

III

IMPLEMENTING AGREEMENT
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF ENERGY AND MINES OF THE REPUBLIC OF VENEZUELA
TO EVALUATE PAST AND ON-GOING ENHANCED OIL RECOVERY PROJECTS
IN THE UNITED STATES AND VENEZUELA

WHEREAS, the United States Department of Energy (hereinafter referred to as DOE) and the Ministry of Energy and Mines of Venezuela (hereinafter referred to as MEMV) are interested in cooperating in the field of energy research and development.

WHEREAS, in furtherance of their mutual interest DOE and MEMV entered into an Agreement signed March 6, 1980 (hereinafter referred to as the Agreement);

WHEREAS, DOE and MEMV desire to increase the scientific areas of understanding of enhanced oil recovery by developing a consistent and comprehensive base of data on the technical and economic performance of enhanced oil recovery (hereinafter referred to as EOR) projects conducted in Venezuela and the United States; and

WHEREAS, the state-of-the-art is as follows: a compilation of EOR projects in 1977 showed that there have been 80 small scale technical EOR pilots and an additional 60 economic size EOR pilots conducted in the United States. In addition, 50 reservoirs are, or have been, under some form of field scale EOR development. Although many of these are repetitious of the same technique in favorable geologic settings (e.g., steam drive in shallow

reservoirs or polymer floods), some of the recent tests, particularly those sponsored by the DOE, have begun to address the higher risk/higher yield EOR targets.

In Venezuela work has been conducted on 64 EOR projects in heavy oil reservoirs around Lake Maracaibo and on the northeastern edge of the Orinoco Heavy Oil Belt.

The performance of all these EOR projects has varied greatly, ranging from success to failure to displace oil. However, insufficient analyses have been made on the basic science and the engineering factors that distinguish the successes from the failures. Rigorous compilation and analyses of the various projects, processes and reservoir settings could appreciably increase the scientific base of understanding of enhanced oil recovery.

IT IS AGREED AS FOLLOWS:

ARTICLE 1

In accordance with Article V of the Agreement the Venezuelan representative of the Steering Committee has designated INTEVEP, S.A. to act on behalf of MEMV under this Implementing Agreement. INTEVEP and DOE shall be hereinafter referred to as the Parties to this Implementing Agreement. The Assistant Secretary for Fossil Energy or his designee shall be primarily responsible for the programmatic aspects of this Implementing Agreement for DOE. Each Party shall designate one Project Manager for this Implementing Agreement.

ARTICLE 2

The Parties shall cooperate in the exchange of information that the Parties have the right to disclose in the area of enhanced oil recovery (EOR). Specifically the Parties shall cooperate in accordance with the following Tasks:

TASKS

Task 1 - Data Base Compilation

- a) The Project Managers shall jointly prepare a format to be used for the exchange of information on EOR projects.
- b) Each Project Manager shall prepare a list of past and on-going EOR Projects conducted in his respective country. Each such compilation shall include available data in the format specified in Task 1a.
- c) Available data for the compilation prepared by the United States shall mean data from cost-shared projects, government generated data, and such other data as may be available from the incentive program which operates under the provisions of 10 Code of Federal Regulations 212.78.
- c) The Project Managers shall jointly determine the number and type of EOR Projects for which there shall be data analysis performed in accordance with the conditions established in this Implementing Agreement.

Task 2 - Data Analysis

- a) The Project Managers shall agree upon a format to be used for the analyses agreed to be performed pursuant to this task.

- b) The Project Managers shall jointly develop a plan for engineering analyses and statistical analyses of the relationship of process variables and reservoir parameters to the performance of EOR Projects.

- c) Both Parties shall jointly and equally support the analyses of the EOR project in accordance with the plan developed by the Project Managers in Task 2b.

Task 3 - Workshops

The Project Managers shall hold technical exchange workshops as necessary during the duration of this Implementing Agreement. The Parties shall collect and make publicly available, in a form to be determined by the Project Managers, reports of all technical and evaluative workshops. The workshops shall be organized by the Project Managers who will prepare and distribute an agenda no later than thirty days prior to the date of each workshop.

