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**FORMER NAVAL SURFACE WARFARE CENTER -  
WHITE OAK (NSWC-WO)  
FEDERAL RESEARCH CENTER AT WHITE OAK (FRC-WO)  
RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES  
November 9, 2000**

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NSWC WHITE OAK  
5090.3a

**RAB Members Present at Meeting**

Walter Legg - U.S. Navy, EFA Chesapeake, Navy Co-Chair and  
White Oak Base Environmental Coordinator (BEC)  
Commander Paul Walden, Commanding Officer EFA Chesapeake (for Captain Will Boudra -  
U.S. Navy, EFA Chesapeake, Commanding Officer, NSWC-WO)  
Richard Price - Community Co-Chair  
Marshall John Tino - Community Co-Chair  
Jeff Thornburg - Maryland Department of the Environment/Superfund Division  
Yazmine Yap-Deffler - USEPA Region III  
Steven Richard - General Services Administration (GSA)  
Edward Herbert - Montgomery County Department of Environmental Protection  
Hall Crannell\*  
Brenda Sandberg\*\*\* - Maryland National Capital Park and Planning Commission (MNCPP)  
Paul Meyer\*\* - Prince George's County Health Department  
Paul DeLeo - FDA/National Treasury Employees Union (NTEU), Chapter 282  
Robert Craig - U.S. Army Research Laboratory (ARL)  
Gary Irby

**RAB Members Absent from Meeting**

Matthew Amann - Food & Drug Administration (FDA)  
Kenneth Caudle  
Gary Brown  
Barbara Medina

- \* Subcommittee 1 - Groundwater, Chairperson  
\*\* Subcommittee 2 - Landfills and RI/FS, Chairperson  
\*\*\* Subcommittee 3 - Base Realignment and Closure (BRAC) Environmental  
Study Team (BEST), Chairperson

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THE WHITE OAK COMMUNITY LIBRARY IN  
SILVER SPRING, MARYLAND.]**

## 1.0 WELCOME/INTRODUCTIONS

Dr. Price opened the meeting at 4:05 p.m. by asking the attendees to introduce themselves. Alex Drummer, a local Spring Brook High School student preparing a paper on environmental activities at NSWC-WO, was welcomed by the RAB.

## 2.0 RAB MINUTES DISCUSSION/APPROVAL

Mr. Bob Craig clarified that he is not the owner of the ARL property; instead, he is an employee of ARL and represents ARL at the RAB meetings. Mr. Craig requested that page 11 of the September meeting minutes be revised.

Using the September minutes, Dr. Gary Irby asked several questions. Referring to page 8, second paragraph, "there's a significant distance between the extraction trench and the seep and it does take time for the water to flow from the trench to the seep" Dr. Irby asked when the trench was put in. Mr. Jeff Thornburg and Mr. Phil Tully agreed that the trench was installed in October 1998. Mr. Phil Tully represents IT/OHM, a Navy contractor. Dr. Irby also asked how long it takes for the groundwater to flow from the trench to the seep. Mr. Thornburg stated that the flow is dependent on the conductivity of the saprolite and he would check the numbers with a hydrogeologist. He noted that the flow time varies across the site. Dr. Irby noted that it has been two years since the installation of the trench and the trichloroethene (TCE) sampling is still providing results in the parts per million range. Mr. Thornburg stated that the BRAC Cleanup Team (BCT) would be evaluating the efficiency of the trench during the Operable Unit (OU) 1 investigation.

Dr. Irby also had a question on page 9, section 9.0. He asked if the Senators were invited. Mr. John Tino stated that he did not invite Senator Dorman, but he did speak with him twice about the water issue. Dr. Richard Price spoke with him at the LABQUEST meeting and told the Senator that the RAB planned to ask the Washington Suburban Sanitary Commission (WSSC) to come to the November meeting to talk about the water situation.

Dr. Irby referred to the next paragraph on page 9, where Ms. Betsy Bretz suggested that the Navy develop a decision about installing the water lines. He asked if this decision had been made. Referring to the next line where Mr. Craig suggested that something be finalized before the next meeting, Dr. Irby also asked about the status of the installation of the water lines for the Charlton/Irby families. Mr. Walter Legg stated that the Navy had met with WSSC and that WSSC's and the Navy's position was to install the water line. Ms. Bretz clarified that something has been done about the water and it will be discussed during the meeting. Dr. Price reminded Dr. Irby that he is reviewing the records of the meeting as the items discussed and they do not present a closure of all the items discussed at the meeting. Ms. Bretz clarified that the community has worked very hard to bring closure to the Irby/Charlton water issue. Ms. Bretz and Dr. Irby requested closure of the water issue.

Dr. Irby, referring to page 11, paragraph 4, "The report will include hydrographic maps showing plumes," asked if this means there are multiple plumes. Mr. Tino explained that OU 1 is the back area of NSWC-WO and that the RAB has known for years that there may be more than one plume. Mr. Scott MacEwen (from CH<sub>2</sub>MHill, a Navy contractor) explained that at least two plumes exist. Dr. Price explained Site 11 was initially identified as containing one plume during the beginning of the investigation. As more definitive information became available, the BCT and RAB were more specific about the characterization (results of the study) of the site. Dr. Price further explained that about half of the Installation Restoration (IR) sites had plumes associated with them, so multiple plumes have always been on the eastern side of the base. The act of identifying the eastern side of the base as OU 1 consolidated several plumes into one area for further study.

