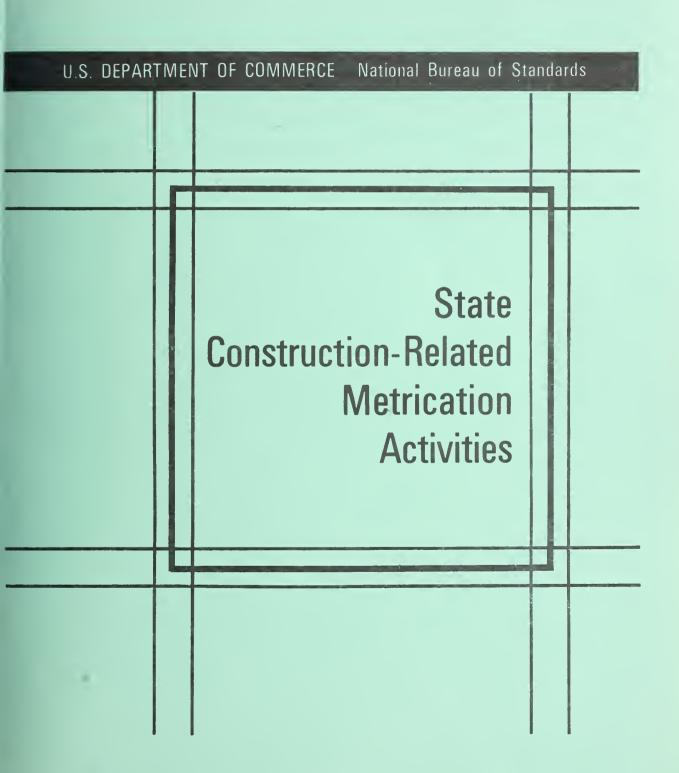


NBSIR 78 - 1441 (R)





STATE CONSTRUCTION-RELATED METRICATION ACTIVITIES

Sandra A Berry

Office of Building Standards and Codes Services Center for Building Technology Institute for Applied Technology National Bureau of Standards Washington, D.C. 20234

February 1978

U.S. DEPARTMENT OF COMMERCE, Juanita M. Kreps, Secretary

Dr. Sidney Harman, Under Secretary

Jordan J. Baruch, Assistant Secretary for Science and Technology

NATIONAL BUREAU OF STANDARDS, Ernest Ambler, Director



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OVERVIEW

Ι.

The American National Metric Council (ANMC) was formed in 1973 under the auspices of the American National Standards Institute to provide assistance, through coordination, planning and information services, to all segments of the U.S. economy involved in the conversion to metric measurement. In July of 1976, the ANMC became an independent incorporated entity.

In February 1975, the Center for Building Technology (CBT) was asked to assist and serve as Secretariat to the ANMC Construction Codes and Standards Sector (CCSS), one of the eight Sectors which comprise the Construction Industries Coordinating Committee (CICC). This request to the CBT was initiated by the then National Chairman of the National Conference of States on Building Codes and Standards (NCSBCS). He had been asked to represent the States in the ANMC as Chairman of its Construction Codes and Standards Sector. In his letter to the Center for Building Technology, he stated that "The assistance of your organization is needed...in beginning the planning for metrication by building regulatory officials." The Center for Building Technology offered its assistance.

In February 1976, the Center was asked and consented to provide secretariat services to the Design Sector of the Construction Industries Coordinating Committee. More recently, August 1977, the CBT was approached by the Chairman of the Construction Products Sector, and asked to supply secretariat services to that Sector as well. Thus, the CBT Office of Building Standards and Codes Services provides secretariat and general technical services to three important Sectors of the ANMC Construction Industries Coordinating Committee.

It became apparent to the CCSS that there was a need to know what was going on already in the States in the metric area, and that this need

could be fulfilled if a construction metrication contact was appointed within each State. Through these contacts, the States could put forth a concerted effort, enabling furthered reciprocity among and between the States in the area of metric conversion. This contact was seen as a construction liaison and information dissemination point between the individual States and the American National Metric Council, and could assist in the implementation of conversion decisions to be made by the industries within the States.

