

ANNEX I

to the

MEMORANDUM OF UNDERSTANDING

FOR THE EXCHANGE OF TECHNICAL INFORMATION AND

FOR COOPERATION IN THE FIELD OF

ENERGY RESEARCH AND DEVELOPMENT

BETWEEN THE MEXICAN PETROLEUM INSTITUTE OF MEXICO AND

THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA

on

Computer Modeling and Mass Transport in Geological

Reservoirs as well as Research on High Temperature

Geophysical Probes and Logging Instruments

1. Objective: The objective of the cooperation is to use existing 2 - and 3 - dimensional computer codes at Los Alamos National Laboratory (LANL) to study heat and mass transfer problems in complex geological structures and numerical fluid dynamics which have application to improved understanding of oil recovery processes as well as to gain a better understanding of geophysical instruments and tools, capable of operating at high temperatures, pressures, including the selection and design of such instruments and tools.

Scope:

2. a. The cooperation shall be performed under the Memorandum of Understanding for the Exchange of Technical Information and for Cooperation in the Field of Energy Research and Develop-

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ment, hereinafter referred to as "the MOU", between the the Mexican Petroleum Institute (IMP) of Mexico and the Department of Energy (DOE) of the United States of America, hereinafter referred to as "the Parties"

b. The scope of this Annex may include the following fields:

- (i) Mass and heat transport modeling of two-phase fluid flow applicable to petroleum reservoir engineering, including fluid flow in reservoir (matrix) rock and in naturally existing fractures.
- (ii) Numerical fluid dynamics in rock fracture, constitutive relations, and stress wave propagation in geologic media to improve understanding of oil recovery processes.
- (iii) Field instruments and tools to operate in geological formations under high temperature and/or aggressive media.

c. The cooperation shall be performed through:

- (i) Exchange of personnel between the Parties in accordance with paragraph 7 of this Annex.
- (ii) Exchange of information between the Parties in accordance with paragraph 6 of this Annex.

3. Management: The coordinators designated pursuant to Article 3 of the MOU shall supervise the execution of this Annex.

4. Funding: All costs resulting from cooperation under this Annex shall be borne by the Party that incurs them.

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5. Responsibility:

- a. It is understood that the ability of the Parties to carry out their obligations under this MOU is subject to the availability of appropriated funds.
- b. No warranty of any kind is made by either Party for materials, information or services that may be furnished to the other Party under this MOU.
- c. Compensation for damages incurred during the cooperative activities under this MOU shall be in accordance with the applicable laws and regulations under which each Party operates.
- d. Cooperation under this MOU shall be in accordance with the applicable laws and regulations under which each party operates. All questions related to this MOU arising during this term shall be settled by the Parties by mutual agreement.


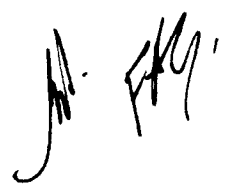
6. Information:

- a. DOE shall provide to IMP a copy of its 2 - and 3 - dimensional codes. The 2 - and 3 - dimensional codes are the property of DOE, and may be used by both Parties in their normal activities with no restriction, DOE and IMP shall exchange information promptly arising under Annex I. At the end of the cooperative efforts, DOE shall provide IMP the 2 - and 3 - dimensional computer codes with changes made during Annex I.
- b. The Parties support the wide dissemination of information

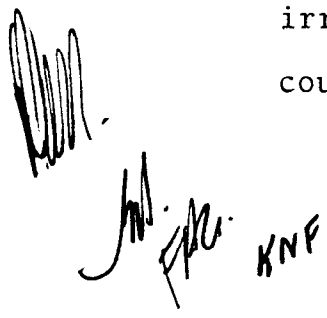
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provided, exchanged or arising under Annex I. Such information may be made available to the public by either Party through customary channels and in accordance with the normal procedures of the Parties.

