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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

Certified Mail
Return Receipt Requested

MAY 30 1997

Mr. James F. Harris
Commander Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street
Norfolk, VA 23511-2699

Ref: Final Administrative Order on Consent
U.S. EPA Docket No. RCRA-II-038-CA

Subject: Additional Comments on the Basis of Design For the Biosparging Pilot Test at Solid Waste Management Unit (SWMU) 2E, NAS Oceana (October 2, 1996) prepared by CH2MHill

Dear Mr. Harris:

On January 30, 1997, a meeting was held in the U. S. Environmental Protection Agency (EPA) Region III office. The meeting was attended by representatives from EPA assigned to the project, the Department of Navy, Oceana Naval Air Station and their consultants, CH2MHill, and a representative from the Virginia Department of Environmental Quality (VADEQ). See the enclosed meeting attendance sheet (Enclosure A).

During this meeting, a discussion took place on the Solid Waste Management Unit (SWMU) 2E biosparging pilot test. As a result of this discussion, additional comments were generated by the EPA representatives, Ms. Elizabeth Quinn, Toxicologist and Mr. Jack Hwang, Hydrogeologist and Mr. Russel McAvoy, VADEQ representative. I have compiled these additional comments and listed them in Enclosure B.

Incorporate the additional enclosed comments with those forwarded to you on January 24, 1997 and provide one comprehensive response to both sets of comments. It is recommended that the Department of Navy respond to these comments prior to implementing the study at SWMU 2E. Therefore, if you have any questions regarding these comments, please do not hesitate to contact me at (215) 566-3428 to obtain an expedient response or to schedule a conference call or meeting with all parties involved in the review to obtain a comprehensive response.

In accordance with Task VI. of the Final Administrative Order on Consent, the Department of Navy shall submit a report summarizing the testing program and it's results, both negative and positive at the completion of any laboratory and bench-scale studies.

Sincerely,

Linda Holden
Remedial Project Manager
RCRA Operations Branch

cc: Robert E. Greaves, 3HW90
Betty Ann Quinn, 3HW70
Jack Hwang, 3HW70
Russel McAvoy, VADEQ
Will Bullard, Department of Navy
N. M. Johnson, Department of Navy

ENCLOSURE B

ADDITIONAL COMMENTS ON THE BASIS OF DESIGN FOR THE BIOSPARGING PILOT TEST SWMU 2E

Additional Comment 1: Specify whether the heavier Polynuclear Aromatic Hydrocarbon (PAH) constituents detected in the groundwater samples collected at this SWMU can be remediated to the applicable Maximum Contaminant Levels (MCL). For example, using Benzo(a)pyrene (BAP) as an indicator constituent can the remediation technology achieve a clean up goal of 0.2 ppb?

Additional Comment 2: High concentrations of 1,2-Dichloroethylene (DCE) were detected at geoprobe sampling location 5 and 9 during the previous in-situ sampling investigations. Therefore, it is recommended that additional monitoring of the chlorinated hydrocarbons be conducted. In addition, EPA recommends, at least, monitoring the geoprobe 5 and 9 sampling locations and locations down gradient from the geoprobe 5 and 9 sampling locations for chlorinated hydrocarbon constituents.

Additional Comment 3: U. S. Environmental Protection Agency (EPA) and Virginia Department of Environmental Quality (VADEQ) recommend conducting additional screening for full scan volatile organic constituents at this SWMU. EPA suggests that any additional analysis conducted after this screening should only be required for those constituents detected above established screening levels.

Additional Comment 4: Evaluate whether the concentration of the constituents monitored in the off gas meet the Risk Based Concentration (RBC) for ambient air and/or any VADEQ air emission permit requirements.

Additional Comment 5: To determine the effectiveness of the biosparging technology for remediating the contamination detected at SWMU 2E, EPA recommends conducting monitoring of constituent concentrations and parameters in addition to those recommended in the design proposal.

Additional Comment 6: Perform a mass balance to determine what concentration of the volatile organic constituents are being biodegraded and/or vented in the off gas.

Additional Comment 7: Provide more information on the usage of helium as an inert tracer to determine if the air being injected into the aeration wells is reaching the various probes. Useful information might include case studies, literature reviews, instrumentation to be utilized, etc.

Additional Comment 8: Additional information was received by VADEQ from Dr. R. Ryan Dupont of Utah State University which indicates that laboratory microbial plate counts may be invaluable for predicting the success of biosparging technology. Since this information is contradictory to the literature referenced by EPA in drafting the comments forwarded in the January 24, 1997 letter addressed to James F. Harris, Department of Navy from Linda Holden,

EPA, it is recommended that the Department of Navy contact Dr. Dupont and evaluate the need for conducting the laboratory tests.

Additional Comment 9: Evaluate the effectiveness of using a sulfur fluoride (SF_6) tracer for determining the pathway(s) the off gas may follow.

Additional Comment 10: Provide additional literature and/or documented results from other laboratory and/or pilot studies conducted on this technology that may be used to establish trends and therefore set expectations for the pilot study recommended for SWMU 2E.

Additional Comment 11: Evaluate the possible use of magnesium peroxide as a source of oxygen (slow releasing).