Referring to page 15, 4th paragraph, where Dr. Price asked for the latest bid on Dr. Irby's home, Dr. Irby stated that he was not familiar with the numbers presented in the meeting minutes. Dr. Price asked the minutes be corrected to reflect that he said sentence #1 and #2, and then he asked Dr. Irby about the value of his home. Dr. Irby stated that he misspoke at the September meeting. The last appraisal of the Irby home determined that the home is unmarketable and of little or no value because of the contamination. Ms. Bretz stated that what he said at the last meeting remains in the minutes, but that Dr. Irby could make a correction to statements made at the last meeting by bringing up the issue, which he did.

Referring to page 16, second paragraph, "Dr. Price stated that when he had spoken to Senator Dorman, that it appeared that WSSC was trying to get well off of Navy money," Dr. Irby asked if Dr. Price said that statement. Dr. Price stated that he did speak with Senator Dorman and asked if WSSC was trying to get well off of this or was there a regulation required for the installation of a fire hydrant. Dr. Price clarified that neither he nor Senator Dorman stated that the WSSC was trying to get well off of the fire hydrant installation. The minutes will be corrected.

Dr. Irby, referring to the last paragraph of the minutes, asked about the 200 parts per billion (ppb) of TCE discovered in the stream and seeps on each side of his home. Price explained that the RAB asked that the following areas be tested: 1) area south of the meeting building toward the fire station and 2) another stream toward Quarry. Dr. Price stated that those areas have been tested and no contamination problems were identified. Dr. Price and Mr. Tino agreed that the minutes as written reflect an accurate assessment of the sampling discussion. Ms. Bretz agreed with Dr. Price's summation of the testing. Dr. Irby asked what surrounding communities meant. Dr. Price stated that the RAB requested samples be taken in areas other than uphill. Sampling activities for offpost migration have been concentrated near the Irby property. Mr. Tino clarified that the surrounding community referred to in the minutes meant the Hillandale community, and not the Adelphi community.

Dr. Price stated that once the two changes/corrections (Bob Craig is an employee of ARL, and Dr. Price discussed the issues about WSSC, not Senator Dorman) are made to the September minutes, they will be accepted as final.

### 3.0 RAB UPDATE

Mr. Tino asked if there were any questions about the update. He stated that the October update clarifies what WSSC is expected to discuss at the November RAB meeting, and it summarizes the Navy and WSSC actions associated with installing the water lines. The update also discusses the issues presented by the FDA Union. Mr. Tino felt that the October update provided closure on the Site 11 ROD and PCB issues, and direction on the toxicity factors issue so that closure could be achieved with the FDA Union. Mr. Tino explained that closure means that the issues have been brought forth to the Navy, the Navy has identified an action and is proceeding with implementing the action. This action may take time to complete. He further explained that the FDA is challenging USEPA's authority by saying that their environmental guidance [for risk assessment and toxicity factors] is not adequate. Mr. Tino stated that the FDA issue is not with the NSWC-WO base. He suggested FDA speak with the U.S. Environmental Protection Agency (USEPA) and clarify the process that USEPA uses for performing risk assessments. Mr. Paul DeLeo did not agree with Mr. Tino.

Dr. Irby commented on the discussion on page 3 about exposure to full-time workers. He stated that some research is being conducted throughout the country on adolescent exposure to toxic chemicals. George Washington University Hospital is a local research center at which Dr. Irby's children are participating in the exposure studies.

Referring to the explosives survey portion of the update, Dr. Irby asked if there were any updates or new samples taken from the creeks near his home where explosives were found. Mr. Tino explained that the update discussion pertains to the buildings where explosives work was performed and not for materials found in nearby creeks.

Referring to page 4 of the update, Dr. Irby asked about Site 46/OU 1. He asked what the word "slightly" means in the second sentence. Mr. Tino stated that Dr. Hall Crannell would show the data later in the meeting. Dr. Irby asked about the perchlorate results found in the Charlton well, and he asked if the stream and seep detections belong in the same category. Mr. Tino stated that the well data are discussed in the update because that has been of the most interest in the past 6-12 months. Mr. Scott Nesbit (Tetra Tech NUS, Inc., a Navy contractor) stated that the seep and streams near the Charlton and Irby homes are sampled monthly. Mr. Tino stated that if the sampling data are available, he has no problem with placing the information in the updates.

Mr. DeLeo asked that the reference to Site 1/2 on page 3 of the update be corrected to Site 1/2.

#### 4.0 BCT UPDATE

Ms. Yazmine Yap-Deffler provided the update. She announced that she is no longer the USEPA Project Manager for White Oak and provided an overview of her replacement. Mr. Darius Ostrauskas will be the new USEPA Project Manager. She stated that he is a senior Remedial Project Manager for the USEPA Superfund group. He is familiar with the BRAC program and worked on the closure of the NSWC Warminster property in Pennsylvania. He has worked with the local community as far as the reuse of the property. Both Ms. Yap Deffler and Mr. Ostrauskas met with Mr. Legg within the past month to begin the transition process for the White Oak project. She expects him to attend the January meeting. Mr. Craig stated that Warminster also had offbase migration of TCE. Mr. Nesbit clarified that the amount of TCE migration at NSWC Warminster was several orders of magnitude higher than that found at White Oak.

