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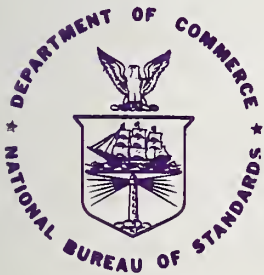
U.S. Membership in the International Organization of Legal Metrology

Thomas M. Stabler

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Information Processing Standards
National Bureau of Standards
Washington, D. C. 20234

April 1973

Southwestern Gas Measurement Short Course
University of Oklahoma Center
for Continuing Education



**U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS**

NBSIR 73-159

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ORGANIZATION OF LEGAL METROLOGY**

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U. S. DEPARTMENT OF COMMERCE, Frederick B. Dent, Secretary
NATIONAL BUREAU OF STANDARDS, Richard W. Roberts, Director

U.S. MEMBERSHIP IN THE
INTERNATIONAL ORGANIZATION OF LEGAL METROLOGY

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BACKGROUND

The International Organization of Legal Metrology (OIML) was founded in 1955 to promote intergovernmental cooperation in the field of legal metrology, which, broadly, relates to the compatibility of standards of measurement and the legislation and Government regulations which may affect such standards of measurement. Aside from its activities as a center of documentation and information exchange in legal metrology, the OIML most importantly recommends uniform international requirements for measuring instruments and works out model laws and regulations for consideration by member states.

The subject of membership in this Organization had been under discussion and consideration since OIML was formed in 1955. We did not join at that time since it was the position of the United States that international technical organizations such as this should be established within the framework of the United Nations. Today, however, in view of the increasing importance of international trade and the effect of OIML programs on such trade, U.S. membership was deemed a vital necessity.

On April 11, 1972, President Nixon requested the Senate to give its advice and consent to accession to the Convention establishing the OIML (Tab 1). In his letter to the Senate recommending accession he said:

"The U.S. has in the past been an interested observer in the Organization's work, and I believe that accession to the Convention would now be of clear advantage to the United States. As the world's largest trading nation and as a world leader in the standards field, we would be better able to assume a positive role in the setting of international standards for measurement and in so doing, to expand our international trade."

This request provided for U.S. membership in OIML, and it was the intention of the Executive Branch that the Department of Commerce would be assigned general responsibility for program implementation and direction. Within Commerce, the National Bureau of Standards would be responsible for the development of U.S. positions for technical matters arising in the OIML. The Department of State would retain coordinating and budgetary responsibilities and, in collaboration with Commerce,

would designate U.S. representatives to meetings of the OIML.

WHAT IS THE INTERNATIONAL ORGANIZATION OF LEGAL METROLOGY?

OIML is actually the "legal" counterpart of the International Conference of Weights and Measures (CIPM), in which the U.S. has been an active member since its inception in 1875. Legal questions were almost always on the agenda of the CIPM, and at one point, consideration was given to establishing within the scope of the CIPM a "Consultative Committee of Practical Metrology." If this had happened the U.S. would have been a participant in the normal course of decision-making on the legal aspects of metrology. That was not the course of events, however, and the OIML was formed and the U.S. still had no influence in this major sector of international standards activity. In fact, it was difficult as a non-member, even to keep informed of OIML's activities.

Following is a brief description of the functions and organization of OIML. Metrology, of course, is the science of measurement -- development of standards, instruments, and measurement procedures. It becomes legal metrology when the measurements are related to the official enforcement of laws, as in the enforcement of weights and measures laws in the marketplaces of our own country. The main interest of OIML is in standards for instruments and measurement techniques involved in the legal determination of quantity and quality.

Public authorities have the obligation to ensure that legal measurements within a country be put on a uniform basis. The national regulations which are developed for this purpose have for many years been developed within a country independent of similar work in other countries. Consequently, national laws and specifications often differ widely. Today, with rapidly developing and changing technology, and with the rapid expansion of international trade, these differences pose a potential impediment to international trade.

OIML now has 38 member nations (Tab 2). Its headquarters staff is small -- only seven people at present. Its estimated 1972 budget is approximately \$109,000, an increase from \$88,000 in 1971.

OIML's primary functions are:

to form a center of documentation and infor-

mation in the field of legal metrology,

to establish close relations with national weights and measures officials,

to furnish advisory assistance to interested states,

to determine the general principles of legal metrology,

to issue uniform international recommendations respecting legal requirements for use and control of measuring instruments,

to establish a code of specifications and tolerances with which measuring instruments must comply in order to acquire international approval,

to establish and promulgate model laws and regulations in the field of legal metrology.

