SUMMARY OF MEETING MINUTES
PROJECT MANAGERS MEETING

On September 21, 1992, representatives of the U.S. EPA Region IV, Southern Division Naval Facilities Engineering Command (SDIV), Coastal Systems Station (CSS) Panama City, and ABB-ES met in the U.S. Environmental Protection Agency (USEPA) Regional Headquarters in Atlanta, Georgia to discuss the Draft Final Report of the CSS Panama City RCRA Facility Investigation. The following persons were in attendance.

Name	Title	Affiliation
Peter Dao	RPM	U.S. EPA
Julie Keller	Human Health Risk Assessment Specialist	U.S. EPA
Ken Barfes	Engineer-in-Charge	SDIV
David Criswell	Manager, IR West Section	SDIV
Michael Cross	Director, Public Works Engineering	CSS Panama City
Arturo McDonald	Environmental Engineer	CSS Panama City
Rao Angara	Task Order Manager	ABB-ES
Eric Blomberg	Technical Lead	ABB-ES
David Daniel	Human Health Risk Assessment Specialist	ABB-ES
Norm Richardson	Ecological Risk Assessment Specialist	ABB-ES
Lynn Waldman	Ecological Risk Assessment Specialist	U.S. EPA

The meeting began at 11:00 AM with an introduction of all participants. The meeting agenda was modified to accommodate Ms. Julie Keller (Toxicologist, USEPA), who had another appointment for the afternoon. The meeting began with a discussion of the risk assessment comments. The interchange between Ms. Keller and Mr. Daniel at times strayed from the comment under discussion to other issues raised in other comments. Several issues were revisited at different points in the discussion.

Ms. Keller, USEPA, informed the attendees that she wished to discuss only a few of the comments. She noted that risk assessment procedures for RCRA are not well defined and that many of the Health and Environmental Assessments (HEAs) she has reviewed are prepared in the same format as Baseline Risk Assessments under CERCLA, that is, in accordance with the Risk Assessment Guidance for Superfund

(RAGS). Mr. Daniel, ABB-ES, responded by explaining the approach used was taken from the RCRA Facility Investigation (RFI) Guidance. The RCRA guidance states that the risk assessor should identify potential exposure routes by examination of the contaminated media and develop a set of suitable health and environmental criteria values. Concentrations found in various media are compared to the criteria values. If the contaminant values are substantially less than the criteria values, it is assumed that no threat to human health or the environment is posed and the site may be proposed for No Further Action (NFA). Where contaminant concentrations exceed the criteria values, it is necessary to conduct a risk assessment. The risk assessment is conducted along the RAGS guidelines, but may not be as complete as a Baseline Risk Assessment due to data deficiencies. If, despite data gaps, the site shows a potential for unacceptable health or environmental risk, the site may at EPA's discretion become the subject of a Corrective Measures Study (CMS), which will include a more complete risk assessment. At a later point in the conversation, Mr. Daniel explained that, according to the guidance, the HEA is an ongoing process during the RFI. The assessments at this stage are not final, but subject to change as more data is collected. One of the purposes of preparing an HEA at this point is to identify data needs to support risk assessment needs. By the end of the RFI process, all sites will be fitted in one of three categories. Sites with potential risk identified will have been moved into the CMS process. Sites with very low levels of contamination may be classified as NFA without a full risk assessment. Risk assessments for sites with intermediate levels of contamination will be conducted using RAGS guidelines within the RFI. It was also pointed out by Mr. Daniel that the draft RFI Work Plan had called for a CERCLA-type baseline risk assessment, but USEPA at that time had asked for a revision of the Work Plan to specify the type of document ABB-ES actually delivered.

USEPA Comment No. 4. Ms. Keller recommended that at least some of the samples taken in the next phase should be full scan. Part of the Navy response was that previous sampling results had been considered in determining the analytical parameters and USEPA had reviewed and approved these analyses. The rationale for selecting these parameters will be included in the RFI report.