Mr. Legg stated that the Navy is getting close to completing administrative closure at several sites. Mr. Ostrauskas has a lot of experience with the closure process and he is looking forward to taking advantage of his experience during the closures. Ms. Bretz spoke with Mr. Hank Sokolowski, the Chief of Enforcement and Federal Facilities Branch, about Mr. Ostrauskas and also thanked him for Ms. Yap-Deffler's service.

Regarding the FDA Union, Ms. Yap-Deffler stated that the FDA sent a letter to their congressional delegates. Senator Ida Ruban contacted Mr. Legg and Ms. Yap-Deffler about the FDA Union's concerns. Mr. Legg and Ms. Yap-Deffler have worked together on a letter answering the FDA Union's concerns raised to the Senator. The letter is expected out within the next week.

Regarding the toxicity factors, Ms. Yap-Deffler asked a USEPA toxicologist to review the risk assessment along with the Union's questions. The USEPA toxicologist will come to the next RAB meeting to discuss the USEPA approach or how the Risk Model was developed.

Ms. Yap-Deffler stated that the BCT has met several times in the past few month to identify schedules. The team plans to closeout a few sites by issuing Records of Decision (RODs). These RODs are the legal, enforceable closeout reports for the sites. She identified the following closeouts: Site 33, Site 4 soils, and Site 8 are expected to be closed by a ROD some time next year. Mr. Tino thanked the team. Ms. Bretz requested a little ceremony for the RODs [not as big as the recent groundbreaking, though].

Regarding the Sanitary Sewer Study, Ms. Yap-Deffler stated that the BCT has approved the work plan. The Navy met with WSSC last week and found that the work plan is acceptable. CH<sub>2</sub>MHill will be conducting verification sampling in late November, early December. The purpose of the sampling is to show that TCE contamination is not migrating along the WSSC trunk sewer line running along Floral Drive.

Ms. Yap-Deffler reported that the Site 3 removal work is almost complete. The stream diversion has been removed and restoration is almost completed. The site is undergoing reseeded.

IT/OHM, the Navy contractor, is completing improvement on the storm water management system. The stream has been returned to its preremoval action condition.

Ms. Yap-Deffler reported on Sites 1/2, also known as OU 2. The 35% Remedial Action Design is under review by the BCT. Work Plan should be developed by Spring 2001. While the 35% Design is under review, the contractor is developing the 65% Design. The design is being parallel tracked with the Record of Decision of the site. The ROD for OU 2 is expected in early spring of 2001.

Regarding Site 28 and 47, Ms. Yap-Deffler reported that the fieldwork at Site 47 (to determine the extent of the remedial action) was completed last week and the BCT is waiting for laboratory results.

Ms. Yap-Deffler reported that the OU 1 Remedial Investigation is under review by the team. The Groundwater Subcommittee also has received a copy of the report.

Ms. Yap-Deffler stated the BCT would be meeting next week.

Mr. Tino stated that when he visited Site 3 it was nice to see the improvements at the site.

Ms. Bretz asked Ms. Yap-Deffler to comment on how the Navy has cooperated with USEPA. Ms. Yap-Deffler stated that the Navy and USEPA did not see eye to eye at the beginning. Now the team, that is the Navy, USEPA, and the State, is working well together. She feels good about what is happening at White Oak. There is closure for many major sites; OU 1 will be addressed and many sites are about to be closed. Ms. Bretz asked about the chart, currently displayed on the wall, which shows the site completion status will be continued in the future. Mr. Tino stated that when Area of Concern 2 closes, the BCT will have about 80% of the base cleaned up.

## **5.0 GROUNDWATER SUBCOMMITTEE REPORT**

Dr. Hall Crannell has received some more groundwater data and commented on the amount of bookshelf space he now uses for the information collected since joining the subcommittee. Dr. Crannell has received data once a month from each of the six extraction wells for some time. The data are now beginning to show trends and it shows things are getting better at wells 1, 2, and 3. Dr. Crannell explained that after reviewing data there appears to be a half-life of the data. For example, every  $\frac{3}{4}$  of a year, contaminant amounts at a particular well go down by a factor of two. Extraction wells 1, 2, and 3 are near the centrifuge area and the amount of contaminant in each appears to be declining. The audience was directed to the White Oak map on the wall where location of the well sites was pointed out. Three new extraction wells have been installed: wells 4, 5, and 6. Dr. Crannell stated that not a lot of data are available to show whether a trend exists for the three new wells. He stated that after a few more months of data are received, he should be able to show "comfortably" whether contaminant levels are going down. Dr. Crannell confirmed for a member of the audience that these three new wells are in the same general location as that of the previous three wells.

Dr. Crannell explained the affect of a possible plume on the data. If a plume was flowing through the groundwater in the area, the data would decline in several wells, but increase in several others. Dr. Crannell cautioned the RAB about concluding whether a plume exists in the area; he cannot make any conclusions about plumes until enough data are collected over time. Dr. Price pointed out that data from all three of the new wells indicate a trend downward. Dr. Crannell agreed but stated the data are not statistically significant.