The decisions of the Organization are promulgated as recommendations; they do not have the force of law. However, members of the Organization are "morally obliged to implement these decisions as far as possible."

Organizationally, OIML consists of: (Tab 3)

(1) the International Conference of Legal Metrology, which is composed of delegates from member states and which meets at least every 6 years. Decisions of the conference are submitted to member states "for information, consideration, and recommendation";

(2) the International Committee of Legal Metrology (CIML), which consists of one delegate from each state, and which meets every 2 years. The technical work of OIML is conducted by working groups within the framework of the committee.

(3) the International Bureau of Legal Metrology (BIML), which constitutes the Secretariat for the Organization.

Forty-two specific standards have already been recommended to the international community by OIML (Tab 4). A careful review of these recommendations is sufficient to demonstrate that many products currently manufactured in the United States may be denied access, either conditionally or absolutely, to the markets of foreign nations which ultimately adopt the OIML standards as a basis for their domestic law.

The potential adverse nature of the existing recommendations takes many forms. Illustrative of these are:

(a) a requirement that product or pattern approval be obtained before the item can be marketed in the country in question.

(b) specific design requirements that eliminate U.S. forms in construction.

(c) a provision that a product may be tested for up to 2 years to assure it maintains its performance.

Turning to the broader question of products which might conceivably be affected by ongoing activities within working groups of the OIML, an analysis suggests that exports valued in excess of \$400 million, or about one-half of our 1971 exports of instruments and controls, may ultimately be embraced by decisions of the Organization.

OIML'S RELATIONSHIP TO DEVELOPING COUNTRIES

The OIML is currently moving into the area of metrology standards for the developing countries. A questionnaire has been submitted to these countries in order to determine their particular needs in metrology and to find out what technical and administrative advice the OIML might offer in setting up "Departments of Legal Metrology."

The implications of this OIML program in the field of international trade should not be overlooked. It is a long-term program and, as an OIML member, the United States can provide technical assistance in the adoption of laws, regulations, and metrological practices by the developing nations.

INTERNATIONAL TRADE POLICIES

Government agencies responsible for U.S. international trade policies are currently very concerned with non-tariff trade barriers, which impede the flow of trade between countries. The U.S. and other governments in the General Agreement on Tariffs and Trade (GATT) have mounted a major effort to eliminate these barriers to free trade. Additionally, the Western European countries, as a part of their economic integration efforts, have begun a program of harmonization of their standards and the implementation of certification schemes, on a regional rather than on a global basis. This regional system has the effect of reducing or eliminating certain U.S. products from the European Market. The U.S. efforts in GATT, hopefully, will result in a "Code of Conduct" in standards that will eliminate adverse effects of harmonization and certification in U.S. exports.

The GATT discussions have clearly revealed that non-tariff barriers have been generated by the decisions made in the OIML. Therefore, U.S. membership in OIML should go hand in hand with the GATT initiatives.

The primary purpose of U.S. membership in OIML is economic. We must improve our activity in many fields of international standardization to ensure that our technical expertise is reflected in international standards, and that our products can move freely in world trade. Scientific considerations alone would justify membership in OIML, but the deteriorating U.S. balance-of-payments situation is of overriding importance.

For many years, following World War II, the U.S. ran substantial surpluses to help offset some of the deficits in other parts of our balance-of-payments schedule. During the past five years, however, our trade surplus has declined from \$7 billion in 1964 to a total trade deficit of \$2 billion in 1971. Rather than restricting imports, the U.S. has taken the positive approach of trying to increase exports. One such positive step has been to strengthen U.S. participation in international standards activities and is the subject of legislation presently before Congress, the International Voluntary Standards Cooperation Act of 1973. By joining the OIML we have added another positive step in the field of international standardization.

Because it has not been a member until recently, the U.S. has had no influence on OIML actions. An analysis of some of the OIML decisions, (on clinical thermometers, gas meters, meters for fluids, taximeters, and weighing machines) by the National Bureau of Standards, by U.S. firms concerned with the manufacturing of these products, and by the Bureau of Domestic Commerce of the Department of Commerce, shows clearly that there are adverse effects on U.S. business from the setting of standards by an organization without U.S. participation. The effects usually are not intended, but do in fact result from the lack of U.S. input during the time when the standard is being developed.

