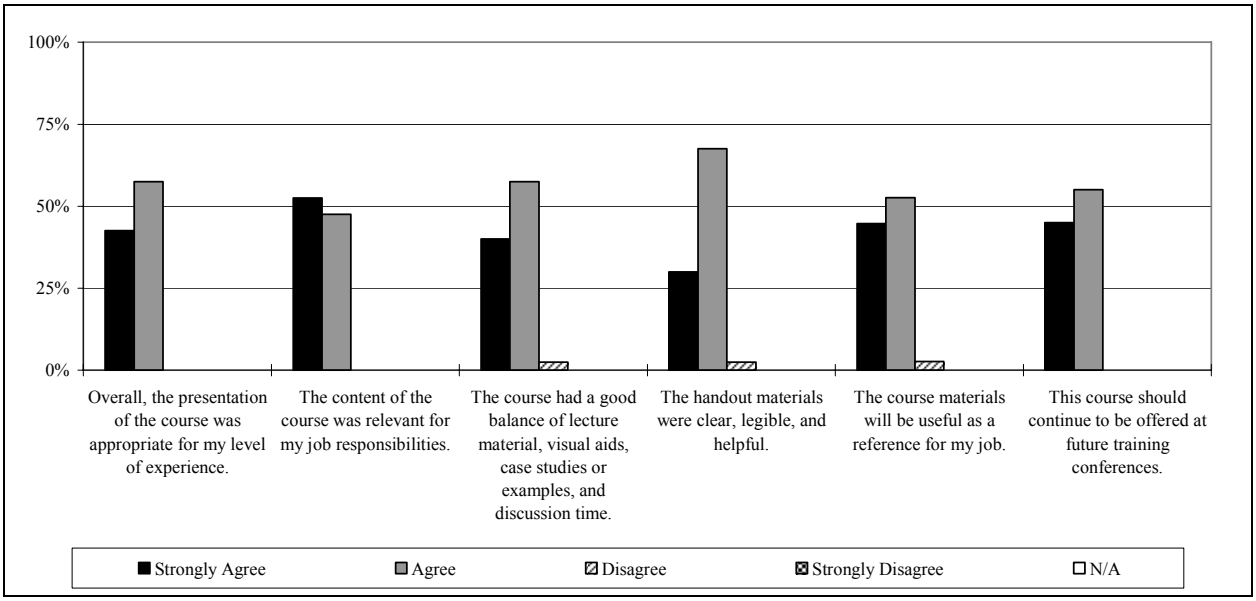
Three scenarios commonly encountered by RPMs were considered in detail: ground water sources in sedimentary settings, vadose-zone (above the water table) sources in sedimentary settings, and vapor sources in fractured bedrock settings. Case studies of vapor intrusion assessment in those settings formed the bulk of the course. They were used to illustrate the characterization options for the setting, the decision processes used to develop appropriate sampling strategies, and the techniques and tools available for analyzing the results.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
70	55	40	4*

