

These notes are in the following order:

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9. Strontium 90 & Magothy Recommendations, Bob Howe
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11. Agenda Setting

1. Attendance

Members/Alternates Present:

See Attached Sheets.

Others Present:

S. Anker, M. Bebon, P. Bond, H. Carrano, A. Carsten, J. Carter, P. Chaudhari, J. Clodius, T. Daniels, J. D'Ascoli, K. Geiger, A. Givens, K. Grigoletto, A. Gryn, M. Gryn, J. Hall, L. Hill, M. Holland, R. Howe, S. Johnson, T. Kneitel, S. Kumar, J. Lister, M. Lynch, S. Medeiros, L. Nelson, M. Parsons, F. Petschauer, J. Schneider, A. Rapiejko, R. Rimando

2. Correspondence and Handouts

Items one through three were mailed with a cover letter dated May 7, 2004. Items four and five were placed in the folders, and items six and seven were available at the meeting as handouts.

1. Draft agenda for May
2. Draft notes April 8 meeting
3. Final notes March 11 meeting
4. Copy of comments from CAC member Mannhaupt regarding the STAR request
5. Copies of P2 Workshop attendance list and agenda
6. Report on membership
7. Copy of BGRR Presentation
8. Copy of Magothy & Strontium-90 Update Presentation

3. Administrative

The meeting began at approximately 6:36 p.m. Reed welcomed everyone and went over the ground rules and the draft agenda. The CAC agreed to move the P2 Report to the beginning of the agenda. Those present introduced themselves.

Dr. Chaudhari told the CAC that the Lab had won three awards from the DOE's Office of Science. The awards recognize accomplishments and innovative activities in pollution

prevention and environmental stewardship. Dr. Chaudhari mentioned the Fleet Maintenance P2 Workshop and recognized Jim Heil for his efforts.

As a quorum of 14 had been reached Reed asked the CAC to review the April notes. He asked if there were any additions, deletions, or corrections? Member Guthy questioned the word planned in the fifth paragraph of page two. After it was agreed that the wording would be clarified, the notes were approved with three abstentions.

Jeanne D'Ascoli introduced Rod Rimando from DOE's Office of Environmental Management in Washington DC. He has been assigned to the Brookhaven Site Office as the Federal Project Director and will be managing and overseeing all the cleanup efforts at the Lab through to completion. Rod may be contacted by calling 344-3429 or by emailing rimando@bnl.gov.

CAC members asked if any additional outreach programs were planned to keep the general public updated on the cleanup activities and how he fit in the chain of command. Rimando said that there are outreach programs already in place and he didn't know of any others being planned, however, if there were any ideas he said he'd be glad to entertain them. He explained that there were two program offices here – the Office of Science and the Office of Environmental Management. Both report to the Under Secretary for Environment, Science and Energy. He reports directly to the Assistant Secretary for Environmental Management and is here to make sure there is a link between the site and Headquarters.

Mike Bebon informed the CAC about event that occurred Tuesday afternoon, May 11. Workers were in the BGRR below ground duct stacking material on pallets to be removed. One of the workers noticed that the filter element from his respirator was missing. Preliminary analysis has been done on his exposure. Preliminary results show it was below regulatory limits. Samples have been sent to a certified laboratory for analysis and the results will be back in about a week. Bebon said he would update the CAC on the event.

Members Biss and Conklin commented that they thought everything was done by the Brokk machine. Bebon said the robot removes the material from the walls, but people have to go in to retrieve the pieces. Les Hill said that there is some work that requires hands on involvement.

CAC members asked if the employee was working, how much contamination he was exposed to, and about incidents at other sites where this work was going on. Bebon said the worker is on site but not working in radiological areas. The main exposure was to airborne dust.

Member Shea asked about the frequency of this type of accident at Brookhaven.

ACTION ITEM: Get the information on accidental exposures.

Member Evanzia – What was the level of radiation in the area?

Bebon – Fred, can you help me with that?

Petschauer – There are two parameters to look at, external gamma exposure rates and typically... (can not decipher rest)

Reed – The Laboratory will come back at the next meeting for a presentation on the situation and the findings, and to include information on what other accidents have happened at BNL, lessons learned that have been discovered in similar incidents around the complex, what the radiation levels were in the area and an explanation of what they mean, and the results from the laboratory analyses.

