

OFFICE COPY

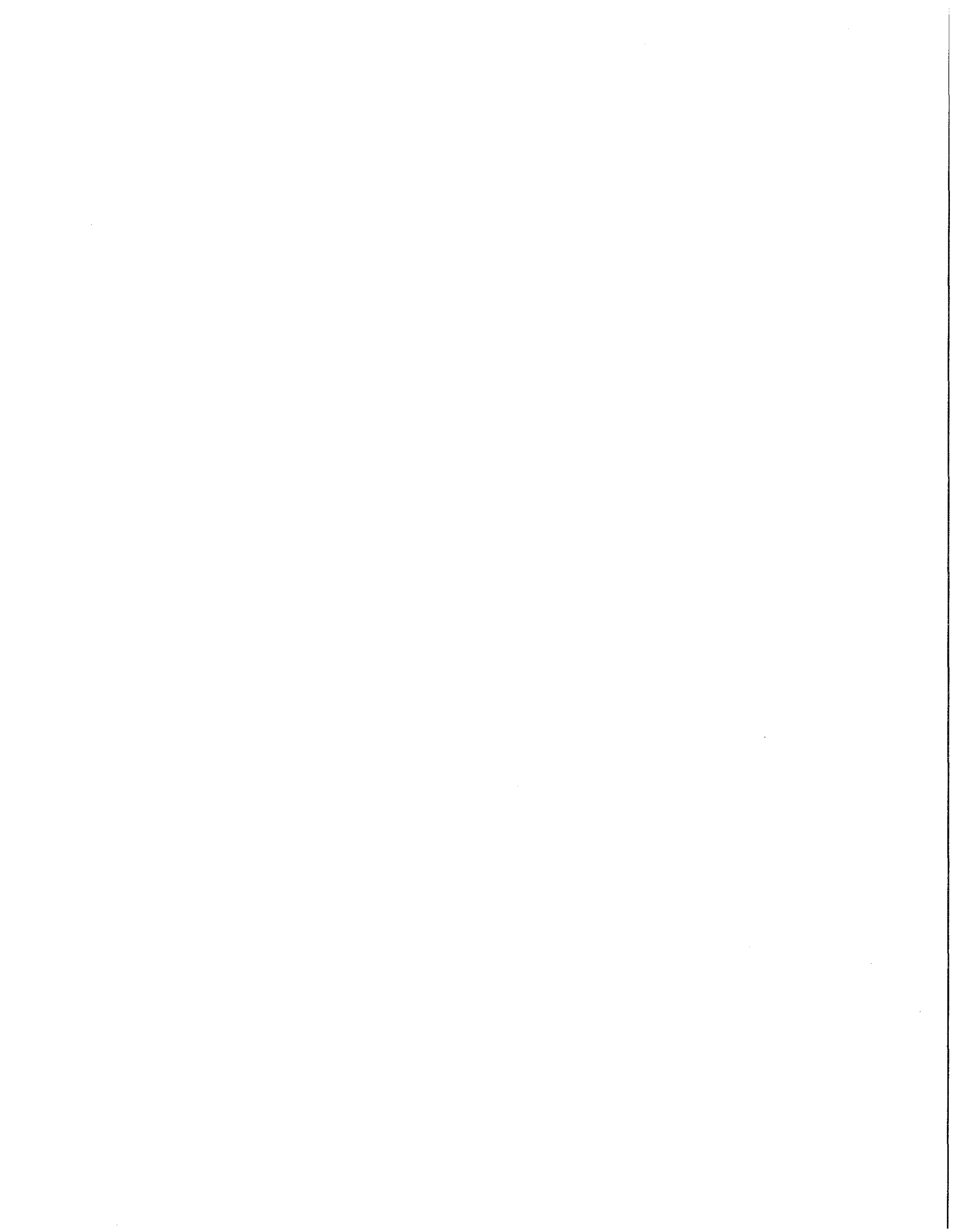
PARTICIPATION
IN THE
WATER FOR PEACE PROGRAM

