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October 11, 1991

Mr. James Shafer
Naval Facilities Engineering Command
U.S. Naval Base - Northern Division
Building 77L; Code 1421
Philadelphia, PA 19112

Re: Naval Industrial Reserve Ordnance Plant
Fridley, Minnesota
Contract No. N62472-90-C-1024; Amendment No. 2
RMT Project No. 2313.08

Dear Jim:

Enclosed, for your use, are 2 copies of the final notes from Technical Review Committee meeting #11, held at the Naval Industrial Reserve Ordnance Plant on September 19, 1991. Other copies of these notes have been distributed according to the attached Distribution List.

Sincerely,

A handwritten signature in cursive script that reads "Eric Gredell".

Eric Gredell, P.E.
Project Manager

tfr

Enclosures

2313.08:PROJECTS/1870:trcltr

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TRC MEETING #11**

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Minnesota Pollution Control Agency 1
Site Response Section
Ground Water and Solid Waste Division
Attn: Cynthia Kahrman
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St. Paul, MN 55155

U.S. Environmental Protection Agency, 1
Region V
Remedial & Enforcement Response Branch
OH/MN Section, Unit 1 (5HS-11)
Attn: Tom Bloom
230 South Dearborn Street
Chicago, IL 60604

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TRC MEETING #11**

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**Minutes of Meeting
Technical Review Committee Meeting #11
September 19, 1991**

**Naval Industrial Reserve Ordnance Plant
Fridley, Minnesota**

Technical Review Committee meeting #11 was held at the Naval Industrial Reserve Ordnance Plant (NIROP) in Fridley, Minnesota, on September 19, 1991. A copy of the agenda distributed at the meeting and an attendance list are attached.

A. Introductions

1. Commander Hogan opened the meeting at 1:00 p.m.
2. Jim Shafer introduced Cynthia Kahrmann, the newly assigned MPCA Project Manager for the CERCLA project at the NIROP Fridley. Ms. Kahrmann is the replacement for Mark Lahtinen, who resigned from the MPCA since the last TRC meeting.
3. It was noted that Michael Pliml did not receive the notes from TRC meeting #10.
4. Scott Anderson and Diane Maki will be added to the distribution list to receive the notes from this and subsequent TRC meetings.

B. Actions Since Last TRC Meeting

1. John Japp gave an update on construction status for the ground water extraction system.

All piping has been completed, and the Control House is finished. Wells AT-2 and AT-4 are installed. Wells AT-1A and AT-3A should be completed by October 31, 1991; these wells are replacements for AT-1 and AT-3. Screens and filter packs for new monitoring wells 12-I, 13-I, and 14-I in Area "A" will be installed this week; the wells will be developed next week. Locations for new Area "B" monitoring wells will be selected after Area A monitoring wells are sampled and results have been evaluated. Casings have been installed for the new monitoring wells at Area "C;" the USACE is waiting for the construction recommendation from Morrison-Knudsen (M-K) for these wells.

The construction schedule as of September 4, 1991, called for completion of all extraction wells by October 31, 1991. However, problems at well AT-3A will result in a delay of approximately 3 weeks to complete all extraction wells. Step-drawdown tests will probably not be run until the end of November 1991. All new monitoring wells will probably not be completed until December 31, 1991. Startup of the ground water extraction system is currently scheduled for the week of January 6, 1992.

Information describing construction alternatives for well AT-3A has been sent to the USEPA and MPCA. John Japp described the factors related to use of a long screen (100 feet, +/-) vs. a shorter screen design. M-K will resubmit their recommendation for construction of AT-3A to the USACE within the next few days. It is not known at this time which construction alternative M-K will recommend.