The potential impact of the OIML has generally gone unrecognized within the domestic private sector of member nations simply because they do not encourage industry participation. OIML membership is officially constituted solely by government representatives of the 38 member nations. It has passed 42 model regulations of which an appreciable number are the basis for recent and future European Common Market Directives. These directives will carry the full force of national law following ratification by the ten member nations.

Unfortunately, the provisions of certain OIML Model Laws are based on rather narrow experience. This is not necessarily the fault of the contributing officials, it reflects the experience of the participants in handling trade matters of significance to themselves. Therefore from one point of view, they may constrain trade, a trend

which has become apparent to the oil industry, for example.

In view of possible revisions to the General Agreement on Tariff and Trade, there is even greater incentive for shared federal and industrial understanding with regard to the OIML. Frankly, the private sector must solicit federal action if domestic industry is to be both a sound competitor and remain in compliance with proposed GATT provisions, including the possible Code of Conduct which defines the documentation issued by OIML as mandatory standards.

IMPACT ON THE OIL INDUSTRY¹

"American Petroleum Institute (API) voluntary standards do not specify tolerances or error limits for a measurement process, or demand pattern approval or regulate any mechanical specification which in any way could hinder competition among manufacturers of such equipment. Such decisions have traditionally been the prerogative of local, state or federal authorities both here and abroad. This charge certainly belongs to the legal metrology or weights and measures specialists whenever the consuming public is involved.

"On the other hand, API has had an overriding concern that OIML mandatory standards or model regulations if made applicable to international petroleum commerce, might adversely affect the type of equipment best suited to measure large volumes of crude oil and products. For example, very large and sophisticated measuring stations, often packed with electronic equipment, are used to measure oil from a ship or pipeline to a refinery. In the United States only the contracting parties are normally concerned with the selection of equipment used. So long as the equipment operates within acceptable limits of error, there is no restriction as to its specifications or makeup.

"In Europe especially, added value taxes are assessed at many intermediate measurement points; the total tax on gasoline exceeds 50 cents per gallon as compared to a domestic maximum of 14-15 cents. However, current OIML model regulations are often indiscriminate. They are applicable to virtually every device used in large and small applications because of tax application.

"One OIML Model Regulation, entitled "Meters for Liquids Other Than Water," written by Working Group Fl.7 has recently been made a Common Market Directive. This mandatory standard precludes the use of meters in some commercial applications and prevents the use of some American instruments indirectly. It does this for two reasons. First, through various provisions it very drastically limits the size of the instrument, and second, it effectively outlaws the use of associated electronic equipment.

"It should be self-evident that petroleum operations are therefore restrained from applying already proven technology, and similar U.S. suppliers cannot compete with their full line of products. This burdens the balance of payments, even today.

"The next ten years should see the OIML model regulations implemented by member countries. In that same period, U.S. oil imports will have grown somewhere between 50 and 58 percent of demand, according to competent authorities. Shortly after 1980, the drain to the U.S. balance of payments is projected to be 17 billion dollars per year, from oil imports alone.

"Some estimate that by potential exclusion of the most advanced oil measurement apparatus from producing countries, the U.S. will be spending 85 million dollars per year for oil purchased but never received due to equipment degradation. Additionally, foreign affiliates in other countries, notably those imposing an added-value tax, will contribute a similar dollar loss because of the payment of excessive taxes on imprecisely measured bulk quantities of oil.

"The oil industry believes the most effective way to minimize this loss of approximately 200 million dollars annually, including equipment excluded, is to have knowledgeable U.S. officials participate in OIML deliberations.

Many U.S. industries face these and similar problems relating to measurements in international trade."

COORDINATION WITH OTHER STANDARDS ORGANIZATIONS

The OIML is primarily concerned with the setting up of standards (performance criteria, design, and use of weights and measures devices) used in commerce and industry. The International Bureau of Weights and Measures (BIPM) on the other hand provides for international cooperation in matters relating to primary standards and units of measurement; for example, meter, kilogram, second, ampere, kelvin, mole, and candela. There is also a difference between the work done by the OIML and the International Organization for Standardization (ISO). The ISO is a nongovernmental organization which prepares and promulgates voluntary standards agreed to by industry. The OIML in comparison attempts to harmonize model draft laws for weights and measures which will be adopted by states as law of the land.