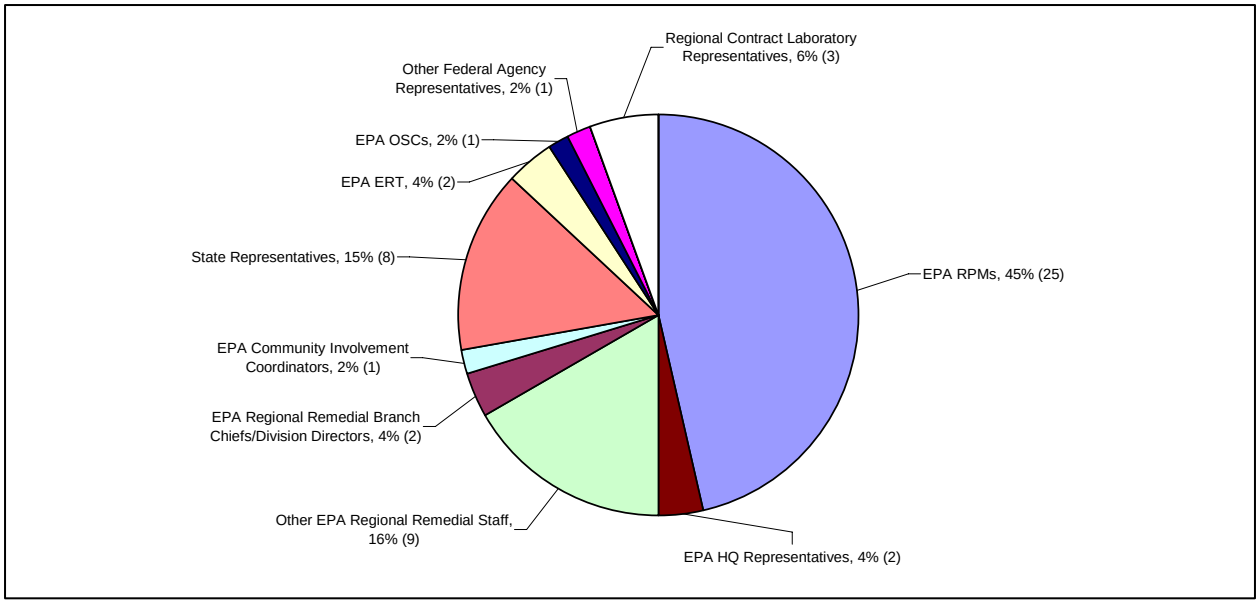
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Subsurface Characterization for Vapor Intrusion



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 45 percent of the students.

Students by Job Title for the Subsurface Characterization for Vapor Intrusion Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Abbreviated summary of key points would be more useful than an outline of talking points for future reference.
- VI is an emerging issue at my site.
- Great selection of materials, discussion topics, and technical highlights.

Comments on course content

Add
- Redevelopment — future building summaries; no existing building.
- Add federal facilities examples.

Omit
- Tree coring discussion.
- Sampling locations in relation to utility corridors, preferential pathways.

Lengthen
- Discussion of standards and criteria used to evaluate data.
- Abatement.

Shorten
- Tree coring.

Comments on instructional methods and materials

- Great data presentation. It was nice to have two breaks.
- Good speakers with common approach.
- Great — Helen Dawson.
- Nice job!
- It would be great to include a CD with all the background documents listed in the reference section, if available, plus any of the presentations that could be included on the CD. Good job on the presentations and good discussion.
- Copies in black and white for color slides did not come out well for maps. *(Three responses)*
- Unclear if last case study correlated with new findings about soil versus deeper soil gas.
- As more people use sonic drilling, need some research into how long you need to wait before taking vadose samples.
- One section was missing.
- Not enough text to accompany figures. *(Two responses)*
- More case studies would be nice, but add them not at the expense of the other materials.
- Some concepts (e.g., sub slot sample) were mentioned well before explanation of how they were implemented.
- Follow up on soil and gas and eastern ground water, VI sampling.
- Organization could be improved. Much of the last section should have been earlier.
- EPA needs to get that guidance out!
- Probably could use more discussion time. Try to emphasize more what the science, research, and site work has shown us.
- I could have read the slides just as well as hearing them and I would not have had to listen to microphone feedback. Are there any studies that include full suites of data including ground water-soil gas-indoor air at the same sampling locations?
- Tree coring does not seem so useful.
- A listing of conclusions and lessons learned as a document would be helpful.
- A summary of the bottom line would be helpful. With more experiences being gained about different sampling methods and approaches, it would be nice to have a conclusion about which is the best balance of cost and effectiveness.
- There could be better coordinating of the sections. Some overlap.
- Ditch the binders.
- Questions seemed rushed.

Comments on recommending course to colleagues

- Increases awareness of VI and alternatives to indoor air sampling.

Comments on suggestions for future offerings of this course

- If more information is provided on the handouts, yes.
- VI is a huge concern so we need to keep up with the latest information.
- With updates or new case studies
- Do not repeat the whole course. Instead provide an update on new information and insight along with a different case study.
- It may be better to have this session before a session about mitigation

Turning the Tide on DNAPL: Things You Should Know about DNAPL and Active Remediation

Wednesday, May 23, 8:45 a.m. to 4:30 p.m.