Jeanne D'Ascoli explained that STAR had requested 45 minutes on the agenda to present the findings on their Reactor Decommissioning report. She told STAR that the CAC would make a

determination as to whether they wanted to include them on the June agenda. She noted that Jean Mannhaupt had sent in a memo with comments on the request. Member Talbot said he thought they should have an opportunity to see the document. He said that even though STAR has disbanded, the report may have some value to the CAC. Members asked who would be making the presentation. D'Ascoli said she believed it was the author of the report Gordon Thompson. The CAC decided they would like to have the Executive Summary to review prior to STAR being placed on the agenda. It was agreed that the Executive Summary would be distributed to the CAC along with a CV for the author of the report. At the June meeting the CAC would decide what type of presentation they would like from STAR for inclusion on the July agenda. Member Guthy requested that someone from the Lab be present when STAR gives their report.

ACTION ITEM: Send Executive Summary and CV to CAC members.

4. Membership Discussion, CAC

D'Ascoli reported that membership letters had gone out to the Yaphank Taxpayers and Civic Association and the PACE Union representatives. Neither had been heard from regarding their intent to continue as members on the CAC. Reed informed the CAC that they needed a 75% super majority to remove them from the CAC. On the matter of removing the Yaphank Taxpayers and Civic Association, a motion was made and seconded, and there was no discussion. Sixteen CAC members voted in favor, three abstained. On the matter of removing the PACE Union, a motion was made and seconded, there was no discussion. Again 16 CAC members voted in support of the motion and three members abstained.

5. Report on P2 Workshop

Jim Heil gave a report on the Workshop held on April 30. Brian Farber from Congressman Bishop's office and George Goode welcomed the 45 attendees who represented government agencies, school districts, businesses and the CAC. He reported that the speakers were very good and topics such as biodiesel, re-refined oil, and pollution prevention techniques in the shop were on the agenda. Overall he thought it was very well received. There was a lot of information available and there were ten vendor displays in the Berkner lobby. The coffee breaks were sponsored by two local groups – the Long Island Sanitation Officials Association and the Association of Long Island Recycling Officials. He and Goode have discussed a second workshop perhaps in the fall in western Suffolk.

6. Update on the Peconic River, Tom Daniels

Tom Daniels said they are actively working on the Peconic River. The pump bypass is setup. The river is dammed up just down stream from the Sewage Treatment Plant and Area A is being pumped out. The discharge point is right at the edge of the Lab boundary. It's working very well. There is a lot groundwater, and the other tributaries are still keeping the rest of the river wet. Over 2 million gallons a day are still flowing past the gaging station right around Area D.

The contractor's staff has been out gathering transplants. This week they collected over 4,000 plants. They're being stored in a nursery in the river until the areas are cleaned up and then they will be put back. The contractor and the BNL natural resource manager made an identification chart for the workers in the field. The chart shows endangered and threatened species. Workers have been locating turtles, fish, and snakes. Daniels also reported that funding has been provided for a summer student that will be in the field collecting wildlife. Precautions are being taken to relocate whatever is found.

The PRAP public comment period is scheduled to begin on May 24 and will run through June 25. Information sessions have been scheduled for June 3 at Cornell Cooperative Extension in Riverhead and June 7 in Berkner Hall. The formal public meeting will be held on June 15 in Berkner Hall. Daniels encouraged all the CAC members to participate.

Member Talbot asked if the meetings were listed on the website? Daniels replied that they were.

Member Proios – Does work go on over the weekends or just weekdays?

Daniels – During the preparation the contractors worked over the weekends. The weather is a determining factor on the need to pump over the weekend. The call is made on a week-to-week basis.

Member Heil – Will there be an opportunity for the CAC to visit the site?

Daniels – Yes, however Area A is tight. I would suggest that arrangements be made to visit Area B, which is a wider area, when work begins there.

7. CAC Discussion on Consensus

Reed outlined the process for arriving at consensus on the Peconic River. Discussions would begin in May, the PRAP should be available for CAC review by the end of the month, and at the June meeting, closure on the consensus recommendation would be obtained. The request from the Lab is specific. The Lab would like the CAC's recommendation on whether they agree with Alternative Four. There are three options for a decision, 1) Provide a consensus recommendation that Alternative Four is the appropriate alternative to pursue. 2) Provide a consensus recommendation that one of the other alternatives is the appropriate one to pursue, or 3) Consensus is not reached, but you send back a poll of your individual positions as input to the Lab, DOE, and the regulators.