1. Statement by Wallace N. Seward, Assistant to the Senior Vice President, Industry Affairs, API, before the Senate Committee on Foreign Relations, Aug. 2, 1972.

OIML coordinates its standards recommendations and activities with the following organizations: International Bureau of Weights and Measures, International Organization for Standardization, International Electrotechnical Commission, International Union of the Gas Industry, International Commission for Uniform Method of Sugar Analysis, International Association of Cereal Chemistry, International Bottling Center, International Office of Wine, Customs Cooperation Council, International Union of Pure and Applied Chemistry, International Union of Pure and Applied Physics, European Committee of Weighing Instrument Builders, European Committee of Builders of Oil Meters.

OIML maintains administrative and technical liaison with the U.N. Economic and Social Council, the U.N. Economic Commission for Europe, the U.N. Economic Commission for Asia, UNESCO, the U.N. Organization for Industrial Development, OECD, EED, COMECON, and the International Measurement Conference (United Kingdom).

OIML also maintains liaison with about 25 commercial and/or standards organizations in European countries.

UNITED STATES PARTICIPATION

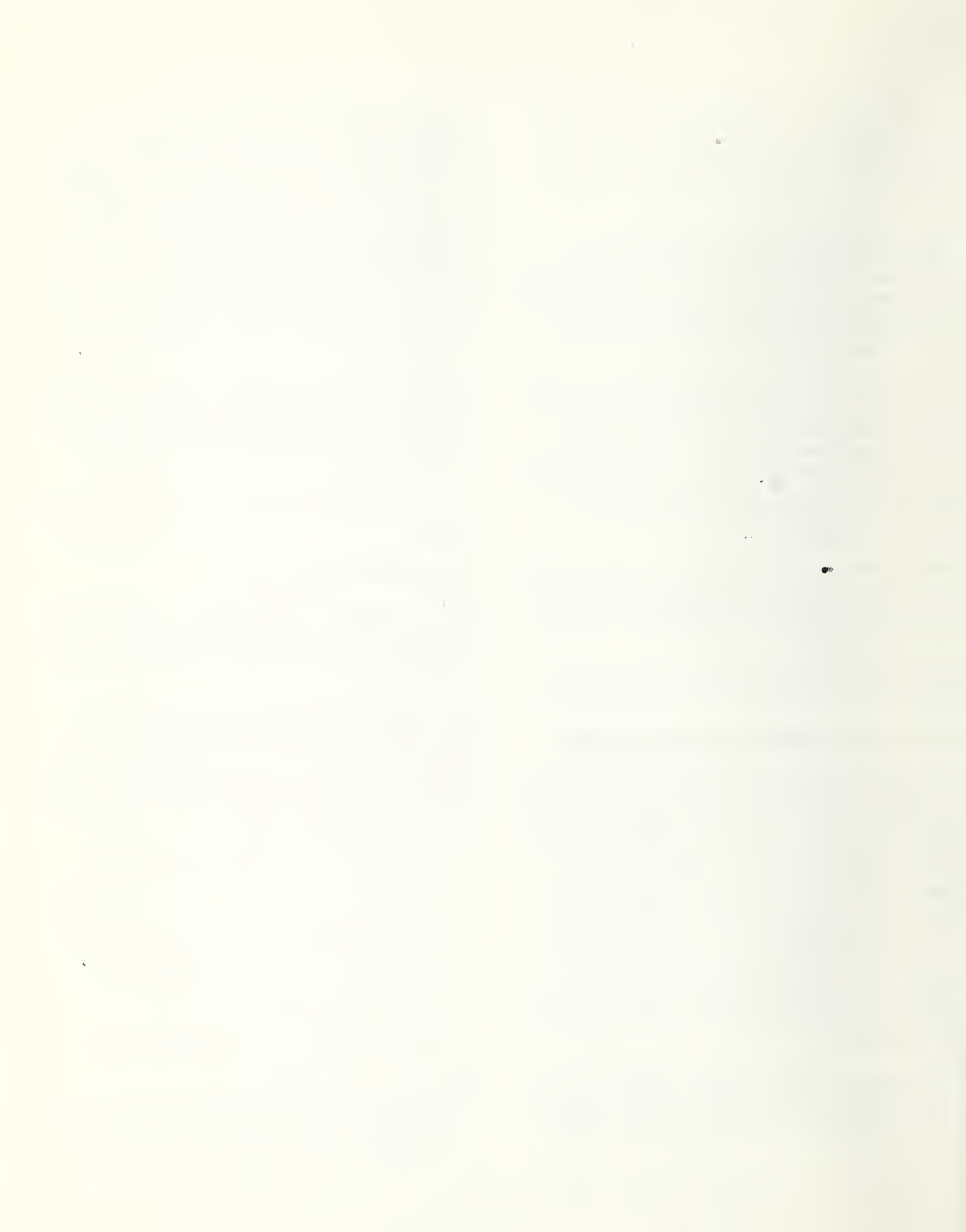
The U.S. became an official member of OIML October 22, 1972, with the National Bureau of Standards being assigned general responsibility for the development of U.S. positions for technical matters arising in the OIML.

