

Department of the Interior

Departmental Manual

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Series: Special Programs

Part 758: Metric Transition Program

Chapter 1: Metric Policy

Originating Office: Office of Information Resources Management

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1.1 Purpose. This chapter establishes policies and assigns responsibilities for the Department of the Interior's Metric Transition Program.

1.2 Background.

A. The metric system grew out of a study of measurement systems by France's Paris Academy of Sciences and was adopted by the National Assembly of France in 1795. The need for standardization among countries led to the establishment of an international system of metric units and practices called the Systems International d'Unites, designated SI in all languages. SI is an international set of standards and practices, which are published in International Standard ISO 1000. The metric system has emerged as the choice of all the nations of the world with the exception of only three countries; Myanmar (formerly Burma), Liberia, and the United States.

B. On July 28, 1866, the United States enacted legislation on the use of the metric system of weights and measures, and legalized the use of the metric system throughout the United States. On May 28, 1878, the United States ratified the Treaty of the Meter which provided for an International Bureau of Weights and Measures, an International Committee on Weights and Measures, and an International General Conference on Weights and Measures.

C. The transition to the metric system involves not only changing measurement units (e.g., selling liquids in liters rather than quarts) but also establishing engineering standards and specifications. Much of the restatement of standards will be accomplished through the American National Standards Institute (ANSI) which is a member of the International Organization for Standardization.

1.3 Authority.

A. On December 23, 1975, the President signed Public Law 94-168, 15 U.S.C. 205a, the Metric Conversion Act of 1975, which declared that the policy of the United States shall be to coordinate and plan increasing use of the metric system in the United States on a voluntary basis.

B. The Omnibus Trade and Competitiveness Act of 1988 (Public Law 100-418, Section 5164) amended the Metric Conversion Act and assigned a leadership role in metrication to the

Federal Government. Unlike the 1975 Act, the 1988 amendments are mandatory and state that "It is therefore the declared policy of the United States:

(1) to designate the metric system of measurement as the preferred system of weights and measures for United States trade and commerce;

(2) to require that each Federal agency, by a date certain and to the extent economically feasible by the end of the fiscal year 1992, use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms, such as when foreign competitors are producing competing products in non-metric units;

(3) to seek out ways to increase understanding of the metric system of measurement through educational information and guidance and in Government publications; and

(4) to permit the continued use of traditional systems of weights and measures in nonbusiness activities."

1.4 Definitions. (See Appendix 1 for list of acronyms).

A. Engineering Standard. A standard which prescribes (1) a set of conditions and requirements that must be satisfied by a material, product, process, procedure, convention, or test method; and (2) the physical, functional, performance and/or conformance characteristics thereof.

B. National and/or International Standard or Recommendation. An engineering standard or recommendation which is (1) formulated and promulgated by a national or international organization; and (2) recommended for adoption as a U.S. standard.

C. Inch-Pound System of Units. The system of measurement units (inch, pound, second, degree Fahrenheit, and units derived from these) most commonly used in the United States. Synonyms: "English System, U.S. System, Customary System." The inch-pound system is not to be confused with the "Imperial System," which describes a related but not completely identical system used in Great Britain and some other English-speaking countries.

D. Conversions, Soft. Changing from inch-pound measurement units to equivalent metric units without modifying or altering (1) the actual physical size (dimensions or configurations) of a part or product, (2) the process by which a product is produced, or (3) the procedures or equipment used for measurement. Soft conversion is accomplished mathematically by applying standard conversion factors such as, one inch equals 2.54 centimeters and one pound equals 454.6 grams. Soft conversion often produces awkward results. For example, 8-1/2 x 11-inch dimensions of standard writing paper are expressed as 21.59 x 27.94 centimeters after soft conversion.

E. Conversions, Hard. Physically changing products, procedures or measurement practices to use metric measurements. This involves modifying the actual product or procedure

to metric dimensions. When a product, procedure, or measurement practice is physically changed and the dimensions are hard converted, the new dimensions should be in convenient and rounded numbers wherever possible. For example, simple soft conversion of a two-pound amount will be expressed as 909.2 grams, which is the metric equivalent but is not a convenient expression. Instead, a hard conversion should be performed with the product handled and described in a different physical amount such that the dimensions are in a convenient and rounded form, i.e., 900 grams, 950 grams, or 1,000 grams (one kilogram).

F. Measurement-Sensitive. The choice of measurement unit is a critical component of the activity, e.g., an agency rule/regulation to collect samples or measure something at specific distances or to specific depths, specifications requiring intake or discharge of a product to certain volumes or flow rates, guidelines for clearances between objects for safety, security, or environmental purposes, etc.