Reed then took a straw poll to see where everyone stood. He asked three questions:

Who is in favor of recommending Alternative Four? Who has issues with Alternative Four that would keep them from going to consensus? Who needs important questions answered before they can have the discussion on consensus?

Five CAC members indicated they were in favor of recommending Alternative Four, no one indicated that they had any issues or questions about the Alternative.

Tom Daniels gave a brief description of each of the four alternatives. He said that there is a Construction Monitoring Program in place and sampling is being done to make sure that no contaminants are going down the river while the work is in progress.

Mary Joan Shea asked for a brief review, what the extent of the cleanup was in the fourth alternative, and questioned contaminants being left behind.

Daniels – Ninety-two percent of the mercury, 93% of the PCB's and 91% of the cesium will be moved. Seven percent of the PCB's will be left, but 93% of a number very small to begin with is being removed. The PCB levels are very low.

Shea- Will more PCB's be removed in Alternative Three?

Daniels – Alternative Two has slightly more PCB's removed. When you look at the total cleanup of acreage Alternative Two is 20.4 acres and Alternative Four is 19.8 acres. There's less than one-acre difference between Alternative Two and Four.

Heil – Is the monitoring that's ongoing in the same locations of what we've seen, is it different areas, or is it just related to construction?

Daniels – The water column sampling is in the same locations that were presented last month. That will be ongoing during the summer. The sediment sampling will be at a density greater than what was done during the characterization. One sample will be taken for every 700 square feet of the acres that are being cleaned up and not being cleaned up.

Guthy – How close is what you're leaving behind to background, what is background?

Daniels – Skip, do you know what background is in the northeast?

Medeiros- It's just slightly above background.

A. Graves – You took control samples from the Connetquot, is that right? What did you find there?

Medeiros – I believe the mercury in the Connetquot was about .24, but this was not an extensive sampling effort, it was not intended to be a background study. It was just to calibrate the data in a reference location.

Shea – I'd like to hear a comment from the Health Department. I'd like to know their opinion on this as far the difference between Alternative Two and Four.

Andy Rapiejko (SCDHS) – We've been working closely with the Lab on this. The Health Department does support the PRAP and the proposed cleanup. We don't have any issues at this point.

Shea –You're not seeing any difference between Two and Four?

Rapiejko – There's a difference and we believe that when things are weighed, Alternative Two would only be one per million up to Schultz Road, Correct? So you have to consider that. Alternative Four goes down to Manor Road where there were elevated levels that were found and that will be cleaned up. We were very concerned about those levels. They're in areas where people do fish. We're satisfied that Alternative Four is a good approach.

Biss – Is there methyl mercury near Manor Road?

Daniels –The Lab took methyl mercury samples all the way out to Connecticut Avenue. Everything downstream of Schultz Road in the one round taken in November was decreasing the further away from Lab property we went. There was elevated methyl mercury level upstream of Schultz Road and that is being removed.

Garber – I think option Four that's on the table now has a map of where the cleanup will be and that original option Four was a much smaller area. It encompasses quite a large amount of what was formerly in option Two. Four really is much, much closer to option Two. My other point is, when you look at methyl mercury both in the column and the sediments downstream it's not so clear to me that this exercise is going to do that much for the methyl mercury. What I think we're faced with here is really a political decision to allow the Lab to get this mercury business behind them. I think we should entertain these various options, but Four is not the original Four, we lost the cattails.

Giacomaro – What were the costs?

Daniels went over the costs.

Shea asked for a written statement of these different proposals before we go to consensus.

Reed said that the information is in the presentation from last month and it will be in the PRAP, which will be mailed out in the next week or so.

ACTION ITEM: Send Mary Joan Shea a copy of the April Peconic River presentations.

Talbot – Asked if consensus was a super majority or majority?

Reed reminded the CAC that consensus is not a vote. Consensus means that everyone around the table agrees that they've had their interests and needs met. Once everyone agrees on that consensus is declared. In some ways it's unanimity on the part of the board. If consensus cannot be reached you may go to a super majority vote. Or, you may go to a poll of the group around the table. But, the objective is consensus. Consensus is not compromise, it means that the core interests and needs of every member around the table have been met so that the decision will be supported fully.