A Report of
THE NATIONAL PETROLEUM COUNCIL
1966

REPORT OF THE
NATIONAL PETROLEUM COUNCIL'S
COMMITTEE ON PARTICIPATION
IN THE
WATER FOR PEACE PROGRAM

John M. Kelly, Chairman

July 19, 1966



NATIONAL PETROLEUM COUNCIL
COMMITTEE ON
PARTICIPATION IN THE WATER FOR PEACE PROGRAM

CHAIRMAN

John M. Kelly
Petroleum Consultant
1001 Connecticut Avenue, N. W.
Washington, D. C. 20036

CO-CHAIRMAN

Hon. J. Cordell Moore
Assistant Secretary of the
Interior for Mineral Resources
U. S. Department of the Interior
Washington, D. C. 20240

SECRETARY

Vincent M. Brown
Secretary-Treasurer
National Petroleum Council
1625 K Street, N. W.
Washington, D. C. 20006

* * *

G. M. Anderson
Post Office Box 1765
Shreveport, Louisiana 71101

E. D. Brockett
Chairman of the Board
Gulf Oil Corporation
Gulf Building
Pittsburgh, Pennsylvania 15230

Herbert D. Doan
President
Dow Chemical Company
47 Building
Midland, Michigan 48640

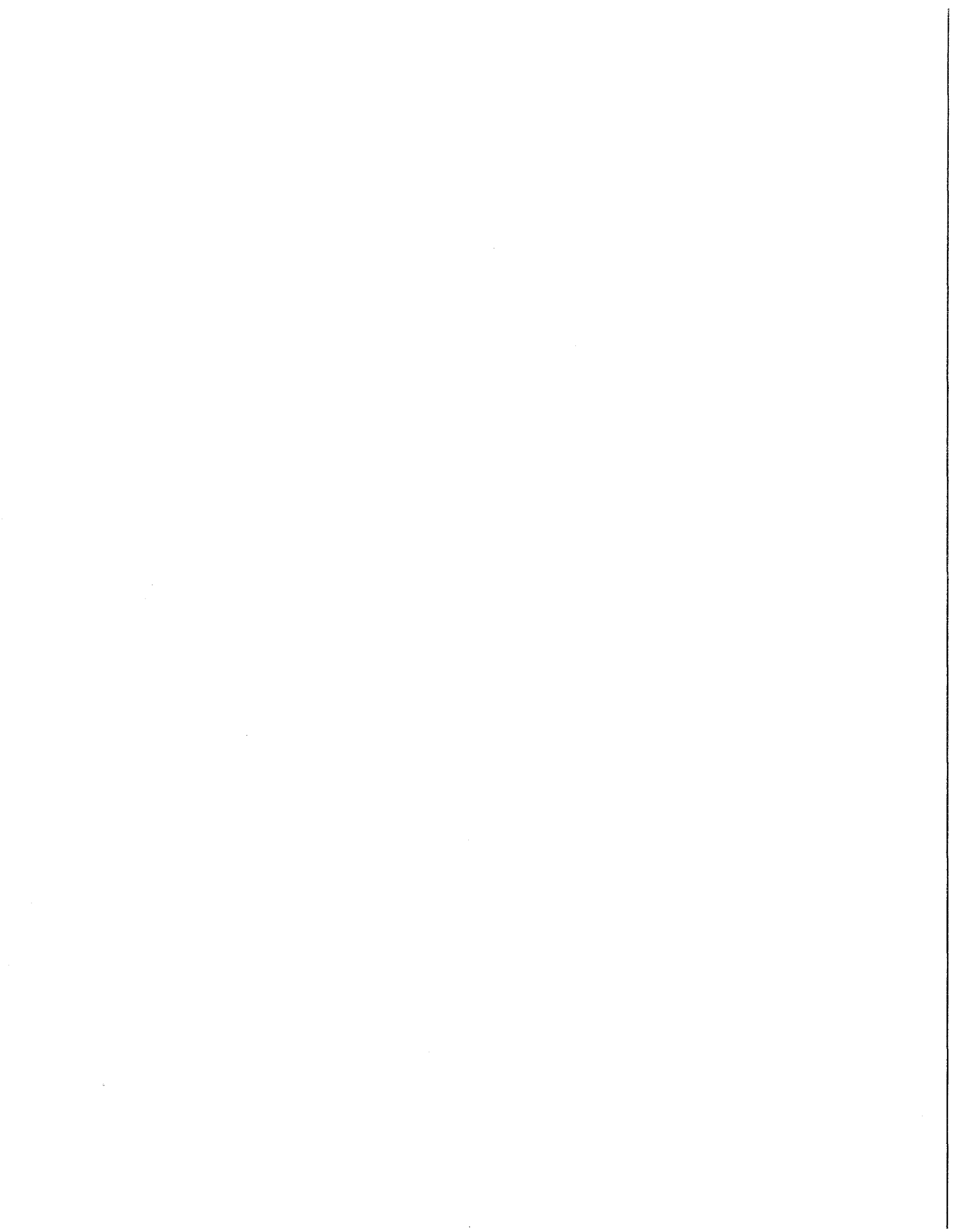
R. G. Follis
Chairman of the Board
Standard Oil Company of California
225 Bush Street
San Francisco, California 94120

