



**DEPARTMENT OF THE NAVY**

NAVAL WEAPONS STATION EARLE  
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COLTS NECK, NEW JERSEY 07722-5001

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13 Apr 99

From: Commanding Officer, Naval Weapons Station Earle  
To: Distribution

Subj: MINUTES OF NAVAL WEAPONS STATION EARLE RESTORATION ADVISORY BOARD (RAB) MEETING OF 11 MAR 99

- Encl: (1) Stenographer's Transcript of RAB Meeting, 11 Mar 99, by Ms. Greta Deirocini, Northern Division, Naval Facilities Engineering Command Stenographer.  
(2) "Installation Restoration Program Goal," one (1) chart prepared by Mr. G. Goepfert, Naval Weapons Station Earle, 11 Mar 99.  
(3) "Monitoring & Operations Cost, FY 1999 - 2014," one (1) chart prepared by Mr. G. Goepfert, Naval Weapons Station Earle, 11 Mar 99.  
(4) "Landfill Operations and Maintenance," five (5) charts prepared by Mr. Robert Marcolina, New Jersey Department of Environmental Protection, 11 Mar 99.

1. A meeting of the Naval Weapons Station (NWS) Earle RAB was held on Thursday, 11 Mar 99 at 7:00 P.M. in Building C-2 (Conference Room), NWS Earle. The following Station and community representatives attended:

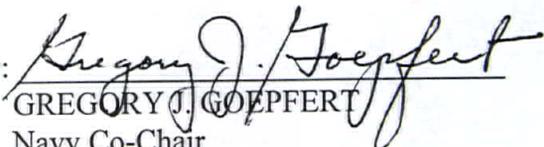
<u>NAME</u>	<u>ORGANIZATION</u>
Kevin Bova	Executive Director, NWS Earle
Deborah Sciascia	Office of Counsel, NWS Earle
Gus Hermanni	Safety Director, NWS Earle
Mike Brady	Public Affairs Officer, NWS Earle
Gregory Goepfert	Environmental Engineer, NWS Earle
Janet Coakley	Howell Township, Environmental Commission
Lester Jargowsky	Monmouth County Health Dept.
John Kolicius	NORTHNAVFACENGCOM
John Mayhew	NORTHNAVFACENGCOM
Merwin Kinkade	Tinton Falls
Bob Marcolina	NJ Dept. of Environmental Protection
Alida Karas	U. S. Environmental Protection Agency
Russ Turner	Tetra Tech, NUS
Michael Heffron	Foster Wheeler Environmental Corporation
John Vasile	Association of Civilian Employees, NWS Earle
Larry Harris	Colts Neck
Carole Balmer	Holmdel
Jane Meggitt	Aberdeen Environmental Board
Mary Jo Christian	Tinton Falls
Greta Deirocini	NORTHNAVFACENGCOM, Stenographer

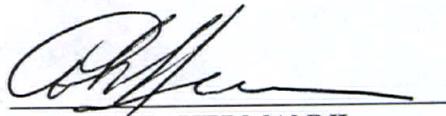
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2. The minutes of the 10 Dec 98 meeting were reviewed and entered into the record.
3. The minutes of the 11 Mar 99 meeting are forwarded as enclosure (1). Enclosure (2), (3) and (4) are forwarded to complement the minutes. The next meeting will be held on Thursday, 3 Jun 99, 7:00 P.M. at NWS Earle, Bldg. C-2 conference room.
4. Meeting adjourned at 7:55 P.M.

5. Milestones:

- (a) Mr. Goepfert will meet with the U. S. Geological Service (USGS) to discuss the construction details of the monitoring well located in NWS Earle's Wayside Area.
- (b) Mr. Goepfert will coordinate with U. S. Army, Ft. Monmouth representatives, in order to assemble a plan of action for the clean up of the NWS Earle Wayside Area.
- (c) Mr. Marcolina will investigate status of "Letter of Interpretation" for area covering the Monmouth County Pistol Range.
- (d) Tetra Tech NUS/Mr. Kolicius to produce a signature copy of the Record of Decision for the "No Further Action" Sites by the end of Mar 99.
- (e) Mr. Kolicius will settle all issues with National Oceanographic and Atmospheric Administration (NOAA) regarding the Feasibility Studies for Sites 3, 10 and 13.

