U.S. Department
of Transportation
**United States
Coast Guard**

Commandant
United States Coast Guard

2100 Second Street, S.W.
Washington, DC 20593-0001
Staff Symbol: G-IC
Phone: (202) 366-4280
FAX: (202) 366-7124

01 MAY 2000
5730

The Honorable Albert Gore, Jr.
President of the Senate
Washington, DC 20510

Dear Mr. President:

Section 7001 of Title VII of the 1990 Oil Pollution Act (OPA 90) requires the Chairman of the Interagency Coordinating Committee on Oil Pollution Research to submit biennial reports on activities carried out under section 7001 in the preceding two fiscal years, and on activities proposed to be carried out in the current two-fiscal year period. This fourth biennial report responds to the congressional requirement by summarizing activities carried out in fiscal years 1997 and 1998, and assessing the Committee's role in fiscal years 1999 and 2000.

During the two year period of 1997-1998 the Committee: completed and forwarded to Congress a revised five-year plan for Interagency Oil Pollution Research; completed the last of the regional grants under OPA-90; and coordinated nationally and internationally on a variety of cooperative Oil Pollution Research initiatives. During the two year period of 1999-2000 the Committee will: continue to meet both formally and informally to coordinate on established priorities for Interagency Oil Pollution Research; participate through its member agencies in future international research and development forums; reinvigorate the Oil Pollution Research Database through a cooperative partnership with the National Response Team's Committee on Science and Technology; and update the International Oil Pollution R&D Abstract Database maintained by the International Maritime Organization.

An identical letter has been sent to the Speaker of the House.

Sincerely,

L.L. HERETH
Captain, U.S. Coast Guard
Chairman, Interagency
Coordination Committee on
Oil Pollution Research

Encl: (1) Report to Congress on the Interagency Coordinating Committee on Oil Spill Pollution Research

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The Honorable J. Dennis Hastert
Speaker of the House of
Representatives
Washington, DC 20515

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REPORT TO CONGRESS

ON THE

INTERAGENCY COORDINATING COMMITTEE

ON

OIL SPILL POLLUTION RESEARCH

March 2000

REPORT TO CONGRESS ON THE INTERAGENCY COORDINATING COMMITTEE ON OIL SPILL POLLUTION RESEARCH

Section 7001 of Title VII of the 1990 Oil Pollution Act (OPA 90) requires the Chairman of the Interagency Coordinating Committee on Oil Pollution Research to submit biennial reports on activities carried out under section 7001 in the preceding two fiscal years, and on activities proposed to be carried out in the current two-fiscal year period. This fourth biennial report responds to the congressional requirement by summarizing activities carried out in fiscal years 1997 and 1998, and assessing the Committee's role in fiscal years 1999 and 2000.

Created by Title VII of OPA 90, the thirteen member Committee was tasked to: (1) prepare a comprehensive, Coordinated Federal Oil Pollution Research and Development (R&D) Plan; and (2) promote cooperation with industry, universities, research institutions, state governments, and other nations through information sharing, coordinated planning, and joint funding of projects. OPA 90 called for the implementation of three programs to accomplish these objectives. These programs are:

- A comprehensive program of Federal Oil Pollution R&D;
- A Regional Research Program of competitive grants to universities and other research institutions; and
- A series of Port Oil Pollution Minimization Demonstration Projects.

During this period members have undertaken a number of joint projects for alternative technologies, most notably for in-situ burning, fast water recovery, emulsion breaking, bioremediation, biodegradation and dispersants. In this context, the research has continued to incrementally close gaps in the state of knowledge and operations. Cooperative efforts have included bilateral cooperation with Canada. Committee interactions are comprised of coordinated efforts, cross-briefings, direct partnering, and shared agendas to avoid duplication.

The Committee met six times during fiscal years 1997 and 1998. Meeting dates and locations were chosen with an eye towards facilitating contact with state and industry representatives. Meetings were scheduled to facilitate the preparation of the revised five-year R&D plan and minimize travel costs. The dates and locations of these meetings were as follows:

- March 1997: International Oil Spill Conference / Fort Lauderdale, FL
- April 1997: U.S. Coast Guard / Washington, DC (finalization of the R&D five-year plan.)
- October 1997: U.S. Coast Guard Research and Development Center / Groton, CT
- March 1998: Environment Canada / Ottawa, Ontario, Canada
- June 1998: Office of Spill Preparedness / Sacramento, California

- September 1998: Minerals Management Service Ohmsett Facility / Atlantic Highlands, New Jersey

Additional R&D Coordinating Meetings were held with both the National Response Team's Committee on Science and Technology on a monthly basis and the American Petroleum Institute's Committee on Science and Technology on a twice per year basis.