Mr. Nesbit asked if the downward impact to the data is from all the rain received in the past few months. Dr. Crannell stated that the wet spring/summer may have diluted the amount of contamination in the wells, and he looks forward to the next pieces of data because we have had a one-and-a-half month dry spell. Dr. Crannell discussed the correlation of well data. For example, do the levels of contaminants in wells go up and down together? He found a weak correlation. Then he looked at the rain data, expecting that with the amount of rain in the past few months, the amount of contamination would go down. The correlation results were very weak/nonexistent. Dr. Crannell stated that as he reads these reports containing data gathered from wells all over the base, it is clear that contamination is going down all over the base.

Dr. Crannell stated that the chemical that is of concern at White Oak is TCE. TCE can be degraded by a number of chemical processes. Ms. Bretz asked if Dr. Crannell's original 1991 theory (natural attenuation would be what would probably happen in most of the TCE contamination cases) was still correct. Dr. Crannell explained that natural attenuation would occur over time. The issue is whether it is worth waiting 4,000 years for the natural attenuation to occur or spend the \$10 million so that it is cleaned up in 10 years. However, if natural attenuation occurs in 10 years, why not just wait the 10 years. Dr. Crannell stated that he has been unsuccessful finding information about the natural attenuation of PCBs. As a result, he cannot tell the RAB whether PCB contamination should be left or dug up and disposed of. The Navy has chosen to remove the PCB contamination, and Dr. Crannell believes this is the right solution. What the land is going to be used for in the future also impacts the decision on how to treat the contamination. Dr. Crannell stated that a cleanup approach for Site 46 would require a different approach if you were building a housing complex versus if you chose to leave it barren for 10 years.

Ms. Bretz congratulated Dr. Crannell on his recent receipt of the John O'Brien Senior Scholar Award.

Dr. Price presented two comments about the groundwater data. A behind-the-scenes meeting with the Navy was held to discuss the need for groundwater data. The RAB has received about 1 years' worth of data and it is beginning to show downward trends in the groundwater contamination. The other comment is that no new TCE is being "injected" into the system.

Mr. MacEwen reported that in the latest report for OU 1, two rounds of samples were collected, one in January and one in April 2000. Comparing the recent data to data collected in 1999 and earlier, a decrease occurred in the TCE concentrations, particularly when compared with when

Site 4 was excavated. Mr. Tino asked about the area down toward the end of road. Mr. MacEwen does not recall whether TCE concentrations are going down. Mr. Nesbit stated that source removals occurred in the area about 1995 or 1996. An audience member asked where the TCE is going. Price explained that the extraction wells are applying negative pressure to the water in the area. So the wells are pulling the TCE-contaminated water out and it is undergoing "scrubbing" (a cleaning process). As the water is being pulled out other water is coming into fill the area left by the original water. Dr. Price further explained that when the "pump and treat" process begins, the TCE levels are expected to go up as the contaminated water is pulled in from a further distance away. Then the levels of TCE will stabilize and start to go down as you start to remove the TCE in the groundwater in the area. Dr. Price explained that the most recently installed wells might provide a confounding effect on the TCE data because the contamination removal process was well underway. Although the data are erratic for the three wells, all the well data indicate TCE contamination is going down.

Dr. Crannell further explained that TCE is degradable. Even in an anaerobic environment (an environment without oxygen), it will break down into volatile compounds that will seep out to the atmosphere and degrade. Dr. Crannell explained that with activities of the six extraction wells, they are removing about 1/3 cup (measuring cup) of TCE from the ground every month. Dr. Crannell again stated that we are seeing degradation in the TCE amounts reported from the extraction wells. Mr. Thornburg provided a brochure to the audience providing real world explanation as to what the data means. Dr. Crannell stated that the wells are pumping about 6 gallons a minute, which is like a fire hose coming out of the ground. With all this water being pumped out of the ground, only 1/3 cup TCE is being treated. Mr. Thornburg provided some examples explaining what ppb means: 1 part per billion is equal to 1 inch in 16,000 miles or 1 second in 32 years.

An audience member asked if a relative number can tell us when it [TCE] starts to pose a risk. Mr. Thornburg answered, risks are based on various exposure scenarios developed by USEPA. He explained that if you are exposed to groundwater through the skin (dermally), then a risk assessment scenario is used to determine the potential risk as a result of that skin exposure. This risk assessment uses established USEPA guidance. The guidance provides instruction on the use of various scenarios, formulas, and factors to develop the risk assessment. Factors influencing the risk assessment include how the exposure occurred (for example, through eating or drinking, breathing in the contaminant, or getting it into your system through your skin), or how long an individual was exposed to the contaminant. He further explained that it is a complicated process developed by USEPA over the years. All of the Navy's contractors use this process to develop risk scenarios.

An audience member asked what level of TCE is considered acceptable. Dr. Crannell explained that the safe drinking water standard is 5 ppb and the charts he presented showed results in the range of 200-300 ppb. The safe swimming standard for TCE is 200 ppb. He concluded that it is safe to swim in the water from these wells, but not to drink it.