Submitted by:   
GREGORY J. GOEPPERT  
Navy Co-Chair  
Restoration Advisory Board

Approved/Reviewed by:   
AUGUST L. HERMANNI  
By direction

Distribution:  
RAB Members/Attendees

Greg Goepfert: Okay. Reviewed the minutes of the last meeting. Everybody had a chance to review them? Any additions corrections or comments? The minutes stand approved and entered into the record.

Okay. Just reviewed the minutes pretty quickly from the last meeting. Some milestones here. Milestone 11A. We had Tetra Tech and Northern Division incorporate all the comments and prepared Record of Decision for the eight No Further Action sites. John, give us a brief.

John Kolicius: We were a little bit behind on that because we didn't get some of the comments as promptly as we would of hoped with Jessica Mollin nearing term with pregnancy.

Some things didn't get distributed as quickly as we liked. We have all the comments now and responses in on them, and we're looking to push for signature copy by the end of March.

Speaking of Jessica, she did have her twin boys. They were born on February 12th. Jack Andrew and Samuel Nathan. Everybody is home now and doing well. Alida Karas is filling in for Jessica while on maternity leave. It's a homecoming for Alida because she was one of the original project managers for Earle ten years ago.

Greg Goepfert: Welcome back Alida.

Looking for end of March on the No Further Action ROD to get signature copy ready.

11B - Foster Wheeler to finalize O&M plans for the closed landfills at Sites 4 and 5. We have that pretty much done.

John Kolicius: Yes. I have received the final copy today. Part of that we had some comments, which we had a meeting with EPA and the State, to discuss how some of the things regarding the sampling analysis program and some of the modeling to look toward down-gradient sentinel wells. After that meeting we incorporated the decision into the final plan.

Greg Goepfert: We have Mr. Kolicius going to schedule a meeting with NOAA to resolve outstanding issues.

John Kolicius: The meeting was delayed several times, but we did have a meeting on last Thursday and several of the issues were addressed. A couple of the people from NOAA and other B-TAG members who came to the meeting had some concerns

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Encl (1)

specifically at Site 13 about whether the landfill materials may have come in contact with the fill material. If that's the case, there would be some questions as far as how to go about remediating. The cap may not be totally effective.

Gathering additional data about regional water table and how much fluctuation is in it. The top of the water table is a couple of feet below the bottom of the test pits, at the time of the test pit -- it was a very dry summer. So we happened to come across a USGS monitoring well that had daily water level measurements that's on another portion of the base. So, we're trying to tie that in and see the amount of fluctuation. It seems to be in a similar section of the aquifers. We're hoping we can move forward through the FS without going back to take additional sampling unless absolutely necessary.

Greg Goepfert: And Mr. Marcolina was going to inquire about a letter of interpretation extension for the survey of the county pistol range.

Bob Marcolina: I'm still looking into that at this point in time.

Greg Goepfert: Okay. And John was going to look at any precedence with adjoining non-Navy activities causing impact upon Navy property as well as precedence for cleanup and wetland areas.

John Koliccius: So far, I haven't been able to come up with much by way of precedence. I've come up with other cases that non-Navy activities may be impacted and maybe in groundwater, primarily in groundwater situations.

If you're looking at the groundwater, there's some question as to what we've done in the area. I haven't come across anything cut and dry like where the pistol range is up against our fence. We'll continue to investigate. Don't have anything yet regarding clean up in the wetlands area. I haven't been able to find any conclusions at this point.

Greg Goepfert: Do you have anything to address, Lester, on the pistol range progress?

Lester Jargowsky: Not really.

Greg Goepfert: Okay. Is the county going to give us some kind of a report on the samples that have been taken?

Lester Jargowsky: There's probably a DEP site coordinator and the data should be fed through them and periodic progress reports being generated. I haven't seen a thing yet.

Bob Marcolina: I'll check again.

Lester Jargowsky: I asked too. It could go a variety of ways. I don't know how they assign it up there.

Bob Marcolina: If it's wetlands in the land use, I have to check with wetlands. It has to do with wetlands. It's in the wetlands. They assign a case manager. They do a letter of interpretation.

Greg Goepfert: We obviously have an interest in bringing the issue to closure.

Merwin Kinkade: I think site remediation would be involved.

Lester Jargowsky: The area in question is wetlands. A high percentage is wetlands.

Merwin Kinkade: If you have lead contamination, site remediation would be involved in which case?

Bob Marcolina: The letter of interpretation starts with them first. I'll have to check into that.