The Fourth International Conference of OIML was held October 23-28, 1972. Delegates from 34 nations convened in London for discussions that were designed to result in uniform laws and regulations, practices and procedures in international legal metrology. The Conference dealt principally with the following agenda topics, for which U.S. position papers were prepared:

- (1) Relations with International Standards Organizations.
- (2) Long Term Work Policy of the Organization.
- (3) Proposed International Recommendations.
- (4) Assistance to Developing Countries.
- (5) Standard Reference Materials.
- (6) Performance vs. Design Specifications.

Named to the U.S. Delegation were:

Delegation Head, Dr. Lawrence M. Kushner, Acting Director, National Bureau of Standards (Tab 5);



William E. Andrus, Jr., Program Manager, Engineering and Information Processing Standards, National Bureau of Standards;

Wallace N. Seward, Assistant to the Senior Vice President, American Petroleum Institute;

Walter M. Young, President, Howe Richardson Scale Company; and

Dr. Alan G. Mencher, Scientific Attache, U.S. Embassy in London.

Thomas M. Stabler, Special Assistant for International Programs, National Bureau of Standards, accompanied the delegation as an ISO/OIML representative. Mr. Andrus was designated by the Department of State to serve as the U.S. member of the International Committee (CIML), and was invited by the CIML President to serve on the Presidential Council.

Twenty-three Project Recommendations were adopted as OIML International Recommendations (Tab 3).

SUMMARY

In summary, the benefits to the United States of participation in OIML are:

to improve opportunities for exporting measurement instruments and help our balance-of-payments position;

to obtain better information regarding measurement techniques in the field;

to influence internationally adopted measurement techniques so U.S. procedures will not be put at a disadvantage;

to insure that the United States can influence the adoption by developing countries of model laws and uniform procedures in order to avoid having the United States put at a disadvantage vis-a-vis European and other countries; and

to facilitate the development of an international standards program for the United States in this area.

"The main purpose of OIML² is to establish the necessary minimum technical requirements which measuring instruments have to possess in order for them to be approved by member states and for them to be recommended for international use.

"The international documents have been prepared by a method which is customary in the CIML and which does not differ essentially from the methods used by other organizations, such as the ISO and IEC.

"The method provides a guarantee that the final documents represent the best possible compromise

which one can expect, bearing in mind the original strongly divergent opinions. It does not guarantee that all the countries concerned, not even those which belong to the working groups, will be in complete agreement with the final text. However, generally speaking, members of the working groups are ready to accept compromise solutions. Two major factors are constantly borne in mind, vis., (1) the measuring instruments which are manufactured on the basis of the specifications to be drawn up must guarantee a reasonable certainty of accurate measurements in normal use, and (2) the interests of the industry producing the measuring instruments.

"The first factor requires no explanation. As regards the second, it is obviously in the interests of the manufacturers to find a market, as large as possible, for a unified product. The ideal situation from OIML's point of view, therefore, would be that a manufacturer who constructs a type of measuring instrument in one country should be able to export it to any other country with the certainty that it will satisfy the legal regulations of that country.

"To this end it is necessary that the member countries should implement the decisions of OIML by incorporating them in their national legislation. As you know, the treaty which set up the OIML imposes a moral obligation on the member countries to do this, and then only "as much as possible." The treaty cannot go further than this, but of course it is hoped that as many member countries as possible will honor this moral obligation.

"It is thus not of great importance whether the recommendations are adopted in their entirety or only partially. In the present circumstances, it would be a considerable advance if their basic premises were accepted.