2. John Japp described a procedure to expedite receipt of comments from the USEPA and MPCA for construction recommendations sent to the agencies by M-K:
 - The USACE's contractor will send a notice by FAX to the USEPA, the MPCA, and the USACE at least 48 hours in advance of their receipt of a construction recommendation submittal, advising the date that the submittal is expected to be received for review.
 - The USACE's contractor will send the recommendation submittal to the USEPA, the MPCA, and the USACE by overnight mail.
 - Within 24 hours of receipt of the submittal, the USACE will send a FAX to the USEPA and MPCA describing the USACE's preferred construction details. The FAX will include a date and time for a conference call to be held with the USEPA and the MPCA, on the day following the USEPA's and MPCA's receipt of the submittal from the USACE's contractor.
 - Following the conference call, any revisions to the original construction details will be implemented by the USACE's contractor, as agreed among the USEPA, the MPCA, and the USACE.
3. John Japp mentioned that recommended construction details for new monitoring wells in Areas A, B, and C have been sent to the USEPA, although copies to the USEPA were not required, per previous agreements. It was agreed that the USACE will continue sending the recommended construction details to the USEPA.
4. John Japp said that the 3 new monitoring wells in Area "A" have just been installed, and they will be developed and sampled in the near future. These wells will be used to help identify the southern edge of the VOC plume. An additional monitoring well identified as 17-D will be installed near the southernmost intermediate-depth well in Area A. Well 17-D is needed to check ground water quality below a denser till layer found by the USACE when drilling in Area A.
5. John Japp described a "strange, milky-white substance" that was observed while drilling for the new deep monitoring well in Area "C." The substance was found just below the water table, at a depth of 35 to 40 feet. The white substance had no odor, and a test of the headspace from a sample using the field instrument showed no detectable VOCs. Margaret Casserly mentioned that a large quantity of water was bailed from the borehole and placed in a water-tight roll-off box. She said the water was white. John Japp said that another borehole drilled 10 feet away from the deep boring did not show the white substance.

The USACE's geologists have speculated that this substance may have been "rock flour" created during drilling. Samples of the white substance were collected and are currently being analyzed at a laboratory. John Japp said that the hold time for these samples is close to expiring. It was agreed that the sample from only the new shallow (water table) well installed in Area C will be analyzed for an expanded list of constituents. Adam Kramer noted that he would like to see the sample results, since he is concerned regarding the quality of ground water entering the river upstream of the water plant.

Tom Bloom mentioned that the USACE's site representative had originally told the USEPA's oversight representative that the USACE would not collect a sample of the white substance, because this was "not in their contract." However, the USACE did collect samples. Jim Shafer said that in the future, samples of any ground water with unexpected or unusual appearance should be collected and analyzed as a regular procedure.

6. Jim Shafer mentioned that the draft Remedial Action Monitoring Plan (RAMP) has been sent to the USEPA and MPCA, and that review comments are still needed from the agencies. The Quality Assurance Project Plan (QAPP) for the ground water monitoring program was sent to the USEPA and MPCA on September 5, 1991; review comments are due from the agencies by October 5, 1991. The RAMP and QAPP will be issued again as a combined final document, which will be titled the Remedial Action Workplan.

A Field Sampling Plan, or sampling and analysis plan, and a Site Health and Safety Plan, will be distributed for review next week, as an addendum to the QAPP.

7. Eric Gredell presented an overview of a study of ground water re-use alternatives being prepared by RMT for the Navy. Jim Shafer noted that the Navy may not pursue an alternative involving use of treated ground water for potable water supplies, due to several non-technical as well as technical considerations. The Navy strongly favors industrial water re-use vs. potable re-use. However, the Navy intends to address alternatives involving potable re-use in the study. Decisions regarding whether or not to implement a design alternative involving potable water re-use would be made at a command level in the Navy.

Gary Eddy mentioned that a "Plume Gradient Migration System" is being designed for the TCAAP site. The design will consider options for disposal/re-use of treated ground water. Current plans call for re-use of the treated ground water to supplement the potable supply of the City of New Brighton. However, New Brighton is not expected to be able to use all of the available treated water. Excess treated ground water from the TCAAP cleanup action could be available for use by the City of Fridley. The city (Fridley) is evaluating this option. If Fridley takes the excess TCAAP/New Brighton water, there would be no need for using treated ground water from the NIROP in the city's water system.

The Ground Water Re-use Study report is expected to be issued to the USEPA and MPCA for review during the second week of October.

8. Doug Hildre noted that the MWCC Board of Directors approved the proposed revisions to the sewer use charge system for receiving contaminated ground water into the MWCC sewer system. The new Add-On Charge (AOC), which replaces the Service Availability Charge, will be effective on January 1, 1992. The AOC will result in a charge of about \$0.35 per 1,000 gallons of ground water discharged to the MWCC system.
9. Linda Hicken gave a status summary of the RI Workplan for the soil operable unit. A preliminary draft of the RI Workplan for soil was sent to the USEPA, the MPCA, the Navy, and FMC at the end of July. A pre-QAPP meeting was held with the USEPA and the MPCA in Chicago on August 8, 1991. RMT received an August 16, 1991 USEPA memorandum regarding modifications to CLP protocols. The modifications

were addressed in the draft Workplan which is currently being reviewed by the Navy. The formal Draft RI Workplan will be sent to the USEPA and MPCA by October 1, 1991. Review comments from the USEPA and MPCA are due by October 31, 1991.

