

N61165.AR.002924
CNC CHARLESTON
5090.3a

MINUTES FROM RESTORATION ADVISORY BOARD MEETING DATED 11 APRIL 2000 CNC
CHARLESTON SC
4/11/2000
RESTORATION ADVISORY BOARD

NAVAL BASE CHARLESTON
RESTORATION ADVISORY BOARD MEETING

Minutes of 11 April 2000
Sterrett Hall
Carolina Avenue
North Charleston, SC

RAB Members Attending

Mr. Oliver Addison
Ms. Ann Clark
Mr. Bobby Dearhart
Ms. Jeri Johnson
Mr. Don Harbert
Mr. Tony Hunt
Ms. Wannetta Mallette-Pratt
Mr. Lou Mintz
Mr. Arthur Pinckney
Mr. Henry Shepard
Mr. Dan Spariosu
Mr. Bob Veronee

Guests Attending

| | |
|-------------------------|---|
| Mr. Mihir Mehta | SC Dept of Health and Environmental Control |
| Mr. Paul Bergstrand | SC Dept of Health and Environmental Control |
| Mr. Matt Humphrey | Caretaker Site Office |
| Mr. Ray Anderson | Community |
| Mr. John Bourne | Community |
| Mr. Isaiah Jenkins | Community |
| Mr. Mike Reubish | Community |
| Ms. Leslie Holt | Community |
| Ms. April Love | Community |
| Mr. Rick Albers | SC Research Authority |
| Mr. Neil Corma | SC Research Authority |
| Mr. Todd Dailey | SC Research Authority |
| Mr. Kevin Tunstall | SC Research Authority |
| Mr. Tom Beisel | CH2MHILL |
| Mr. Paul Favara | CH2MHILL |
| Ms. Virginia Mejlavague | CH2MHILL |
| Mr. Dean Williamson | CH2MHILL |
| Mr. Keith Johns | EnSafe Inc. |

Mr. Tony Hunt brought the meeting to order at 6:05 p.m. Member and audience introductions

were made.

Administrative Remarks

There were no comments on the minutes from the January 2000 meeting. Mr. Mintz thanked the City of North Charleston for making Sterrett Hall available for this meeting.

Subcommittee Reports

The community relations subcommittee meeting met earlier today, attended by Lou Mintz, Tony Hunt and Keith Johns. The Finding of Suitability to Transfer (FOST) for the marina area is currently advertised in the paper for the 30-day public comment period, and the other FOST will be advertised in the paper on April 18, 2000.

Fact Sheet 14 was discussed at the subcommittee meeting and mailed out to the members. Mr. Hunt noted that, before the Fact Sheet is made final, Mr. Hunt would like everyone to look at it and see if there are any questions, after which the Fact Sheet will be updated, made final, and distributed.

Environmental Cleanup Progress Report

The marina parcel FOST documents are in the Dorchester Road branch of the Charleston County Public Library. Today's newspaper had an article about the parcel of land, Economic Development Conveyance (EDC) Phase 1, that was expected to begin transfer in June. Mr. Hunt presented a map of EDC Phase 1.

- X The green areas in the EDC Phase 1 are those areas, after most of the environmental assessment was done, that did not have any concerns environmentally.
- X Blue areas of the map are EDC Phase 2 with some environmental concerns. Those concerns were addressed and are awaiting to get together with the regulatory agencies to determine what action needs to occur.
- X The yellow areas of the map will probably require some long-term corrective action such as groundwater remediation or soil removal or capping, which includes a large part of the shipyard.
- X The Chicora tank farm is an orange-ish color on the map. That's will be transferred as a public benefit conveyance (PBC) to the Department of Education, and then to the local county education board.
- X Red areas in the map are buildings or property that the Navy will lease back.

Ms. Mallette-Pratt inquired if copies of the map were available. Mr. Hunt responded that the only copies available right now are in the draft documents, but Mr. Hunt will try to accommodate people who request them. Two copies are available at the library. SouthDiv has been trying to update their Web site to include these maps.

Mr. Hunt explained that the landfill and a majority of SWMU 166 will be transferred as part of the EDC Phase 3 transfer.

Mr. Goodhart inquired if the Corrective Measures Study (CMS) reports were going to be available to the RAB members or only in the library. Mr. Hunt said all CMS reports are currently available only at the project team house because they haven't been submitted to the regulatory agency yet. As the Navy begins to generate more documents and the CMS become final and available, a subcommittee with the RAB might be formed to focus on particular sites and issues.

The Navy and CH2M-Jones (the new fixed-price contractor) are going through a period of transition, trying to get them on board and up to speed on the status of the sites and the problem areas they'll be looking at. Currently, the Navy is transferring some of the responsibility of finishing the characterization and getting into the corrective measure studies from EnSafe to CH2M-Jones.

