Flomeko 2000 - IMEKO TC9 Conference
Salvador, Bahia, BRAZIL
4-8 June, 2000

THE CIPM MUTUAL RECOGNITION ARRANGEMENT AND ITS IMPLICATIONS FOR FLOW METROLOGY HARMONIZATION IN THE AMERICAS

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ABSTRACT

Recently, the *Comité International des Poids et Mesures* (CIPM) decided to provide a structure for the harmonization and comparison of measurement standards for fluid flow and related quantities. As with all other measurement quantities considered by the CIPM, this effort should provide the means by which to ascertain the equivalency of flow standards among the various countries of the World as declared in their entries to the Mutual Recognition Arrangement[1] (MRA) of the CIPM. The CIPM flow harmonization effort will be conducted under the umbrella of a newly created Working Group for Flow and Related Quantities (WGF), which is part of the Consultative Committee for Mass and Related Quantities (CCM).

The newly formed CIPM-WGF creates an opportunity for international cooperation which the Inter-American Metrology System (SIM) can take advantage of by having a structure that parallels and supports the WGF effort. In July of 1999 the SIM Technical Committee moved to create a separate SIM Flow Metrology Working Group which will oversee efforts in metrology areas related to gas and liquid flow, liquid volume, liquid density, liquid viscosity, and air speed. These efforts will include the organization of SIM regional Key Comparisons in support of the calibration and measurement capabilities submitted by each member country to the CIPM-MRA and professional development efforts in support of the establishment of national flow metrology capabilities throughout the Americas economic block.

This paper discusses the common structure shared by all SIM Metrology Working Groups and describes the early efforts of the MWG-Flow towards the harmonization of national standards in the Americas. We summarize the current flow metrology capabilities of the various member countries and briefly describe the results of the intercomparisons that have been conducted so far. Finally, suggestions are provided for future MWG-Flow efforts.