Dr. Price asked what the average depths of the extraction wells are. Mr. Nesbit stated that average depth of the six extraction wells is 30-40 feet. An audience member asked if it is fair to say contamination will decline over a period of a year. Dr. Crannell thinks so, but data over the next few months will provide a better answer. The audience member noted that a lot of bedrock is in the area and TCE will sink because it is heavier than water. The audience member asked if the TCE will stop at the bedrock and then once there is a lot of rain, it will flush out of the bedrock, creating a plume. Dr. Crannell stated that the bedrock in the area is tilted. Mr. MacEwen stated that the TCE is under the water in the bedrock and additional water will not flush it out. Mr. Thornburg explained that TCE behaves differently in the aqueous and nonaqueous phase. He suggested that the audience member was referring to TCE in the nonaqueous phase. The BCT is referring to TCE in the aqueous phase, which means that it is suspended and included in the water matrix. The TCE is not sitting as a separate chemical on the bedrock. Mr. Nesbit explained that the samples have indicated that no pools of TCE are sitting under NSWC-WO. Mr. Thornburg explained that studies of dense nonaqueous phase liquid (DNAPL) show that 1% of the chemical is soluble in water. TCE at levels of 1,000 parts per million (ppm) would be needed to indicate the presence of DNAPL (or a pool of TCE). Mr. Nesbit explained that if you drop a drop of TCE in a glass of water, it will disperse throughout the water. TCE is soluble in water and therefore will not sink. Mr. Thornburg stated the maximum concentration discovered at OU 1 was right around the source area of Site 4. The maximum concentration was 8.5 ppm TCE. The audience member asked for clarification about the rising TCE levels in the wells near the centrifuge area. Mr. Thornburg clarified that the levels of detection in the extraction wells are three orders of magnitude different. The wells Dr. Crannell was discussing were at TCE levels in the parts per billion range, not parts per million.

Ms. Bretz asked the RAB to explain what TCE is for the student visiting the meeting. Dr. Price explained that TCE is trichloroethene. TCE is the most common pollutant on most of the Department of Defense sites. It was used to clean electronic equipment, as a dry cleaning agent, and in aircraft manufacturing and repair. Dr. Price stated that it is a tough contaminant to address because of its ability to disperse easily in water. Dr. Price explained that when back calculations are performed, about 6 or 7 pounds of TCE have created the problem being addressed today at NSWC-WO. Gasoline weighs about 8 pounds per gallon, so he suspects that the original spill was about  $\frac{3}{4}$  gallon of TCE. USEPA has visited the RAB to discuss the risk assessment process. Discussions at the RAB have also included the safe drinking water level change from 5 ppb to 50 ppb TCE and how to treat TCE in the wells. USEPA issued a maximum safe drinking water limit of 5 ppb TCE, erring on the safe side. Dr. Price also stated that the extraction wells are 1) cleaning up the TCE in the groundwater on the base and 2) helping to clean up the water that is migrating offsite onto nearby properties, such as the Irby property. Dr. Price again explained what pump and treat is for the audience. The treatment introduces oxygen into the water, allowing the TCE to disappear into the atmosphere. TCE behaves differently in surface water than it does in groundwater. TCE is trapped in the groundwater; however, in surface water TCE floats to the water surface and dissipates. Dr. Price agreed with Dr. Crannell that 1 year's data are enough to start drawing conclusions on the data.

Mr. Nesbit stated that the data are showing that natural attenuation is a treatment possibility for OU 1. He further explained that a long-term monitoring plan would be developed as part of the selected remedy. Part of this plan will require periodic sampling of the groundwater. The data will be reviewed every 5 years as part of long-term monitoring. If the data show that the selected remedy is not producing the results expected, then the corrective measure will be revisited and a new one may be selected.

Mr. Dennis Broud, a member of the audience, asked if the contaminant in the ground is being dumped into the air. Dr. Crannell stated that the oxygen in the air breaks the chemical down very rapidly.

## 6.0 RAB MEETING SCHEDULING

Dr. Price stated that the information flow is going well. Updates occur regularly when meetings are not held. Dr. Price and Mr. Tino asked if the RAB is willing to have RAB meetings once every quarter, with two updates between each meeting. Ms. Bretz recommended that the RAB continue meeting every other month because a new USEPA representative will be attending, and several sites will be closing out. Mr. Tino stated that people are reacting to the RAB updates. If the updates are issued and people want a meeting in a month when one is not scheduled, then a RAB meeting can be held. Ms. Bretz was concerned that everyone in the community does not receive the update. Mr. Tino argued that the update is placed in the White Oak Library and on the web site, so the public does have access to a copy. Mr. Legg also reminded the people in attendance that he is the point of contact for the Navy and is always available to answer questions. Mr. Tino reminded people about using the web site.

Ms. Bretz also stated that she continues to read articles in the newspaper about concerns about the environment. She feels that until all of the issues are addressed the RAB meetings should be available to the public. Ms. Bretz asked Mr. Paul DeLeo if there were questions that he has that are not being addressed.

[The *Gazette* newspaper interviewed Mr. DeLeo and a story was published as a result.] Mr. DeLeo stated that he sent a letter to FDA management and it was forwarded to GSA about concerns that the Union had about the NSWC-WO property. They received a response to the letter, but it did not answer their questions. Mr. Tino disagreed with Mr. DeLeo. Mr. Legg felt that no matter what the RAB does, there will always be another issue.

Ms. Bretz stated she does not wish to read about the problems in the paper. Ms. Bretz asked if any information was being withheld. She read a quote from the paper, "all the risks aren't completely known," and asked if something was being withheld. Mr. DeLeo stated he was speaking to the newspaper about ongoing investigations, referring to the RCRA Facility Investigation (RFI). Mr. Tino stated that the article does not read that way and that the average person would not interpret the information as Mr. DeLeo had intended. Mr. DeLeo explained that he understands that the White Oak site has not been completely characterized. An investigation is still ongoing at OU 1, and additional investigations are part of Site 11. Mr.