During fiscal years 1997 and 1998 the Committee focused on:

- Using a systems analysis approach to revise its Oil Pollution Research and Technology Plan, completed April 1997;

- Assisting in the preparation and conduct of the International Oil Spill Conference (Fort Lauderdale, March 1997);

- Completion of projects funded with the remaining Coast Guard's Regional Research Grant money; and,

- Direct participation in cooperative efforts with industry and the states through more frequent information sharing meetings and ex-officio membership of the American Petroleum Institute's Committee on Science and Technology by member agencies.

- Member agencies generally conducting oil spill-related R&D in support of their internal mission requirements. All are kept up-to-date on each other's efforts, and collaborate extensively when the opportunity arises.

The Interagency Coordinating Committee received funding in FY94 and FY95. No funding has been received since that time, and none remains under this Program. The Committee created a five-year plan in 1996 that identified priority areas for research. Current efforts that are continuing the work of this Committee are being funded through the member agencies' budgets.

The following research was concluded in 1997 through carry over of 1995 grant funding:

- Rupture Analysis of Oil Tankers in a Side Collision – This test was performed in order to obtain a better understanding of tanker failures involving side collisions. Tests involved literature review, examination of ductile plate failure, and the examination of side shell failures for hard point fractures. A review was conducted, new formulas were derived for the resistance of ductile plating in tankers, and the most likely locations for hard-point fractures of tankers in side collisions were identified.

- Numerical Modeling of Boom Barrier Systems – Tests were conducted to discover boom persistence with differing physical properties of oil. The testing included examining the effects of weathering oil on deployed boom. It was found that oil surface tension is a key factor in boom persistence, boom failure is delayed if surface tensions of oil is reduced, lighter oils have lesser head-wave instability, and weathering of oil increases the likelihood of boom failure.

- Development of Rapid Current Boom – This project's purpose was to develop 3-Dimensional (3-D) floating oil barriers for high current crops. During testing researchers obtained key factors for rapid current boom and successful rapid current recovery. 3-D boom with oil tested cross-section was developed and future areas to study should include gap control, draft and exit areas.

- Filtration Studies of Orimulsion ™ - The problem addressed by this project was the need for filtration/recovery of bitumen from water. Testing was conducted to find filtration methods for bitumen from water, and it was found that diatomaceous earth pre-coat filtration was most effective for removal of small amounts of bitumen from large volumes of water.

- Micro and Meso-scale Methods for Predicting Low-API Gravity Oils (LAPIO) Spilled on Water – The problem addressed by these tests was the need for knowledge of physical behaviors of LAPIOs. The LAPIOs were evaluated for physical behaviors, and it was found that small changes in temperatures can result in sinking or re-floating LAPIOs, and that emulsions, once formed, were generally stable and contain little water. Such fuels have a wide range in dispersability. Orimulsion ™ releases will result in unique behaviors depending upon salinity content of water, and information an information gap exists regarding the interaction of LAPIOs with particles.

- Source Identification of Oil Spills Based on Isotopic Composition of Individual Components in Weathered Oil Samples – The problem addressed was the need to be able to identify weathered oil for persistent spills that may be discovered many hours, or days, after a spill event. Testing included the evaluation of the ability of various types of spectrometry for "foot-print" comparisons of weathered oils in potential sources. This demonstration showed that Gas Chromatography Individual Ratio Mass Spectrometry (CG-IRMS) fulfills the expected criteria as a correlation tool of weathered and unweathered oils and refined hydrocarbons spilled in the environment.

- Human Reliability and Error Prevention in Tank Barge and Transfer Operations – The problem addressed was the need for analysis of human factors data and information for potential areas for additional research in tank barge transfer operations. Analysis was conducted and found that implications for training, data collection and analysis should be explored for inclusion in a new CG information system for the following to close gaps: human reliability system analysis, task and cognitive task analysis, human information processing considerations, sociotechnical consideration that can be linked to deeper casual factors and near miss data should be explored. (The Coast Guard is currently exploring the use of near miss data.)

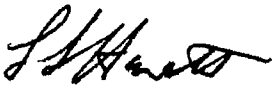
The Committee expects to meet at least annually during fiscal years 1999 and 2000. When possible, these meetings will be in held in conjunction with oil pollution-related conferences, hopefully maximizing contacts with states and industry groups.
The Committee will continue to:

- Serve as a forum for the interagency exchange and dissemination of information regarding oil pollution research needs, ongoing projects, and research findings;

- Update the International Oil Pollution R&D Abstract Database maintained by the International Maritime Organization;

- Reinvigorate the Oil Pollution R&D Abstract (U.S. Domestic) Database through cooperation with the National Response Team's Science and Technology Sub-committee; and,

- Participate through its member agencies in future International Oil Spill R&D Forums.



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