M. L. Haider
Chairman of the Board
Standard Oil Company (N.J.)
30 Rockefeller Plaza
New York, New York 10020

L. F. McCollum
Chairman of the Board
Continental Oil Company
Post Office Box 2197
Houston, Texas 77001

E. L. Steiniger
Chairman of the Board
Sinclair Oil Corporation
600 Fifth Avenue
New York, New York 10020

John E. Swearingen
Chairman of the Board
Standard Oil Company (Indiana)
910 South Michigan Avenue
Chicago, Illinois 60680



REPORT OF THE COMMITTEE
ON PARTICIPATION IN THE WATER FOR PEACE PROGRAM

JULY 19, 1966

1. INTRODUCTION

On October 7, 1965, President Johnson, while addressing the delegates to the First International Symposium on Desalination, announced the beginning of a Water for Peace Program. He called for a massive cooperative international effort to find solutions for man's water problems.

The Department of the Interior was assigned a leading role in formulating and implementing this Program. On February 1, 1966, the Hon. J. Cordell Moore, Assistant Secretary of the Interior for Mineral Resources, in a letter to Mr. Jake L. Hamon, Chairman of the National Petroleum Council, suggested that the petroleum industry had a desirable and necessary role to play in the Water for Peace Program (see Appendix 1). He cited the petroleum industry as one of the non-governmental sources that have played extensive and effective roles in the search for and development of water resources. Accordingly, he requested the Council's assistance and advice, by July 1, 1966, in formulating the role that should be given to the petroleum industry in connection with the Water for Peace Program, as well as how the role might be transformed into practical application.

The Council agreed to consider this request, and the Committee on Participation in the Water for Peace Program was established on March 7, 1966, under the Chairmanship of Mr. John M. Kelly, a member of the Council, and former Assistant Secretary of the Interior.

Committee representatives met with Interior officials to ascertain more precisely the nature of the Water for Peace Program, and clarify what type of assistance was being sought from the Council at this time. In order to evaluate ways in which the industry might be of assistance, the Interior representatives suggested, as a desirable first step, that a preliminary survey be made that would accomplish: (a) assemblage of the knowledge and experience possessed by the petroleum industry about water problems and development opportunities; and (b) consideration of how this knowledge and experience might be made available through bilateral, regional and international programs.