Instructors: Rosemarie Caraway, Region 9
Jim Cummings, EPA OSRTI
Eva Davis, EPA ORD
Scott Huling, EPA ORD
Kira Lynch, USACE

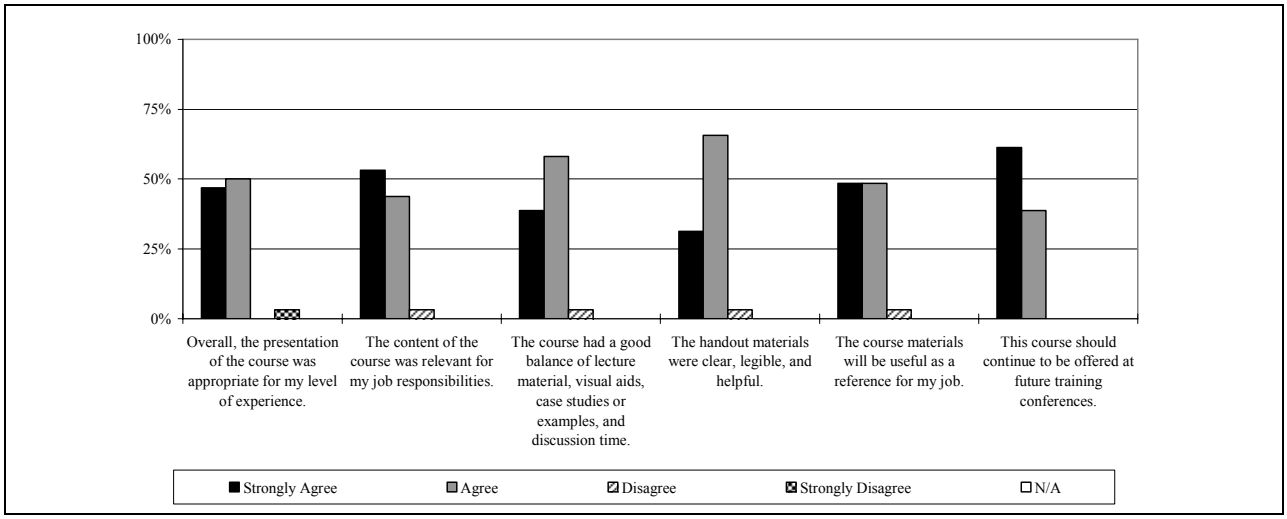
There has been significant progress in the characterization and remediation of DNAPL-contaminated sites in the last 5 to 8 years. The *Turning the Tide on DNAPL: Things You Should Know Now about DNAPL and Active Remediation* course discussed technology and policy developments and the challenges that remain. Recent technological advances, principally in the area of in situ treatment, have emerged to offer alternatives to traditional containment remedies for DNAPL sites. During the course, the technology focus was on in situ thermal remedies and in situ chemical oxidation. A newer development has been increasing interest in combining remedies to enhance the cost effectiveness of remedial strategies and to address all components of contamination at DNAPL sites — source zone hot spots, residual phase "warm" spots, and dissolved-phase plumes. Advances in site characterization relevant to remedy selection were also discussed. Policy issues covered included setting remedial action objectives, appropriate roles for MNA, cost implications, risk sharing, and addressing residual uncertainties on technology performance. Case studies were used to illustrate major points and convey lessons learned. The course was best suited to RPMs familiar with DNAPL contaminants and sites.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
69	69	32	4*