DeLeo stated that he had a long conversation with the *Gazette* newspaper and the reporter picked the words. Several RAB members mentioned that editorial review is not a privilege after a conversation with a reporter. Mr. DeLeo stated that it is not a question of hiding things—it is a question of things not being complete and decisions being made based on incomplete data or analysis.

Mr. DeLeo asked for additional analysis using a USEPA guidance to calculate risks associated with those wanting to bear children. Mr. DeLeo felt that the suggestions were not considered. Ms. Yap-Deffler requested a copy of the guidance and Mr. DeLeo explained that the letter submitted identified the USEPA guidance that is used to calculate risks for women of childbearing age. Mr. Tino explained that the update identified the issue as between the FDA Union and USEPA and not with the White Oak site or RAB. Mr. Tino recommended that the FDA Union meet with USEPA face-to-face to discuss the risk methods.

Mr. Legg asked for clarification because he had not personally received the letter. Mr. Ed Herbert stated that the letter also was sent to the Montgomery County Executive, and he was unsure how the County Executive could address the issue. Ms. Bretz stated that the County Executive did respond to the letter. Mr. DeLeo stated the first letter sent in April 2000 contained three or four USEPA guidelines that are used to assess reproductive risks, development risks, and several other related risk guidances. He felt that these USEPA guidances were not considered in the current risk assessment process. To clarify Mr. DeLeo's concerns about risk from groundwater exposure, Mr. Thornburg explained that once the new building is built, the new building would be supplied with water from WSSC and not the local groundwater. He also explained the exposure scenarios considered for the risk assessment at the site. For dermal exposure to the surface soils, the data collected indicated no surface soil contamination at Site 11. Concerning risk from exposure to groundwater, the groundwater is isolated from the structure out in Site 11. Mr. Thornburg concluded that no exposure pathway exists at the new FDA building.

Mr. DeLeo stated that when NTEU sent its original letter in April there was concern about groundwater getting into the sub-basement at the new building. Mr. Thornburg, Mr. Tino, Ms. Bretz, and Dr. Price explained that the building architect attended two RAB meetings to explain the building design. They all agreed that the studies have shown no risk from groundwater. Mr. Tino explained that USEPA has approved the work done at White Oak and he feels that FDA is challenging that approval. Mr. DeLeo argued he was not challenging the work done; instead he was requesting additional work be done. Mr. Thornburg explained that to quantify a risk at a site, a hypothetical risk exposure scenario is used. The hypothetical exposure scenario at White Oak involved an individual drinking five glasses of water from the groundwater wells every day. This risk scenario will not occur at White Oak in the new building because groundwater is not used as the drinking water for the new building. Mr. DeLeo explained that he was concerned about the volatilization of the contaminants (that is, their ability to vaporize) in the groundwater. Mr. Thornburg and Ms. Yap-Deffler explained that there is no drinking of the groundwater and this issue is discussed in the risk assessment.

Mr. Herbert asked why there is a request for segregation of the Asian Americans and African Americans in the risk assessment. Mr. DeLeo explained some populations may be more sensitive to certain contaminants. He also stated that women of childbearing age that he works with appear to be the most concerned about the groundwater. A member of the audience is a medical reviewer for the FDA. The audience member stated that FDA has been studying how people deal with drugs for decades. Through the studies conducted at FDA, it has been determined that different racial groups, women, men, and small children (younger than age one) each metabolize drugs differently. The audience member further explained that different genetic make-up affects how drugs are metabolized. Children younger than one are at greater risk because their livers are not fully developed. The audience member explained how drugs are evaluated using different racial groups, people of different ages, and gender. Mr. Herbert suggested that FDA's drug evaluation process is more advanced than USEPA's risk assessment process. He suggested that not enough data have been gathered to support risk assessments considering different racial groups, people of different ages, and gender.

Mr. Nesbit explained that the risk assessments are based on reference doses and cancer slope factors that are based on toxicological studies. These studies are done on mice and rats, and not on humans. Mr. Nesbit stated that the reference doses and cancer slope factors used to develop the risk assessments use the most conservative information available. He further explained that if a sub-population is at a greater risk, then this population is addressed in the development of the reference dose/cancer slope factor. These values are presented in a USEPA database that is updated constantly. The most up-to-date reference dose/cancer slope factors are used in the development of the risk assessment.

Mr. DeLeo again expressed concern about the sub-population exposures. Mr. Thornburg stated that the sub-population is not at issue here because no exposure pathway exists. Mr. Nesbit stated that a risk is associated with residential development of the property. This risk assumes that people building homes on the property would drink the groundwater. However, no exposure pathway exists for the groundwater if the property is commercially developed.

Ms. Yap-Deffler reminded the audience that USEPA guidance undergoes a peer review process before it is published. This peer review process includes input from different government agencies, industry, and technical experts in the field.

Ms. Bretz stated she does not want to see adverse publicity in the paper about the environmental work being done at White Oak. Mr. Thornburg recommended that FDA contact the BCT about the FDA's concerns for exposure pathways and that the BCT would address these concerns. Mr. DeLeo stated that the day care center construction presented several concerns. He was concerned about risks from groundwater and soil by dermal and breathing exposures. Mr. Thornburg stated that contaminants in the groundwater do not migrate to the ground surface, but remain in the groundwater.