Mr. Hunt explained that there will be a point where the Navy will know when documents are going to be coming out. That, he explained, is when he will get in touch with the RAB and schedule an interim meeting if necessary.

Mr. Mintz inquired if there was another comment period after the first 30-day comment period on FOSTs. Mr. Hunt advised that by law the Navy is only required to hold one 30-day public comment period. Any comments received are incorporated or resolved and then the FOST is signed. Once the FOST is signed, it goes to the Navy's real estate branch which will put the deed together for the property.

Mr. Goodhart inquired who signs off on FOST. Mr. Hunt advised that the Commanding Officer of Southern Division Naval Facilities Engineering Command. Mr. Mintz inquired about the South Carolina Department of Health and Environmental Control (DHEC) signing. Mr. Spariosu advised that DHEC is the lead agency but doesn't require concurrence on a FOST before it is signed by the Navy. Ms. Clark added that DHEC doesn't have the authority to stop the transfer.

Ms. Johnson inquired if the US Environmental Protection Agency (EPA) has final authority on whether the property was clean enough to transfer. Mr. Hunt advised that the EPA concurs on the property determination. Mr. Spariosu noted that if DHEC determines an area is not cleaned up to a safe level, the Navy would be breaking the law by transferring property.

The Navy's schedule for completing EDC Phase 1 was last month, but has been delayed. EDC Phase 2 is still supposed to be completed in June as well. However, there may be some problems with that because the fixed price contract wasn't awarded until March, and the Navy hasn't issued a notice to proceed to the new contractor because there are still some issues related to indemnification to be resolved. An update on the schedule will be provided as soon as they are available.

Introduction of CH2MHILL/J.A. Jones

Mr. Dean Williamson introduced himself and thanked the City of North Charleston for hosting the meeting. Mr. Williamson explained that the fixed price, insured contract covers investigation and remediation for the RCRA (Resource Conservation and Recovery Act) corrective action sites, the underground storage tanks and property transfer documentation for Phase 2 and Phase 3. The contract provides for \$65 million of remedial stop loss and environmental impairment liability.

Mr. Williamson explained that remedial stop loss is a cap on the cost the company can incur. If there's an overrun, the insurance picks up most of that overrun. This was a requirement since it's hard to predict what remediation will cost. In addition, CH2MHill/Jones is also covered by the impairment liability if sites are discovered that are unknown at this time.

CH2MHILL/JONES are two companies, forming a limited liability company. CH2MHill is a billion dollar consulting firm. J.A. Jones is a billion dollar construction firm that does a lot of environmental remediation work.

CH2M/Jones has looked at the corrective action plan, the City of North Charleston zoning map, expected land use and site characteristics to put together a remedial strategy. They allowed for residential cleanup levels where there could be residential users. They've planned for very aggressive technology for sites where there are pure solvents, in the groundwater. There are a number of sites that are good candidates for natural attenuation as a remedy. CH2M/Jones has a schedule of implementing the remedies within a two-year period.

For the underground storage tanks, CH2M/Jones has looked at RFI reports, zoning maps, FOSTs, various corrective action approaches and alternatives. CH2M/Jones has looked at types of resources, manpower and vendors for their overall cost proposal. This intense effort began in August.

Mr. Williamson noted that, in the RCRA groups, there are about 35 sites that are appropriate for no further action. Another 35 sites are appropriate for no further action with land use restrictions and institutional controls. There are about 20 sites that are appropriate for remediation by soil excavation to the industrial standard level and ten sites that are appropriate for the residential standard level. There are about 45 groundwater sites that are appropriate for natural attenuation remedies. There are eight groundwater sites that need active remediation.

CH2M/Jones is now mobilizing by getting resources together and lining up subcontractors. The Phase 2 work - FOST preparation and RCRA underground storage tank documents - will be within the first six months. Interim measures and CMS will be implemented concurrently in Phase 3. CH2M/Jones will be sitting down with the regulatory authority to find areas where their ideas are convergent and areas where CH2M/Jones needs to modify their plans to make sure

they're meeting the authority's needs.

Mr. Williamson then expanded on a few specific sites.

