

TECHNICAL COOPERATION PROFILE

JUNE 25, 2009

I. BASIC PROJECT DATA

- **Country/Region:** Regional
 - **Program Name/Number:** Metrology in the Americas: Development of a Plan of Action for Basic Metrology Infrastructure for the Central American Metrology Network (CAMET)
RG-T1471
 - **Team Leader/Members:** Galileo Solis (Team Leader) (SCL/SCT); Marisela Parraguez (SCL/SCT); Pedro Saenz (SCL/SCT); Alonso Cheverri (LEG) and Patricia Reyna (SCL/SCT) who assisted in the preparation of this document.
 - **Date of Request:** March 2009
 - **Beneficiary:** Central American countries:
Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama.
 - **Executing Agency:** The Bank
Procurement: This operation contemplates the direct contracting by the Bank of the Organization of American States (OAS) to provide specialized services, in connection with the Project. The OAS will act through the Department of Science and Technology (DST) of the Executive Secretariat for Integral Development (SEDI/DST).
- Financing**
- | | |
|-----------------------------------------------------------------------|--------------|
| Knowledge Partnership Korea Fund for Technology and Innovation (KPK): | US\$ 110,000 |
| Local Counterpart | US\$ 37,500 |
| PBT Germany Counterpart | US\$ 23,500 |
| TOTAL | US\$ 171,000 |

II. BACKGROUND AND PROBLEM STATEMENT

- 2.1 Measurements in products to meet quality requirements are becoming increasingly important in view of globalized production and trade. The certification of the quality of the products to be exported is a prerequisite for

those countries that wish to enter foreign markets within the framework of international free trade agreements. To gain access to international markets and to compete with more developed countries, producers must be able to show unequivocally, through internationally accepted certification norms, that their products comply with the relevant standards, technical regulations, directives and other requirements of the importing country. Such certification requires reliable testing dependent on internationally recognized reliable measurements – the scope of metrology.

- 2.2 A Quality Control Infrastructure relies on five components: metrology, standardization, testing, certification, and accreditation. Central American countries have been working individually in fostering their National Quality Infrastructure, necessary to support trade, and most of them have reached a basic albeit insufficient level of development.
- 2.3 To fully establish these five components simultaneously is very costly. As such, it is desirable to assess more precisely the needs of the users (especially enterprises) and the capacity of the providers (especially laboratories) and then identify various viable proposals to fill the gaps. The approach sought is threefold: (i) to concentrate on the metrology component of the Quality Control Infrastructure –which is the basis for the rest of the components- through the establishment of a Measurement System; (ii) to develop an assesment of the metrological infrastructure capacity of individual countries and estimate the gap to reach minimum capacity required in each country to support the expected growth in the economy over the medium term; and (iii) to identify mechanisms and sources of funds to finance the minimum capacity of the metrology infrastructure.
- 2.4 As a result, a Central American regional approach is proposed for this operation, which clearly and purposefully considers the relative advantages and limitations of these countries, all of which are facing similar obstacles, as they develop a Measurement System. Each beneficiary country would identify its minimum metrology infrastructre capacity gap in one or more specific magnitudes, while considering: (i) the costs incurred to obtain the necessary recognition of international standards for the members of the region, under the umbrella of the Bureau International des Poids et Mesures (BIPM); and (ii) alternative sources –regional or extra-regional— for the provision of those magnitudes or services beyond the countries’ minimum capacity. The resulting network will provide an integrated cooperative framework where each country is specialized in one or more different magnitudes, providing traceability and support for all other countries in the network.
- 2.5 The design of any regional/extra-regional scheme will require an evaluation of the viability and intensity of the commitment from each country regarding both the development of its national metrology infrastructure capacity and the viability of the implementation of a collaborative process involving magnitudes of specialization and traceability. Similarly, for a regional approach to work,

each country must define, agree and share a common methodology for the Measurement System to be applied to all magnitudes.