Task 4 - Reports

The Parties shall prepare quarterly progress reports, including plans for forthcoming activities and modifications to earlier plans, and a final report which will include a description of the activities undertaken pursuant to this Implementing Agreement.

ARTICLE 3

Each Party shall bear the travel and living expenses as well as salaries of its personnel and all related costs of attending technical exchange workshops. The host Party for each workshop shall bear all other costs associated with it.

Both Parties agree to share equally the costs of the planning and analyses of Tasks 1 and 2 subject to the availability of appropriated funds. If the Parties agree that the planning and analyses shall be undertaken primarily or totally in the country of one Party, the other Party shall transfer to that Party a sum of money necessary to support its equitable share of the analyses pursuant to transfer procedures which will be agreed to in writing prior to the first transfer of funds. The cost for Tasks 1 and 2 shall not exceed \$600,000 (in United States Dollars) over 18 months without the express approval of the Joint Steering Committee. With regard to reports under Task 4, each Party shall bear its own costs.

The overall plan and budget for this Implementing Agreement shall be prepared by the Project Managers and submitted to the Joint Steering Committee for approval.

ARTICLE 4

The Parties shall support the widest possible dissemination of information under this Implementing Agreement in accordance with Article 2 of the Annex to the Agreement.

ARTICLE 5

Rights to any invention or discovery made or conceived in the course of or under this Implementing Agreement shall be distributed as provided in paragraph 1 of Article VI of the Agreement. As to third countries, rights to such inventions shall be decided by the Joint Steering Committee.

Each Party shall take all necessary steps to provide the cooperation from its inventors required to carry out this Article. Each Party shall assume the responsibility to pay awards or compensation required to be paid to its own nationals according to its own laws.

ARTICLE 6

The existing terms and conditions of the Agreement signed by DOE and MEMV shall continue and remain in full force and effect notwithstanding the terms of this Implementing Agreement. Articles 3, 4, 5, 6, 7, 8 and 9 of the Annex to the Agreement are hereby incorporated by reference.

ARTICLE 7

This Implementing Agreement shall enter into force upon signature and shall remain in force for a period of one and one-half years. It may be amended or extended by mutual written consent of the Parties in accordance with Article V of the Agreement signed by MEMV and DOE.

ARTICLE 8

This Implementing Agreement may be terminated at any time at the discretion of either Party, upon six (6) months advance notification in writing to the other Party by the Party seeking to terminate the Implementing Agreement. Such termination shall be without prejudice to the rights which may have accrued under this Implementing Agreement to either Party up to the date of such termination.

Done at Caracas in the English and Spanish languages, each text being equally authentic, this 10th day of July, 1980.

The Joint Steering Committee

On behalf of DOE

[Signature]
Member

Martin R. Adams
Member

[Signature]
Alternate Member

On behalf of MEMV

[Signature]
Member

[Signature]
Member

[Signature]
Member

EXTENSION OF
IMPLEMENTING AGREEMENT III
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF ENERGY AND MINES OF THE REPUBLIC OF VENEZUELA
TO EVALUATE PAST AND ON-GOING ENHANCED OIL RECOVERY PROJECTS
IN THE UNITED STATES AND VENEZUELA

WHEREAS, the United States Department of Energy (DOE) and the Ministry of Energy and Mines of Venezuela (MEMV) did, on the 10th day of July 1980, enter into an Implementing Agreement to Evaluate Past and On-Going Enhanced Oil Recovery Projects in the United States and Venezuela (hereinafter referred to as the Implementing Agreement);

IT IS AGREED AS FOLLOWS:

ARTICLE 1

In accordance with Article 7 of the Implementing Agreement and in accordance with Article V of the Energy Research and Development Agreement of March 6, 1980, DOE and MEMV hereby extend the Implementing Agreement until July 1, 1982 or until terminated by written notice as provided in Article 8 of the Implementing Agreement.