Some review comments on the preliminary draft RI Workplan were received from the USEPA and MPCA. These comments were addressed in the draft Workplan which is currently under review by the Navy and FMC. Doug Hildre said that he will provide comments on the draft Workplan to RMT by telephone. It was mentioned that RMT will need FMC's help to locate the soil borings proposed in the Workplan, to clear utilities and to move equipment in the storage yard. Doug Hildre said that FMC cannot provide accurate or complete utility locations, because accurate record drawings of utilities do not exist.

The final RI Workplan is expected to be issued in January 1992. RI field work is scheduled to start at the beginning of April 1992.

10. Jim Shafer said the Navy has decided that on-site ground water treatability tests are not needed to develop design criteria for the ground water treatment system at the NIROP. The Navy believes that the treatment system can be designed using data from existing treatment systems at other ground water remediation sites in the area. However, the Navy may authorize collection of additional ground water data for inorganics and general water quality parameters during the first few weeks after extraction system startup.

C. Actions Scheduled for Next Quarter

1. John Japp said that the ground water extraction system is scheduled to start up in early January 1992.
2. Jim Shafer mentioned that FMC Corp. will operate the extraction system for the Navy. During the first week after startup, M-K will be performing some operational tests to checkout the systems. The Navy believes that a transition period lasting up to 2 weeks is needed during this testout period for transferring operating responsibility from the USACE's contractor to FMC.

The Navy requested FMC's comments regarding the length of time required for the transition period between the USACE and FMC. Doug Hildre said that if no significant problems are encountered, 2 weeks should be sufficient for the transition of operating responsibility.

It was noted that RMT will be performing the sampling described in the RAMP during the initial 75 days after startup. FMC will be responsible for sampling after the first 75 days.

3. Eric Gredell said that an NPDES permit revision application will be sent to the MPCA next week. It was acknowledged that some of the information requested in the permit application is uncertain at this time. However, the application will be submitted for the purpose of accelerating the review period by the MPCA. Additional information such as updated estimates of extraction well flow rates will be sent to the MPCA as soon as it is available. The step-drawdown pumping tests to be run soon by the USACE will provide improved flow rate estimates.

4. The USACE has been waiting to send the ground water appropriation permit application to the MDNR and the permit application to the MWCC until the results of the step-drawdown tests are available. Evan Drivas suggested that the USACE should submit the ground water appropriation permit application to the MDNR as soon as possible, and include the estimated maximum flow rates for each well, based on current information. He said that new information regarding estimated flow rates can be sent to the MDNR as an addendum to the application when the information is available. The USACE will do this. However, it was noted that the MWCC will not act on or respond to a permit application until the flow rate data is available. Therefore, the MWCC permit application will not be submitted until the step-drawdown tests have been run and results evaluated.
5. Jim Shafer said that the Navy will award a contract to RMT for preparation of a ground water flow model for the NIROP site. The flow model will be updated by RMT one year after system startup, as part of the first year annual report. The Navy will be responsible for subsequent updating of the model following the first year of extraction system operation. Eric Gredell presented a summary of the purpose and objectives for use of the flow model. The MPCA will be kept informed of progress during development of the model prior to system startup. It was mentioned that the regional ground water model being prepared by the USGS may not be available (published) for at least 3 months.
6. Jim Shafer said that the Navy is responsible for selecting set points for flow rates of the extraction wells, and other major operating variables in the ground water extraction system.
7. Eric Gredell gave a status summary on preparation of the Operation and Maintenance (O&M) Plan for the ground water extraction system. The portion of the plan being prepared by RMT will be sent in draft form to the USEPA and MPCA by September 27, 1991. The schedule for submittal of the portion of the plan being prepared by the USACE is uncertain; this part of the plan cannot be completed until final pump selection is made and manufacturer's information is received. The USACE's draft O&M Plan may not be issued until after system startup. Tom Bloom said he will check into whether this will be acceptable to the USEPA.
8. John Japp said that temporary air stripper equipment will be set up by the USACE to pretreat ground water from the step-drawdown tests, prior to discharging the water to the sanitary sewer. The pumping tests will also provide data to better estimate the concentration of TCE which will be observed in the combined discharge to the sanitary sewer. The temporary air stripper will not include air emission controls or treatment. The pumping tests are expected to be completed by December 1, 1991.
9. John Japp said that RMT is performing an evaluation of options to provide ground water pretreatment on an interim basis, until the on-site treatment system is completed. However, a practical estimate of the need for this interim pretreatment equipment and the sizing criteria cannot be made until the results of the step-drawdown pumping tests are available in December.