Reed said that the CAC will have the PRAP and discussions from over several months, assuming that the PRAP is consistent with everything you've heard, you should be in position to go to a consensus decision right away next month. Reed asked if anyone had any issues right now that would compel them to block consensus by the group when the discussion comes up next month? He also asked if there were any core questions that have not been answered that would impede reaching consensus. He asked the CAC to look over all their notes and presentations, and to look over the PRAP so that they could go to consensus expeditiously at the June meeting.

The PRAP will be mailed on or about May 24. The comment period is from the 24th of May to the 25^h of June. The PRAP will also be on the website at <http://www.bnl.gov/erd/peconic.html>.

8. Community Comment

Sarah Anker thanked the CAC for considering her request to join. She said that there was a lot to learn and she looked forward to participating. She acknowledged the important decisions the CAC was making and said she can't wait to become part of the group. There were no other comments from the audience.

9. BGRR Update, Fred Petschauer

Fred Petschauer, BGRR Project Manager said he was going to follow-up on the items identified at the April meeting and will be back in June to discuss transportation and waste disposal options. Fred gave a conceptual overview of the removal of the pile and bioshield, talked about previous industry experiences, worker health and safety and the impact to Lab operations. He said that planning was the key foundation to pulling the pile and bioshield apart and went through the conceptual steps that it would take.

Member Proios asked if a risk assessment that would be done. Petschauer said that a risk assessment would be done as part of the planning process. He said the project team will look at the physical work and walk through each activity.

Petschauer said that the top pile shield plugs would be removed using an overhead crane, the aluminum membrane would be cut, and the blocks would be removed. They will maximize use of remote handling and engineering controls. There will be approximately 1,000 tons of waste and occupational exposure is estimated at 46 person-rem.

Garber – Is the 46 person-rem occupational exposure allowable or is it what is expected?

Petschauer – It's an estimated occupational exposure.

Garber – Is this what the workers are exposed too?

Petschauer explained that person-rem is the occupational radiation exposure to workers. It's not per person. When it's 46 person-rem that means if there are 46 workers with each receiving one rem, the total would be 46. If there are 92 people and they each receive ½ a rem, the total would be 46. We look at how many workers, what we think each one would receive and add it all up and the unit used is person-Rem.

A containment tent will be constructed within Bldg. 701 around the pile and bioshield. Petschauer described two different techniques that might be used to remove the bioshield. The first was demolition and the other used diamond wire rope. Two previous projects that used diamond wire were Fort St. Vrain and Shoreham. There were no major occurrences or problems at either.

The BGRR D&D presents radiological and industrial safety challenges but Petschauer said it can be done safely. He talked about testing and practicing, HEPA ventilation, applying fixatives, and containment. He doesn't expect there to be any impact to Lab operations.

Reed reminded the CAC that transportation, public safety, and waste disposal would be addressed at the June meeting. He asked that questions about those issues be held for the next meeting.

Guthy – When you're cutting are the surfaces that are being exposed by the cutting covered with the fixative?

Petschauer – A house will be built over the pile and bioshield for containment, so everything is confined. The diamond wire rope that's going around it will be wet. The contaminants will be captured, being that the rope is wet and it's in containment, there is no air borne threat.

Talbot – With the two previous experiences the occupational exposure person rem was widely different. The estimate that you put together seems realistic, how did you accomplish that considering the Fort St. Vrain experience?

Petschauer – There are two parameters that go into exposure and total exposure. It's occupancy time and what is the dose rate, or exposure per hour. Fort St. Vrain was a power reactor that ran for several years. Their graphite was up into the hundreds of R per hour. Our graphite pile maxes out at about 10 R per hour. We're quite a bit less than Fort St. Vrain. Shoreham only ran for two full power days, the dose rates were negligible compared to Fort St. Vrain. We did have a lot of man-hours in terms of working but the exposure rate was much lower.

Proios – There's a lot of steps involved in the Job Safety Analysis, and a lot of concern that the potential for exposure will be created. Six thousand, three hundred tons of waste will be created at the end of the process. A very detailed risk assessment was done on the Peconic River that had a whole series of improbables. It seems to me that the probability of an accident happening with something of this magnitude, where so much additional waste is far, far greater than the potential risk we've been talking about for many, many months on the Peconic River. How can

the scope of something this dramatic be looked at in a way that says the risk here is not far, far greater?