Mr. Criswell, SDIV, asked if full scan analysis meant Appendix IX compounds. Ms. Keller stated that either Appendix IX or TAL and TCL was acceptable

USEPA Comment No. 12. Ms. Keller stated that a number of Maximum Contaminant Levels (MCLs) and toxicity factors used in calculating Screening Criteria Values (SCVs) are incorrect. Mr. Daniel responded that many of the MCLs cited had been changed (July 17, 1992 Federal Register) after the report was submitted. Ms. Keller agreed and noted that proposed MCLs for polycyclic aromatic hydrocarbons (PAHs) from that source have since been withdrawn. But, she added, a number of slope factors used in calculating SCVs were wrong, and even a correction to an MCL she miscited was corrected in the ABB-ES response with another erroneous value. Mr. Daniel agreed that many of these values are now incorrect since IRIS, the Integrated Risk Information System database, has undergone substantial revisions since the values were drawn from IRIS to prepare the HEA. Both Navy and USEPA realize that the regulations and toxicity factors involved represent moving targets. It will be necessary for the parties to communicate more frequently to

ensure that a current or at least mutually agreed set of these values is used in revisions of the HEA.

Ms. Keller also questioned the lack of incorporation of inhalation into the SCVs. Mr. Daniel indicated that ABB-ES had understood from Mr. Elmer Aiken of the USEPA, who heads the regional risk assessment section, that the methodology for setting SCVs outlined in the Corrective Action for Solid Waste Management Units at Hazardous Waste Management Facilities; Proposed Rule (Friday July 27, 1990 Federal Register) was considered appropriate by Region IV. Ms. Keller will check with Mr. Aiken to see if this is still correct. Ms. Keller indicated that exposure by inhalation could equal or even exceed exposure by ingestion. Mr. Daniel agreed that, for groundwater as an example, inhalation in a shower could approximately equal the exposure due to ingestion of the water. He then explained that the Proposed Rule methodology assumes a 70-year exposure period rather than the 30-year exposure period now incorporated into the CERCLA risk assessment process. This introduces a margin of safety into the SCV that can be used to cover inhalation. Ms. Keller said that a guidance document she has seen says that the risk calculated for ingestion exposures can be doubled to take in inhalation as well. Ms. Keller agreed to locate and send a copy of this guidance to Mr. Daniel. Mr. Daniel noted that use of this guidance would slightly raise the SCVs.

Mr. Daniel and Ms. Keller discussed the approach to PAHs in a side conversation to the discussion of USEPA Comment No. 12. Ms. Keller pointed out that Region IV has adopted a Toxic Equivalency Factor (TEF) approach to PAHs. This approach assigns values to the carcinogenic PAHs to determine their toxicity relative to benzo(a)pyrene. This approach would allow higher SCVs to be set for a number of the PAHs. Mr. Daniel replied that he was concerned that the TEF approach may not be considered valid at some future date and that CSS Panama City, having cleaned to levels currently required using the TEF approach, might have to perform another cleanup to lowered levels.

Ms. Keller also stated that Region III Risk-Based concentration tables should not be used because the tables have not been reviewed by Region IV.

USEPA Comment No. 13. Ms. Keller elaborated on comment No. 13 and stated that the RFI report should provide proper documentation concerning the procedures followed for conducting the HEA. She also indicated that flow diagrams (CERCLA Guidance manual) discussing the various exposure pathways should be included.

USEPA Comment No. 15. Ms. Keller suggested that it is not appropriate to ignore the secondary MCL for zinc because it is not health-based, and then cite the secondary MCL for iron as a reason groundwater would not be used at CSS Panama City. The proper basis for exclusion of groundwater use is the Florida classification of the aquifer. Mr. Daniel recognized that the secondary MCLs are ARARs which will have to be addressed, but still considered the secondary MCL for zinc not to be appropriate for health analysis. The issue of groundwater classification will have to be resolved with FDER at a future meeting, and treatment of the groundwater in future versions of the HEA will have to be adjusted on the basis of that decision.

Ms. Keller recommended that the USEPA Groundwater Support Division should be informed regarding the complicated groundwater scenarios.