The MPCA will allow up to 1 week of operation of an interim pretreatment air stripper without air emission controls or treatment. However, if air stripping must continue after 1 week, emission controls are required. At this time, the alternatives for providing interim pretreatment are still being evaluated. Therefore, it is not known how much

time will be needed to furnish, deliver, and install the pretreatment equipment. This depends on the type of equipment selected. However, the time required to have the pretreatment equipment operational will be an evaluation factor for equipment selection, with the more rapid setup time as preferred. One alternative being considered is to use the temporary air stripper which the USACE will provide for the step-drawdown tests, and add activated carbon treatment equipment for the exhaust air.

Jim Shafer requested the MPCA to consider a slight extension to their 1-week "grace period" following startup to provide air controls, if air stripping equipment is used, in the event that a short amount of additional time is needed to set up emission control equipment.

John Betcher said he will check with the MPCA Air Division regarding whether an air emission permit is required, and the time needed to process the permit, if required. RMT will also contact the Air Division to incorporate this information into their evaluation of pretreatment alternatives.

D. RCRA Status

1. Doug Hildre reported that a revised Closure Plan for Hazardous Waste Storage Area "C" was sent to the MPCA in early September 1991. RMT has been retained by FMC to prepare a Closure Alternatives Study for Area C. FMC plans to submit this report to the MPCA by October 31, 1991.
2. Commander Hogan said steps should be taken to ensure that there are no conflicts between work done as part of the Area C RCRA closure and the RI under CERCLA. The Navy wants to avoid taking actions under RCRA which would have to be "re-done" under CERCLA. Commander Hogan requested that all documents prepared under both RCRA and CERCLA be cross-referenced and "linked" to provide consistent nomenclature, objectives, etc.
3. It was noted that the MPCA has not agreed to the boundaries of the Area C closure area, and that the recent Closure Plan revision does not include a clear delineation. It was agreed that RMT will initiate a telephone conference call with the USEPA, the MPCA, the Navy, and FMC on September 24, 1991, at 1:00 p.m. CDT to discuss the boundaries of the Area C closure area.

E. Community Relations

1. Gary Eddy said that the MPCA recently received a telephone call from Dennis Houle, a reporter with the City Pages. Mr. Houle was requesting information regarding potential impacts of contaminated ground water discharges to the river from the NIROP on the river water quality at the Water Works. The MPCA provided the reporter with data from river water samples collected annually at the water plant intake by FMC. The data, from 1987 to 1989, showed all "non-detects" for all constituents analyzed. The MPCA expects an article to be run in the City Pages on this subject in the near future.
2. Jim Shafer said that a policy is needed regarding how to handle public inquiries. Anyone receiving a contact from the public regarding the environmental remediation program should inform Commander Hogan and Jim Shafer as soon as possible. The Navy prefers that all such telephone callers be referred directly to the Navy for a

response. All such calls received would be handled through the Navy's public relations specialists. The Navy assures that all callers will receive a timely response, and that the USEPA and the MPCA would be notified of the call(s). He said the Navy wants to assure that callers receive an accurate and consistent response to their questions.

Gary Eddy said that public relations staff at the MPCA are concerned about a procedure where the Navy would handle all inquiries from the public. Kathy Carlson at the MPCA has been assigned responsibility for answering inquiries regarding the NIROP site.

Commander Hogan said that he has been assigned the responsibility by the Navy for handling questions from the public regarding operations at the NIROP, including the environmental program. He said it is essential that he is involved, at a minimum, as a liaison in the communications between the Navy and the regulatory agencies for dealing with public inquiries.

Adam Kramer commented that certain callers may want to address questions to representatives of the regulatory agencies, to receive the opinion or interpretations of the agencies rather than the Navy.