Greg Goepfert: We want to try to close the loop with that.

The feasibility studies are not completed. They are in a state of being discussed with other regulatory agencies for Sites 3, 10 and 13. We have continuing discussion with the regulatory agencies, being the DEP and EPA and other trustees such as NOAA, for the three sites. Once all the issues are completed with 3, 10 and 13, we'll be able to move into remedial design phase after the feasibility study is completed; right John?

John Koliccius: We have forwarded responses to a number of comments and have a couple of the issues with the NOAA and B-TAG members related specifically to the FS sites. So that's what we're trying to resolve.

Greg Goepfert: Those were the issues from the last meeting. The only other update we have is on the bioslurper. We have, since the last report, about an additional five hundred gallons worth of free product oil that's been removed from the two bioslurper locations. So, we're at about 3,000 gallons removed

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since the start of the operation. And as of the last meeting, Mr. Heffron explained that the most that we could expect to remove would be up to about 8,000 gallons of fuel in that location. So we're almost half way there.

Lester Jargowsky: How are we doing with yield? Has it changed the daily yield?

Mike Heffron: It changes. The water table fluctuation has a lot to do with the oil recovery, but the yields have been staying the same as far as the oil coming out.

Lester Jargowsky: The equipment is holding up?

Mike Heffron: Yes.

Greg Goepfert: The average yield over the length of operations is about 2.2 gallons of oil per hour recovered for the time the system is running. It works.

Carole Balmer: How much more do you have to go?

Greg Goepfert: We're about 3,000 gallons, and the estimate is 8,000.

This is our first meeting of the year, and we did some soul searching about our goals with the program. And based on what's happening in the Navy regarding funding and other issues, Mr. Robert Pirie, who is the Assistant Secretary of the Navy for Installations and Environment, set a goal for year 2014 to clean up all sites under the Navy's cognizance at Earle. They call it the SMART program, saving money and accelerating remediation in a timely manner. At Earle we'd like to, based on our site case loads, we'd like to clean up all our sites and have all remedial actions in place by September, 2002. That's an aggressive goal based on where we're at. This is based on coalition. We think we can make that based on a steady stream of funding or let's say a state of funding that's been similar to it in the past. If the funding level stays about the same, we should meet that goal, excluding any unforeseen shifts in the funding. We think we can make that September, 2002 goal. We're going to track all the things we do to try to make that, and also we're going to need the cooperation and help from the regulatory agencies to make sure we get there as well.

The other reason 2002 has been selected in the goal because there's a major shift in funding. The base realignment and

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closure people are going to actually stop the funding out of that account for bases that are closing. Then what will happen is the defense restoration account will be diluted by that because the DERA funding will have to pick up the slack for that plus base realignment funds. That actually occurs in fiscal year 2002. We want to beat that funding transfer and try to have all our sites, and I didn't say complete the whole site, have remediations in place or have sites completed by that date. I think this is an ambitious plan, but I think it's doable. John needs to be our defender at the Northern Division level to make sure we get the funding.

John Kolicius: And again, we're looking at this as a goal. And as Greg said, a lot of it will be funding determined. And as we've seen in this project here in the last couple of years, a lot of it as far as whether a project is funded, what's ready to go when funds break loose and aren't being spent at other sites. So a couple of years back, Earle actually got 20 percent of our entire Northern Division budget because we were ready to go with the landfill cap project at a time a couple other big projects fell through because things were waiting for that opportunity. And Site 5 job wasn't programmed until, I believe, this current fiscal year, and we got it in the program two years ahead of time because we made some smart decisions and got the decision documents written in a timely manner. And we're going to continue pushing that kind of effort to get remedial actions in place. And I warned Greg ahead of time, I have worked magic a couple of times, but in getting the money now everyone is seeing these funding changes so there may be some more competition, but we'll do everything we can. It's to our advantage if we have bases that can get close to that standpoint to have in record that we've completed actions at another base. So we're going to push for that goal.

Greg Goepfert: That's our new year's resolution. Okay. One area of the base that we've paid a little closer attention to, and this is a desire on the part of the command, is another area of the base called the Wayside area. It's called that because of the proximity to Wayside, New Jersey. It's not too far from that part of the base. The Army has used that part of the base in the past for some operations, and I want to show a short video clip as to what is the existing condition out there and what we plan to do.

Greg Goepfert showed a video.

Deborah Sciascia: You put a copy of it at the county library?

