

MINUTES OF MEETING

American Petroleum Institute
Florida Benzene Standard Study Group
Steering Committee
April 18, 1986
Tampa Airport Marriott
Tampa, Florida

The Steering Committee of the Florida Benzene Standard Study Group met in Tampa in accordance with the notice previously mailed to members.

Steering Committee Members Attending

Bruce Bastian
Peter Craig
Gene Schmidt

Steering Committee Members Absent

Bill Duchie
Jeff Angerman
Floyd Garrot
Steve Lewis
Jim Rocco
Doug Shelby

Guests

Jim Alves, Hopping Boyd Green and Sams
John Davies, University of Miami School of Medicine
Bob Levine, University of Miami School of Medicine
Bill Preston, Hopping Boyd Green and Sams
Sorell Schwartz, Center for Environmental Health and Human Toxicology
Bob Sielken, Sielken Inc.
Bill Tucker, ESE Inc.

Introduction and Opening Remarks

Bruce Bastian sitting in for Mr. Duchie as Chairman, opened the meeting at 9:15 a.m. and indicated that the purpose of the meeting was to familiarize the authors with the content of the report subsections and to attempt to develop a uniform format for each subsection. His remarks provided those present with a review of the Florida groundwater cleanup standard for benzene as well as a review of the Study Group's efforts. Further, he stated that the study itself will have the following primary function:

1. To develop groundwater models for various leak scenarios which will provide data regarding post cleanup risk.

2. The above data may then be used with the Florida Department of Environmental Regulation to negotiate variances in groundwater standards at individual sites.

3. Or, as needed, the study may be used to seek legislative or regulatory changes.

4. Finally, the report's information will be beneficial to the petroleum industry in other states as a review of groundwater standards takes place.

Dr. Craig then commented on the concept of the risk assessment process and its application in the development of state environment and health regulations. He noted that the study should focus on the myth that zero dose was equal to zero risk when, in fact, there is no such thing as zero dose. He also suggested that the study must recognize benzene is a natural substance and a normal body constituent.

A lengthy discussion ensued regarding risk assessment as a means of determining potential hazard; benzene's prevalence in the environment; various premises regarding dose response levels; the role of background levels of substance in measurement; and the most appropriate means of presenting the industry's case within the context of the study.

Following this discussion, the group reviewed and commented upon a proposed table of contents for the study.

Proposed Model Table of Contents

Mr. Bastian referred the group to a previously distributed proposed table of contents and subsequently, each of the contractors presented an outline of their respective sections.

Mr. Bill Preston of the Tallahassee Florida law firm of Hopping Boyd Green and Sams advised the group that he and his associate Jim Alves, had agreed to provide an executive summary of the major components of the study. Mr. Preston envisioned this as a guide for the lay person unfamiliar with the highly technical examination to be prepared by the more scientifically oriented contractors. He called upon the remaining authors to provide a "plain English" review of their documents and to be available to discuss their findings as the summary was prepared.

Mr. Preston also indicated that his firm would prepare the first major component of the study, the "Legislative/Regulatory Review." This section will provide a review of the basis for the drinking water/groundwater standards as well as a discussion of the enforcement and variances applied to the standards.

Dr. John Davies and Dr. Bob Levine of the University of Miami School of Medicine indicated that they would work with others to complete the study's second major component on "Hazard Assessment." Ben Thomas of Shell Oil Company will address the issue of the toxicological efforts of benzene by summarizing current knowledge. Dr. Levine will provide a summation of the current literature regarding the human health effects at various dose levels of benzene. Dr. Levine noted that the review will provide comments on the known effects but that the dose levels have not been established with any precision and thus were subject to some guess work.

Action Item

Dr. Craig indicated that he would obtain an examination of exposure levels for the consultants that is currently being prepared by the API Benzene Task Force.

ESE's Bill Tucker stated that ESE would provide a commentary on non-drinking water exposure as well as a brief review of drinking water use patterns. This latter piece will examine drinking water intake.

Dr. Levine and Dr. Davies final piece to this study component will be a demographic examination of Florida residents designed to determine whether people are exposed to the same source of drinking water for lengthy periods of time.

Dr. Tucker then detailed the elements of the third component of the study in which ESE will examine "Environmental Fate and Transport." ESE will prepare models capable of simulating groundwater transport in the saturated and unsaturated region. They will apply these models to ten different geohydrological settings common in Florida. In addition, the models will be validated with data from actual gasoline release sites in Florida. Data from two sites will be used for numerical verification. Data from these sites and some additional sites will be examined for trends and generalizations.

ESE will also provide the fourth major component of the study relative to "Mitigation Containment." Within the context of this section there will be an examination of the cleanup procedures and costs to reach benzene levels of 10, 100 and 200 ppb. *what about* Additionally, ESE will provide a discussion of the analytical *Env. std. of* considerations, such as measurement reliabilities or lack *EPA 5* thereof, which complicate the process.

The fifth major component, to be performed by Dr. Schwartz and Dr. Sielken, will examine the "Risk Assessment" issue. Dr. Schwartz reported that he will examine the biological considerations of the study. His document would provide information on the biological significance of benzene ingestion

at low dose levels relative to normal benzene body burden. It is to examine the biological data used in arriving at the standard with the view to predicting biological variability and determining the effect that variability has on the sensitivity of the standard. Dr. Sielken then indicated that he would complement Dr. Schwartz material with a statistical evaluation utilizing animal bioassays and sensitivity analysis.

