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LETTER AND COMMENTS FROM FLORIDA DEPARTMENT OF ENVIRONMENTAL  
PROTECTION REGARDING GENERAL PROCEDURE FOR BIOREMEDIATION OF  
HYDROCARBON CONTAMINATED SOIL NS MAYPORT FL

5/11/1995

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Lawton Chiles  
Governor

# Department of Environmental Protection

Twin Towers Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Naval Station Mayport  
Administrative Record  
09.01.00.0092

Virginia B. Wetherell  
Secretary

May 11, 1995

Mr. Harold McGill  
Department of the Navy  
Southern Division  
Naval Facilities Engineering Command  
2155 Eagle Drive, P.O. Box 190010  
North Charleston, S.C. 29419-9010

file: rhs\_soil.doc

RE: RHS Technical Services General Procedure for Bioremediation of Hydrocarbon Contaminated Soil, Naval Station Mayport, Florida

Dear Mr. McGill:

I have reviewed the above document which was presented to me at our last partnering meeting in Atlanta on April 5, 1995. I offer the following comments:

1. The proposal is very general and although I think the basic idea of microbial degradation of petroleum contamination is good, the lack of specificity and detail leaves little to actually review; hence, most of my comments will be in the form of questions.
2. I am not aware of the status under which the project would be conducted since the project is a demonstration project conducted at a SWMU. The project may require a Treatability Study Exemption under 40 CFR, Part 261 (February 18, 1994; 53 FR 28118). EPA would need to render a decision in this regard.
3. A basic problem with the proposal is in the introduction of material into the subsurface by the use of wells. Such actions trigger specific regulatory responses under Chapter 62-528, Underground Injection Control. A project of this nature would most likely require a permit from the Department. I realize that the purpose of the project is to improve the environment, but the injection process is closely scrutinized in Florida. For your information, I am enclosing a copy of the appropriate regulation. As you read it, you will see how much detail would need to be furnished should a permit be required; briefly, the applicant would need to furnish a detailed description of the material to be introduced into the subsurface, specific operation protocols, the expected results (based on calculations and previous experiences) and the ultimate fate of the materials used in the injection process. An example of the lack of specificity is illustrated in Section 2.4 which prescribes the use of pressurized hot water with the notation that the "specific technique will be determined by the site supervisor." This information would have to be furnished in detail in the permit review process. Finally, since the contaminant proposed for

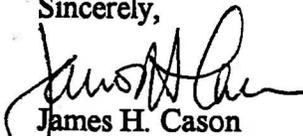
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remediation is petroleum, a review of the project under Chapter 62-770, Petroleum Contamination Site Cleanup Criteria, may be required if the test site is located outside the SWMU.

4. In contrast to using injection techniques, the use of spray techniques, mentioned only once in the Scope would not be subject to the level of scrutiny as would the use of injection processes. An assessment of the ultimate fate of the spray material would be required, however. The drilling of aeration ports would not likely pose extensive technical or regulatory problems as long as they are used for observation or passive aeration. Ground water monitoring may be required since the proposed location of the project is within a designated SWMU (existing wells may possibly be utilized for this purpose but new wells may be required). Related to this, since the proposed location within the SWMU is not specified, the research team needs to be sensitive to the location of non-petroleum contamination that exists at the site.
5. It seems reasonable that the Navy would expect the consultant to furnish information regarding the expected cleanup efficiencies. Simple predictive rate models incorporating initial pollutant quantities, expected microbial degradation rates and treatment costs per unit of contamination would suffice and should be required as part of the proposal.
6. In Section 3.0, Microbe Injection, it is stated that "The solution will be mixed in a holding receptacle one half to one hour prior to use. Exact concentrations and quantities will be determined after a review of the test results." Assuming the solution is the microbe and nutrient mixture, what test results does this refer to? Attached to the proposal is a one page chart showing the amount of microbes, biocatalyst and water required; since the plot has been designated previously as 100 cubic yards, only a simple calculation is required. This is an example of the generality of the document that elicits questions rather than comment on the actual process.

Thank you for the opportunity to review this proposal. If you have questions or require further clarification, please contact me at (904) 488-3935.

Sincerely,



James H. Cason  
Remedial Project Manager

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cc: Cheryl Mitchell, NAVSTA Mayport  
David Driggers, SOUTHFACENGCOM, Charleston  
Jay Bassett, EPA Region IV, Atlanta  
John Mitchell, FDEP, Tallahassee

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