NATIONAL BUREAU OF STANDARDS REPORT

8957

REPORT ON LATIN AMERICA TRAVEL
CONCERNING
U. S. IN THE PAN AMERICAN STANDARDS COMMISSION (COPANT)
MEETING IN CARACAS, VENEZUELA

JUNE 7 TO JUNE 26, 1965

Subjects: Standard Definitions -- Modular Coordination
Standard Definitions -- Building Materials
Standard Definitions -- Elements of Building
Standard Requirements -- Hollow Concrete Blocks

U.S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

THE NATIONAL BUREAU OF STANDARDS

The National Bureau of Standards is a principal focal point in the Federal Government for assuring maximum application of the physical and engineering sciences to the advancement of technology in industry and commerce. Its responsibilities include development and maintenance of the national standards of measurement, and the provisions of means for making measurements consistent with those standards; determination of physical constants and properties of materials; development of methods for testing materials, mechanisms, and structures, and making such tests as may be necessary, particularly for government agencies; cooperation in the establishment of standard practices for incorporation in codes and specifications; advisory service to government agencies on scientific and technical problems; invention and development of devices to serve special needs of the Government; assistance to industry, business, and consumers in the development and acceptance of commercial standards and simplified trade practice recommendations; administration of programs in cooperation with United States business groups and standards organizations for the development of international standards of practice; and maintenance of a clearinghouse for the collection and dissemination of scientific, technical, and engineering information. The scope of the Bureau's activities is suggested in the following listing of its four Institutes and their organizational units.

Institute for Basic Standards. Applied Mathematics. Electricity. Metrology. Mechanics. Heat. Atomic Physics. Physical Chemistry. Laboratory Astrophysics.* Radiation Physics. Radio Standards Laboratory:* Radio Standards Physics; Radio Standards Engineering. Office of Standard Reference Data.

Institute for Materials Research. Analytical Chemistry. Polymers. Metallurgy. Inorganic Materials. Reactor Radiations. Cryogenics.* Materials Evaluation Laboratory. Office of Standard Reference Materials.

Institute for Applied Technology. Building Research. Information Technology. Performance Test Development. Electronic Instrumentation. Textile and Apparel Technology Center. Technical Analysis. Office of Weights and Measures. Office of Engineering Standards. Office of Invention and Innovation. Office of Technical Resources. Clearinghouse for Federal Scientific and Technical Information.**

Central Radio Propagation Laboratory.* Ionospheric Telecommunications. Tropospheric Telecommunications. Space Environment Forecasting. Aeronomy.

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NBS PROJECT		NBS REPORT
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By

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Codes and Standards Section
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NBS

U. S. DEPARTMENT OF COMMERCE
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My trip to Caracas, Venezuela had three objectives:

1. (1) To bring to fruition the efforts expended during the two week Seminar in Bogota, Colombia (4/26/65 to 5/7/65) on the subject of Modular Coordination for Construction.
2. (2) To represent the United States (being so named by the American Standards Association) at the meeting of the Commission for Materials for Construction and Modular Coordination of the Comite Panamericano de Normas Technicas-- COPANT.
3. (3) To further an understanding of construction standards problems in the Pan American countries in order that NBS, ASA and other standards organizations in the United States might efficiently channel their efforts in the field of Pan American standards.

Part I

During my involvement with the ICONTEC (Instituto Colombiano de Normas Technicas) committee attempting to develop Colombian standards for Modular Coordination, two needed courses of action became apparent.

(a) A module common to all of the Latin American countries needed to be established and officially recognized.

(b) Basic terminology used in Modular Coordination needed to be defined and agreed upon by all of the Pan American countries.

It was felt that these two objectives were of primary importance in order that the Colombian committee on Modular Coordination could start developing a useful Colombian standard. I can report that both of these objectives were achieved during the meeting in Caracas to the complete satisfaction of the Colombian delegation and the many other countries involved.

The Colombian delegates, Arturo Londono and Jose Patino came to the meeting well prepared, took a leading role in the discussions and were extremely pleased with the final results. It is interesting to note that this was the first time that Colombia has participated in such meetings. This fact and their knowledgeable contributions, bears out the high regard for and value of the recent NBS conducted standards seminar in Bogota.

As further proof of the intense interest by Colombia in the subjects discussed during the seminar in Bogota, Senor Londono presented me with a completed draft of a proposed national building code for Colombia. One of the subjects I dwelt upon during the seminar was building codes. A Dr. Osuna, head of the ICONTEC committee on building codes, took an active interest in the code portions of the seminar. Since this seminar was held only six weeks prior to the Caracas meeting, Dr. Osuna's production of this code in such a short period of time is an outstanding achievement.

