

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
OF THE DEPARTMENT OF COMMERCE
OF THE UNITED STATES OF AMERICA
AND
THE NATIONAL INSTITUTE OF METROLOGY, STANDARDIZATION
AND INDUSTRIAL QUALITY
OF THE MINISTRY OF DEVELOPMENT, INDUSTRY AND FOREIGN TRADE
OF THE FEDERATIVE REPUBLIC OF BRAZIL
CONCERNING TECHNICAL COOPERATION IN CHEMISTRY, PHYSICS, AND
ENGINEERING MEASUREMENT SCIENCES

Article I. Purpose and Objectives

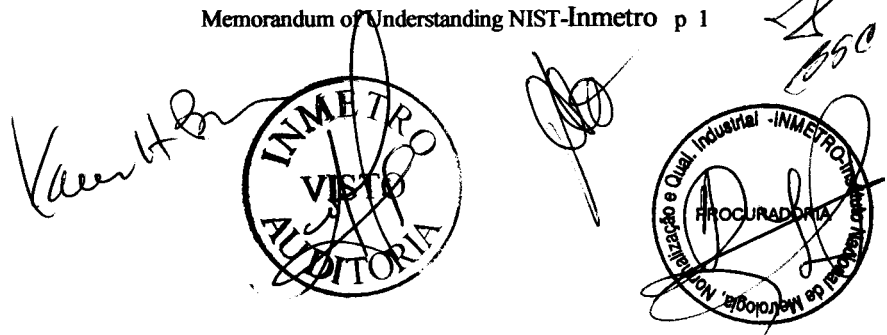
A. In order to provide a mechanism for scientific and technical cooperation in chemistry, physics, and engineering measurement sciences, the National Institute of Standards and Technology (KIST) of the Department of Commerce of the United States of America and the National Institute of Metrology, Standardization and Industrial Quality (INMETRO) of the Ministry of Development, Industry and Foreign Trade of the Federative Republic of Brazil hereby agree to pursue scientific and technical cooperation in chemistry, physics, and engineering measurement sciences in accordance with this Memorandum of Understanding (hereinafter referred to as "the Memorandum").

B. The purpose of this Memorandum is to provide a framework for the exchange of scientific and technical knowledge services and the augmentation of scientific and technical capabilities of NIST and INMETRO (hereinafter referred to as the "Parties") with respect to the chemistry, physics, and engineering measurement sciences.

C. This Memorandum is being implemented within the framework provided by the Agreement Relating to Cooperation in Science and Technology between the United States of America and the Federative Republic of Brazil (hereinafter referred to as the "Agreement") signed February 6, 1984, as amended and extended.

Article II. Cooperative Activities

A. Forms of cooperative activities under this Memorandum may consist of exchange of technical and administrative information, reference data and materials, calibrations, and standards; exchange visits; cooperative research between scientists of the Parties engaged in research disciplines within the scope of programs of the Parties; technical assistance; and other forms of cooperative activities as are mutually agreed upon.

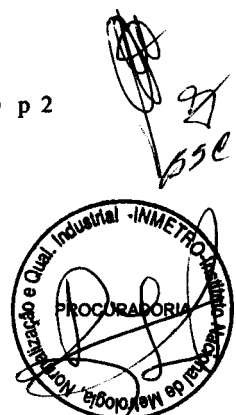
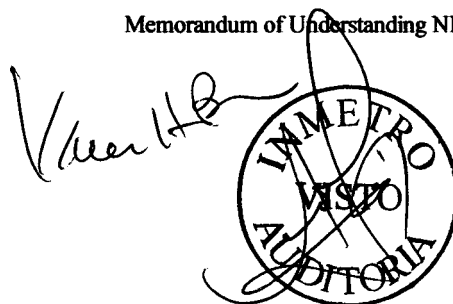


In cases where traceability to NIST and the demonstration of the equivalence between standards of INMETRO and NIST are a requirement of a governmental organization, planning of intercomparisons that are not covered already by the Interamerican Metrology System (SIM) regional comparisons and the International Committee of Weights and Measures (CIPM) Mutual Recognition Arrangement may be considered in accordance with Article III of this MOU.

B. Specific types of cooperation may include, but are not limited to, areas of mutual interest such as:

- I. Research stays by INMETRO scientists and technical staff at NIST;
 2. Cooperative research projects carried out partially in each institution, including cooperation in the production of Standard Reference Data;
 3. Mutual development and exchange of Standard Reference Materials;
 4. Intercomparisons of primary and national standards;
 5. Calibrations of special instruments or standards, in cases where one Party has unique capabilities;
 6. Participation in seminars, and workshop and training courses in each others' laboratories;
 7. Participation in standards related measures and conformity assessment;
 8. Exchange of publications;
 9. Technical assistance from NIST experts to INMETRO or the Government of Brazil to improve the current national schemes of scientific, industrial and legal metrology, and to develop new metrological activities;
 10. Temporary loan of equipment, when available, for the implementation of specific activities; and
- II. Other activities as may be agreed.