Greg Goepfert: We can if it passes classification. Okay. Any questions? We're pretty much intent on following through to getting the Army to clean up the remainder of the site. As far as I understand, the Army is not in there anymore and we took a trip out there several weeks ago as well with some of the engineers to verify the existence of the buildings on their plans and specifications. We're going to address all the issues there.

John Kolicius: As far as how this area may relate to some of our other CERCLA related work on the base here, as Greg said, there were several studies in the area including a site investigation in the area back in 1992. At that time we pretty much established that there were no immediate threats from anything that was there. The Navy was to a large extent seeing what was left and Army had vacated the area pretty much at that time and had removed the PCB transformers and the underground tanks. And we just wanted to document what was there, and at that time got some commitment from the Army that they'd be back to remove a lot of the structures they put in. For whatever reason, at that time the funding wasn't available. So, recently the command chose to remind the Army of their obligations.

Carole Balmer: So, the Navy is superior over the Army in this situation?

John Kolicius: The Navy was the host, and the Army used it under the understanding that it would be returned to original condition.

Lester Jargowsky: The main thing that caught my eye was the USGS well. It said 327 feet. It didn't look like it was a protected well. It looked open and accessible. I don't know what kind of shaft they had down there, whether it was sealed or used as a dumping point. It did not look too swift.

Greg Goepfert: And we're meeting with USGS on April 9th to discuss.

Lester Jargowsky: Things could be serious if it was used to dump at that depth.

Greg Goepfert: They are actually going to come to the station, and we're going to have a discussion with them of the responsibilities of having a well there. I was unaware that the well was there.

Carole Balmer: Don't they have standards for protection?

Lester Jargowsky: When do you think that was put in; 1940?

Greg Goepfert: That well was 1985.

Carole Balmer: You think they would have standards.

Merwin Kinkade: That one was described as a potable well?

Greg Goepfert: No. Just test.

Lester Jargowsky: Could we have a rewind of that?

Carole Balmer: That wasn't just opened for the video? It's permanently open?

Greg Goepfert: That's the way it's in the field right now. They have come out on a regular basis to take tests. There is a lock on the well. When I was out there, there was a lock on the box that's on the top.

Alida Karas: They do come out regularly?

Greg Goepfert: They did for several years, and the data at the internet site ends around December of last year.

Alida Karas: Could you tell us that internet site?

Greg Goepfert: USGS.gov. Go into Monmouth County and then go into, I believe, they have it under U.S. Army. It's registered to the U.S. Army.

Lester Jargowsky: With the Wayside locator there?

Greg Goepfert: They have the latitude and longitude. When I found the well, I took the latitude and longitude out there and popped it into the site. It popped up with that well. It's in the system as a well.

Russ Turner: Dated from December is probably as recent as ever.

Greg Goepfert: If you look at the other internet sites, you see things years old, and this is one calendar year old. So, we'll take that under investigation and get them to make that look a little prettier. I'm not so sure with the way it is right now is really that bad except down at the bottom. It

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depends on how it's set up down below, and I can't see. I won't argue that point. That's a good point, and we'll get that straightened out. That area is secured by the way. There's several gates that you need to go through in order to get out there. There's no public access.

Kevin Bova: On some of the maps you'll notice a section called the Army area. That's all Navy property. It's all part of the station and controlled, a secured area. We haven't stored any ordnance out there. I heard the word pretty much. The Army is out of there. They are not doing testing. Periodically, we let them test some equipment on the hummers. They run their satellites. They use our roads, but none of that equipment is out there being utilized anywhere. If you see on the map it says Army area. It's all Navy property.

John Koliccius: One thing I was noticing on the aerial photograph is you can get a good site line of where the laser test is.

Greg Goepfert: So, we will continue to press on with the Army to get the area cleaned up. That's one of our first goals. And along with that, we will be meeting with USGS to get their wells intact and straightened out.

Next item on the agenda. We have Mr. Marcolina, from the DEP, who is going to talk about operations and maintenance requirements at closed landfills. A topic that we have to know about here at Earle since we have several of them that have been closed recently.

Bob Marcolina gave a presentation.

Russ Turner: Quick question. When the cap was installed, weren't the monitoring wells out there destroyed?

Bob Marcolina: Some had to be sealed up and destroyed.

Russ Turner: Those CEA's, have they been processed?

Bob Marcolina: No.