- c. The application or use of any information provided, exchanged or developed by the Parties under Annex I shall be the responsibility of the Party receiving it, and the transmitting Party does not warrant the suitability of such information for any use or application.
- d. Copyrights of either Party or of cooperating organizations or persons shall be accorded treatment consistent with internationally recognized standards of protection.
- e. Proprietary information shall not be accepted for, or utilized in, the cooperative activities under Annex I without the express written approval of the Parties. For the purposes of Annex I, proprietary information shall mean information which contains trade secrets or commercial or financial information which is privileged or confidential, and may only include such information which:
 - (i) Has been held in confidence by its owner;
 - (ii) Is of a type which is customarily held in confidence by its owner;
 - (iii) Has not been transmitted by the transmitting Party to other entities (including the receiving Party) except on the basis that it be held in confidence; and



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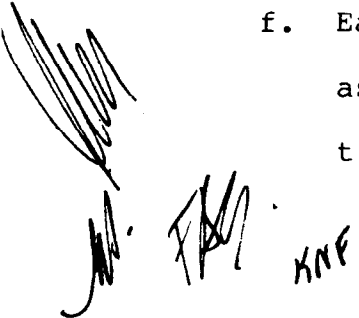
(iv) Is not otherwise available to the receiving Party from another source without restriction on its further dissemination.

- f. Inventions made or conceived in the course of or under Annex I (arising inventions) shall be identified and reported promptly by the inventing Party to the other Party. Information regarding inventions on which patent protection is to be obtained shall not be published or publicly disclosed by the Parties until a patent application has been filed in either country of the Parties, provided, however, that this restriction on publication or disclosure shall not extend beyond six months from the date of reporting of the invention. It shall be the responsibility of the inventing Party to appropriately mark reports which disclose inventions that have not been appropriately protected by the filing of a patent application.
- g. Arising inventions shall be owned (1) by IMP in Mexico subject to a royalty-free, non-exclusive, irrevocable license to DOE and the nationals of its country designated by it and (2) by DOE in the United States and third countries subject to a royalty-free, non-exclusive, irrevocable license to IMP and the nationals of its country designated by it.
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- h. Each Party shall assume the responsibility to pay awards or compensation required to be paid to its own nationals according to its own laws. Each Party shall, without prejudice to any rights of inventors under its national laws, take all necessary steps to provide the cooperation from its inventors required to carry out the provisions of Annex I.

7. Assignment of Personnel:

- a. Whenever a personnel assignment is contemplated under this arrangement, each Party shall ensure that qualified staff is selected for assignment to the other Party or its contractors.
- b. Each such assignment shall be the subject of a separate assignment agreement between the Parties.
- c. Each Party shall be responsible for the salaries, insurance and allowances to be paid to its staff.
- d. Each Party shall pay for the travel and living expenses of its staff while on assignment to the host Party, unless otherwise agreed.
- e. The host establishment shall do its best to arrange for comparable accommodations for the attached staff and their families on a mutually agreeable, reciprocal basis.
- f. Each Party shall provide all necessary assistance to the assigned staff (and their families) as regards administrative formalities, such as travel arrangements.

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- g. The attached staff of each Party shall conform to the general and special rules of work and safety regulations in force at the host establishment, or as agreed in a separate personnel assignment agreement.

8. Duration:


- a. This Annex shall enter into force on the latter date of signature and shall continue in force until September 31, 1985.
- b. This Annex may be amended at any time by mutual written agreement of the Parties.
- c. Either Party may terminate this Annex to take effect upon two months written notification. Such termination shall be without prejudice to the rights which may have accrued under this Annex to either Party up to the date of such termination.
- d. All joint efforts and experiments not completed at the termination of this Annex may be continued by either or both Parties until their completion under the terms of this Annex.

Done in the English language at the United States Department of Energy, Washington D.C., United States of America and translated into the Spanish Language at the Instituto Mexicano del Petroleo, Mexico City, Mexico.

Both versions have the same validity.


Mexican Petroleum Institute

 KNF
U.S. Department of Energy


3 April 1984
(date)

5/30/84 KNF
(date)