It was agreed that in the event of any future inquiries from the public, Commander Hogan will act as the primary point of contact for the Navy. Telephone calls will be referred directly to him, or if calls are handled by the agencies, Commander Hogan will be notified of the call(s) by the agencies. In like manner, Commander Hogan will notify the USEPA and MPCA of any calls handled directly by the Navy. Commander Hogan's phone # is 612-572-6400.

3. Jim Shafer said that the Navy intends to issue a news release and fact sheet announcing the startup of the ground water extraction system. The materials would be issued after the system was operating satisfactorily. The Navy will also issue a news release and fact sheet to announce implementation of the field work for the soil RI; the expected issue date is the first quarter of 1992. Draft copies of all news releases and fact sheets would be sent to the USEPA and MPCA for review and comments.

F. General Topics

1. Tom Bloom mentioned a concern that the USACE's construction contractor does not understand the objectives of the ROD, and therefore, cannot effectively incorporate these objectives into their recommendations for design of extraction and monitoring wells. John Japp responded that the USACE's policy is to require their contractor to be responsible for the overall design and performance of the wells, and for this reason, the recommendations for details of design and construction are initiated by the contractor. The USACE and the agencies can assure that the selected design details meet the objectives of the ROD through their review of the contractor's submittals.
2. Tom Bloom mentioned that the USEPA's goal is a "smooth transition" from construction to operation phase, with no shutdowns of the ground water extraction system after startup due to construction deficiencies.

3. Steve Hoffman noted that he needs information regarding the warranties provided for extraction system equipment.
4. Commander Hogan mentioned that there may be some effects on certain permits when responsibility for system operation changes from the USACE to FMC, including the MWCC permit. He said that because the Navy is always responsible for the overall operation, the Navy is concerned about clearly defining who is responsible for compliance with all permit provisions.

Doug Hildre said that at sites where FMC is the owner/operator, FMC is responsible for all operations; however, the situation at the NIROP is different, since the equipment was designed and constructed by the USACE, and it will be owned by the Navy. He suggested that the MWCC should be notified when the transition of operating responsibility goes from the USACE to FMC, and that both the USACE and FMC should be identified as operators in the MWCC permit application.

5. The O&M Plan will identify a distribution list for monitoring and progress reports prepared for the ground water extraction system.
6. Gary Eddy mentioned that the point source discharge of treated ground water to the river, as described in the ROD, is expected to raise additional public concern. It was mentioned that an alternative discharge point downstream of the water plant intake was evaluated during the FS. However, due to the significantly higher capital cost of this option compared to using the existing NIROP storm sewer, and the absence of public concern at the time of the FS, this alternative discharge point was screened-out in the FS.

Adam Kramer said that the Minneapolis City Engineer is firmly against the discharge upstream of the water plant intake. He said his own concerns include the need for "no-detect" discharge limits; early detection systems and controls for loss of treatment effectiveness; and provision of backup treatment facilities.

7. Adam Kramer mentioned that the Metropolitan Council recently created a new group that will deal with issues related to water supply and water quality. He expects that this group may become involved in future issues related to water conservation which could affect ground water remediation at the NIROP.
8. The NPDES permit process requires a 30-day public comment period prior to issuing the permit. A newspaper notice of the public comment period is issued. Persons on the State Register mailing list are also notified, upon request.
9. The MPCA Air Division will be requested to attend the next TRC meeting.
10. Jim Shafer noted that in conducting foundation excavations for a new hazardous materials storage building on the west side of the plant, FMC found an area of soil contamination. FMC is discussing plans to further investigate and remediate this area with the MPCA and USEPA.
11. Margaret Casserly requested a copy of the magnetometer tests run in the north 40 prior to the drum and soil excavation in 1983/1984. The Navy and USACE will check their files to locate this information.

12. Steve Hoffman asked for an estimate of the length of time that ground water pumpout and treatment will be required at the NIROP. Jim Shafer said that a minimum period of 5 years is required, but the actual total time may be longer. A significant but currently undefined factor which will affect the total time is the identification and cleanup of contaminant source areas.
13. **The next TRC meeting is scheduled for Thursday December 5, 1991, at 1:00 p.m., in the Defense Plant Representative Office at the NIROP Fridley.**

Update to TRC members:

Jim Shafer informed me on 10-10-91 that the scheduled date for the next TRC meeting (12-5-91, as noted in the meeting notes above) will be revised. A new meeting date has not been selected. Jim Shafer will issue an announcement of the revised date in the near future.