John Koliccius: Part of what we discussed, we're going to do first round of sampling in July to get additional data for the modeling effort to determine the extent of the areas because the groundwater data we have was pre-remediation and some of the effect of the remediation show up already if the water table in the area may have been depressed. There's no more

percolation through the materials, so we've agreed to wait to establish the extent of the CEA.

Lester Jargowsky: This CEA is not unique. There are CEAs in Monmouth county now.

Bob Marcolina: There are CEAs at Earle under the UST program. They liked it so much they are doing a pilot project using GIS. Earle submitted in the disk, and we have John Mayhew to thank. They eat this stuff up. They had it on a nice CD, and it says Earle. So, actually you guys are setting an example for others to follow.

John Kolicius: He was helping.

Merwin Kinkade: Usually when you're defining extent of contamination, you're taking that compound which has the most impact. So, that's going to be the extent. Your outer limits of your area, in effect, and you're going to do the fate analysis.

Bob Marcolina: Fate and transport with the modeling you can figure out what the distance it should take to degrade to our groundwater criteria. And near the beginning they will put in a well to confirm those modeling efforts.

Merwin Kinkade: You still have a lot of work to do before you can determine.

Bob Marcolina: Some of the modeling isn't that bad that put in the parameters.

Russ Turner: The preliminary modeling was done for the cap design.

Merwin Kinkade: It's a good program. I've installed one for one of my clients. It's an excellent program and DEP looks very favorably upon it.

Greg Goepfert: We will be doing maintenance of all that work that was done out there last year. We're not walking away from the situation. And just to show that in round figures for the total Naval Weapon Station program in monitoring in operations costs over fiscal years '99 to 2014, the Navy at Earle will be spending in the neighborhoods of \$212,000 for long term monitoring efforts and taking follow-up water samples at the sites where we have either cleaned up the site or in the process of doing so. That's about four and a half million

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dollars over the fifteen-year time period. That includes the operation of the Site 26 at building GB-1 which is the solvent recovery site that we have. And we have some other remedial operation plans potentially at the landfill sites that are outstanding.

John Koliccius: One part of that always is a little misleading because of monitoring that's being conducted during many of the remedial actions. It is rolled into the cost of the operations as opposed to monitoring. So, the smaller slice is primarily monitoring that is done after remedial or maintenance activities have stopped. It's still a pretty good chunk of spending, but there is additional monitoring rolled into the larger number also.

Greg Goepfert: So, that's a pretty firm commitment that the Navy is giving to Earle, and those are programmed figures. Those numbers are actually in the Navy budget up through the Naval Facilities' budgeting process. I'll be forwarding that viewgraph with the minutes as well.

We have one other item on the agenda. We wanted to give you an update of what we're doing with the pesticide shop that's here in the main part of the station. John, did you want to give a plan of action on that site?

John Koliccius: We've completed some preliminary planning at this site and determined we wanted to bring it into the CERCLA program a while back. We detected some pesticide odors in the area, and we did some preliminary soil sampling and found some elevated levels of chlordane. The plan is to go to a removal action of the surface soils as part of that scoping of the removal action. We also had Foster Wheeler contract for some hydropunch sampling to see if the same items reached the groundwater. The groundwater report just came in to our office yesterday, but the conclusions were the primary concern is the surface soils. So, we are looking for cost estimates to perform a removal action, and I believe that's due in this week or next.

Mike Heffron: It was submitted today.

John Koliccius: We're also looking a little bit into some of the history of the site to determine as much as we can about when some of these materials may have been placed in the soil to figure the applicability of the laws that may be applicable to the site to make sure a disposal is done in accordance with the regulations. In particular, the Resource Conservation and

Recovery Act has some strict disposal requirements for anything that was placed in the soils after, I believe, 1976. And from what we can tell from our records, most of the use in this facility was mixing. Excess chemicals or rinsates appear to be earlier than that, but we want to confirm that because it could have a significant impact upon disposal costs. We're in the process of developing that. And we want to go for the removal action in the summer, unless we find that because of some of these additional requirements, we may have to schedule in the future, but we believe we can come up with the supporting documentation to say this was a previous action. Then the disposal costs are driven by the actual sampling of soils and where we find hot spots that we have to treat as hazardous contaminants.