G. Business-Related Activities. Measurement sensitive commercial or business directed transactions or programs, e.g., standard or specification development, publications or agency statements of general applicability and future effect designed to implement, interpret, or prescribe law or policy or describing the procedure or practice requirements of an agency.

H. Interagency Council on Metric Policy (ICMP). An interagency committee at Assistant Secretary level established under the auspices of the Department of Commerce to coordinate and provide policy guidance to the heads of Federal agencies on metrication. The ICMP is comprised of representatives from the major Federal Departments and agencies and is chaired by the Department of Commerce's Under Secretary for Technology.

I. Metriation Operating Committee (MOC). The MOC, a subcommittee of the ICMP, coordinates Federal interagency metriation activities and recommends policy guidance to the ICMP. The MOC is comprised of representatives from the major Federal agencies who serve as their agencies' metric coordinators. The MOC structure also includes a number of interagency subcommittees that focus on specific areas of metric activity.

J. MOC Subcommittee Participants. Bureau and office participants in the activities of the MOC subcommittees. These persons keep the Departmental, Bureau, and Office Metric Coordinators informed of subcommittee activities and decisions, provide inputs to subcommittee deliberations, arrange for other Interior staff to contribute to subcommittee activities when appropriate, and develop formal Departmental positions on subcommittee issues when requested by the Departmental Metric Coordinator.

1.5 Policies. It is the policy of the Department of the Interior to:

A. Support an environment that accommodates metric transitions by not creating barriers to metric transition.

B. Change specifications, engineering standards and other technical documents, consistent with above policies, such that items are specified in the metric system. Whenever practical, use hard conversions of measurement units rather than soft conversions when

converting specifications and standards. When responsibility for developing a specification or standard lies with another agency or the private sector, bureaus and offices will participate as necessary in their development.

C. Implement the metric system for procurements, grants, and business-related activities to foster competitiveness of U.S. industries in the international arena.

D. Identify and periodically review activities and programs where metrication might increase the competitiveness of U.S. industries.

E. Develop and implement a Departmental Metric Transition Plan and individual bureau and office metric transition plans.

F. Publish a notice in the Federal Register of all plans for significant metric transition steps, and provide opportunity for public comment.

G. Require metric specifications where:

(1) The industry has made significant progress in transitioning to metric in their products and services,

(2) There is a specific need for material, hardware or systems to be used in conjunction with international activities,

(3) Contracts and grants in the academic, industrial and private sector activities are conducted in the metric system,

(4) A significant or substantial benefit can be derived from the use of the metric system, or

(5) The life of the facility or equipment is such that non-metric specifications could, at a later date, significantly increase the cost of future conversions.

H. Use the metric units listed in the "Preferred Metric Units for General Use by the Federal Government," GSA Federal Standard No. 376A. Any additional units shall be developed following the guidelines in "Standard Metric Practice," ANSI/IEEE 268.

I. Acquire and use metric products and services when the private sector has the capability to provide such metric products and services at reasonable costs.

J. Include the costs associated with transitioning to metric in the regular budget line items to account for the costs as part of the expenses of the activities associated with the line items.

K. Provide training in the use of the metric system to those personnel whose duties require such knowledge. Each bureau and office shall generally keep employees informed of

transition plans and activities.

L. Use either dual dimensions (metric/inch-pound) or metric exclusively for measurement-sensitive information in all new and revised regulations, policies, directives, manuals, reports, and publications and specifications. All dual dimensions preferably will be expressed with metric units first and inch-pound units second.

M. Not undertake metric transition initiatives when such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms. Bureaus shall give due consideration to known effects of their actions on State and local governments and the private sector, paying particular attention to effects on small business.

1.6 Responsibilities.

A. The Assistant Secretary - Policy, Management and Budget (A/S-PMB). The A/S-PMB is responsible for implementing the use of the metric system in the Department in accordance with the Metric Conversion Act, as amended, serving as the Department's representative to the ICMP and designating the Departmental Metric Coordinator.

B. Assistant Secretaries. Assistant Secretaries are responsible for ensuring that the required metric transition actions in the Department's metric transition plan, that pertain to their respective bureaus and offices, are completed within established timeframes.

C. Heads of Bureaus and Offices. Heads of bureaus and offices have the following responsibilities:

(1) Ensure that the required metric transition actions, for which they are responsible, are completed within established timeframes.

(2) Designate a bureau/office Metric Coordinator.

D. Departmental Metric Coordinator. The Departmental Metric Coordinator has the following responsibilities:

(1) Manages the Departmental metric transition program.

(2) Develops Departmental metric policy and provides program assistance to bureaus and offices in implementing the policy.