In keeping with this request, the Committee developed a short series of questions, the responses to which would enable it to make a broad assessment of the manner in which the petroleum industry might participate, at least in a general way, in the Water for Peace Program. The following material is a summary of the comments and information furnished by the following companies participating in this preliminary survey: G. M. Anderson, Shreveport,

Louisiana; Arabian American Oil Company; Continental Oil Company; Dow Chemical Company; Gulf Oil Corporation; Sinclair Oil Corporation; Standard Oil Company of California; Standard Oil Company (Indiana); Standard Oil Company (N.J.). The details furnished by these companies have been made available to the Department of the Interior.

2. GENERAL COMMENT

It is difficult at this time to submit specific ways in which the petroleum industry might participate in the Water for Peace Program because of the scope of the problems and the large number of individual situations or points of cooperation that could be developed.

Broadly, the water problems of developing countries can be divided into two parts. One is the problem of providing water for human and industrial use in urban areas, and the other is providing water for agricultural use. In both cases, solutions to these problems in developing countries must meet the specific needs of each country, and would naturally be quite different for areas where water is scarce, than for other areas where water supply is adequate and merely requires proper development. In order to formulate an effective water assistance program, it is felt that the specific needs of each country should first be carefully evaluated.

In many developing countries the urban water problems frequently require only the application of existing technology for

their solution. Competent technology can be provided by well established international engineering firms which could advise the Interior Department on the overall program. These firms can conduct surveys and engineering studies, construct appropriate facilities, and train crews to operate these facilities. In some cases progress is limited by the lack of capital, but in many cases the limitation is inadequate local government planning, decision making, and project management. In this regard, petroleum companies, as well as others, could assist developing countries by advising where facilities for the training of people for these activities are available. Visits with the Federal agencies as well as some of the more advanced water planning groups of the states might be a starting point.

Regarding water for agriculture, the same problems of government planning and decision making exist in many developing countries. However, this problem is complex since supplying water must be evaluated on the basis of overall agricultural economics. The cost of water must be appropriately related to the value of crops raised. Consequently, any assistance provided to a developing country on water for agriculture should be coordinated with an overall program to improve its agricultural technology, tailored to the particular needs of that country.

3. SUMMARY OF PRELIMINARY FINDINGS

The companies surveyed have either exploration, producing or refining activities abroad in those countries listed in Appendix 2. These operations are conducted either directly, through affiliates, or by participation in companies jointly controlled by several major companies.

Generally, most of the available detailed information is in the hands of divisions or affiliates in local countries. The list shown in Appendix 2 indicates where the survey participants have petroleum operations of one type or another. It is not intended to imply that the company or companies operating in the stated country necessarily have any unique or useful information on water resources for that country in its files.

In the course of providing the water required for drilling, producing, refining, processing, community and industrial operations, some of the following types of information on water supplies have been developed:

- (a) General location and quality of underground water formations and surface water.
- (b) Water treatment and handling required to purify specific local water sources for human consumption, corrosion control, and injection into underground oil reservoirs.

- (c) Installation and operation of small desalinization plants and water systems required to conduct routine operations, e.g., communities of 50 to 5,000 inhabitants.
- (d) Water supply problems in villages and in rural or agricultural areas.

Company files may contain information related to water resources which is in general terms and only indirectly related to the specific objectives of the Water for Peace Program. Examples of the type of exploratory work that has been conducted by companies include surface geologic studies, photogeology, seismic exploration, seismic shot hole tests, exploratory drilling for oil and gas, and drilling of water supply wells.

General information might be obtained from such experience. For example, reports on surface geologic studies could include general discussions of river drainage systems and climate. Photogeologic studies include drainage pattern analysis. Seismic surveys require shallow drilling for explosives and might include information on water encountered in shot holes. Exploratory wells require water from a local source to make the drilling mud. In many cases, such water would have been obtained from wells drilled for that purpose.

Some of the companies surveyed indicated that they have also participated in either specific water programs or water-related research projects.