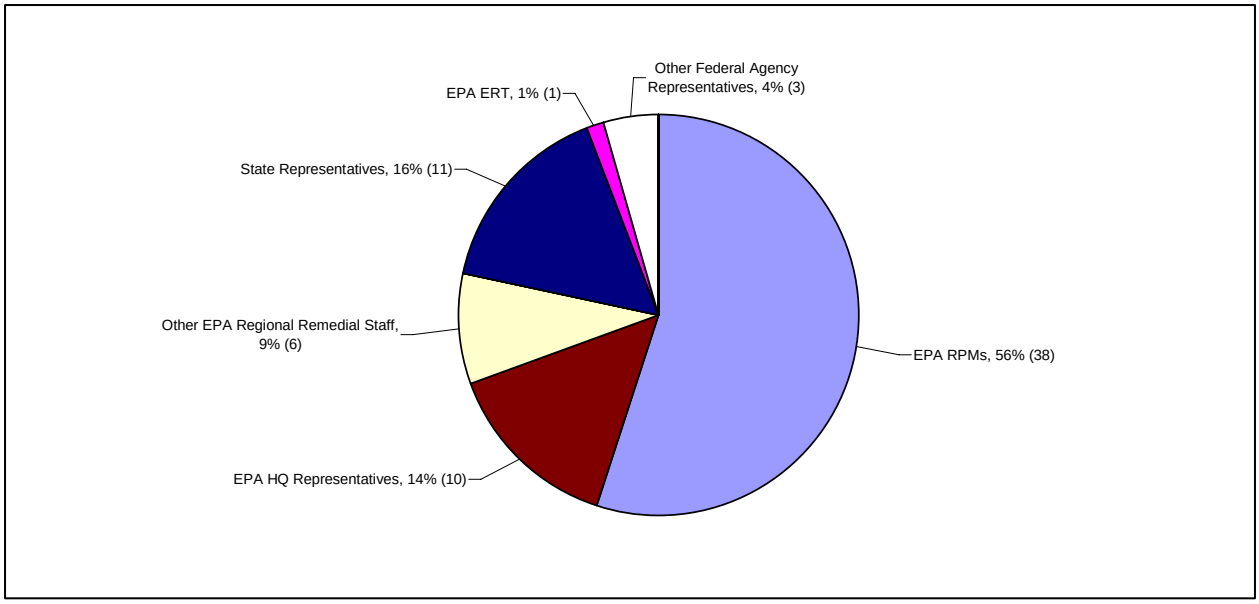
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Turning the Tide on DNAPL: Things You Should Know about DNAPL and Active Remediation



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 56 percent of the students.

Students by Job Title for the Turning the Tide on DNAPL: Things You Should Know Now about DNAPL and Active Remediation Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- The context was perfect for RPMs.
- The references provided in the presentations should be very useful.
- Very helpful for a RI I am already engaged in.
- This will provide useful information for my DNAPL sites.
- I think I selected a session that was not applicable (e.g., I have never heard of DNAPLs).
- Tough issues since the experience level is mixed.
- Not for me; however, I expected this because I do not work on this side of the house. I just wanted some exposure.
- Some of the topics were too technical. Most of the information was useful and applicable to my job.
- The only problem was too much material for the time frame.
- Not a good connection to my core responsibilities.

Comments on course content

Add

- The recommended approach to writing a ROD presented here was completely different than in the RI/FS course (less specificity versus more). I think in this course and others, more discussion of differing viewpoints within the Agency should be presented.
- Cost and time parameters for cleanup of DNAPL/ground water.

Lengthen
- The "roadblocks" from PRPs was useful and more time should be given.

Shorten
- Eva's presentation with time for questions.
- In-situ chemical oxidation — too technical. Should be more practical.