- 2.6 Central America has had an unfortunate experience when, for diverse reasons, the OAS sponsored Central American Institute for Industry (ICAITI) was allowed to disappear. ICAITI, a regional entity, was the pioneer in Central American standardization and metrology. The testing carried out in its laboratories for several export products was recognized by the United States Department of Agriculture. The commonly agreed distribution of responsibilities among the member institutions of the proposed network is intended to avoid the risk of a similar fate.
- 2.7 At the present juncture, Central American metrology organizations are willing to explore regional collaborative networks, and several have so expressed to the Bank. Each Central American National Quality Infrastructure will rely on the development of a recognized **Regional Measurement System** that can also provide support to the national industries, so that the consumers in national and international markets may have confidence in the products originated in those countries.
- 2.8 Many sectors require the support of metrological activities, and these are often the same within the region. Among those sectors that require support are: manufacturing, health care, environment, energy, agriculture, food processing, mining, tourism, transportation and communication, which all account for the major part of the region's economy, and require vital expertise in metrological measurements. The basic magnitudes to attend to these sectors are: mass, temperature, time, length, volume, electrical energy, and chemistry. To these ends the appropriate type of a metrology infrastructure must be identified and prioritized and its cost must be estimated

III. PROGRAM OBJECTIVE AND DESCRIPTION

A. Objectives

- 3.1 The general objective of this Project is to support international trade in the Central American countries¹ through the implementation of a Measurement System at national and regional levels that enjoys international recognition.
- 3.2 The specific objective of the Project is to prepare a Regional Plan of Action for the development of a **Regional Measurement System** of Metrology Services for each of the beneficiary countries.

¹ The countries of Central America that will benefit from this technical cooperation were noted above. However, it may turn out that only a subset of these countries will agree to the strategy that will be developed through this technical cooperation.

B. Description

- 3.3 The Bank will directly hire the OAS to provide technical and logistic services which will result in three main deliverables: (i) assessment of the metrological capacity of individual countries; (ii) preparation of a base document for a National and Regional Plan of Action; and (ii) agreement of a Regional Plan of Action.
- 3.4 The Department of Science and Technology (DST) of the OAS will identify, select and hire the consultants required to integrate a team with the specific capacities for the development of this project.

1. Expected outputs:

- 3.5 **First.** An assessment of the metrological capacity of individual countries and of the conditions required for the establishment of a Central American Metrology Network with distributed capacities.
- 3.6 The OAS will perform the following activities: (i) select and hire the experts (one from the German counterpart, one from the Region, and one from DST itself) in order to assess the current state of the metrology infrastructure of the region and the readiness of the countries to participate in the Project activities; (ii) a specialist from the DST of the OAS will assist and monitor country visits. These visits will also include discussions with higher authorities to obtain the endorsement to support the regional collaboration initiative; (iii) coordinate the participation and contribution of other donors, institutions or agencies; (iv) coordinate the preparation of assessment reports for each visited country in a period of approximately two months; and (v) select and hire an expert to conduct a Korean case study of Metrology in the region, making necessary recommendations based on the Korean experience. This expert must be a national of Korea.
- 3.7 **Second.** Preparation of a Base Document for a National and Regional Plan of Action. The OAS will draw up a base document using the countries' assessment and consultations with stakeholders in visited countries. The resulting document will be referred to as the draft Plan of Action for a Central American Metrology Network. This document will cover the possible distribution of magnitude responsibilities –if any–, national investment requirements for equipment and human resources training, logistical aspects of implementation, the methodology to follow the stages of a Measurement System, and operation of the collaborative network. It will also explore financing issues including the possible contribution of national donor agencies and multilateral financing institutions. The work to produce this deliverable is estimated to last from two to three weeks.
- 3.8 **Third.** Agreement on a Regional Plan of Action for the development, financing and implementation of a Central American Metrology Network in

cooperation with specialized agencies and international financing institutions. This Technical Cooperation will cover the costs of two main activities:

- 3.9 The first activity to be financed is the **Organization of a Regional Workshop** to be held in a selected Central American countries with the participation of representatives from Panama, Belize, Costa Rica, El Salvador, Honduras, Guatemala and Nicaragua. This meeting will be essentially devoted to the discussion of the draft Regional Plan of Action, which will outline the steps to be taken for the establishment of a regional cooperative framework for the beneficiary countries. The meeting will also confirm countries' political commitment to the initiative and, if assessed as viable and cost-effective, to assign to each participating country one or more magnitudes, depending on their capabilities and needs. Each country will accept responsibility for obtaining continuous international recognition of the reference standards for those specific magnitudes that have been assigned to them or that they have selected. Through this proposed regional cooperative framework, the other countries will be able to have the derived standards (primary, secondary, or tertiary standards) based on the above-mentioned recognized international standard. The organization of the workshop is estimated to have a duration of two months.
- 3.10 Participants in the Workshop will provide the necessary information to prepare the final version of both a National and a **Regional Plan of Action**, including a detailed timetable for its implementation. Additionally, the following information will be part of the meeting's output: (i) confirmation of the experts' assessments of needs and existing resources-infrastructure, equipment, training and services in each participating country; (ii) analysis, by country, of the sustainability of the structures to be supported by the proposed project (for instance, to bring in an on-site peer review or to maintain the accreditation of a laboratory); (iii) proposal of a methodology and mechanisms to link and coordinate the needs and resources of the participating countries, in order to build a metrology network in the region and balance the costs and benefits for all of the participating countries; (iv) identification of the needs and the gaps in the proposed metrology network; (v) decision on which of the identified needs and gaps require support from a new complementary project, and in which country; and (vi) discussion of and agreement on the **Plan of Action** with activities, responsibilities, dates and estimates of the resources needed. Because documents for input and partial outputs will already be discussed through digital format, the workshop is estimated to have a duration of three days.
- 3.11 Apart from representatives from Central American countries' metrology agencies, participants to the meeting will also include: other stakeholders from the beneficiary countries (e.g. officials from S&T agencies and representatives from business associations); representatives from international institutions (e.g. OAS, IDB, CTCAP); representatives from metrology agencies from selected countries outside of the region NIST (USA), NRC (Canada),

PTB (Germany), CENAM (Mexico), which have a long track record of providing technical assistance in Metrology to the countries of Central America. The Korean Research Institute of Standards and Science (KRISS) will also be invited to participate in the meeting.

- 3.12 The second activity to be financed under this deliverable is the preparation of the **Final Report** that will include the agreed version of the National and **Regional Plan of Action** and the **Assessment of the Metrology Capacities** of the participating countries. This report will take into account the decisions, resolutions, and agreements resulting from the workshop. The preparation of this document is estimated to last two months.

IV. COST AND FINANCING

- 4.1 The total amount of the overall project is US\$171,000. The amount to be financed with resources from the Knowledge Partnership Korea Fund for Technology and Innovation (KPK) is estimated as US\$110,000 while the counterpart to be provided by the PTB-Germany is estimated at US\$23,500 and the local counterpart is estimated at US\$37,500. The budget is outlined in Table 1. The duration of the project is nine months.

Table 1 Indicative budget

Activities	KPK	Local Counterpart	PTB Germany Counterpart	Total
Coordination of technical and logistics services	2,500			2,500
Country assessments	36,850	12,000	15,000	63,850
- Experts (honoraria)	13,650	8,500	8,500	30,650
- Travel and per diem		3,000		3,000
- Logistical support	50,500	23,500	23,500	87,450
Subtotal				
Preparation of Base Document	4,000	3,000		7,000
- Experts (honoraria)				
Agreement of a Regional Plan of Action	33,000	4,000		37,000
- Regional Workshop	15,000	4,000		19,000
- Preparation of the final report	48,000	8,000		56,000
Subtotal				
Contingencies	5,000	3,000		8,000
TOTAL	110,000	37,500	23,500	171,000

V. EXECUTING AGENCY AND EXECUTION STRUCTURE

- 5.1 The Bank, through the SCL/SCT Division will have basic and technical responsibility for the execution of the project. The Bank will contract the OAS to provide technical and logistics support and to deliver the final products.
- 5.2 The hiring of the OAS on a sole source basis is justified on three grounds, and is consistent with the Bank's procurement policies. First, the highly specialized nature of the activities funded by this TC requires a specialized agency with internationally-recognized expertise in metrology theory and practice, with established relationships/networks among regional metrological institutions, and ample experience in the organization and management of multi-country endeavors. The OAS is widely recognized as a regional leader in metrology technical support and systems development, and as such possesses the capability that we desire to transfer specialized knowledge to the institutions in the region. Second, the DST of the OAS is the Executive Secretariat for the Inter-American Metrology System (SIM) and has an extensive track record in the implementation of projects in the area of metrology,² meaning that the activities funded by this TC can build upon an existing foundation and add value where it is most needed. In fact, many of metrology institutes of the region have received training with support from the DST of the OAS and continue to collaborate with that entity. Finally, the OAS is bringing other international donors to contribute funding and expertise to the Project.
- 5.3 Furthermore, the OAS, through its DST has worked closely with a number of international organizations and national agencies involved in international cooperation operations aimed at strengthening metrology infrastructure in developing countries.