Mr. DeLeo stated that they sent a letter in April expressing the FDA's concern about the risk assessments being conducted at the White Oak property. He stated that the responses received

said that the exposure pathways suggested would not be considered. Mr. Legg stated that the responses were qualified. He further explained that arsenic occurs naturally in the soil in this area at high levels. He said that to remove the risk from arsenic provided by the consumption of soil, all of the soil from Montgomery County to a depth of several feet would have to be removed. This action is not practical. Mr. Nesbit equated the argument to the PCB contamination at the landfill that will be capped. He felt that once the plan to cap the landfill is implemented, the exposure pathway would be eliminated.

Mr. Dennis Broud, an audience member from the FDA/NTEU, explained the history of site for day care center. The original site where the day care center was to be located was within 100 yards of Site 47. Site 47 is contaminated with PCBs. The original documents stated that no buildings would be put on this site and the contamination would not be removed. Since that time the day care center site has been moved to the front of the base where people can easily access it. An audience member, Mr. Andrew Dempster, also from the FDA, explained that the center was moved to improve access for those parents, who may not be Federal employees, to use the child care center.

Mr. Legg suggested FDA revisit the existing data and call him with any questions. Mr. Broud stated that a recent outbreak of Lou Gehrig's disease occurred in people living on the property that was Kelly Air Force Base (in California). Kelly Air Force Base went through the same type of process as NSWC White Oak is experiencing. This type of information scares people. Mr. Broud explained that as a union representative, he must be able to answer questions for his members about the cleanup at White Oak.

Ms. Bretz reminded Mr. Broud and Mr. DeLeo that, as RAB members or meeting attendees representing the union, their job is to take information back to the people they represent. In addition, she reminded them to share new information received at the RAB meetings. She reminded all of the RAB members that they are charged with taking information back to the communities they represent.

## 7.0 SITE 3 PRESENTATION

Phil Tully, from OHM/IT, is a project manager for the Navy's Remedial Action Contract at NSWC White Oak. Mr. Tully provided an update on the progress at Site 3. Mr. Tully spoke with the RAB at the July meeting. At that time the project team was about halfway through the removal action. Mr. Tully presented a series of pictures showing preremoval action views, actual removal action activities, and completed removal action views of the site. About 51,000 tons of material was removed from Site 3. At the present time, the entire site has been seeded and fertilized. Pictures also were taken at the beginning of this week. Mr. Tully stated that soil from the burn ring area was also removed. In addition, clean soil from the burn area was used at Site 3. Borrowing this clean soil saved the Navy some cleanup money. Mr. Tully presented pictures of the stream as it looks now. Stormwater management improvements were also completed during the Site 3 removal action. These improvements will minimize erosion in the area. The site is cleaned up and IT/OHM is completing the last of the site restoration activities.

Ms. Brenda Sandberg asked what IT/OHM did to recreate the natural streambed. Mr. Tully explained that the cleanup did not do a lot with streambed. At the beginning of the operation, they placed the pipes in the streambed itself and did not reroute or relocate the stream. An audience member asked if any brown trout was in the stream. Mr. Legg stated that the stream is drainage from the Percontee operations retention pond.

Mr. Craig asked when the RAB could have a tour of the site. After some discussion, Mr. Legg and Dr. Price asked that those who are interested in having a tour meet at the RAB meeting place before the RAB meeting on January 9, 2001, at 2:30 p.m. The tour information will be included in the meeting announcements. The team felt that the tour could still be conducted, unless an excessive amount of snow accumulated.

Mr. Paul Meyer asked if any thought had been given to installing additional wells on the east side of site to address the possibility of TCE from Site 46. Mr. Scott MacEwen, from CH<sub>2</sub>M Hill stated that, although it is a possibility, installing a new well has not been addressed at this point. No contamination has been found on the west side of the creek. He stated that seep samples were collected on the east side of the creek, but no contamination was found. Mr. MacEwen stated that placing a monitoring well might be good idea, but that it has not been discussed with the BCT. Mr. Nesbit stated that an option might include monitoring of the stream. He mentioned that as part of the removal, soil samples were taken at the landfill to confirm the contamination was removed. These results were sent to the landfill committee, and Mr. Nesbit agreed to resend the data to the landfill committee.

Mr. Craig asked if Mr. Tully removed anything from the landfill that could have been a source. Mr. Tully stated that he did not find any drums that might have contained TCE nor were any soils with organic vapors at the site.

## 8.0 RAB/PUBLIC DISCUSSION

Dr. Price stated that at the last RAB meeting, the RAB decided to invite WSSC to attend the next meeting. The purpose of the invitation was for WSSC to talk about what it would take to supply the Irby's with water, why different estimates existed, fire hydrant line installation, etc. Dr. Price had several discussions with WSSC, including the head of engineering, the project engineer, and the WSSC contact. Dr. Price stated that although a number of hurdles existed, they have been overcome. He stated that WSSC takes at least 50 days to award contracts. He explained it takes time to put the bid together, announce it, review the bids, and award the contract. He stated that in 50 days it will be after November 15. When a line is installed, a temporary line is installed to supply water to the house. November 15 is when WSSC stops construction because of the potential for freezing. The next opportunity would be in the spring. Installation in the spring will interfere with the spawning season in the Paint Branch and its tributaries. This delay would mean the installation would not happen until about June.