In the worst case scenario, anything that has any level of a listed contaminant under RCRA has to be considered as if it was a pure chemical which would include incinerating a lot of soil which gets expensive. Another thing to consider when dealing with pesticides is where was this pesticide used for its intended purpose. Where any excess materials may have been dumped on the ground. And determine what the appropriate background would be so we don't incinerate all the soil on the base.

Greg Goepfert: Thank you, John. Mike would you give us a brief on where we stand with Site 26.

Mike Heffron: We just submitted the workplan for the Pilot Study Program. We plan to go out to Site 26 and by using air sparging and soil vapor extraction add the remedy that was agreed upon in the ROD. The idea is to sparge air into the aquifer, volatilize contaminants, and use vapor wells to extract contaminants. What we're doing for the pilot study is putting in special sparge points, bringing in a temporary system to sparge the water, and putting in monitoring wells around that point to determine dissolved oxygen concentration to determine the intrusion of our sparging wells to design a full scale system. Also, we're putting in vapor extraction wells that we're going to use blowers to create a vacuum and put monitoring wells around the vacuum wells to determine what the intrusion is to design a full scale system. The plan of action once we put the wells in and sparge point and vapor point is we can design a full scale system to accomplish.

Greg Goepfert: What's going to be the length of the pilot study?

Mike Heffron: It's relatively short. It should last a few days. Largest point is installing the wells around. The data access is pretty short.

Greg Goepfert: What's our time frame?

Mike Heffron: Once we can get out there and start drilling, mid to end April. The pilot study is scheduled for May.

Greg Goepfert: Bob, maybe you can come out and take a look or anybody who wants to take a look.

Carole Balmer: Let us know the date on that.

Greg Goepfert: The full scale system will be in operation for a number of years.

Carole Balmer: But the date that we can come take a look at it when it's up.

Greg Goepfert: Yes, we'll tell you. Anybody else have any comments or questions or interests?

Larry Harris: You mentioned PCBs and they just finished a test on 7,000 employees for General Electric. And the reason I was interested, I was directly involved and employed there for ten years, and they found there was no repercussions as far as PCBs. Believe me, those guys used to take it home, I thought, and they brushed their teeth with it.

Russ Turner: No correlation as to health affects?

Greg Goepfert: That piece was very interesting.

John Kolicius: Possibly when they are doing the pilot study you might want to do some filming for the next meeting.

Greg Goepfert: Sounds like a good idea. Any other questions or comments?

Kevin Bova: Maybe next meeting we could periodically give an update of the status of the sites and where we're at just as a little refresher.

Greg Goepfert: Hopefully, we'll have a no further action record of decision to show where we are to meet that goal.

Greg Goepfert: Proposed date for the next meeting is June 3.