VI. MAJOR ISSUES

A. Principal Benefit: The Design of a Cost-Effective Regional Approach

- 6.1 Establishing and developing a regional exchange of ideas and the identification of obstacles and solutions opens the way to cooperation for the development of a Central American Metrology Network. The region recognizes that developing such a network is essential because it foment economies of scale – which reduce the costs of individual country investments- and it creates a viable strategy to strengthen the existing metrological infrastructures in the

² For more information, please see attached Annex 2.

relatively small economies of Central America, facilitating their access to international markets.

- 6.2 In the eventuality that regional cooperation fails to include specialization in magnitudes, the national assessment of their basic infrastructure and the discussions among the countries regarding metrology will help to improve the national strategies and estimate the type and size of investment required.
- 6.3 Should either a National or Regional Plan of Action for a metrology infrastructure be developed and eventually implemented, it will enable the adequate measurement of quality and quantity in commercial transactions and product and service delivery. As an example of the importance of an adequate measurement system, exports are dependent on compliance with the requirements of the importing country and this compliance must be proven by tests and analyses - all of which demand proper measurements that, in turn, must be based on a sound and internationally recognized metrological infrastructure. Legal metrology, for instance, assumes the task of verification to protect citizens from unintended or fraudulent losses when they are unable to carry out this verification by themselves, and is particularly important when health, safety and the environment are involved.

B. Risks and sustainability

- 6.4 The main risk of this operation is that it may fail to generate adequate collaboration amongst the beneficiary countries, despite the consensus detected during the preparation of this technical cooperation that collaboration in this area is crucial. Only two countries (Costa Rica and Panama) in Central America have implemented more than a basic metrology infrastructure. These two countries are in a better position to contribute both to the Plan of Action for a basic metrology infrastructure and to assess the substantial benefits derived from adopting a metrology infrastructure. The other beneficiary countries of Central America lack basic facilities, equipment, infrastructure and qualified professionals to operate a metrology infrastructure. In order to mitigate the risk that collaboration among the countries may be deficient, the OAS will develop a plan that contemplates a balanced level of development among participating countries. Moreover, the location and equipping of laboratories will be based on relative advantages and mutual benefits, while at the same time, ensuring the best use of management and technical capacities to operate the laboratories.
- 6.5 The success and sustainability of the Project depends on its ability to create favorable and sufficiently attractive conditions to develop a feasible National or Regional Plan of Action for a basic metrology infrastructure that can be agreed among the participating countries and lead to its eventual implementation.

- 6.6 Project has been conceived in a way to provide the necessary information and to generate the appropriate review and discussion, required to facilitate an agreement regarding the responsibilities of the beneficiary countries over the various metrology magnitudes.

VII. ENVIRONMENTAL AND SOCIAL STRATEGY

- 7.1 This Project consists mainly of consulting services and workshops and thus it will not generate negative environmental and social impacts. The ESR revised this operation on May 4th, 2009. Based on the afore-mentioned, and according to the ESR Safeguard Classification Toolkit, the operation has been classified as “C”.
- 7.2 Furthermore, metrology is essential for the protection of the environment. To determine the extent of industrial pollution, precise measurements are required. Technology to reduce pollution also relies on high-tech measurements as does industrial production, packaging, waste management and transportation. In fact, the only way to determine if industrial production and commercial transactions are harming the environment is through the adoption of measurement mechanisms, and the only path to ensuring compliance with environmental-protection standards is through the measurement of the impact of the new clean processes and products.