The CCSS Chairman advanced this concept to its parent committee—the Construction Industries Coordinating Committee (CICC)—and its Chairman requested the Center for Building Technology to carry out an inquiry of State metrication activities as the information to be gained would be useful to all CICC Sectors. In carrying out this inquiry, the Center for Building Technology requested each State Governor to provide the name of the construction metric coordinator or designated contact person within each State. Through these designated officials, the ANMC and NBS will disseminate timely construction metrication information to all State agencies concerned with construction and building regulation.

This document contains the preliminary results of that inquiry.

Other recent NBS publications relative to metrication in the building community are:

- 1. NBS Technical Note 915, "Metrication Problems in the Construction Codes and Standards Sector;"
- NBS Technical Note 938, "Recommended Practice for the Use of Metric (SI) Units in Building Design and Construction;"
- 3. NBS Special Publication 458, "Metrication and Dimensional Coordination—A Selected Bibliography;" and
- 4. NBS Special Publication 504, "Metric Dimensional Coordination The Issues and Precedent."

II. RESULTS OF INQUIRY

A total of 39 States (78%) have responded to the inquiry. Twenty-five States have named a representative to coordinate State metric construction activities; thirteen others have named a representative to serve as a general contact point for dissemination of metric information for their respective States. One State responded indicating it had no designated official at present, but would name one soon. Those States responding were:

Alaska Kentucky Arizona Louisiana California Maine Colorado Maryland Connecticut Massachusetts Florida Michigan Georgia Minnesota Hawaii Missouri Idaho Montana Illinois Nebraska Indiana New Jersey Iowa New Mexico Kansas New York

North Dakota
Ohio
Oklahoma
Oregon
Pennsylvania
South Dakota
Tennessee
Texas
Utah
Virginia
West Virginia
Wisconsin

North Carolina

A listing of the State officials, designated by their respective

State Governors, as well as some general information extracted from

responses to the inquiry, and from the NBS Office of Weights and

Measures, and the ANMC Reporter, follows this overall summary. The

National Governors' Conference (NGC) has established an Interstate

Metric Committee; and in those cases where the designated State representative and Interstate Metric Committee are the same, an "X" appears

in column (3) of the list. The National Conference of States on Building

Codes and Standards (NCSBCS) is a building-related State organization

and is working with the American National Metric Council (through the

Construction Codes and Standards Sector). Therefore, if the NCSBCS

delegate or alternate is the same as the designated metric construction

coordinator, an "X" appears in column (4) of the list.

Seven States (18% of those responding) have named their Interstate Metric Committee representative as their construction metrication contact; eleven States (28% of those responding) named their NCSBCS delegate or alternate to assume responsibility for pertinent construction metrication information exchange.

To date, the four publications listed on page 2 have been shared with those States which have responded to the inquiry. Pertinent metric and dimensional coordination information will continue to be shared with the States, through their metric construction coordinators or contact persons.

It is of interest to note the types of State organizations from which these metric construction coordinators or contact points have been designated.

Agriculture and Weights & Measures	7	(17.5%)
Contractors and Purchasing	4	(10%)
Consumer Protection and Education	2	(5%)
Transportation	4	(10%)
Commerce and General Services	3	(7.5%)
Construction Related	20	(50%)
Obligation Related	40*	(100%)
		,

^{*} Two States have designated two individuals each; one State has designated no one.

This preliminary report is for your information. It is hoped that each State will appoint a metric coordinator or contact point in the near future. In addition, more information on State committees, commissions, study groups, etc., would be appreciated, such as their make-up, scope, responsibilities, policy statements, decisions to date. As more States respond, this preliminary report will be updated and will be a more meaningful information document.