Comments on instructional methods and materials

- Good reference.
- A lot of good information. *(Two responses)*
- Very good presentation!
- Very knowledgeable presenters.
- Jim Cummings was a very good presenter; Scott Huling was good.
- A quicker discussion of the available technologies with an added comprehensive set of lessons learned and limitations would be welcome before having case studies.
- This was a great course. I learned a lot and look forward to applying what I learned.
- Need to leave time at each phase or every half hour for questions to make the training more interactive.
- More information on fractured basalt type systems would have been useful for me.
- One speaker needs to improve her delivery technique. She could have condensed her materials and delivered it in a shorter time.
- Best session of NARPM, but should consider breaking the session up through the whole week of NARPM. As with all RPMs, you have to work with many skills; we work on all skills. The DNAPL talks would have benefited from time to digest technical talks.
- Follow up on the Pemaco Superfund Site after remedy is turned on. I may have an example of DNAPL treatment for the Brandywine Defense Reutilization and Marketing Office NPL site next year. We are in design and will implement the interim remedy this year! Add lessons learned section.
- It picked up during the second half.
- Tried to cover too much in the available time. Presenters were rushed. *(Four responses)*
- Great handouts! I know that I will refer to them when I return to the office.
- Felt there were too many handouts. Could be condensed.
- Two slides per page please!
- Be mindful of time and ask if there are questions during presentation (Eva). *(Two responses)* Others had time for questions.
- Light on the discussion time. More lecture oriented, due to lunch running over allotted time. *(Four responses)*
- Too much one way talking. You need to narrow down way too much data!!
- No interaction.
- Break after one and half hours of presentation. Possibly do 1 or 2 case studies for each technology. Too many sites, too much data. After a while, my brain shuts down.

Comments on course name and abstract expectations

- No expectations.
- Good overview of technologies with case studies.
- More than my expectations. Good, solid, technical matter presented that was useful to current work.

Comments on recommending course to colleagues

- Very useful and practical information.
- New technologies. Get out of the mindset that DNAPL cannot be remediated.
- YES!

Comments on suggestions for future offerings of this course

- It should definitely remain as a full day course and possibly expanded to a two day EPA class.
- The DNAPL issues will continue for a long time.
- This area is evolving and I learned a lot of new things since the last time I had a DNAPL course.

Using Systematic Project Planning to Address and Manage Site Uncertainty and Project Risks

Thursday, May 24, 1:15 p.m. to 4:30 p.m.

Instructors: Kirby Biggs, EPA OSRTI
Steve Dyment, EPA OSRTI
Joe Foran, Computer Sciences Corporation
Kira Lynch, USACE
Martin McComb, Region 8
Daniel Powell, EPA OSRTI

The *Using Systematic Project Planning to Address and Manage Site Uncertainty and Project Risks* course provided an overview of project planning and sampling design when the Triad approach is used. This practical, "nuts and bolts" course discussed how the systematic planning process occurs at specific sites where the Triad approach has been applied, as well as tools that could be used during these efforts.

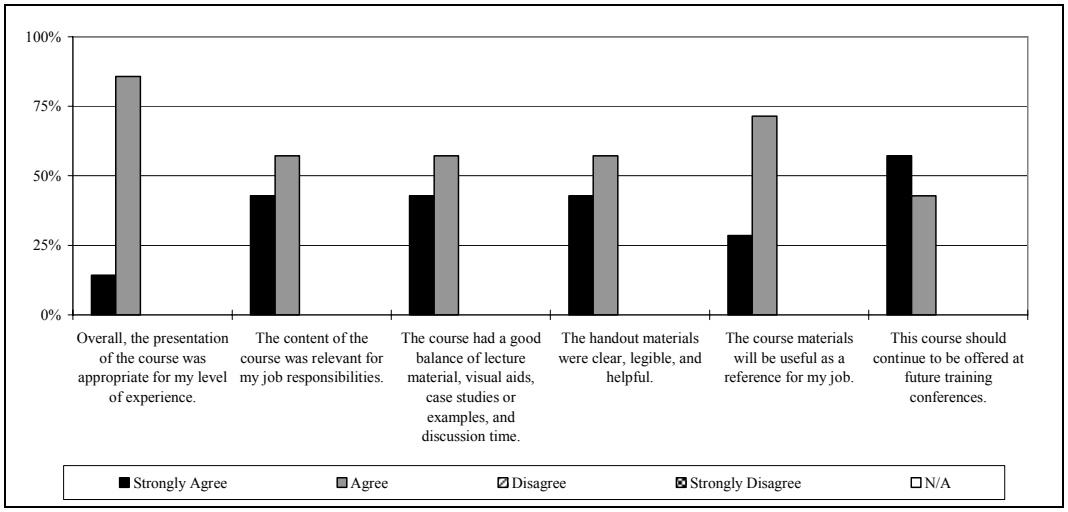
The first part of the session focused on identifying project risks and prioritizing them according to their impacts on project decisions and implementation. A speaker from the USACE shared real-life examples on project risks. Using case studies from several Superfund sites, the second and largest part of the session focused on the actual steps to take in the planning process. RPMs and USACE technical staff walked through the process used at the various sites and highlighted the results of their efforts. The final portion of the training provided an overview of available resources, such as the tools used and technical support mechanisms available to RPMs and how to access them. Several Superfund sites were highlighted.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
24	21	7	4*