VIII. CERTIFICATION

- 8.1 I hereby certify that this operation was approved for financing under the Knowledge Partnership Korea Fund for Technology and Innovation (KPK) through a communication dated on April 18, 2009 and signed by Kangho Lee, Director International Financial Institutions Division, International Finance Bureau, Ministry of Strategy and Finance of the Republic of Korea. Also, I certify that resources from the Knowledge Partnership Korea Fund for Technology and Innovation (KPK) are available for up to US\$110,000 in order to finance the activities described and budgeted in this document. This certification reserves resources for the referenced project for a period of ten (10) calendar months counted from the date of signature below. If the project is not approved by the IDB within that period, the reserve of resources will be cancelled, except in the case a new certification is granted. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country.

- 8.2 No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this Plan of Operations. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, for which the Fund is not at risk.

original signed

6/29/2009

Marguerite S. Berger
Chief
Grants and Cofinancing Management Unit
VPC/GCM

Date

IX. APPROVAL

Original signed

Date: ____6/30/2009____

Flora Montealegre Painter, SCT/CHF



Guatemala, 31 de agosto de 2007

Ingeniero
Oscar Harasic
OEA

Estimado Ing. Harasic

Por este medio deseamos manifestar nuestro apoyo al proyecto "Metrology in the Americas: Development of a Plan of Action for Basic Metrology infraestructura for the Central America Metrology Network (CAMET)", estamos seguros que con este proyecto se determinarán las necesidades reales de nuestros laboratorios así como se tomará en cuenta los planes individuales de los mismos. Aprovechamos para reiterar nuestro ofrecimiento de cooperar en lo que sea necesario para el desarrollo del mismo.

Atentamente,

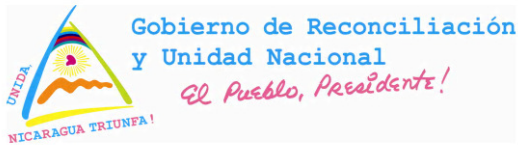
Ing. Eduardo Bances
Jefe del Laboratorio Nacional de Metrología



Lic. Juan Alberto Hernández
Director Sistema Nacional de Calidad



UNIDOS, SEGURO VAMOS ADELANTE >>



Laboratorio Nacional de Metrología
MIFIC – UNI

2007-09-10 Managua, Nicaragua

Señor
Oscar Harasic
Secretario
Sistema Interamericano de Metrología (SIM)
Dept of Science & Technology
Organization of American States
Su Oficina

Estimado Sr. Harasic:

Apoyamos la iniciativa presentada por la OEA, para la búsqueda de financiamiento de un proyecto de metrología en la subregión de CAMET que vendría a apoyar los esfuerzos que se vienen desarrollando en cada uno de los países de la Subregión para establecer y fortalecer las estructuras metrológicas de los mismos.

También reiteramos nuestra voluntad para cooperar con la misión para identificar las necesidades metrológicas en la subregión, así como en el análisis y discusión del documento en la proyectada reunión de coordinación.

Agradeciendo de antemano su iniciativa, le saludo no sin antes mostrarles mis mejores muestras de estima y consideración.

Atentamente,

Gustavo A. Montiel
Director

cc: Archivo



Ministerio de Fomento, Industria y Comercio
Laboratorio Nacional de Metrología LANAMET (MIFIC – UNI)
Costado sur de Villa Progreso, Managua, Nicaragua
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San Salvador, 31 de Agosto de 2007

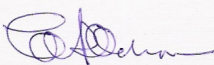
Sr. Oscar Harasic
Secretario
Sistema Interamericano de Metrología (SIM)
Presente

Estimado Sr. Harasic:

Con relación al documento circulado por su persona a los representantes del CAMET titulado "TC PROFILE METROLOGY IN THE AMERICAS. TECHNICAL COOPERATION PROFILE KOREAN TECHNOLOGY FUND"; me es grato comunicarle nuestra aceptación, apoyo y agradecimiento por su iniciativa para tratar de mejorar y elevar el nivel metrológico de nuestra región Centroamericana.

Esperando que se pueda profundizar en detalles más concretos del proyecto "METROLOGY IN THE AMERICAS"; con la misión que se presentara la propuesta del proyecto de cooperación en la reunión de consulta a los miembros de CAMET.

Atentamente.