Please send an update of what is transpiring in your State

to: Secretariat
ANMC Construction Codes & Standards Sector
c/o Building 226, Room B226
National Bureau of Standards
Washington, D.C. 20234

STATE	CONSTRUCTION METRICATION OFFICER (2)	SAME AS NGC INTERSTATE COM. REPRESENTATIVE (3)	OR ALTERNATE
	(2)	(3)	(4)
ALABAMA			
ALASKA	H. Phillip Hubbard	x	
	Commissioner	**	
	Department of Commerce and Economic Development		
	Pouch D		
	Juneau, Alaska 99811 (907) 465-2500		
4 D.T.G.O.V.4			
ARIZONA	John J. Kayeton Registrar of Contractors		
	1818 W. Adams		
	Phoenix, Arizona 85007 (602) 252-5531		
ARKANSAS			
AICANSAS			
CALIFORNIA	Dr. Xavier Mendoza		X
	Chief, Division of Codes and		
	Standards Department of Housing &		
	Community Development		
	921 10th Street Sacramento, California 95814		
	(916) 445–4775		
COLORADO	Harold A. Knott, Director		Х
	Division of Housing 1575 Sherman Street, Rm. 704		
	Denver, Colorado 80203		
	(203) 892-2033		

STATE (1)	CONSTRUCTION METRICATION OFFICER (2)	SAME AS NGC INTERSTATE COM. REPRESENTATIVE (3)	SAME AS NCSBCS DELEGATE OR ALTERNATE (4)
CONNECTICUT	Mary M. Heslin Commissioner, Department of Consumer Protection State Office Building Hartford, Connecticut 06115 (203) 566-2396		
DELAWARE	-		
FLORIDA	Sydney D. Andrews Director, Division of Standards Florida Department of Agri- culture & Consumer Services Mayo Building Tallahassee, Florida 32304 (904) 488-0645		
GEORGIA	Frederick Branch Director, Facilities Management Office of Planning & Budget 270 Washington Street, S.W. Atlanta, Georgia 30334 (404) 656-3891		
HAWAII	George Mattimoe State Deputy Director of Weights & Measures P.O. Box 22159 Honolulu, Hawaii 90822 (808) 941-3071	Х	
IDAHO	Jack Richmond Room 400, State House 317 Main Street Boise, Idaho 83720 (208) 384-2327		Х
ILLINOIS	Donald S. Glickman Executive Director Capital Development Board State Office Building, 3rd Floor 401 South Spring Street Springfield, Illinois 62706 (217) 782-2864		
	7		

STATE (1)	CONSTRUCTION METRICATION OFFICER (2)	SAME AS NGC INTERSTATE COM. REPRESENIATIVE (3)	SAME AS NCSBCS DELEGATE OR ALTERNATE (4)
INDLANA	Donald T. MacRae State Bldg. Commissioner Administrative Bldg. Council Graphic Arts Building 215 North Senate Avenue Indianapolis, Indiana 46204 (317) 633-5433		х
IOWA	Mr. Donald Appell State Bldg. Code Commissioner 523 East 12th Des Moines, Iowa 50319 (515) 281-3807		х
KANSAS	John L. O'Neill State Dept. of Agriculture Weights and Measures Division 1026S, State Office Building Topeka, Kansas 66612 (913) 296-3846	Х	
KENTUCKY	Mr. William B. Drake Assistant State Highway Engineer for Research State Highway Engineer Office Room 1005 State Office Building Frankfort, Kentucky 40601 (606) 564-3730		
LOUISIANA	Reid Grigsby, Ph.D. Assistant Commissioner Department of Agriculture P.O. Box 44302 Baton Rouge, Louisiana 70804 (504) 389-5563		
MAINE	Richard G. Bachelder Director Bureau of Public Improvements State Office Building Augusta, Maine 04333 (207) 289-3881		X
MARYLAND	Earl F. Seboda, Assistant Secretary Department of General Services 301 West Preston Street Baltimore, Maryland 21201 (301) 383-3960		
	8		

