

**PROJECT ANNEX NO. XVIII
TO THE AGREEMENT FOR ENERGY COOPERATION
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF ENERGY AND MINES OF THE
BOLIVARIAN REPUBLIC OF VENEZUELA
IN THE AREA OF
NATURAL GAS TECHNOLOGIES**

The Department of Energy of the United States of America (DOE) and the Ministry of Energy and Mines of the Bolivarian Republic of Venezuela (MEM), hereinafter the "Parties";

NOTING their mutually beneficial cooperation under the Agreement for Energy Cooperation between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Bolivarian Republic of Venezuela signed October 13, 1997 (hereinafter "Agreement"); and

SHARING mutual interest in undertaking new cooperative activities in the field of natural gas research within the framework of the Agreement;

The Parties agree as follows:

ARTICLE 1

- 1.1 This Project Annex is subject to and shall be governed by the Agreement.
- 1.2 In accordance with Article III (B) of the Agreement, the Joint Steering Committee shall designate Project Manager(s) to manage the cooperative activities under this Project Annex.

ARTICLE 2

The four tasks to be carried out under this Project Annex are:

Task 1: Methane Hydrates: Exploration, Drilling and Exploitation schemes

1.1- Information Exchange

- a) Each Project Manager will prepare a distribution list of representatives in his/her respective country for the exchange of information pertaining to methane hydrates.

b) Periodic exchanges of methane hydrates information will be performed according to the directions of the Project Managers. Information to be exchanged will include, but not be limited to, the DOE Quarterly and Annual Reports, the PDVSA Technical Magazine "Vision Tecnologica," and copies of PDVSA Intevep papers presented at international events on subjects related to methane hydrates.

1.2- Data Base Compilation and Exchange

a) Data from past and on-going methane hydrate projects, conducted in each Party's country, will be periodically exchanged by the Parties according to the Project Managers' instructions.

b) Data available for compilation and exchange by DOE shall mean non-confidential data from United States government funded, cost-shared Research, Development, and Demonstration (RD&D) activities in the methane hydrate area, and other publicly-available data.

c) Data available for compilation and exchange by MEM shall mean non-confidential methane hydrate data.

d) Upon receiving each other's data, DOE and MEM personnel will evaluate the data, make the necessary assessments, and report the results to each other.

1.3- Technical Exchange Meetings

Either Party may request meetings to discuss, gain assistance, or receive training in the use and development of methane hydrate information and technologies, or to discuss other aspects of this Project Annex.

Task 2: Sour Gas Treatment

2.1- Information Exchange

a) Each Project Manager will prepare a distribution list of representatives in his/her respective country for the exchange of information pertaining to sour gas treatment.

b) Periodic exchanges of sour gas treatment information will be made according to the directions of the Project Managers. Information to be exchanged will include, but not be limited to, the DOE Quarterly and Annual Reports, the PDVSA Technical Magazine "Vision Tecnologica", and copies of PDVSA Intevep papers

presented at international events on subjects related to sour gas treatment.

2.2- Data Base Compilation and Exchange

a) Data from past and on-going sour gas treatment projects and catalyst performance, conducted in each Party's country, will be periodically exchanged by the Parties according to the Project Managers' instructions.

b) Data available for compilation and exchange by DOE and MEM shall mean non-confidential sour gas treatment data.

c) Upon receiving each other's data, DOE and MEM personnel will evaluate the data, make the necessary assessments, and report the results to each other.

2.3- Technical Exchange Meetings

Either Party may request meetings to discuss, gain assistance, or receive training in the use and development of sour gas treatment information and technologies, or to discuss other aspects of this Project Annex.

Task 3: Underground Gas Storage/ Liquefied Natural Gas

3.1- Information Exchange

a) Each Project Manager will prepare a distribution list of representatives in his/her respective country for the exchange of information pertaining to underground gas storage/liquefied natural gas.

b) Periodic exchanges of information will be performed as per the Project Managers' agreement. Information to be exchanged will include but not be limited to the DOE Quarterly and Annual Reports, the PDVSA Technical Magazine "Vision Tecnologica", and copies of PDVSA Intevep papers related to this subject area presented at international events.