Finally, Mr. Bastian indicated that the steering committee would prepare a section with conclusions.

Action Item

The "Model Table of Contents" was amended as appropriate and Mr. Bastian indicated that a revised version would be circulated, along with the format examples for tables, charts, references, with the minutes of the meeting (attached). Mr. Bastian also directed staff to attach a draft of the report cover to the minutes of the meeting and seek comments.

Report Timetable and Reproduction

The contractors all indicated that delays had been incurred in the processing of their proposals and that May 30, 1986 was probably a more likely date for the first rough draft of the report. Dr. Davies indicated that the demographer would need until mid-June to complete that aspect of the study.

Mr. Bastian encouraged all parties to complete their respective study components in a timely fashion. Additionally, after a poll of the contractors indicated that the report may be in the area of 140-150 pages long, Mr. Bastian encouraged the group to be as brief as possible, consistent with documenting the important issues.

Potential for DER Dialogue

Mr. Preston then queried the group as to whether the Study Group had considered approaching the Florida DER to advise them of the study. He indicated that if the models were to be accepted by DER as reliable then an early introduction of DER staff into the process would be beneficial. Mr. Bastian indicated that this would be a subject for the next meeting of the Steering Committee.

I passed some questions to Bill Archie @ Debbie D's suggestion

Adjournment

There being no other business the meeting was adjourned.

Respectfully submitted,

William Rozett, III
Recording Secretary

BENZENE IN FLORIDA GROUNDWATER

AN ASSESSMENT OF THE SIGNIFICANCE TO HUMAN HEALTH



**Florida Petroleum Council
A Division of the American Petroleum Institute**



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FLORIDA BENZENE STANDARD STUDY

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William D. Preston

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William D. Preston

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John E. Davies, M.D.

API Member Toxicologist

William A. Tucker, Ph.D. et al

3. Toxicological Effects of Benzene (API)
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William A. Tucker, Ph.D. et al

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William A. Tucker, Ph.D. et al

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Sorell L. Schwartz, Ph.D.

Robert L. Sielken, Jr., Ph.D.

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PART SIX: CONCLUSIONS

API Steering Committee

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MODEL PROPOSED FORMAT FOR FLORIDA
BENZENE STANDARD STUDY

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LEGISLATIVE AND REGULATORY REVIEW

William D. Preston
Hopping, Boyd, Green and Sams
Tallahassee, Florida

1-1 LEGISLATIVE BASIS FOR GROUNDWATER STANDARDS

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Table 1-1. Summary of Florida Statutes

Section	Title	Content
FS 403.021	Policy	
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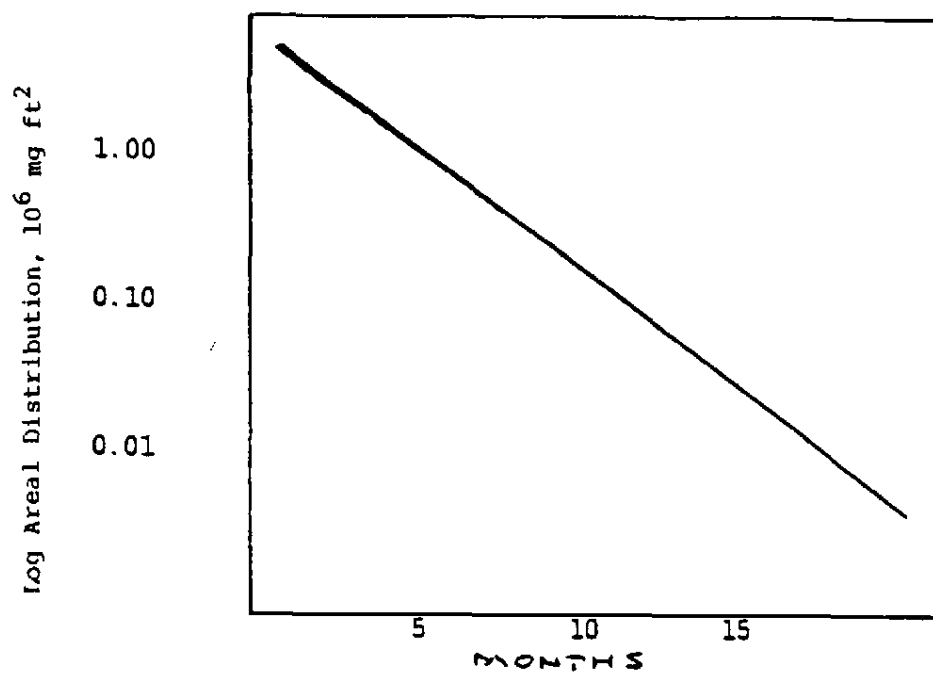


Fig. 8-3 Rate of disappearance of hydrocarbons at Site A, (Ref. 8-7).

REFERENCES

- 1-1. Wilson, R., "Analyzing the Daily Risks of Life," Technology Review (MIT) 41-46, February, 1979.