Petschauer said that he couldn't compare it to the Peconic River, he could compare it to other decommissionings. He doesn't see it as millions pieces being broken apart. When the below ground duct filter bank was removed, we walked through each activity. There was the tremendous opportunity to have an airborne release if there had been miscalculations. There were three or four layers of controls to mitigate potential (tape illegible)

Proios – My point is that this is creating the serious potential.

Petschauer – Obviously to remove this has some potential. This has been done before, we've done similar things even at the Lab. I believe the filter banks were equally as complex. That had as much risk, if not more.

Les Hill comments about risk.

Biss – What is the material of the bioshield.

Petschauer – It's three inches of carbon steel plate, four feet of high density concrete, and six inches of carbon steel plate on the inside.

Biss – You have to get rid of that too in the end?

Yes.

Biss – How do you put the machine on top of the pile?

Petschauer – The overhead crane will be used, there's plenty of clearance.

Biss – What is the disposal method for the material after it's broken up?

Petschauer – The waste disposal container will be placed as close to the waste as possible.

Geary – What does the measurement person-rem mean?

Petschauer – A unit of radiation exposure is a rem. If you were in a radiation field for a certain period of time and came out and looked at your dosimeter it might say one rem. If there were three of you and you asked what dose did you collectively receive. When you look at the total the term person-rem is used, so if three people each received one rem, the total would be three person-rem.

Geary – Ok, and a rem is?

Petschauer – It's the unit we use, it's called radiation equivalent to man. It's the unit of radiation exposure, sometimes it's mrem which is thousandths of a rem. A chest x-ray is 15 mrem, a person will get 2 mrem when they fly to California. Rem is a unit of measurement that's used.

Guthy – If there's 5 rem in a room does everyone pick up 5 rem or do some people pick up more than others?

Petschauer – No, if the radiation rate is 5 rem per hour and we all sat here for an hour, each person would receive 5 rem. Then we would multiply the number of people, 50, by 5 and that would equal 250 collective person-rem.

Giacomaro – What do the totals of curies at the two previous facilities mean? And, what is the total that you expect to have at the BGRR?

Petschauer – The BGRR has approximately 81,000 curies. The Fort St. Vrain and Shoreham numbers are similar but the difference is that at Shoreham almost all the curies were in the spent fuel. In fact all but 600 curies at Shoreham was spent fuel.

Giacomaro – What size was the pile at Fort St. Vrain?

Petschauer – I don't know the answer, they had huge blocks of graphite.

There was some discussion on the types of graphite and the amount of radiation in it and how big the reactor was compared to the BGRR. Petschauer explained that the graphite at Fort St. Vrain had impurities in it and got activated differently from the graphite at the BGRR, which was pure. Also the decay for the BGRR graphite has been longer than it was for the graphite at Fort St. Vrain.

Shea – Do you have an estimate on expected releases to the environment?

Petschauer – No, but off the top of head, I would go with zero. I don't think we would go into this with expecting there to be releases.

Shea – There is the possibility of some release if everything doesn't go according to plan.

Petschauer – As part of our risk assessment we would ask what's the worse that could happen under certain scenarios. We would look at the possibilities of things going wrong and what the consequences would be. We would design the work for decommissioning with no release as a goal.

Shea – How does weather affect your containment structure?

Petschauer – Building 701 would be a weather-proof containment and we're proposing to build a second one over the pile and bioshield. That is two layers of protection.

Biss – Isn't Shoreham completely different than the BGRR?

Petschauer – Shoreham's design was a water-cooled reactor.

There were no other questions. Reed thanked Petschauer for his presentation and said the CAC looked forward to the continuation of the discussion at the next meeting.

10. Magothy Aquifer & Strontium-90 Recommendations, Bob Howe

Bob Howe briefed the CAC on the Magothy aquifer and strontium-90 contamination. He discussed the Record of Decision (ROD), additional data that was collected after the ROD, Core Team discussions with regulators, the proposed changes to the ROD, and the next steps.

Howe said that the Lab has submitted an Explanation of Significant Differences for the changes to the OU III ROD. The regulators are reviewing it currently. He described the three aquifers and where the contamination was located. He said they did not have enough information about the Magothy aquifer when the ROD was signed in 1999. The ROD called for additional characterization and the evaluation of the need for a remedy.