USEPA Comment No. 16. Mr. Daniel acknowledged that adjusting cancer risk for arsenic ingestion down an order of magnitude appeared to be a technical issue of risk assessment until one considered the political impact of waiving risk on a technical point. At that point, the adjustment becomes a risk management decision. Mr. Daniel felt that the scientific reasons for such an adjustment should be included in the risk assessment to provide a foundation for the risk manager to decide whether to make the adjustment. Ms. Keller said that such discussion could be included in the risk assessment, but that it belongs in the uncertainty section of the document. She specifically stated that arsenic adjustment be a part of the Statement of Basis. Mr. Daniel asked Ms. Keller if she could supply a copy of the memorandum from the Administrator of the EPA indicating that arsenic risk adjustment is a risk management decision.

USEPA Comment No. 17. Mr. Daniel stated that the text referred to was a statement concerning the nature of the risk numbers being calculated. Ms. Keller agreed, stating that whether it belonged in an uncertainty section depended on one's point of view. She noted that the HEA in its final form could have a number of uncertainty sections relating to individual sites and the overall process.

USEPA Comment No. 20. Ms. Keller disagreed with the suggestion in Navy's response that volatile organic chemicals be analyzed at a depth of 18 to 24 inches below land surface (bls) for surface soil. All parties agreed that sampling for volatile organic compounds will be done at 6 to 12 inches bls.

Two issues were raised which will be discussed with the Florida Department of Environmental Regulation (FDER): groundwater classification, as alluded to earlier, and certain SCVs for carcinogenic metals. Mr. Daniel described the methodology by which the FDER derived cleanup levels for arsenic, cadmium, and chromium. FDER assumes a dust concentration of 75 $\mu g/m^3$ which is presumed to originate from contaminated soil. Using a standard 20 m^3/day breathing rate and inhalation slope factors, FDER has calculated relatively low cleanup levels for these metals in soil. Using the Cowherd model developed by the USEPA to estimate dust generated at a barren site, cancer risks are approximately two orders of magnitude lower than the FDER estimates. Ms. Keller agreed that the Navy estimates were in the same range as estimates achieved by other means, but noted that this issue must be resolved with the satisfaction of FDER.

A related issue is the assumed valence of chromium. Navy has indicated that chromium at SWMU 2 mixed with ash is likely to be reduced to the trivalent state. Ms. Keller stated that Region IV is dealing with several sites with chromium under the assumption that some fraction of the chromium is the carcinogenic hexavalent form. Region IV has not, according to Ms. Keller, prepared any standard guidance on this issue. Further, she stated that the treatment of chromium is a hot topic on the monthly conference calls in which EPA risk assessors participate. Although USEPA may not agree that all the chromium in the soil is the less toxic trivalent form, FDER's position is likely to be more restrictive.

Mr. Angara asked if there was a standard approach that all risk assessors at Region IV followed. Ms. Keller replied that there was not a standard approach beyond RAGS and the supplemental guidances issued by Region IV. The USEPA risk assessors are individuals with different ideas about how certain things in risk assessments should be handled.

Mr. Daniel raised the issue of changes in MCLs and toxicity factors and issuance of new guidances without wide announcement or ready public availability. The Navy wishes to develop better communication channels with the risk assessors at Region IV.

Mr. Daniel asked if Region IV had any guidelines on the use of the Lead 0.5 pharmacokinetic model in setting SCVs or cleanup levels. Ms. Keller replied that no written guidance for use of the model had been developed. Region IV has two expectations from use of this model: First, levels should be set on the basis of values of central tendency, not 90th, 95th, or 99th percentile confidence limits. Second, levels must fall within the 500 to 1,000 mg/kg range set in a prior EPA guidance. ABB-ES requested Ms. Keller to provide a copy of this directive.

USEPA Comment No. 29. Ms. Keller indicated that based on classification of groundwater, the document should be revised accordingly. All participants agreed that FDER input is essential before proceeding any further.

At noon, the meeting adjourned for lunch.