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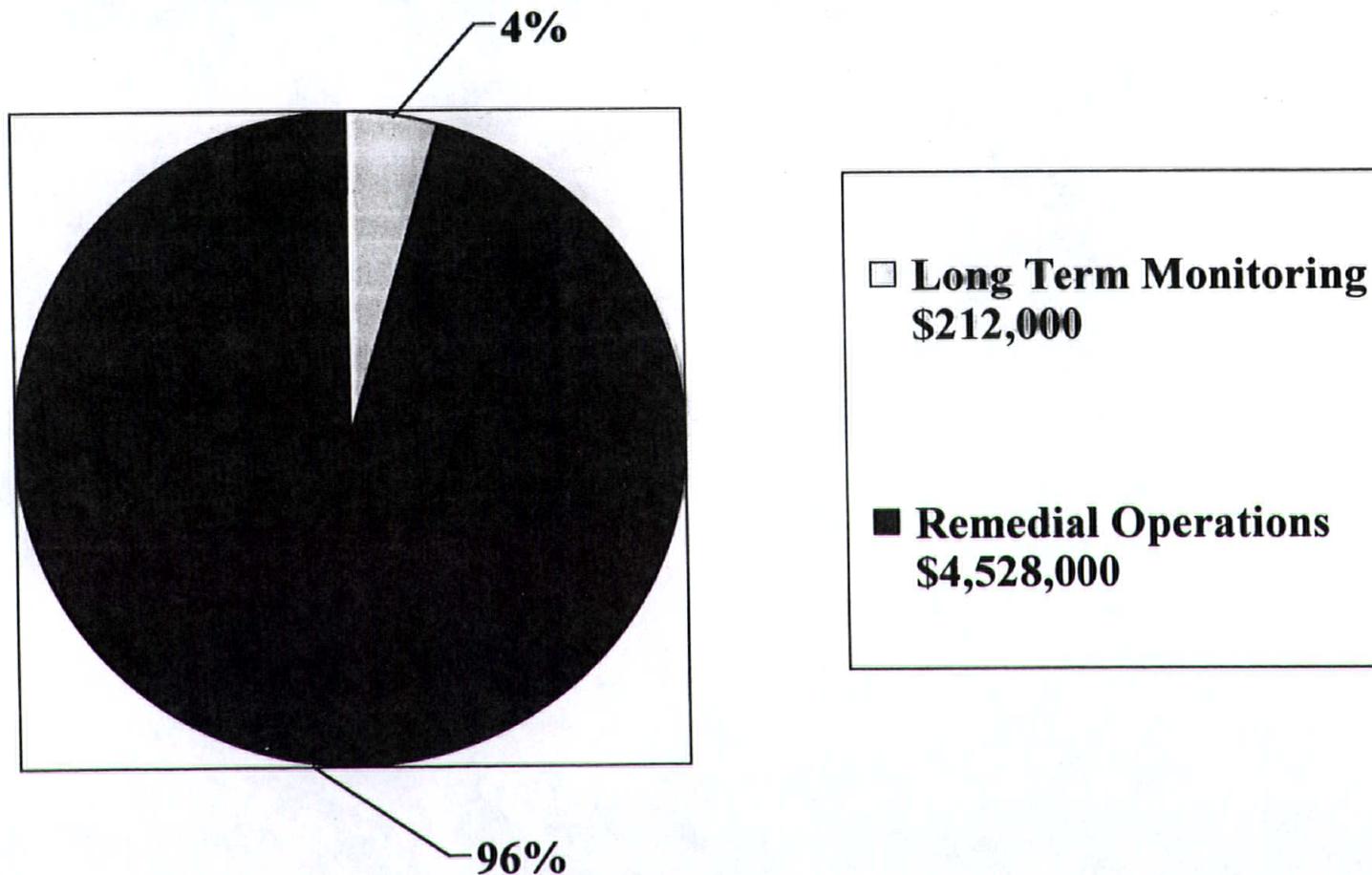
Meeting adjourned at 7:55 p.m.

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## INSTALLATION RESTORATION PROGRAM GOAL

- SMART: “Saving Money, Accelerating Remediation in a Timely manner” - Navy goal of cleaning up all sites by 2014, Robert B. Pirie, Jr., Assistant Secretary of the Navy for Installations and Environment
- AT EARLE: “*We will clean up all sites and/or have all remedial actions in place by September of 2002.*”

# MONITORING & OPERATIONS COSTS FY 1999 - 2014



-3/11/99-

NWS EARLE

# Operations and Maintenance Objectives

- ◆ Confirm effectiveness of the remedial alternative.
  - (Landfill caps at Sites 4&5)
- ◆ Ensure the remedial alternative withstands “the test of time.”
- ◆ Determine areas of ground water contamination that has resulted from previous site operations.
- ◆ Monitor and if necessary, remediate areas of ground water contamination.
- ◆ If monitoring the ground water contamination, establish a Classification Exception Area (CEA).

## **How do we apply the O&M Objectives at Sites 4 and 5 ?**

- ◆ Annual ground water sampling.
- ◆ Modeling of contaminant plume in order to calculate extent of plume and the rate the plume is degrading.
- ◆ Install additional wells if necessary in order to delineate any contaminant plumes and to confirm modeling efforts.
- ◆ Periodic landfill cap inspections, which would include:
  - Repairing eroded areas as needed.
  - Replant grasses, fertilize as needed.

# Application of O&M

## Continued

- ◆ Periodic cutting of grass cover to prevent growth of woody plants
  - Will prevent woody plant roots breaking through the cap.
- ◆ Initial air monitoring of the landfill cap vents using a combustible gas meter.
  - Check for the presence of methane (byproduct of decomposing organic matter).

# What is a CEA?

- ◆ A record of the area or “plume” of ground water contamination that exceeds the NJ Ground Water Quality Criteria in a given area.
- ◆ Ground water that has been impacted from discharge from a particular site which exceeds the NJ Ground Water Quality Criteria.

# Purpose of the CEA

- ◆ Documentation of impacted ground water areas which are then fed into the State's Geographic Information System (GIS).
- ◆ Ensure that contaminant plumes are not impacting receptors (e.g drinking water wells).