Ing. Carlos Roberto Ochoa
Director Ejecutivo



Sistema Certificado por
INNC Organismo Miembro de

ISO 9001:2000



BSGCI08



2007-08-27

Nuestra Referencia: LACOMET 385-2007

Señor
Oscar Harasic
Secretario
Sistema Interamericano de Metrología (SIM)

Estimado Señor:

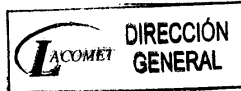
Con relación al documento circulado por su persona a los representantes de CAMET titulado "TC PROPILE Metrology in the Americas. Technical Cooperation Profile Korean Technology Fund"; me permito comunicarle nuestra aceptación, apoyo y agradecimiento por su iniciativa de elevar el nivel metrológico de la región.

Algunos detalles del proyecto "Metrology in the Americas", espero profundizar con la misión que realizará la propuesta del proyecto de cooperación y en la reunión de consulta a CAMET.

Atentamente,



Lic. Walter Zavala Ortega
Director General



c. Representantes de CAMET



6 de septiembre de 2007
Nota No.1763-5-3

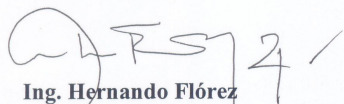
Señor
Oscar Harasic
Secretario del Sistema Interamericano
de Metrología (SIM)
E. S. D.

Estimado señor Harasic:

Hemos recibido documento titulado "TC PROFILE Metrology in the Americas. Technical Cooperation Profile Korean Technology Fund" el cual contiene beneficios de alto nivel metrológico para la región CAMET.

Expresamos nuestra consideración y apoyo por esta iniciativa, al mismo tiempo confirmamos nuestra participación en las reuniones de consulta que se realicen en el ámbito propuesto de cooperación del proyecto "Metrology in the Americas".

Atentamente,



Ing. Hernando Flórez
Director del CENAMEP



PRESIDENCIA DE LA REPUBLICA DE HONDURAS
CONSEJO HONDUREÑO DE CIENCIA Y TECNOLOGIA



Tegucigalpa, MDC, 28 de agosto de 2007
MCN - 224 /2007

Señor
OSCAR HARASIC
Secretario
Sistema Interamericano de Metrología (SIM)
Departamento de Ciencia y Tecnología
Organización de Estados Americanos, OEA
Washington, USA

Estimado Señor Secretario:

Tengo el agrado de dirigirme a Usted, para saludarle muy cordialmente y a la vez expresar nuestra aceptación, agradecimiento y apoyo a la Organización de Estados Americanos OEA, por la gestión para el desarrollo del proyecto denominado **"Metrology in the Americas: Development of a Plan of Action for Basic Metrology Infrastructure for the Central America Metrology Network (CAMET)**, que será presentado ante el Korean Technology Fund, con el fin de implementarse a partir del presente año al 2008.

El propósito de los fondos solicitados para el proyecto Subregional en referencia y que está siendo presentado a la Organización de Estados Americanos OEA, es elevar el nivel metrológico de los países participantes, en el marco de las actividades del Sistema Interamericano de Metrología SIM.

En particular Honduras a través del COHCIT/Centro Hondureño de Metrología (CEHM), será uno de los beneficiados por las actividades planificadas en el proyecto en mención, como integrante en CAMET de las instituciones dedicadas a la metrología de los países miembros.

La metrología como parte de los Sistemas de Calidad de los países, es uno de los pilares fundamentales para el aseguramiento con equidad de las relaciones comerciales y la protección de la seguridad, la salud



PRESIDENCIA DE LA REPUBLICA DE HONDURAS
CONSEJO HONDUREÑO DE CIENCIA Y TECNOLOGIA



humana, animal y vegetal, el ambiente y cada actividad de la vida diaria de las personas.

Es de mucho interés para el COHCIT, participar en este proyecto por el apoyo que las actividades planteadas en el mismo prestarán a la acción que desarrolla esta institución a través del Centro Hondureño de Metrología (CEHM), en beneficio de los sectores productivos, el comercio, la industria y los consumidores y la población en general, lo cual se traducirá en desarrollo económico y social del país.

Agradeciendo su atención a la presente, aprovecho la ocasión para expresarle las muestras de mi más alta consideración y estima.

Atentamente,

MYRIAM E. MEJÍA
Ministra Comisionada



cc: Cristina Rodríguez. Directora UCA-COHCIT/Sistema Nacional de Calidad
Efraín Paz. Director Técnico CEHM/COHCIT
Archivo