Howe described the various plumes of VOC's in the Magothy aquifer and strontium-90 in the upper glacial aquifer on and offsite. The pilot study to treat the onsite strontium-90

contamination called for in the ROD has been operating for about a year. Operation of the system has not been cost effective. The resin has been used faster than anticipated. Pumping at lower flow rates has been evaluated. Additionally, data from sampling near the BGRR showed an increase in peak levels of strontium-90 increased from 540 pCi/l to 3150 pCi/l.

Discussions have been held with the Core team and it has been determined that a remedy for the high levels of VOC's in the Magothy is needed. Two extraction wells in the residential area, in addition to the three existing Magothy extraction wells, are proposed to treat the offsite Magothy Aquifer. Several treatment options have been identified for the strontium-90 contamination onsite. A cost-effective option for the BGRR-HWF plumes to treat the groundwater with five extraction wells pumping at low flow rates over is proposed. Groundwater would meet drinking water standards in approximately 65 years. The plumes would remain onsite.

There were three ways to change the ROD. One is a minor change, the second is a significant change, which would require an explanation of significant differences, and the third is a fundamental change where the original remedy is being changed.

Howe said that the change for the Magothy is that a remedy is being selected. Originally the ROD did not contain a remedy. There was no time frame originally because there was no remedy.

Henigin — In the original ROD the estimated time for cleanup was 30 years?

Howe — Correct, for strontium-90.

Henigin — And the cost was \$6 million?

Howe — Now it's going to be \$14 million.

Henigin — Why would you want to increase the amount of years it would take for the cleanup and increase the amount of money?

Howe — What we've done is look at several alternatives for the strontium-90 ranging from letting the plume attenuate. The big concern here is that it doesn't move very fast, it doesn't move far. I think Tom went through some of the projections if the Lab didn't treat it last time. It's all still remaining on the site. No one's drinking it, we have Institutional Controls on-site to prevent access to the groundwater. We are actively treating it. Yes, there is a change, but we don't believe it is a fundamental change from that original remedy. We believe it's significant.

Reed — The \$6 million figure in the original ROD is also low. It wasn't a good number. The actual cost to do that same remedy now is much higher.

Giacomaro — So the offsite locations have gone up, the years number of year has been doubled, you go to 65 years as well?

Howe — Originally there was no time frame for the Magothy. There was no decision made.

Giacomaro — Right, but one of the recommendations was zero, which would have left it at 120 years?

Howe — Right.

Giacomaro — Now, it's going to take 65 years? And the cost difference between those two things is?

Howe – The cost difference is for the 120 years letting it go naturally is \$1 million. As opposed to treating it and meeting the drinking water standards in 65 years, which will cost about \$2.5 million. To meet the drinking water standards in 30 years will cost about \$15 million.

Jim Heil – On the treated Magothy aquifer water, is that being recharged to the Magothy or to the Upper Glacial?

Howe – It would be recharged to the Upper Glacial aquifer.

Giacomaro – Is the \$1million for just letting it attenuate for monitoring?

Howe – It's for putting in additional monitoring wells and monitoring it for that long. It's a rough number.

Giacomaro – And you still have to monitor it for the 65 years anyway?

Howe – Right.

George Proios – What is the deepest that you have contamination onsite right now?

Howe – For strontium 90? The deepest is about 60 feet below ground surface in the area just south of the BGRR. We've seen concentrations of about 3,000 pico curies per liter in that area, the standard for strontium is 8.

The remedy is still protective even with this change. It complies with the standards and requirements that are already in the ROD. We've presented this previously and we are in the process of installing those two additional wells for the Magothy offsite. For the one area, we've just installed the well and we've put the piping down the road and repaved Puritan Driver. We're in the process of developing that well. We're not yet operating it.

As far as strontium- 90 goes, the system has been operating for a year. That will continue. We're in the process of finishing the design of the other area. A 90% design has been submitted and we're in the process of procuring a contractor to build the system.

The next step is the Explanation of Significant Differences. We did submit that to the regulators. They'll review and comment on it. They have not agreed to this remedy at this point in time. We will make the Explanation of Significant Differences available to the public in the June/July time frame.

Howe - The Lab is looking for feedback from the CAC on the approach to the remedy. We know you've already reached agreement on the Magothy, what we're presenting now is essentially the time-frames, why we were looking at the change and what the change involves in the ROD.