Solid waste management unit 9 (SWMU 9) is the old landfill, and CH2M/Jones believes it's reasonable to leave the waste in place. It would be extremely expensive to excavate 50 acres, haul it to another landfill and put the problem there. The sand layer is seven to 12 feet below the marsh, which prevents downward migration. The waste was dumped into a wet area and it hasn't moved down. Because the area lies so low, placing a cap on top of the waste to prevent rain water percolating would not reduce the amount of water that waste encounters. No significant ecological impacts from the landfill were found when CH2M/Jones reviewed the sampling data from Shipyard Creek or areas around the landfill. CH2M/Jones has developed a seven step approach to the landfill:

1. Remove the surface soil on top of the landfill and clean up to the industrial worker risk criteria.
2. Install additional monitoring wells around the perimeter of the landfill to insure no plumes of contaminants migrating from the landfill.
3. Conduct an ecological evaluation of Shipyard Creek and peripheral areas to confirm the runoff remains below risk standards.
4. Conduct human health risk assessment to confirm that the remedies were protective of human health.
5. Perform groundwater monitoring and cap maintenance during the 20-year contract.
6. Use Strategic Groundwater Barrier as a contingent remedy to preclude migration of the contaminated groundwater.
7. Implement institutional controls to ensure future land uses are not incompatible with the remedy (e.g., no residential uses).

SWMU 166, the automotive maintenance center, had Dense, Non-Aqueous Phase Liquid (DNAPL) solvents within the clay sand, right at the Ashley formation (which is the geologic formation that separates lower groundwater from upper groundwater). A serious removal would be essential to meet the Navy's property transfer requirements.

Mr. Williamson said that CH2M/Jones has looked at a variety of technologies for this DNAPL and concluded that two on-site (Ain-situ@) thermal methods, steam-enhanced extraction and six phase heating, were the two technologies strong enough to potentially be successful in cleaning up that site.

The six-phase heating system involves installing groups of six electrodes into the ground. The electrical current brings the groundwater temperature up to the boiling point, and then vacuum extraction wells pull the vapors off. The system would run continuously, maintaining the temperature for 12 weeks or whatever it takes to achieve remediation.

This process was created by a company in Seattle. CH2M has worked with them in Wainwright, Alaska and at the Savannah River Site. One of the compelling reasons to implement this technology is its proven success.

The period of time for the Cape Canaveral site was 12 weeks to get the temperature of the groundwater up to the boiling point. The concentration was at about 15 feet below the surface, which is very similar to AOC 607. Mr. Williamson noted that if they can achieve 99 percent removal, the remaining concentration would be approximately 32 parts per billion.

The DNAPL in AOC 607, dry cleaning site, requires mass removal or reduction. The dry cleaning building will probably have to be demolished. Mr. Williamson noted that if they can achieve 99 percent removal, the remaining concentration would be approximately 450 parts per billion. This approach provides the greatest DNAPL removal in the least amount of time at a reasonable cost. Hopefully, in the fall or winter, CH2M/Jones will start cleaning up these sites.

CH2M/Jones is in the process now of getting lots of reports from EnSafe, and is working with the regulatory agencies for completing the remedial investigation, corrective measures implementation, and FOST documentation. CH2M/Jones will continue to meet with everyone for their perspective, and establishing an onsite team that will manage the project overall.

Mr. Mintz inquired if, and how much the outside air temperature impacts the effectiveness of this thermal technology. Mr. Williamson advised it doesn't affect it a lot. Groundwater is fairly removed, thermally, from outside conditions. This technology should work in the wintertime.

Another audience member inquired of the percentage of steam that escapes. Mr. Williamson advised you shouldn't have any releases. That's unacceptable. The technology condenses the steam and liquid, and the remaining gases from the condensation are passed through an activated carbon absorber. This technology must have the usual regulatory air permit. There is air monitoring to ensure no exposure to the workers in the vicinity.

Mr. Williamson's office is based out of Gainesville, Florida. CH2MHill has 60 offices across the United States, with their major office in Atlanta. J.A. Jones has a major office in Charlotte and also has an office in Charleston. When asked about the amount of work and local jobs created by this project, he noted that a lot of the environmental drilling, laboratory analysis, excavation, and demolition work is going to be contracted out. Mr. Williamson pointed out that J.A. Jones is going to conduct a job fair at some point, and that CH2M/Jones will try to find as many local contractors as they can.

Mr. Shepard inquired if there's any way CH2M/Jones could supplement the heating by using the steam that's available at the base. Mr. Williamson advised that steam injection is a tricky thing for remediation and requires some expertise.

Closing Remarks/Next Meeting

Mr. Hunt thanked Mr. Williamson and brought up a discussion of the next meeting. The Hess property will be discussed at the May meeting. There are some things going on with that the RAB needs to be made aware of. Mr. Hunt added that he hoped everyone would have a chance to look at the FOST documents and give the Navy some feedback on what they think.

The next meeting will be on Tuesday, May 9, 2000 at 6:00 at the Sterrett Hall Auditorium.

(Editor=s note: the meeting location had to be changed due to a conflict at the auditorium. The meeting will be held at the Project Team House, Building 761 at the former Naval Base.)

Meeting Adjourned.

Minutes approved by: _____

Tony Hunt
Navy Co-Chair

Louis Mintz
Community Co-Chair