3.2- Data Base Compilation and Exchange

a) Periodic exchanges of data of past and on-going natural gas storage and liquefied natural gas projects conducted in the Parties' respective countries will be performed as per the Project Managers' agreement.

b) Data available for compilation and exchange by DOE shall mean non-confidential data from the United States government funded, cost-shared RD&D activities in natural gas storage and liquefied natural gas and other publicly

available data.

c) Data available for compilation and exchange by MEM shall mean non-confidential data.

d) Upon receipt of each other's data DOE and MEM personnel will make assessments, and report the results to each other.

3.3- Technical Exchange Meetings

Either Party may request meetings to discuss, gain assistance, or receive training in the use and development of natural gas storage and liquefied natural gas technologies, or other aspects of the various tasks of this Project Annex.

Task 4: Reservoir Characterization: Thin, Deep and Fractured Sands

4.1- Information Exchange

a) Each Project Manager will prepare a distribution list of representatives in his/her respective country for the exchange of information pertaining to reservoir characterization.

b) Periodic exchanges of reservoir characterization information will be performed according to the directions of the Project Managers. Information to be exchanged will include, but not be limited to, the DOE Quarterly and Annual Reports, the PDVSA Technical Magazine "Vision Tecnologica", and copies of PDVSA Intevep papers presented at international events on subjects related to reservoir characterization.

4.2- Data Base Compilation and Exchange

a) Data from past and on-going reservoir characterization projects, conducted in each Party's country, will be periodically exchanged by the Parties according to the Project Managers' instructions.

b) Periodic exchanges of reservoir characterization data from log interpretation, core/log studies and petrophysics technology of distinguishing fluid content will be performed according to the Project Managers' agreement. Also, information on characterization of pore throat analysis in gas sands and new technology for development in laminated thin beds and heterogeneous gas reservoirs shall be exchanged.

c) Data available for compilation and exchange by DOE and MEM shall mean non-confidential reservoir characterization data.

d) Upon receiving each other's data, DOE and MEM personnel will evaluate the data, make the necessary assessments, and report the results to each other.

4.3- Technical Exchange Meetings

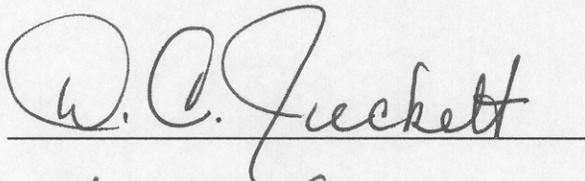
Either Party may request meetings to discuss, gain assistance, or receive training in the use and development of reservoir characterization information and technologies, or to discuss other aspects of various tasks of this Project Annex.

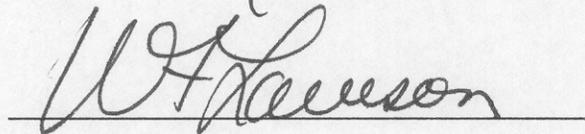
ARTICLE 3

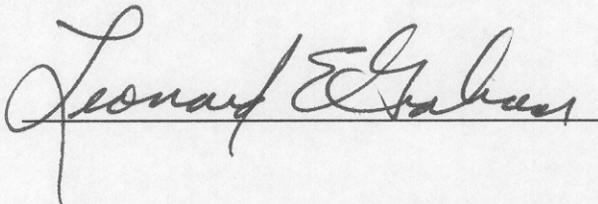
This Project Annex will become effective upon signature by both Parties and will remain in effect for five years or as long as the Agreement remains in force, whichever is shorter. This Project Annex may be amended, extended or terminated in accordance with Article XII of the Agreement.

Done in duplicate in the English and Spanish languages, each text being equally authentic, at Morgantown, West Virginia, this 9th day of August, 2001

**FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA**







**FOR THE MINISTRY OF ENERGY
AND MINES OF THE BOLIVARIAN
REPUBLIC OF VENEZUELA**