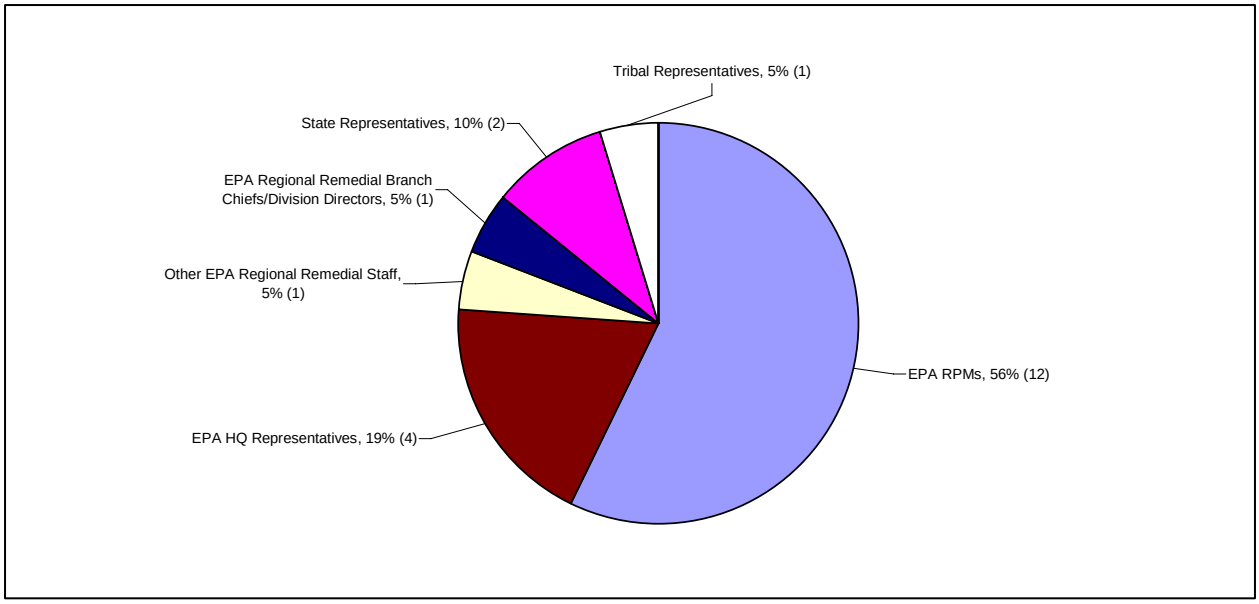
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Using Systematic Project Planning to Address and Manage Site Uncertainty and Project Risks



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 56 percent of the students.

Students by Job Title for the Using Systematic Project Planning to Address and Manage Site Uncertainty and Project Risks Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on course content

Add

- Data management-Web demonstration of tools. Bring in the gadgets and have a hands on component.

Shorten

- Smaller number of presentations.

Comments on instructional methods and materials

- Good mix of speakers.
- Good pace, but amount of material did not match well to the time allotted.
- Adaptive site management lecture was helpful.
- Ran out of time.
- Too much material
- Not all slides in handouts.
- We ran out of discussion time.
- Good introduction by John.
- Kira went too long, but was interesting.
- Marty was awesome.
- Nice offer of followup with work group.

Comments on course name and abstract expectations

- Could use a little modification.