C. In activities relating to points 3, 4, and 5 of this article, NIST shall consider measurement services from INMETRO and/or its designated laboratories as an exchange for reference materials and intercomparisons of national and international standards.



Article III. Source of Funding

Research activities under this Memorandum are subject to and dependent upon the availability of appropriated funds, personnel, and resources. Under the Memorandum, the receiving-side will pay for facilities, supplies, and other research costs except for those, which are required only to meet a Guest Researcher's special needs. The sending-side will continue normal support of the exchange scientists, including base salary and fringe benefits. In most cases, any subsistence allowance provided to compensate for differential costs of living will be provided by the sending-side. However, the receiving-side may provide a portion or all of the subsistence allowance if doing otherwise would prevent the exchange from occurring.

Article IV. Intellectual Property

The protection and distribution of intellectual property created or furnished in the course of cooperative activities under this Memorandum shall be in accordance with Annex I of the Agreement as amended and extended.

Article V. Disclaimer

Information transmitted by one Party to the other Party under this Memorandum shall be accurate and reliable to the best knowledge and belief of the transmitting party, but the transmitting party does not warrant the suitability of the information transmitted for any particular use of or application by the receiving party or any third party.

Article VI. Planning and Review of Activities


A. The Parties shall name representatives who, at times mutually established by the Parties, shall plan and review activities under this Memorandum and use their best abilities to mitigate disputes, if any.

B. The point of contact for implementation of these activities for NIST shall be the Director for International and Academic Affairs, and for INMETRO shall be the Head of International Affairs or other officially-designated organizational unit in writing.

Article VII. Project Annexes

Any activity carried out under this Memorandum shall be agreed upon by the Parties in writing and shall be subject to further arrangements. All activities under this Memorandum shall be carried out in accordance with the laws and regulations of the United States and Brazil. Whenever more than the exchange of technical information or exchange visits of individuals is planned to take place, such activity shall be described in an Annex to this Memorandum which shall be set forth as appropriate to the activity, work plan, staffing requirements, cost estimate, funding source, and their undertakings, obligations, or conditions not included in this Memorandum. In case of any inconsistency between the terms of this Memorandum and of the Annex hereto, the terms of this Memorandum shall be controlling.

Karen H. B.


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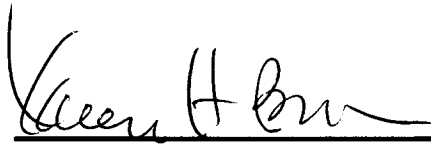
Article VIII. Entry into Force and Termination

This Memorandum shall enter in force upon signature by the Parties and remains in force for five (5) years, unless terminated earlier by either Party upon ninety (90) days written notice to the other Party. This Memorandum may be amended or extended by written agreement of the Parties. The termination of this Memorandum shall not affect the validity or duration of projects under this Memorandum that are initiated prior to such termination, thus ensuring complete fulfillment of these activities and projects, even after the time period agreed to herein has expired.

IN WITNESS WHEREOF, the undersigned, being duly legitimated have signed this Memorandum.

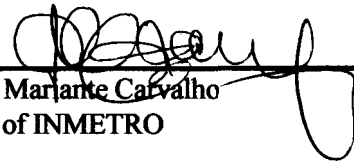
DONE at Rio de Janeiro, in duplicate, on the _____ day of April, 2002 in the English and Portuguese languages, both being equally authentic.

FOR THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OF THE DEPARTMENT OF COMMERCE, OF THE UNITED STATES OF AMERICA:



Dr. Karen H. Brown
Deputy Director of NIST

FOR THE NATIONAL INSTITUTE OF METROLOGY, STANDARDIZATION AND INDUSTRIAL QUALITY, OF THE MINISTRY OF DEVELOPMENT, INDUSTRY AND FOREIGN TRADE, OF THE FEDERATIVE REPUBLIC OF BRAZIL:



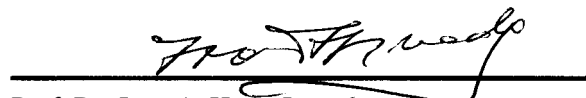
Armando Marjante Carvalho
President of INMETRO

Witness:



Dr. B. Stephen Carpenter
Director, Office of International and Academic Affairs - NIST

Witness:



Prof. Dr. Joao A. H. da Jornada
Director for Scientific and Industrial Metrology -INMETRO