	1		
STATE (1)	CONSTRUCTION METRICATION OFFICER (2)	SAME AS NGC INTERSTATE COM. REPRESENTATIVE (3)	SAME AS NCSBCS DELEGATE OF ALTERNATE (4)
MASSACHUSETTS	Charles J. Dinezio Executive Director State Building Code Commission One Ashburton Place Room 1305 Boston, Massachusetts 02109 (617) 727-6919		Х
MICHIGAN	Robert Hilprecht Director, Bureau of Construction Codes Michigan Department of Labor State Secondary Complex Lansing, Michigan 48910 (517) 373-9600		Х
MINNESOTA	Frederick W. Thorstenson Director, Research & Standards Department of Transportation Transportation Building St. Paul, Minnesota 55155 (612) 296-3040		
MISSISSIPPI			
MISSOURI	John H. Blair, AIA Chief Architect Division of Design and Construction P.O. Box 809 Jefferson City, Missouri 65101 (314) 751-3190		
MONTANA	Philip H. Hauck, AIA Administrator, Architecture and Engineering Divisior Department of Administration 1500 Sixth Avenue Helena, Montana 59601 (406) 449-3104		
	9		

STATE (1)	CONSTRUCTION METRICATION OFFICER (2)	SAME AS NGC INTERSTATE COM. REPRESENTATIVE (3)	SAME AS NCSBCS DELEGATE OR ALTERNATE (4)
MONTANA *	Delmont C. Thurber Chairman, Montana Building Codes Advisory Council P.O. Box 6177 C. M. Russell Station Great Falls, Montana 59406 (406) 452-0791		Х
NEBRASKA	Glenn W. Kreuscher Director, Department of Agriculture Weights and Measures Division P.O. Box 94757 Lincoln, Nebraska 68509 (308) 471-2536		
NEVADA			
NEW HAMPSHIRE			
NEW JERSEY	S. Leonard D. DiDonato Director, Division of Building and Construction Department of the Treasury State House Trenton, New Jersey 08625 (609) 292-1717		
	Charles M. Decker Department of Community Affairs Bureau of Housing Inspection 363 W. State Street Trenton, New Jersey 08675 (609) 292-5984		
* designated alternate	10		

NEW YORK A O NORTH CAROLINA D R () NORTH DAKOTA D	CONSTRUCTION METRICATION OFFICER (2) Jose Baca State Purchasing Officer Lamy Building Santa Fe, New Mexico 87503 (505) 827-2626 M. R. "Jim" Adler	SAME AS NGC INTERSTATE COM. REPRESENTATIVE (3) X	SAME AS NCSBCS DELEGATE OR ALTERNATE (4)
NEW YORK A O NORTH CAROLINA D R (NORTH DAKOTA D	State Purchasing Officer Lamy Building Santa Fe, New Mexico 87503 (505) 827-2626	X	
NEW YORK A O O T A (O O T O O O O O O O O O O O O O O O O	M. R. "Jim" Adler		
NORTH CAROLINA DE RICHARDO DE	Assistant Director, General Construction Board P.O. Drawer 5155 1131 Siler Road Santa Fe, New Mexico 87503 (505) 827-2085		
D D R (O NORTH DAKOTA D	Albert C. Brevetti Director, Division of Design Office of General Services Tower Building, Empire State Plaza Albany, New York 12242 (578) 474-0221		
D	Dr. Robert R. Jones Director, Division of Mathematics Department of Public Instructi Raleigh, North Carolina 27611 (919) 733-3602	1	
В	Dean Conrad Director, Department of Account and Purchases State Capital Bismarck, North Dakota 58505 (701) 224-2680	ıts	
D 0 2 C	Thomas M. Major Deputy Director, Office of Metrication Ohio Department of Transportation 25 South Front Street Columbus, Ohio 43215 (614) 466-6804		
	11		

STATE (1)	CONSTRUCTION METRICATION OFFICER (2)	SAME AS NGC INTERSTATE COM. REPRESENTATIVE (3)	SAME AS NCSBCS DELEGATE OR ALTERNATE (4)
OKLAHOMA	Keith English Highway Engineer Operations Branch, State Traffic Engineering Division Oklahoma Department of Transportation 200 N.E. 21st Street Oklahoma City, Oklahoma 73105 (405) 521-2861		
OREGON	Walter M. Friday Chief Structural Codes Engineer Building Codes Division Department of Commerce 401 Labor & Industries Building Salem, Oregon 97310 (503) 378-8393		
PENNSYLVANIA	Ronald G. Lench Secretary Department of General Services Room 515, North Office Building Harrisburg, Pennsylvania 17120 (717) 787-5996	Х	
RHODE ISLAND			
SOUTH CAROLINA			
SOUTH DAKOTA	Everett N. Quam State Engineer Joe Foss Building Pierre, South Dakota 57501 (605) 224-3466		Х
	12		