Part II

The meeting got off to an unexpected start. If one could call it a "start." I arrived at the magnificent 30 story towers that make up Centro Simon Bolivar at 9:00 a.m. on June 7th, as per schedule, to find that the meeting had been hastily postponed for one week. After being assured that:

(a) The Colombian delegates definitely planned to attend at the new date

(b) The new date, June 14th, was firm.

(c) OEA (Organization Estados Americano) (OAS) would pay for my 22 day stay instead of 14.

I cabled Washington (c/o Dr. Bruce Foster) from the U. S. Embassy in Caracas, advising him that my best judgement was to stay over, pending NBS approval.

The extra week proved to be most enlightening. The director of the COPANT project on Modular Coordination, Dr. Juan Cabrerizo (who also was a week early) and I had an opportunity to discuss Pan American standards problems at great length. We spent the entire week together, being joined occasionally by other standards people of Venezuela. I had the opportunity of meeting Dr. Pi Sunyer, Director of COVENIN (Comision Venezolana de Normas Industriales),Senor Luis Hurtado, chief engineer of the Ministry of Public Works and Director of the Seminar, and Dr. Rafael Salas, president of the commission on Modular Coordination. All of these men spoke English quite well and we were able to exchange personal ideas regarding Pan American standards problems. Out of these meetings, two points were made clear, regarding the nature of the most valuable form of assistance that United States standards organizations can provide. Not only do the Latin Americans need technical assistance in the form of clarifying explanations of existing U. S. standards, but they need assistance in selling the concept and usefulness of standards within their respective countries. Dr. Cabrerizo was most explicit on these two points but hesitated to state which one was of greater importance. A third point, regarding the dissemination of technical information

pertaining to construction, was brought out later on during the Seminario. This latter development will be discussed at greater length in Part III of this report.

The Seminario did get started on June 14th. All of the member nations of COPANT were in attendance except Mexico. The Seminario was divided into two parts; one section on Definitions used in Modular Coordination and included the development of a COPANT standard on hollow concrete blocks, the other section was charged with the development of definitions of terms used in construction. I stayed with the Modular Coordination group for the whole two weeks except during the Plenary sessions, when all of the members reviewed the work of both sections.

I punctually attended every meeting. They were typical of any interesting standards meeting, except that they often ran well past midnight.

Although I made a creditable contribution to the work of the group, my inability to speak Spanish prevented me from contributing fully. Dr. Pi Sunyer of COVENIN kindly arranged for an interpreter, who unfortunately knew nothing of construction let alone Modular Coordination, and could not effectively translate simultaneously. He (Mr. Federico Brecht) provided me with translations of the minutes of each meeting and will mail to me translations of the final acts of the committees. Although it is difficult to find ideal combinations of technical and bi-lingual abilities, such a requirement is essential for really effective participation in Latin American standards meetings.

Ten centimeters was established as the basic COPANT module. This was almost a foregone conclusion although a short lived attempt was made to set the module at one centimeter. Ten centimeters agrees in principle with the American Standard module of 4", being 3.937 inches, but there was little chance of getting 4" adopted in view of the widespread use of the metric system in all of the Latin American countries.

A great number of definitions used in modular coordination were also thoroughly argued over, but the arguments always produced unanimous agreements.

The final document approved by the COPANT Modular Coordination Committee agrees in principle with portions of the current American Standard A62. This standard, bearing a 1946 date, was probably one of the original documents in the world on this subject. It was reaffirmed in 1957, but the Canadians, the British, the Danes, the French, and others have greatly extended and refined this concept that had its technical inception in the United States. In view of the worldwide interest in the use of modular principles it is now obvious that a series of international standards will soon be needed. However, this COPANT action, in clarifying the size of the basic module and in providing reasonable definitions, should provide all the Latin American countries with the essential basic tool needed to foster the industrialization of building that is so badly needed in everyone of the countries.

Part III

The delegate from Columbia, Arturo Londono, proposed to the Modular Coordination Committee that a formal recommendation, regarding the necessity of establishing a Pan American construction information center in Latin America, be sent to COPANT. His proposal was received with great

interest and he was asked to prepare a formal statement of the objectives of his proposed center.