(3) Develops the Departmental metric transition plan and coordinates the implementation of the plan.

(4) Prepares the Department's annual metric report to Congress. (Report symbol 0333-DOC-BI).

(5) Serves as chairperson of the Interior Metric Work Group (IMWG).

(6) Provides oversight to ensure Departmentwide compliance with Federal and Departmental policies, guidelines, and regulations.

(7) Serves as a clearinghouse of information on the metric system and its use.

(8) Provides program management coordination and liaison with the Department of Commerce, other Federal agencies, and private sector organizations.

(9) Serves as the Department's representative to the MOC.

E. Bureau/Office Metric Coordinator. The bureau/office metric coordinator is responsible for the following:

(1) Serves as the bureau/office's central point of contact on metrication matters and participates in the activities of the IMWG.

(2) Coordinates the required actions in the Department's metric transition plan for which their bureau/office is responsible and reports to the IMWG on accomplishments and progress made.

(3) Serves as a facilitator within the bureau/office in informing and educating staff and employees on metric transition initiatives, progress, and issues.

(4) Identifies bureau/office staff to participate in the activities of the MOC subcommittees.

(5) Provides input to the IMWG on annual metric transition accomplishments/activities and planned future actions for inclusion in the Department's annual metric report to Congress.

F. Interior Metric Work Group. The IMWG is responsible for participating in the following activities:

(1) Develops and coordinates Departmental metric policies and plans.

(2) Resolves problems and issues in the implementation of the metric system.

1.7 Reporting Requirements. In accordance with the Metric Conversion Act as amended, agencies are required to report to Congress, as part of the annual budget submission, on actions taken during the previous fiscal year and planned actions to implement the metric system. The requirement for reports to the Congress has been incorporated into OMB Circular A-11, "Preparation and Submission of Budget Estimates." Bureaus and offices shall:

A. Provide input to the IMWG on annual metric transition accomplishments/activities and any plans for future metric transition for inclusion in the Department's annual metric report

to Congress.

B. Provide regular progress reports on milestone accomplishments defined in the Department's Metric Transition Plan.

C. Maintain an awareness of their own metric activities so requests for information, coordination, and cooperation can be effectively met.

1.8 Bibliography.

A. Metric System of Measurement; Interpretation of the International System of Units for the United States; "Federal Register Notice," December 20, 1990, (55 FR 52242). This notice interprets and modifies the International System of Units (SI), the Modernized Metric System, for the United States. Also included is a chart that shows the relationships of all the metric units to which names have been assigned. For copies write NTIS, 5285 Port Royal Road, Springfield, Virginia 22161.

B. Standard Metric Practice, ANSI/IEEE Standard 268-1982, and Standard for Metric Practice, ASTM E380-90. These standards give guidance for the application of the modernized metric system in the United States. For copies write to Institute of Electrical and Electronics Engineers, 345 East 47th Street, New York City, New York 10017 or American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

C. Metric Editorial Guide, Fourth Edition (Revised), August 1990, American National Metric Council. This guide is a publication of a set of recommendations of accepted metric practices. For copies write American National Metric Council, 1620 Eye Street, NW., Suite 220, Washington, D.C. 20006.

D. Preferred Metric Units for General Use by the Federal Government. GSA Federal Standard No. 376A, May 5, 1983. This document provides lists of preferred metric units recommended for use throughout the Federal Government and conversion factors to SI units. For copies write Federal Supply Service, General Services Administration, Specifications Section, Room 6654, 7th & D Street, SW., Washington, D.C. 20407.

E. Metric Conversion Policy for Federal Agencies, January 2, 1991, by the Interagency Committee on Metric Policy. The purpose of this document is to state for Federal agencies a policy for increasing use of the metric system within the Federal Government.

F. Metric Handbook for Federal Officials, NTIS No. PB89226922, August 1989. This handbook contains recommendations for introduction of metric units in proposed legislation, regulations, data requests, and other Government use of measurement units. For copies write NTIS, 5285 Port Royal Road, Springfield, Virginia 22161.

G. Guidelines for the Use of the International System of Units (SI) in the Petroleum and Allied Industries, API Publication 2564, Reaffirmed August 1987. The general purpose of this publication is to encourage and facilitate uniformity of metric practice within the petroleum

industry.

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Appendix 1

List of Acronyms	.
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
A/S-PMB	Assistant Secretary - Policy, Management & Budget
IEEE	Institute of Electrical and Electronics Engineers
ICMP	Interagency Council on Metric Policy
IMWG	Interior Metric Work Group
ISO	International Standards Organization
MOC	Metrication Operating Committee
NTIS	National Technical Information Service
OMB	Office of Management and Budget
SI	Systems International d'Unites

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