STATE (1)	CONSTRUCTION METRICATION OFFICER (2)	SAME AS NGC INTERSTATE COM. REPRESENTATIVE (3)		
TENNESSEE	Robert Reeves Director, Weights & Measures Department of Agriculture Ellington Agricultural Center Nashville, Tennessee 37204 (615) 741-1411	Х		
TEXAS	Robert Jenkins Director for Building and Property Services State Board of Control State Capitol Austin, Texas 78711 (512) 475-4162			
UTAH	Robert E. Frome Administrator Department of Contractors 330 East 4th South Salt Lake City, Utah 84111 (801) 533-5761	-		
VERMONT				
VIRGINIA	James F. Lyles Supervisor, Weights and Measures Section Department of Agriculture and Commerce 1 North 14th Street Richmond, Virginia 23219 (703) 786-2476	X		
WASHINGTON				
	13			

STATE (1)	CONSTRUCTION METRICATION OFFICER (2)	SAME AS NGC INTERSTATE COM. REPRESENTATIVE (3)	SAME AS NCSBCS DELEGATE OR ALTERNATE (4)
WEST VIRGINIA	-		
WISCONSIN	John Wenning Administrator, Safety and		X
	Building Division Department of Industry, Labor and Human Relations P.O. Box 2209 Madison, Wisconsin 53702 (608) 266-1816		
WYOMING			
DISTRICT OF COLUMBIA			
PUERTO RICO			
VIRGIN ISLANDS			
	14		

III. EXTRACTED STATEMENTS FROM REPLIES

Of the thirty - nine responses received, several States made positive statements regarding metrication. Some of these have been extracted from the response and are provided below.

- ARIZONA has been active in the move toward metrication.
- We are quite interested in having a successful metrication program in CALIFORNIA.
- The committee (CONNECTICUT Metric Coordinating Committee) is very aware of the importance of up-to-date conversion information.
- The State of IDAHO is very interested in any activities that will result in a smooth transition to the metric system.
- All efforts that can reasonably be undertaken by an individual state have been accomplished in MINNESOTA, and we are looking forward to your leadership to make the conversion period as brief and as smooth as possible.
- The State of NEW JERSEY is pleased to be able to participate in the national program of metrication activities.
- We, in the State of NEW YORK, look forward to cooperating with the National Bureau of Standards and the American National Metric Council, insuring that those concerned are kept abreast of the latest information involving construction conversion activities as they occur.

- The present and projected construction program for the Department of Transportation is the largest area of concern in the process of conversion to the metric system in OHIO's governmental agencies.
- You may be assured of our (TENNESSEE) desire to be of assistance wherever possible.

IV. METRIC COMMITTEES

Seven States (18% of those responding) reported that metric committees have been established within the State. Some information about these seven follows:

CONNECTICUT:

Established a twelve person "Connecticut Metric Coordinating Committee," in 1976. The Committee meets monthly and is comprised of a cross-section of interests within the State. Connecticut has joined the American National Metric Council and is a member of New England States Metric Coordinating Council.

FLORIDA:

Has a Metric Council consisting of 23 members from a cross-section of State and private organizations. The council has an office and is staffed with a Director and secretarial help. It is expected that work on a metrication plan will be started soon.

HAWAII:

Appointed 3-member Advisory Committee on Metrication in 1976 to provide coordination, priority and planning services. The Committee has one member from the governmental, educational and industrial segments of the community. A comprehensive metric conversion plan has been developed which establishes 20 sector committees compatible with those of the American National Metric Council.

MAINE:

Has established a State Governmental Metric Policies Committee.

MINNESOTA:

Has established a Minnesota Metric Council and passed a metrication law in 1974.

NEW YORK:

Established the New York State Metric Council in 1976 to monitor transition activities of national scope to coordinate State conversion program in pace with all economic sectors of the United States. Responsibilities include the establishment of a metric conversion program in harmony with directions set by the U.S.