Mike G. – Haven't you already implemented some of the changes?

Howe – As far as the Magothy, yes, we've gone ahead and started implementing that. For the strontium-90, we're just finishing up the designs, and they've been submitted to the regulators. We are trying to procure a contractor to get going on constructing the building. Depending on the outcome of feedback from the CAC, as well as when we get out into the community, that could change. It's flexible.

Giacomaro – Why is one flexible and the other not?

Howe – We've already installing the systems. We looked at the concentrations and said we have to do something.

Howe – There's no formal requirement to undergo public review, but DOE decided that it's important to get feedback. We'll talk more at the next meeting. This is the last decision-making document for the Groundwater Cleanup projects. The next thing will be the review that takes place every five years. That is coming up shortly.

George Proios – What is it that attenuates the strontium-90?

Howe – The strontium has a high partition coefficient, it absorbs to the soils. It stays in the soils and the wet zone. It doesn't move very far. For example, the strontium may move about 25 feet a year in the groundwater, whereas the VOC's might move about 250 feet a year. It adheres more to the soils while the other compounds move more quickly.

Jane Geary – I'm confused, I think the reason for the extra cost in the cleanup of the strontium-90 and all these precautions, the reason for the significant changes, is because of higher contamination that was found that wasn't expected. Is that right? Is the reason for the changes in this plan because higher contamination was found?

Howe – Higher concentrations, yes definitely.

Geary – You said that it's going to move very slowly, but 65 years, that's half of its life that would be for natural degradation, is there anyway to tell that it wouldn't move any faster?

Howe – Yes, we'll keep monitoring it. The 65 years of movement has been modeled and projected. We have monitoring wells to ensure that it's not moving any quicker than that.

Geary – It's about 30 feet above groundwater right now right under the BGRR?

Howe – About 40 feet. From the leading edge of the plume, taking a guess, it may move a few hundred feet.

Unidentified Speaker – If the plume were allowed to naturally attenuate, it wouldn't move out of that box. It would move maybe a 100 to 200 feet in 120 years. In 65 years, which is a combination of active treatment and natural attenuation the plume is basically going to stay inside that box.

Geary – I'm worried about it moving down to the groundwater.

Reed – She's talking vertically.

US – As you go forward in time the plume will move down gradient approximately 25 feet a year. Also every year it will move a little bit deeper in the aquifer. But just as it's retarded going forward, it's also retarded going vertically. It will go deeper, it won't go super deep, it will stay in the Upper Glacial aquifer onsite.

Geary – But it will go past the 40 feet to the drinking water?

US – Where it is now, it will be deeper.

It's already in the water. It's into the groundwater.

Reed – It's in the groundwater now and it's going to go deeper into groundwater and I think part of Jane's question is how much deeper.

ACTION ITEM: Get information on projected depth.