From the reasoning behind Dr. Londono's proposal and the private talks I had with some of the delegates, it is apparent that construction problems are felt to be of vital importance in all Latin American countries at this time. Many governments are using construction programs as a means of stimulating their economies, counting on this action to give impetus to their general industrial growth. Housing in particular is chosen as their primary concern at this time because;

1. It fills a basic need of their rapidly expanding population.
2. It provides employment for a great number of all classes of workers.
3. It stimulates all other industries.
4. The efforts expended in housing, quickly produce visible results.

I sensed an air of urgency among the delegates concerning item 4 above, as if they felt that the time left for visible action was growing short in some of the countries. Chile hopes to have ready next year a six year housing program aimed at producing 360,000 living units. Colombia currently has many housing projects under way in various parts of the country. Venezuela hopes to soon be producing 60,000 units a year and intends to raise it further to around 100,000. One factory I visited in Caracas now has an order for 700 prefabricated rural school buildings. Similar programs are envisioned for the other countries.

To meet the enormity of this challenge, they need ready access to the world of construction standards and published information on the

various disciplines pertaining to good building practices. By "access" they mean something a lot more than neat rows of "please do not take--this is our only copy" books of out of date standards, in some embassy library. They mean ready access to the latest standards, where they are used and when they are needed.

All of the delegates know the value of standards to their countries industrial growth, but they know they are of lasting value only when they are used. To be used, standards must be readily available. Too many times the delegates have witnessed short lived pump priming housing programs take place. A great building flurry happens but when the priming is stopped the economy falls back to its old level, because no sustaining base of national construction standards were formulated. It is hoped that the Pan American information collection and dissemination center proposed will stimulate the establishment of standards prior to, during and after the housing programs get underway so that the impetus gathered can be sustained in tangible industrial growth.

The proposal was presented and explained to the delegation in the final plenary session. It was enthusiastically received and won instant unanimous approval. The welcome it received bears out the desire of the Latin Americans to fend for themselves. While they appreciate the help we have given them in the form of seminars and related technical assistance, they know this help cannot go on forever. They also know that it is insufficient for their needs since it cannot reach and remain with enough people. They feel that the information center can be fashioned to fulfill these requirements.

They hope for our active participation in establishing this new information center. The National Bureau of Standards is specifically mentioned in their proposal as one of the world's great organizations they hope to be able to plug into. I recommend that careful scrutiny be given this proposal, particularly during the coming inception period. It may be nothing more than an idyllic dream, but again it may be one of the most useful collaboration tools we could find. In view of the seemingly avid Latin American interest in Bouwcentrum, which is devoted to disseminating all kinds of information pertaining to construction, this proposed center might just receive the type of support needed to make it a reality.

Dr. Londono of Colombia was named by the delegation to prepare specific operational proposals. He hopes to have a committee meeting (perhaps in Bogota) on this subject sometime in September 1965. In view of Dr. Londono's great respect and admiration for the Bureau of Standards, we could use the intervening time to great advantage in helping him prepare a program that would mesh with our established collection and retrieval systems.

It is hard for us to fully comprehend the standards and construction information situation in Latin America. By comparison we are literally drowning in standards, so much so that we have to construct an ASA to sort out the national standards. The same condition exists here regarding technical information in that we have so much that we have to invent ways and means of retrieving it out of our voluminous files. Our

counterparts in Latin America are trying to devise a means of getting at this information. It does seem possible that the mechanism involved could be made common to both of our needs.

The establishment of a Pan American information center in Latin America could someday mean more to us than just good will, good business or good politics, in that it could lead to a two-way flow of information that would enrich everyone's storehouse of knowledge.

Following is a list of the delegates attending this two-week seminar.

DELEGATES

Field Director OEA (OAS)	Juan V. Cabrerizo
Seminary Director	L. E. Hurtado Velez
Argentina (IRAM)	Lucia Alicia Raffo de Mascaro Alfredo M. Sarmiento
Brasil (ABNT)	Edgard de Oliveiro Fonceca
Central America (ICAITI)	Rene Gonzalez Carrera
Chile (CORVI)	Ernesto Gomez G. Gustavo Urrutia Melendez
Colombia (ICONTEC)	Arturo Lendono Dominguez Jose Manuel Patino Sanchez
United States (ASA)	Charles Mahaffey
Peru (INANTIC)	Alberto Jimeno Blasco Jorge Schoster Mejido
Uruguay (UNIT)	Oscar Diaz Arnesto
Venezuela (COVENIN)	Jose Grases Henrique Hernandez Carlos Jara Calderon Ruben Manzur Pacheco Domingo Mederos Herrera Jose de Jesus Mijares Jose Puig Carlos Ramos Miguel Salvador D. Rafael Salas Jimenez


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