

ENVIRONMENTAL HEALTH AND ENGINEERING
VOLUME III - HEALTH CARE FACILITIES DESIGN AND CONSTRUCTION
PART 21 - DESIGN CRITERIA AND STANDARDS

CHAPTER 21-8 METRICATION

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21-8.1 INTRODUCTION

A. PURPOSE -

This chapter provides guidelines and procedures for implementing the metric system in Indian Health Service (IHS) health care facilities and quarters projects.

B. BACKGROUND

Public Law 100-418 designates metric as the preferred system of weights and measures for U.S. trade and commerce. Under this law, all federal procurements, grants, and other business-related activities must use metric units by September 1992.

In July 1991, Presidential Executive Order 12770 designated the Secretary of Commerce to direct and coordinate metric conversion efforts by federal departments and agencies, and to authorize longer time frames for metric conversion in industries where September 1992 was impractical. The revised deadline for federal design and construction projects was January 1994.

On April 22, 1993, the Department of Health and Human Services (HHS) issued an updated Chapter 8-25, "HHS Metric Program," of the General Administration Manual. The policy in this chapter was re-affirmed in the HHS Facilities Program Manual, Volume I, issued May 19, 2006, Section 2-7 (page 2-37), Paragraph C. Units of Measure.

On November 21, 2006, IHS issued a letter to the HHS Office for Facilities Management and Policy (OFMP) forwarding a document entitled Use of Metric in Construction Programs of the Indian Health Service (dated March 2006). This document, (available through the Engineering Services Document Access Portal at <http://www.des.ihs.gov>), describes the historical and continuing implementation of the metric system in IHS construction projects, with a particular focus on the impact of the Indian Self Determination Act on metrication.

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C. DEFINITIONS

Metric System of Measurement - The International System of Units, Le Systeme International d'Unites (SI), as established by the General Conference on Weights and Measures in 1960.

Metrication - Any act that increases metric system use, including metric training, initiating or converting measurements into metric, etc.

Hard Metric - The use of rounded and rationalized metric measurements, which are convenient when working with specifications, standards, supplies, and services. The physical dimensions of materials are changed to reflect rounded and rational numbers in metric.

Soft Metric - The mathematical conversion of an inch-pound measurement to its metric equivalent in specifications, standards, supplies, and services. Material size or weight remains unchanged, except that it is expressed in metric units.

Inch-Pound Units - Units based on U.S. inch and pound standards, as defined by the National Institute of Standards and Technology.

21-8.2 GUIDELINES

A. IMPLEMENTATION

The use of metric measures in IHS health care facilities projects shall conform to:

- The U.S. General Services Administration (GSA), Metric Design Guide(M2), October 1993, and Metric Design Guide, (PBS-PQ260), May 1994;
- The Construction Subcommittee of the Metrication Operating Committee, Interagency Council on Metric Policy, Metric Guide For Federal Construction, latest edition; and
- The U.S. Department of Commerce, Metric Style Guide for the News Media, latest edition.

The metric system shall be utilized on all IHS health care facilities planning, design, construction, unless the extent of such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms. In addition, Table 1, "Guidelines for Determining Use of Metric," should be used as specific guidance for implementing metric

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measures on IHS and Tribal construction projects involving federal funds:

Table 1 Guidelines for Determining Use of Metric

For New Health Care Facilities Construction Program:

Metric Required

Project Site:	Federal Fee-Simple Land
Contract Type:	Direct Federal or 638
Facility Ownership:	Federal
Facility Management:	Federal or Tribal

Metric Required (but may be waived at Tribal request)

Project Site:	Indian Trust Land
Contract Type:	Direct Federal
Facility Ownership:	Federal
Facility Management:	Federal or Tribal

Metric Not Required (but may be negotiated into the contract)

Project Site:	Indian Trust Land
Contract Type:	638
Facility Ownership:	Federal
Facility Management:	Federal

Metric Not Required

Project Site:	Indian Trust Land
Contract Type:	638
Facility Ownership:	Tribal
Facility Management:	Tribal

For New Staff Quarters Construction Program

IHS Staff Quarters Construction Projects shall utilize inch-pound units and shall not utilize the metric system.

For Maintenance and Improvement Program (M&I)

For routine maintenance and major repair and improvement projects including additions, the prescribed system of measurement shall be based upon the measurement system of the existing design or equipment.

New free-standing and/or whole building repair-by-replacement M&I projects (as per Chapter 74-1 "Repair by Replacement Projects") shall utilize the metric system in accordance with the "New Construction" paragraphs above.

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For all projects utilizing the metric system, metric measurements must be used exclusively; no dual measurements will be accepted. The basic modules will be standard, logical, rounded, and rational metric units (hard metric). No mathematical conversions (soft metric) will be allowed. Where accepted metric modules are not available, professional judgment shall be exercised when converting and rounding from inch-pound units. Inch-pound units shall not appear in reports, drawings, specifications, or submissions of any documents.

B. RESPONSIBILITIES

The Area Offices and the Division of Engineering Services (DES) should contact the Office of Environmental Health and Engineering (OEHE), Division of Facilities Planning and Construction (DFPC), with metric system concerns and questions.

1. The DFPC is responsible for:

- Developing metric guidelines for specific programs;
- Assisting the DES and Area offices by providing metric information and training materials to increase staff awareness and understanding of the metric system; and
- Providing metric training for IHS staff working in facilities planning, design, construction, and leasing activities.

2. All of OEHE should:

- Use metric in all IHS health care facilities guidance documents, reports, policies, program announcements, regulations, etc., as they are revised or new issuances are generated;
- Ensure that all activities related to health care facilities use the metric system as provided for in this chapter.