Metric Board and the Federal Government; supervision and coordination of all conversion activities within State and local governments; review of all State laws, rules and regulations governing the standards of weights and measures, and preparation of any revisions necessitated by adoption of the metric system; and gathering, maintaining and disseminating metric information and providing technical assistance as necessary to faster metric conversion in the State. Members of the State Council are the Commissioners of Agriculture and Markets, Commerce, Consumer Protection, General Services, Labor, Environmental Conservation, Transportation, Education, and the Secretary of State, Chairman of the Thruway Authority, and Councelor of the State University.

OREGON:

Established a Metric Conversion Study Committee in 1976, comprised of representatives of measurement-sensitive State agencies.

Several other States may have ongoing metric activities, such as study groups, task forces, pending legislation, etc. However, included above is only the information received in response to the letter of inquiry.

V. ADDITIONAL STATE METRICATION INFORMATION

Some information not received in response to our letter of inquiry follows. This information was included in the American National Metric Council's Metric Reporter of August 5, 1977, and has been supplemented by information from the NBS Office of Weights and Measures.

ALASKA: Governor to announce State metric council shortly.

ARIZONA: State Department of Education formed a State Metric

Advisory Council.

CALIFORNIA: Organized a nongovernmental committee in 1974;

legislation has been introduced calling for an

official State conversion council.

COLORADA: Formed a metric subcommittee of its scientific

advisory council in 1975.

GEORGIA: Metrication committee formed in 1973; committee

report completed in 1974 stating it would be

beneficial to have a coordinated plan implemented

over a 10-year period.

MONTANA: Governor formed Interdepartmental Task Force on

Metric Conversion in July 1977, to plan and

coordinate change.

NEVADA: Has a nongovernmental metric committee.

NORTH CAROLINA: Established an Advisory Council on Metrication in

1974; developed a plan for State conversion in 1975.

SOUTH CAROLINA: Legislation passed to create Metric Advisory Committee

in June 1977; will develop a plan.

SOUTH DAKOTA: Is organizing a State metric committee.

TENNESSEE: Established a metric conversion committee in

February 1977.

TEXAS: Governor appointed Metric System Advisory Council

to develop methods of converting to metric in

August 1977.

VERMONT: Governor appointed State metric coordinator in

July 1977; established Metric Coordinating Council

to develop plan in September 1977.

VIRGINIA: The General Assembly adopted a metric resolution

in 1974 requesting each State agency to evaluate

the effects of implementation of the metric system.

WASHINGTON: In January of 1976, Governor sent memo to each

State agency to establish a task force to develop

a comprehensive State policy to facilitate

conversion.

VI. GENERAL COMMENTS

Although the "Metric Conversion Act of 1975" calls for a voluntary conversion to metric (SI) measurement, several States appear well along in their planning for conversion to metric.

Within the American National Metric Council is a Subsector of the Construction Codes and Standards Sector--State Implementation and Training--which has the National Conference of States on Building Codes and Standards as its lead organization. States are encouraged to work with this Subsector toward an orderly transition of the many building standards, codes, and perhaps even legislation, to metric (SI) measurement.

If you are interested in this activity, please contact the Chairman of the ANMC Construction Codes and Standards Sector:

c/o Secretariat
Building 226, Room B226
National Bureau of Standards
Washington, D.C. 20234



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15. SUPPLEMENTARY NOTES					
16. ABSTRACT (A 200-word or bibliography or literature sur	less factual summary of most significant	information. If doc	ument includes a s	ignificant	
On October 19, 1976, the Chairman of the American National Metric Council's Construction Industries Coordinating Committee (CICC) requested the Center for Building Technology to conduct an inquiry of the States relative to their metric activities. The Center agreed to conduct this inquiry and the information gleaned from it, as well as some State information from the American National Metric Council and the NBS Office of Weights and Measures, is contained in this publication.					
7. KEY WORDS (six to twelve entries; alphabetical order; capitalize only the first letter of the first key word unless a proper name; separated by semicolons)					
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