At about 1:30 PM, the meeting reconvened with all participants present, except Ms. Keller. The first item discussed was USEPA Comment No. 3. Mr. Dao asked if the Navy intended to place any wells in the deep aquifer. Mr. Blomberg answered that the Navy did not intend to install monitoring wells in the deep aquifer. Although wells placed at the top of the Intracoastal Formation do show slight contamination, Navy believes that the Floridan Aquifer is separated from the surficial aquifer by a confining layer of about 200 feet thickness. ABB-ES is attempting to obtain more lithological information from the Northwest Florida Water Management District. Was this obtained?

Mr. Cross, CSS Panama City, made a comment on the six deep Floridan aquifer wells located at the Coast Guard station on the other side of Alligator Bayou. He noted that these wells were not necessary for drinking water purposes because the Coast Guard station had city water available at the time of its construction. It is his understanding that these are grounding wells. It is common practice with the Navy to drive copper-clad rods deep into the ground to provide electrical grounding for aircraft and ships. These wells will be surveyed to determine if they are in fact grounding wells.

Mr. Barnes, SDIV, then turned the discussion toward the Corrective Actions Management Plan (CAMP). He pointed out that the Navy cannot award funds to prepare the CAMP until mid-November with actual work

possibly beginning in December 1992. Mr. Barnes said that, given these limitations on funding, SDIV would have to file for an extension. Mr. Dao, USEPA, agreed.

Mr. Barnes also asked about the Task 9 requirement (RCRA Corrective Action Plan, EPA/530-SW-88-028) for regular reports to USEPA, specifically the frequency with which Region IV requires these reports. Mr. Dao replied that there is no policy and that the frequency is a function of the particular site under consideration; that is, one site might require monthly reporting while another could file quarterly reports.

The discussion then returned to the comments as the Navy requested clarification of USEPA Comment No. 10. Mr. Blomberg, ABB-ES, pointed out that SWMU 4 is on the shoreline and that placing a downgradient well is not feasible. Furthermore, FDER had agreed with the ABB-ES recommendation for NFA. Mr. Dao agreed that SWMU 4 should be an NFA site. The Navy will provide him with file pictures of the site verifying the description of the site.

USEPA Comment No. 33. It was pointed out that boat traffic in the Bayou contributes many of the contaminants expected in groundwater migrating from SWMU 1/AOC 2. Mr. Richardson, ABB-ES, proposed that results from wells adjacent to the Bayou be used to model input from groundwater into the Bayou. The flow of groundwater into the Bayou could be calculated and divided by an appropriate dilution factor to yield contaminant concentration originating from SWMU 1/AOC 2. At this point, Mr. Dao arranged for an ecological risk assessment specialist, Mr. Waldman, to join the meeting.

When Mr. Waldman joined the meeting, he was asked about the approach to contamination in Alligator Bayou needed for the ecological risk assessment. Mr. Waldman pointed out that Ms. Joan Dupont would be reviewing the risk assessment and might have a slightly different view of the site. Not being familiar with the site, Mr. Waldman said his approach would be to take surface water and groundwater samples and try to develop a coherent picture from the data. He also recommended that upgradient samples should be taken in the Bayou if such locations can be identified. USEPA was informed that there are multiple sources of discharge into the Alligator Bayou, and the sampling approach should be investigated further.

Mr. Richardson asked about Region IV's position on dermal and inhalation modeling for ecological risk assessment. Mr. Waldman replied that the regional risk assessors did not feel it was necessary. They are used to seeing a more qualitative treatment.

USEPA Comment No. 34. Mr. Blomberg requested a clarification of Comment No. 34, i.e., whether one or two sets of nested shallow and intermediate wells were being requested. Mr. Dao replied that only one pair of nested wells were being requested (i.e., one shallow and one intermediate).

USEPA Comment No. 36. Mr. Blomberg asked about the acceptability of using the Hydropunch and CPT, Level I techniques, to determine extent of contamination. Mr. Dao replied that such determinations are

acceptable, but they must be supported by monitoring well results where Hydropunch results are used as a guide to well placement.

At the close of the meeting, Mr. Angara stated that the RFI report will be revised with an expansion of Chapter 7 to include proposed explorations for the next phase of the investigation. The Navy will submit only the sections of the RFI report that are being revised to the EPA. The Comments and Responses **may** be added as an Attachment to the Final RFI Report.