Some petroleum companies have carried out research and development on new techniques for sealing of canals and construction of watersheds and catchments. These techniques can be of considerable importance in water harvesting, particularly for agricultural use. In addition, one petroleum company has carried out promising research on the asphalt coating of large land areas to generate additional rainfall in rain deficient areas by inducing thermal updrafts. These companies have indicated willingness to work with appropriate agencies in applying this technology or carrying out further research.

4. CONCLUSION

Petroleum companies operating abroad do have some technical knowledge about the water resources of the countries in which they operate. Much of this information, which is located in the local country, has been made available in report form to local governments. Desalinization plant data has been provided the U. S. Office of Saline Water.

It is not known whether water analysis data supplied to local governments has been utilized to the fullest extent. Additional information on water, which might be useful to the specific

objectives of the Water for Peace Program, might be obtained from company files once the specific needs are known.

Each company surveyed indicated its willingness to assist in the Water for Peace Program where its background could be of value. Where the companies have pertinent information on water resources, salinity, and water analysis, they would be willing to share such through an appropriate vehicle, whether it be a regional or national organization, or a conference, or by working directly as appropriate with a particular agency. Such cooperation would have to be on specific activities. In addition, the companies indicate a willingness to assist in counseling people dealing with technical agencies in foreign countries.

It is felt, therefore, that once the particulars for the implementation of the Water for Peace Program are developed by the Federal Government, individual petroleum companies operating abroad would be willing to share the water-related knowledge and experience they have through an appropriate plan or mechanism.

The Committee is pleased to submit the above Summary. As indicated previously, the detailed replies received from the companies surveyed have been made available to the Department of the Interior for its further information.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

C
O
P
Y

February 1, 1966

Dear Mr. Hamon:

The Department of the Interior has been assigned a leading role in formulating and implementing President Johnson's Water for Peace Program. The President has called for a massive cooperative international effort to find solutions for man's water problems. While many separate activities are now being carried on, much more can be done through coordinating these diverse efforts in a systematic manner to attain measured progress in the utilization of water resources. Roadblocks must be identified and removed, whether they be technical, organizational, or financial. Success in this effort obviously requires that we invoke the contribution which can be made by all available groups, including the United States government, particularly through the foreign assistance program; the United Nations system; the academic community; and private industry.

Among the non-governmental sources that have played extensive and effective roles in the search for and development of water sources are the thousands of petroleum groups and companies, both domestic and international. Oil seekers have regularly been world-wide pioneers for water as well as for oil, and often have been the first to make water or subsurface water geology available to local economic and social needs.

The petroleum industry has a desirable and necessary role to play in the Water for Peace Program. We need your assistance and advice in formulating the role that should be given to the petroleum industry, as well as how the role may be transformed into practical application. Particularly, we believe the experience of the petroleum industry in the less-developed countries of the world may be of significant help in planning and carrying forward

this new program. Therefore, the National Petroleum Council is requested to study this avenue for cooperation and contribution and advise me of its conclusions not later than July 1, 1966.

Sincerely yours,

/S/ J. CORDELL MOORE

Assistant Secretary of the
Interior

Mr. Jake Hamon
Chairman
National Petroleum Council
1625 K Street, N. W.
Washington, D. C. 20006

LIST OF AREAS OR COUNTRIES IN WHICH
SURVEYED COMPANIES HAVE PETROLEUM OPERATIONS

EASTERN HEMISPHERE

Algeria
Australia
Bahrein
Egypt
Hadhramaut
Indonesia
Kuwait
Libya
Mozambique
New Zealand
Nigeria
Pakistan
Philippines
Saudia Arabia
Spanish Sahara
Sudan
Sumatra
Turkey

WESTERN HEMISPHERE

Argentina
Bolivia
British Honduras
Colombia
Ecuador
Guatemala
Mexico
Nicaragua
Peru
Trinidad
Venezuela