Comments on suggestions for future offerings of this course

- Try to stay on schedule.
- Data management case study would have helped if we could see the scribe.net.

Working with the News Media

Wednesday, May 23, 8:45 a.m. to 12:00 p.m.

Instructor: Pamela Avery, Bozell, LLC
Dominic Frederico, Bozell, LLC
Leo Kay, Region 9
Wendy Thomi, Region 8

Media and spokesperson training is a must for any RPM called on to speak on behalf of a project or site. Building good relationships with the news media — as well as knowing what you want to say and exactly how to say it — is critical to conveying accurate information about your site or other EPA issues to your diverse audiences. The *Working with the News Media* workshop helped participants understand how to work with the news media, newspapers, television, radio, magazine, and the Internet.

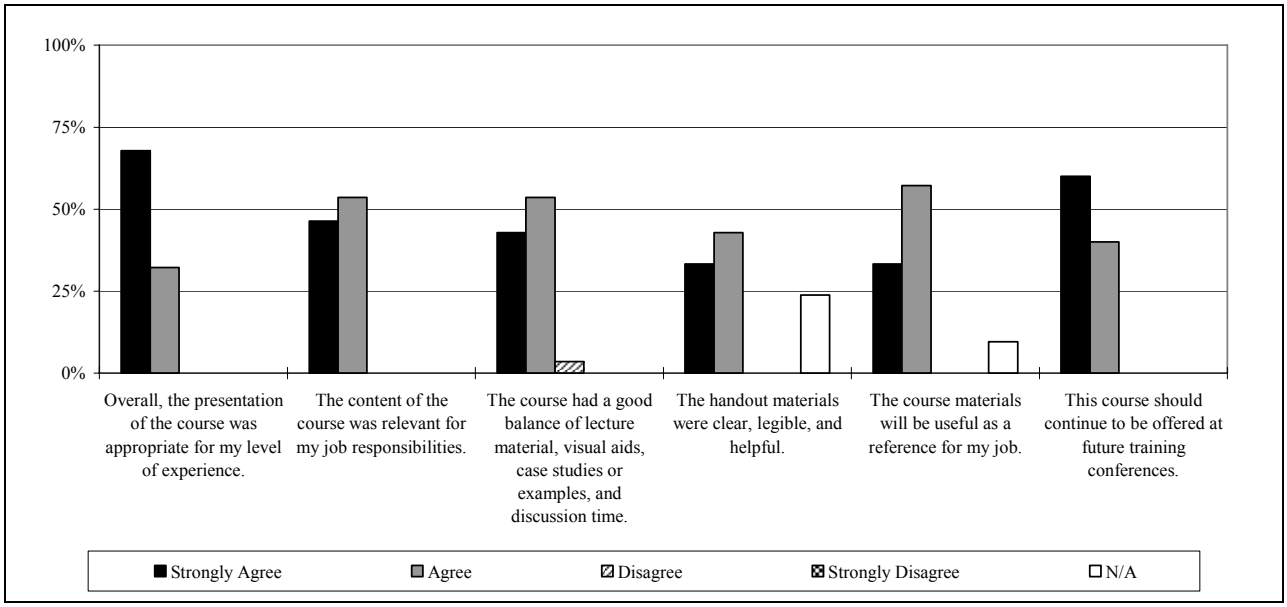
Participants learned how newsrooms operate; what makes "news"; what reporters and producers look for in a news source; and how to communicate messages effectively, even during a crisis. The course also featured a case study of a controversial Superfund or RCRA site.