"The ideal was to make possible the mutual acceptance of type approval and perhaps even of the verification of single instruments by all weights and measures administrations in the world.

"Naturally, this ideal will have to be regularly adapted to new ideas.

"Yet whatever adjustments social progress will demand of us, the ideal will continue to point the way to the future.

"We shall still have many obstacles to face on this road. The language problem springs immediately to mind, and many believe that OIML will seriously

². Address by A. J. van Male (Netherlands), President, CIML, to the 1970 National Conference on Weights and Measures.

have to consider in the near future the possibility of using English as an additional operational language. It is not difficult to think of a number of other obstacles which may affect the issue. All of us, and I mean every country in the world, have, after all, had separate and different histories in metrology. But we have a common purpose. Let us, therefore, strive for a common future in legal metrology."

setting of international standards for measurements and, in so doing, to expand our international trade.

I recommend that the Senate give favorable consideration to United States accession to this Convention, as amended.

Richard Nixon.

TAB 1

LETTER OF TRANSMITTAL

The White House,
April 11, 1972.

To the Senate of the United States:

Today I ask the Senate to give its advice and consent to accession by the United States to the Convention Establishing an International Organization of Legal Metrology, as amended.

Legal metrology, as broadly defined, relates to the compatibility of standards of measurement and the legislation or regulations which may affect them.

The International Organization of Legal Metrology, established in 1955, is concerned primarily with standards for instruments and measurement techniques involved in the legal determination of quantity and quality. Presently, many of its 36 member nations and eight corresponding members are European.

The Organization's tasks fall generally into two groups:

to serve as a center for documentation and information; to foster close working relations with national weights and measures services and other concerned organizations; and to furnish advisory assistance to interested countries.

to determine the general principles of legal metrology; to recommend uniform international requirements for measuring instruments; and to work out model laws and regulations for consideration by member countries.

The Organization's recommendations are not binding but they are accepted by most member nations -- many of which are also our major trading partners.

The United States has in the past been an interested observer in the Organization's work and I believe that accession to the Convention would now be of clear advantage to the United States. As the world's largest trading nation and as a world leader in the standards field, we would be better able to assume a positive role in the

TAB 2

MEMBER STATES
OF THE INTERNATIONAL ORGANIZATION
OF LEGAL METROLOGY

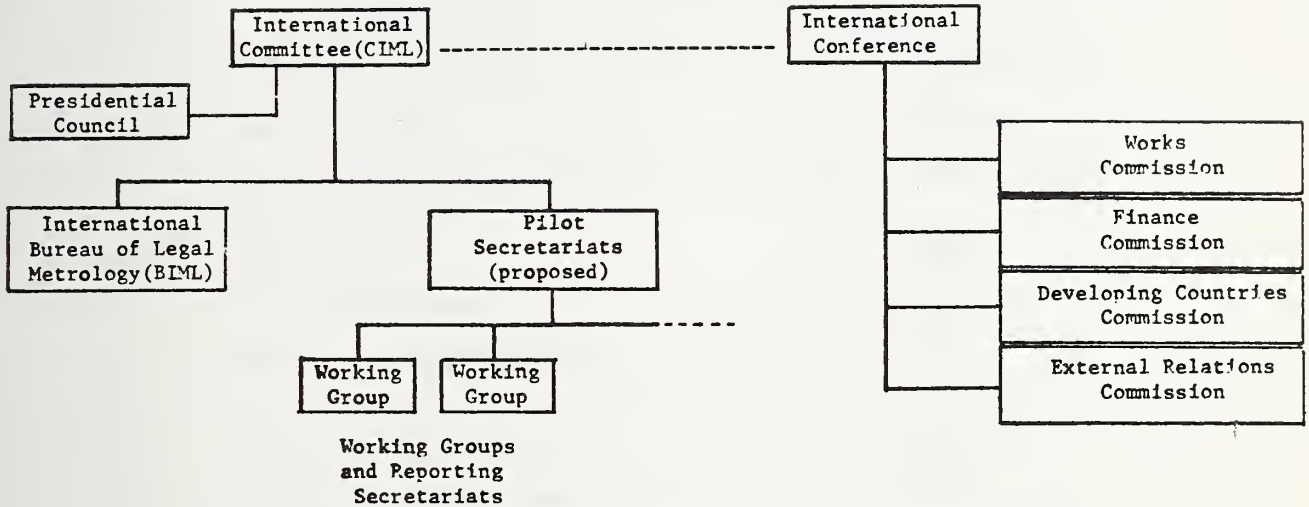
(September 1972)