ARTICLE 2

The Implementing Agreement between DOE and MEMV shall hereafter consist of the Implementing Agreement, as amended by this Extension.

Done at Washington and Caracas in the English and Spanish languages, each text equally authentic.

THE JOINT STEERING COMMITTEE

On behalf of DOE

Jan W. Moore
Member

Edward J. Jennings
Member

Member

February 1, 1982
Date

On behalf of MEMV

[Signature]
Member

[Signature]
Member

[Signature]
Member

February 5, 1982
Date

664

THIRD AMENDMENT AND EXTENSION
OF
IMPLEMENTING AGREEMENT III
BETWEEN

THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA:
AND

THE MINISTRY OF ENERGY AND MINES OF THE REPUBLIC OF VENEZUELA
**TO EVALUATE PAST AND ON-GOING ENHANCED OIL RECOVERY
PROJECTS IN THE UNITED STATES AND VENEZUELA**

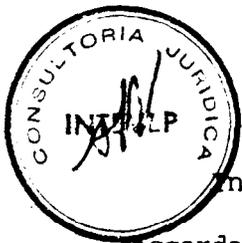
WHEREAS, the United States Department of Energy (DOE) and the Ministry of Energy and Mines of Venezuela (**MEMV**) did, on the 10th day of July 1980, enter into an Implementing Agreement to evaluate Past and On-Going Enhanced Oil Recovery Projects in the United States and Venezuela (hereinafter referred to as the Implementing Agreement);

WHEREAS, the Parties in the First Amendment and Extension of October 1983 and in the Second Amendment and Extension of April 1983 amended and extended the Implementing Agreement to supplement cooperation in evaluating past and on-going projects;

WHEREAS, the Parties now desire to Emend and extend the **Implemented** Agreement as amended;

IT IS AGREED AS FOLLOWS:

ARTICLE 1



In accordance with Article 7 of the Implementing Agreement and in accordance with Article V of the Energy Research and **Development** Agreement of March 6, 1980, DOE and **MEMV** hereby **amend** and extend the Implementing Agreement as hereinafter provided.

ARTICLE 2

Article 1 of the Implementing Agreement and all other articles and provisions--except those describing obligations that have been completely performed--that are not herein **amended** are extended as written.

ARTICLE 3

Article 2 is **amended** by adding the following task:

Task 9: DOE shall provide to INTEVEP the following six predictive models, three developed by DOE and three developed by DOE and the National Petroleum Council (NPC) that are subject to any **conditios** stipulated by NPC: micellar-polymer, steam drive, CO₂ miscible, polymer, in-situ combustion, and alkaline. INTEVEP shall provide to DOE its cyclic-steam model. The Project Managers shall jointly develop a plan for the documentation (user's manual) of all seven models, subject to the review and approval of such plan by the Steering **Committee**. INTEVEP shall provide the documentation for all seven models and bear the costs therefor; DDE will provide to INTEVEP engineering and managerial support during the documentation phase. INTEVEP shall provide to DOE all documentation for all seven predictability models; DOE and INTEVEP **may** use the documentation for any and all uses whatsoever.

ARTICLE 4



The Implementing Agreement between DOE and MEW shall hereafter consist of the Implementing Agreement as amended by this **Amendment** and Extension.

ARTICLE 5

The Amendment and Extension shall become effective upon the later date of signature. The Implementing Agreement, as amended, shall remain in effect until March 6, 1990, or until terminated by written notice as provided in Article 8 of the Implementing Agreement.

Done in Washington, D.C., and Caracas, Venezuela.

THE JOINT STEERING COMMITTEE

On behalf of DOE

Keith N. Frye
Member - Keith Frye

George Stosur
Member - George Stosur

Robert Folstein
Member - Robert Folstein

Date

On behalf of MEMV

Manuel Alayeto
Member - Manuel Alayeto

Enrique Vasquez
Member - Enrique Vasquez

Luis Giusti
Member - Luis Giusti

Dec. 03, 1984
Date