Participation and Average Grade

No. of Preregistrants	No. of Students Who Signed Course Roster	No. of Evaluation Forms Submitted	Average Grade
49	38	28	4*

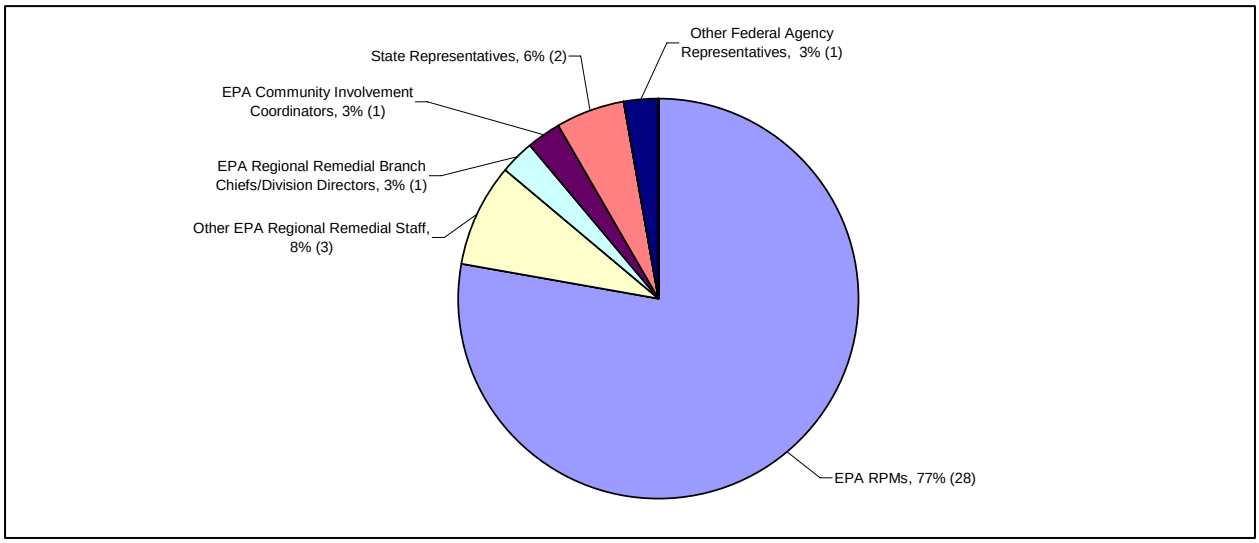
* The grade displayed is the average of the grades identified on the evaluation forms based on a 5-point scale. The average is calculated by rounding the raw average to the nearest integer (for example, 3.6 rounds to 4).

Summary of Evaluation Results for Working with the News Media



The following pie chart illustrates the percentages of students for the course by job title. EPA RPMs represented 77 percent of the students.

Students by Job Title for the Working with the News Media Course



Summarized below are the written comments provided on the evaluation forms. Similar observations have been combined and paraphrased. Comments submitted by a single individual are recorded below.

Comments on relevance to job responsibilities and experience level

- Very helpful to our jobs.
- Handout materials should have been given early in the workshop to be able to answer this question.
- Perhaps some directed discussions would help with tough subjects.

Comments on course content

Add

- If time permits or if course could be lengthened, add some interactive scenarios for class members such as interviews, a debate, etc.

Lengthen

- Questions and answers with a reporter.
- How reporters and newsrooms operate.
- Piece on electronic news collection; tips for how to talk, stand, and your body language for radio and TV interviews; how you look and how you are perceived.

Shorten

- Meet the press.

Comments on instructional methods and materials

- Good course, very helpful.
- Materials were helpful, but did not receive until end. Would have been helpful at least at the break.
- Handouts were given at the conclusion of the session. *(Two responses)*

- Could have used some directed discussions regarding tips on how to answer questions and conduct interviews.
- Not enough visual aids or video examples. Sample clips would be great.
- Good to have the viewpoint of a reporter. *(Two responses)* Very informative.
- An important aspect of Superfund.
- Enjoyed guest speaker, knowledgeable instructors from the field, and interaction between instructors and the class participants.

Comments on recommending course to colleagues

- Excellent information and relevant.

Comments on suggestions for future offerings of this course

- I would benefit from a course on EPA policy on media relations. The presenters and guest speakers were interesting and informative. They shared a lot of valuable information.
- Hand materials out at the beginning so that we can add notes during the presentation.
- The reporter was refreshing. Understand they are just doing their jobs as well. Perhaps a mock exercise where a reporter would ask a leading question and interviewee would do the "wrong" thing and then explain why it was wrong and how to do it "right."