- | | |
|------------------------------------------------------------|-----------------------------|
| Republic of West Germany | Iran |
| United Arab Republic | Israel |
| Australia | Italy |
| Austria | Japan |
| Belgium | Lebanon |
| Bulgaria | Morocco |
| Cameroun | Monaco |
| Sri Lanka (Ceylon) | Norway |
| Cuba | Low Countries |
| Denmark | Poland |
| Dominican Republic | Rumania |
| Spain | Sweden |
| Finland | Switzerland |
| France | Czechoslovakia |
| United Kingdom of Great Britain
and of Northern Ireland | Tunisia |
| Guinea | U.S.S.R. |
| Hungary | Venezuela |
| India | Yugoslavia |
| Indonesia | United States of
America |

MEMBER CORRESPONDENTS

- Greece -- Jamaica -- Jordan -- Luxembourg -- Nepal
-- New Zealand -- Pakistan -- Turkey -- Arab
Organization for Standardization and Metrology

International Organization of Legal Metrology
(OIML)



Notes:

1. U.S. Membership in OIML, October 22, 1972.
2. A. J. Van Male (Netherlands), President, CIML.
3. W. E. Andrus, Jr. (NBS), U.S. representative to CIML.
4. M. Costamagna (France), Director, BIML.
5. B. Athane (France), Director Elect, BIML (2/1/74).

FOURTH INTERNATIONAL CONFERENCE
OF LEGAL METROLOGY
LONDON, OCTOBER 1972

PROJECT RECOMMENDATIONS

<u>Documents</u> C ₄ 1972	<u>Project</u>	
PR. 14	Polarimetric Saccharimeters	Federal Republic of Germany
PR. 20	Service Measures	Switzerland
PR. 21	Auxiliary Devices for Meters - For Liquids Other Than Water	Germany & France
PR. 22	Taximeters	Germany
PR. 23	Tire Pressure Gauges	USSR
PR. 24	Classes of Precision Measuring Instruments	USSR
PR. 25	Verification Agent's Standard Metre Measure	India
PR. 26	Precision Weights of Classes E ₁ , E ₂ , F ₁ , M ₁	Belgium
PR. 27	Verification Agent's Standard Weights	India
PR. 28	Gas Meters, Deformable Wall	Netherlands
PR. 29	Alcoholometry	France
PR. 30	Technical Regulations for Non-Automatic Weighing Machines	Germany & France
PR. 31	Conventional Value of Results of Weight in Air	BIML
PR. 32	Gas Meters, Rotating Piston and Turbine	Germany
PR. 33	Vocabulary for Legal Metrology	Poland
PR. 34	Verification of Indenters of Hardness Testing Machines	Austria
PR. 35	Verification of Hardness Testing Machines: Brinell System	Austria
PR. 36	Vickers System	Austria
PR. 37	Rockwell B and C	Austria
PR. 38	Recommendation No. 1, Cylindrical Weights 1g-10kg	Belgium
PR. 39	Recommendation No. 2, Rectangular Bar Weights 5kg-50kg	Belgium
PR. 40	Length Measurements with a Flat-Edged Instrument	USSR
PR. 42	Medical Syringes	Austria

1. Cylindrical weights from 1 gram to 10 kilograms (of medium class of accuracy).
2. Rectangular weights from 5 to 50 kilogrammes (of medium class of accuracy).
3. Metrological regulation of weighing instruments with nonautomatic operation and commentaries concerning the determination of the errors on weighing instruments with discontinuous indication or impression.
4. One mark glass measuring flasks.
5. Meters for liquids (other than water) with measuring chambers.
6. General prescriptions for volumetric gas meters.
7. Clinical thermometers (mercury, in glass, with maximum device).
8. Working standard method for the verification of instruments for measuring the degree of humidity of cereal grains.
9. Verification and calibration of hardness reference blocks Brinell.
10. Verification and calibration of hardness reference blocks Vickers.
11. Verification and calibration of hardness reference blocks Rockwell B.
12. Verification and calibration of hardness reference blocks Rockwell C.
13. Correspondence symbol.
14. Polarimetric saccharimeters.
15. Instruments for measuring the mass per hectolitre of cereals.
16. Pressure gauges for instruments measuring arterial blood pressure.
17. Indicating pressure gauges, combined pressure and vacuum gauges and vacuum gauges, with pressure-responsive elements giving direct indications by means of a pointer and graduated scale (working equipment category).
18. Optical pyrometers with disappearing filaments.
19. Recording pressure gauges, combined pressure and vacuum gauges, and vacuum gauges, with pressure-responsive elements and recording directly by means of stylus and diagram (working