After discussion with the Navy, Dr. Price stated an alternative solution was then presented to WSSC. WSSC agreed to use existing Navy contractors to perform the work. This would eliminate the 50 day award delay. He stated that the design has been complete for some time. In addition, the installation cost would probably be more reasonable using Navy contractors.

Dr. Price continued by stating that the representative from WSSC was planning to come this evening until yesterday. Yesterday, Dr. Price was informed that Dr. Irby re-initiated legal action against the Navy. Dr. Price felt that the good news is that the water line will be installed, regardless of the legal action. CAPT Paul Walden clarified that when the Navy and WSSC work together, a legal agreement, called a Memorandum of Understanding (or MOU), is issued. CAPT Walden continued by stating this document needs some work to clarify the Federal government and WSSC roles and responsibilities.

Ms. Bretz asked for clarification of the lawsuit. Dr. Price reminded the RAB that this discussion is between the Navy and the Irby family. Further discussion about this issue is not included in these minutes.

Mr. Dick Charlton, an adjacent property owner, stated he is not a party of the Irby suit. He is pleased with the solution to bring water onto his property. He stated that he hopes that the resolution process does not get hung up, no matter what Dr. Irby or anyone else does. He also felt that the water line installation should go a long way in solving the problem. He hopes that the installation will proceed on schedule and that a water line will be installed.

Mr. Meyer asked about the Navy's actions to have a Navy contractor install the water lines. Mr. Legg stated WSSC is working toward the water line installation on one parallel, independent of Navy contractors. Parallel to that, the Navy is working with WSSC to see if Navy contractors can do the work.

Ms. Bretz asked if the water line installation would be completed by the next RAB meeting in January. Mr. Legg could not say that the lines would be installed by then. Ms. Bretz asked Mr. Legg to expedite the installation.

Ms. Bretz also asked if the water line installation is associated with the sewer lines installation. Dr. Price explained that WSSC plans to install the sewer lines at the same time the water lines are installed. Mr. Meyer stated the property owners are paying for the sewer line installation, not the Navy.

Dr. Price asked for additional comments about Union issues and the recent press coverage. Ms. Bretz again stated that she would not like to see things in letters that have already been answered. She requested that Mr. DeLeo speak with the Union president because all the issues have been addressed. Mr. DeLeo stated that some issues have not been responded to. Mr. DeLeo stated that he does not believe the risk to FDA employees has not been completely identified because the risk assessment done was for Site 11. He expects people to be using large areas outside of Site 11 for recreational purposes. He stated that one of the requests made in the letter is that additional parts of the campus be included in the risk assessment. He stated that the letter requested several items be addressed and they have not been. He stated that since he had spoken to Mr. Legg and Mr. Tino about a month ago and not seen any response, he felt the issues were still open.

Ms. Bretz and Ms. Yap-Deffler asked Mr. DeLeo to be more specific about his concerns. Ms. Yap-Deffler stated this is of particular importance when a risk assessment being performed. Mr. DeLeo stated that he understands that OU 1 is still under investigation, so the risks are not completely known. Mr. Thornburg stated that that is not completely true. He clarified by stating that a decision document has not been issued for the area. Until the entire CERCLA process is completed on the area and a decision document is released, the BCT will continue the investigation. He further stated that the risks have been identified.

Ms. Yap-Deffler and Mr. Thornburg explained that the BCT is committed to cleaning up the base and making certain that the property needs of the FDA and GSA are met. Mr. Legg also stated that if potential for risk exists, people will not be permitted access.

An audience member, also an NTEU member, presented a story about trichlosan, its carcinogenic affects, and the delay in pulling it off the market. She further explained the NTEU's position as a watchdog for their employees and that the union does not believe its management always does the smartest things. The audience member does not believe every stone has been overturned. The audience member felt that the union letter distributed at the groundbreaking ceremony was inappropriate.

Ms. Bretz requested that the union stop providing negative publicity about NSW-WO. Mr. Legg requested that NTEU review the existing data and reports. If after the review, the union still feels that if questions of imminent concern have not been addressed, Mr. Legg asked the union to contact him directly so that he can work toward their resolution. Mr. Tino reminded Mr.

DeLeo that he is a RAB member and to bring questions and concerns with him to the RAB meetings so that they can be resolved.

Mr. Craig summarized the good things that have happened at NSWC-WO. He stated that Ms. Bretz has been monitoring the cleanup for 16 years, and Mr. Craig has been monitoring the cleanup for 8 years. Mr. Craig stated that since he has been at White Oak removal actions have occurred at Site 3, Site 4, and at leaching pits just behind the meeting building. He stated that the contamination has decreased over time and good things are happening.

## **9.0 CLOSING AND WRAP-UP**

Ms. Bretz requested that the RAB send a letter to Ms. Yap-Deffler's supervisor to thank him for Ms. Yap-Deffler's efforts. The meeting adjourned at 6:30 p.m.

**Next RAB Meeting:** January 9, 2001. Meet at 2:30 p.m. to participate in the tour;  
4:00 p.m. for the RAB meeting.

**Meeting Location:** Federal Research Center, Use South Gate Entrance or Main Gate to Room  
Number 1-173

**Future RAB Meetings:** March 13, 2001  
May 8, 2001