Eric Gredell
10-10-91

TECHNICAL REVIEW COMMITTEE (TRC) MEETING # 11

19 SEPTEMBER 1991

NIROP FRIDLEY, MINNESOTA

LIST OF EXPECTED ATTENDEES: (See sign-in list of attendees)

<u>NAME</u>	<u>ORGANIZATION</u>
James Shafer	NORTHDIVNAVFAC
Jeff Ciocco	NORTHDIVNAVFAC
John Betcher	MPCA
Cynthia Kahrman	MPCA
Gary Eddy	MPCA
Tom Schaub	MPCA
Doug Hildre	FMC/NSD
Diane Maki	FMC/NSD
John Japp	Corps of Engineers
Clyde Giaquinto	Corps of Engineers
Mark Koenig	Corps of Engineers
Robert Hutchinson	County of Anoka
CDR Daniel Hogan	DPRO FMC Minneapolis
Art Gamboa	NAVSEA
Steve Hoffman	NAVSEA
Richard Hanson	NAVSEA
Evan Drivas	DNR
Tom Koch	RMT, Inc.
Eric Gredell	RMT, Inc.
Linda Hicken	RMT, Inc.
Adam Kramer	Minneapolis Water Works
Thomas Bloom	USEPA
Margaret Casserly	Black and Veatch
Scott Anderson	Black and Veatch

AGENDA:

1. INTRODUCTION

2. ACTION SINCE LAST TRC MEETING

- * CONSTRUCTION PHASE I
- * SYSTEM STARTUP - OPERATORS
- * PHASE I MONITORING PLAN
 - RAMP/QAPP
 - MONITORING WELL 14I
- * WATER REUSE STUDY
- * PERMITS
 - NPDES
 - MWCC
 - GROUNDWATER APPROPRIATIONS
- * RIWP SOILS OPERABLE UNIT
 - SCHEDULE
 - QAPP

3. ACTIONS SCHEDULED FOR NEXT QUARTER

- * TREATABILITY TEST
- * GROUNDWATER MODELING
- * PRE-TREATMENT ALTERNATIVES FOR PHASE I
- * OPERATIONS AND MAINTENANCE PLAN
- * AREA C RCRA SITE

4. QUESTIONS/COMMENTS

TECHNICAL REVIEW COMMITTEE (TRC) MEETING #11
 19 SEPTEMBER 1991
 NIROP FRIDLEY, MINNESOTA
LIST OF ATTENDEES:

<u>NAME</u>	<u>ORGANIZATION</u>	
James Shafer	NORTHDIVNAVFAC	<i>James Shafer</i>
Jeff Ciocco	NORTHDIVNAVFAC	<i>Jeff Ciocco</i>
John Betcher	MPCA	<i>John Betcher</i>
Cynthia Kahrman	MPCA	<i>Cynthia Kahrman</i>
Gary Eddy	MPCA	<i>Gary L. Eddy</i>
Tom Schaub	MPCA	
Doug Hildre	FMC/NSD	<i>Doug Hildre</i>
Diane Maki	FMC/NSD	<i>Diane Maki</i>
John Japp	Corps of Engineers	<i>John Japp</i>
Clyde Giaquinto	Corps of Engineers	
Mark Koenig	Corps of Engineers	
Robert Hutchinson	County of Anoka	
CDR Daniel Hogan	DPRO FMC Minneapolis	<i>CDR Daniel Hogan</i>
Art Gamboa	NAVSEA	<i>Art Gamboa</i>
Steve Hoffman	NAVSEA	<i>Steve Hoffman</i>
Richard Hanson	NAVSEA	<i>Richard Hanson</i>
Evan Drivas	DNR	<i>Evan Drivas</i>
Tom Koch	RMT, Inc.	<i>Thomas P. Koch</i>
Eric Gredell	RMT, Inc.	<i>Eric Gredell</i>
Linda Hicken	RMT, Inc.	<i>Linda E. Hicken</i>
Adam Kramer	Minneapolis Water Works	<i>Adam Kramer</i>
Thomas Bloom	USEPA	<i>Thomas B. Bloom</i>
Margaret Casserly	Black and Veatch	<i>Margaret Casserly</i>
Scott Anderson	Black and Veatch	<i>Scott W. Anderson</i>