TAB 5

REMARKS MADE BY DR. LAWRENCE M. KUSHNER,
ACTING DIRECTOR OF THE NATIONAL
BUREAU OF STANDARDS AND HEAD OF THE
U.S. DELEGATION TO THE FOURTH
INTERNATIONAL CONFERENCE OF THE
INTERNATIONAL ORGANIZATION OF LEGAL
METROLOGY, ON THE SUBJECT OF LONG-RANGE
WORK POLICY IN OIML

Mr. Chairman,

I should like to take this opportunity to offer several comments on the long-range policy for OIML.

First, however, I would like to point out that U.S. accession to the 1955 Convention establishing OIML reflects the recognition in the U.S. of the importance of OIML and the significance of its accomplishments. Thus, my remarks should not be interpreted as wishing to decrease either of these. Rather, my remarks are made necessary by the very importance of the work of OIML and the great impact of its work on the affairs of nations and trade among them.

It is the U.S. view that the main purpose of OIML, expressed in simple terms, is to assure that those regulations of its member governments which involve metrological matters should be in harmony. I would urge the Conference to recognize that countries vary widely in the extent to which metrological matters are the concern of government, particularly, as one considers fields of metrology far removed from traditional weights and measures. Thus, since governments which belong to OIML are "morally obliged" to use its recommendations, it is essential that OIML consider only those areas of metrology for which its member governments can, in fact, accept the moral obligation. If OIML adopts recommendations which its member governments cannot accept as morally obligatory because they deal with subjects that are not governmental matters in those countries, then I am afraid that the concept of "moral obligation" will become seriously eroded and compromised over a period of time.

On the matter of metrological standards being based on performance as opposed to those based on design, the U.S. recognizes the wide variance in the technological development of metrology among the OIML member states. In those countries in which metrological technology is less well developed, design specifications are most useful -- and perhaps the only practical approach. But such specifications, applied in those countries whose metrological technology is more highly developed, can be undesirably restrictive and inhibiting. One possible avenue

of approach, which is apparently already being taken by some OIML working groups and if so is to be encouraged, is to draft recommendations, the first sections of which deal with the subject matter in terms of the desired performance and subsequent sections of which provide examples of design specifications which will meet the prescribed performance.

This leads to my final point. Writing the best possible performance recommendations or design recommendations is, as we all know, a difficult and time-consuming matter. Thus, it is incumbent on OIML working groups to draw as heavily as possible on all available services of technical expertise and to draw as heavily as possible on what has already been done or is being done, in other standardization bodies. Here I refer particularly to the efforts of the major international standardization bodies such as ISO and IEC. But this should not be a one-way street. I would similarly encourage those bodies when undertaking work in a field which may be of concern to legal metrology to do so only in close consultation with OIML experts. There must not be a competition but a true cooperation and coordination.

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16. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.) The International Organization of Legal Metrology (OIML) was formed in 1955 to promote intergovernmental cooperation in the field of weights and measures. In addition to its responsibilities as the center of documentation and information exchange in legal metrology, the OIML recommends uniform international requirements for measuring instruments and drafts model laws and regulations for consideration by the member states. In October 1972 the United States became the 38th member nation of OIML, with NBS being assigned general responsibility for the development of U.S. positions for technical matters arising in the organization. The benefits to the U.S. of participation in OIML are: (1) To improve opportunities for exporting measuring instruments, (2) To obtain better information regarding measurement techniques in the field, (3) To influence internationally adopted measurement technique so U.S. procedures will not be at a disadvantage, (4) To insure that the U.S. can influence the adoption by developing countries of model laws and uniform procedures, (5) To facilitate the development of an international standards program for the U.S. in legal metrology. The U.S. Delegation participated in the International Conference of OIML held in London, October 23-28, 1972.			
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