11. Agenda Setting

June Agenda

BGRR transportation and waste disposal

OU V Recommendation

Update on employee exposure

Impact of Reactor closing on Science

STAR discussion

Magothy and Strontium-90 Update

Meeting adjourned at 9:42 pm

2004	Affiliation		First Name	Last Name	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Chart Key X = Present O = Absent						No Mtg.										
ABCO	(Garber added on 4/10/02)	Member	Don	Garber	X		X	O	X							
ABCO		Alternate	Richard	Johannesen	O		O	O	O							
Brookhaven Retired Employees Association		Member	Graham	Campbell	O		O	X	X							
Brookhaven Retired Employees Association (L. Jacobson new alternate as of 4/99)		Alternate	Lou	Jacobson	O		O	O	O							
Citizens Campaign for the Environment		Member	Adrienne	Esposito	X		X	X	O							
Citizens Campaign for the Environment (Ottney added 4/02)		Alternate	Jessica	Ottney	O		O	O	O							
E. Yaphank Civic Association		Member	Michael	Giacomaro	X		X	X	X							
E. Yaphank Civic Association (J. Minasi new alternate as of 3/99)		Alternate	Jerry	Minasi	O		O	O	O							
Educator		Member	Audrey	Capozzi	O		O	O	X							
Educator (began as alternate in 3/99) (A. Martin new alternate 2/00) (Adam to college 8/01)(Bruce 9/01)		Alternate	Bruce	Martin	O		X	O	O							
Educator		Alternate	Adam	Martin	O		O	O	O							
Environmental Economic Roundtable (Berger resigned, Proios became member 1/01)		Member	George	Proios	X		O	X	X							
Environmental Economic Roundtable (3/99, L. Snead changed to be alternate for EDF)		Alternate	None	None												
Fire Rescue and Emergency Services		Member	David	Fischler	O		O	O	O							
Fire Rescue and Emergency Services		Alternate	James	McLoughlin	O		O	O	X							
Friends of Brookhaven (E. Kaplan changed to become member 7/1/01)		Member	Ed	Kaplan	X		O	O	O							
Friends of Brookhaven (E. Kaplan changed to become member 7/1/01)(schwartz added 11/18/02)		Alternate	Steve	Schwartz	O		X	X	O							
Health Care		Member	Jane	Corrarino	X		O	O	X							
Health Care (as of 10/02 per JD)		Alternate	Mina	Barrett	O		O	O	O							
Huntington Breast Cancer Coalition		Member	Mary Joan	Shea	X		X	O	X							
Huntington Breast Cancer Coalition		Alternate	Scott	Carlin	X		O	O	O							
Intl. Brotherhood of Electrical Workers/Local 2230		Member	Mark	Walker	X		X	X	X							
IBEW/Local 2230		Alternate	Philip	Pizzo	O		O	O	O							
L.I. Pine Barrens Society		Member	Richard	Amper	O		O	X	O							
L.I. Pine Barrens Society		Alternate	Katherine	Timmins	O		O	O	O							
L.I. Pine Barrens Society		Alternate	Jane	Geary	X		X	O	X							
L.I. Progressive Coalition		Member	David	Sprintzen	X		X	O	O							
L.I. Progressive Coalition		Alternate	None	None												

2004	Affiliation		First Name	Last Name	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	Lake Panamoka Civic Association (Biss as of 4/02)	Member	Rita	Biss	X		X	X	X							
	Lake Panamoka Civic Association (Rita Biss new alternate as of 3/99)	Alternate	Joe	Gibbons	O		O	O	O							
	Long Island Association	Member	Matthew	Groneman	O		O	O	O							
	Long Island Association	Alternate	William	Evanzia	X		O	X	X							
	Longwood Alliance	Member	Tom	Talbot	X		O	X	X							
	Longwood Alliance	Alternate	Kevin	Crowley	O		O	O	O							
	Longwood Central School Dist. (switched 11/02)	Member	Barbara	Henigin	X		X	O	X							
	Longwood Central School Dist.	Alternate	Candee	Swenson	O		O	O	O							
	NEAR	Member	Jean	Mannhaupt	X		X	X	O							
	NEAR (taken off ¾)	Alternate	Wayne	Prospect	O		O	O								
	NSLS User	Member	Jean	Jordan-Sweet	X		X	O	O							
	NSLS User	Alternate	Peter	Stephens	O		O	O	O							
	PACE Union	Member	Allen	Jones	O		O	O	O							
	PACE Union	Alternate	Philip	Plunkett	O		O	O	O							
	Peconic River Sportsmen's Club (added 4/8/04)	Member	John	Hall				X	X							
	Peconic River Sportsmen's Club	Alternate	Jeff	Schneider				X	X							
	Ridge Civic Association (resigned in 03)	Member	Ron	Clipperton												
	Ridge Civic Association	Alternate	None	None												
	Town of Brookhaven	Member	Jeffrey	Kassner	O		O	O	O							
	Town of Brookhaven	Alternate	Anthony	Graves	X		X	O	X							
	Town of Brookhaven, Senior Citizens	Member	James	Heil	X		X	X	X							
	Town of Brookhaven, Senior Citizens (open slot as of 4/99)	Alternate	None	None												
	Town of Riverhead	Member	Robert	Conklin	X		X	X	X							
	Town of Riverhead (K. Skinner alternate as of 4/99)	Alternate	Kim	Skinner	O		O	O	O							
	Wading River Civic Association	Member	Helga	Guthy	X		X	X	X							
	Wading River Civic Association	Alternate	Sid	Bail	O		O	O	O							
	Yaphank Taxpayers & Civic Association	Member	Nanette	Essel	O		O	O	O							
	Yaphank Taxpayers & Civic Association	Alternate	None	None												