

Use of Building Codes in Federal Agency Construction

Committee on Assessing the Impact on Federal Agencies of the Use of Building Codes as Design Criteria, Building Research Board, National Research Council

ISBN: 0-309-56469-7, 72 pages, 8 1/2 x 11, (1989)

This PDF is available from the National Academies Press at: http://www.nap.edu/catalog/1385.html

Visit the <u>National Academies Press</u> online, the authoritative source for all books from the <u>National Academy of Sciences</u>, the <u>National Academy of Engineering</u>, the <u>Institute of Medicine</u>, and the National Research Council:

- Download hundreds of free books in PDF
- Read thousands of books online for free
- Explore our innovative research tools try the "Research Dashboard" now!
- Sign up to be notified when new books are published
- Purchase printed books and selected PDF files

Thank you for downloading this PDF. If you have comments, questions or just want more information about the books published by the National Academies Press, you may contact our customer service department toll-free at 888-624-8373, visit us online, or send an email to feedback@nap.edu.

This book plus thousands more are available at http://www.nap.edu.

Copyright © National Academy of Sciences. All rights reserved.

Unless otherwise indicated, all materials in this PDF File are copyrighted by the National Academy of Sciences. Distribution, posting, or copying is strictly prohibited without written permission of the National Academies Press. Request reprint permission for this book.

USE OF BUILDING CODES IN FEDERAL AGENCY CONSTRUCTION

Committee on Assessing the Impact on Federal Agencies of the Use of Building Codes as

Design Criteria

Building Research Board

Commission on Engineering and Technical Systems

National Research Council

NATIONAL ACADEMY PRESS Washington, D.C. 1989

NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee responsible for the report were chosen for their special competencies and with regard for appropriate balance.

This report has been reviewed by a group other than the authors according to procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

The National Academy of Sciences is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Frank Press is president of the National Academy of Sciences.

The National Academy of Engineering was established in 1964, under the charter of the National Academy of Sciences, as a parallel organization of outstanding engineers. It is autonomous in its administration and in the selection of its members, sharing with the National Academy of Sciences the responsibility for advising the federal government. The National Academy of Engineering also sponsors engineering programs aimed at meeting national needs, encourages education and research, and recognizes the superior achievements of engineers. Dr. Robert M. White is president of the National Academy of Engineering.

The Institute of Medicine was established in 1970 by the National Academy of Sciences to secure the services of eminent members of appropriate professions in the examination of policy matters pertaining to the health of the public. The Institute acts under the responsibility given to the National Academy of Sciences by its congressional charter to be an adviser to the federal government and upon its own initiative, to identify issues of medical care, research, and education. Dr. Samuel O. Thier is president of the Institute of Medicine.

The National Research Council was established by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and of advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities. The Council is administered jointly by both Academies and the Institute of Medicine. Dr. Frank Press and Dr. Robert M. White are chairman and vice chairman, respectively, of the National Research Council.

This report was prepared as part of the technical program of the Federal Construction Council (FCC). The FCC is a continuing activity of the Building Research Board, which is a unit of the Commission on Engineering and Technical Systems of the National Research Council. The purpose of the FCC is to promote cooperation among federal construction agencies and between such agencies and other elements of the building community in addressing technical issues of mutual concern. The FCC program is supported by 14 federal agencies: the Department of the Air Force, the Department of the Army, the Department of Commerce, the Department of Energy, the Department of the Navy, the Department of State, the General Services Administration, the National Aeronautics and Space Administration, the National Endowment for the Arts, the National Science Foundation, the U.S. Postal Service, the U.S. Public Health Service, the Smithsonian Institution, and the Veterans Administration.

Funding for the FCC program was provided through the following agreements between the indicated federal agency and the National Academy of Sciences: Department of State Contract No. 1030-621218; National Endowment for the Arts Grant No. 42-4253-0091; National Science Foundation Grant No. MSM-8600676, under master agreement 82-05615; and U.S. Postal Service grant, unnumbered.

Limited supplies of this document are available from the National Academy Press, 2101 Constitution Avenue NW, Washington, DC 20418. A charge of \$3.00 for postage and handling must be prepaid.

Printed in the United States of America

Building Research Board

1988-89

CHAIRMAN

RICHARD T. BAUM, Consultant, Jaros, Baum and Bolles, New York, New York

MEMBERS

LYNN S. BEEDLE, University Distinguished Professor of Civil Engineering and Director, Council on Tall Buildings and Urban Habitat, Lehigh University, Bethlehem, Pennsylvania

GERALD L. CARLISLE, International Union of Bricklayers & Allied Craftsmen, Washington, D.C.

RAY F. DeBRUHL, Executive Vice President, Davidson and Jones Corporation, Raleigh, North Carolina

C. CHRISTOPHER DEGENHARDT, President, EDAW, Inc., San Francisco, California

DAVID R. DIBNER, Senior Vice President, Bernard Johnson, Inc., Bethesda, Maryland

EZRA D. EHRENKRANTZ, President, The Ehrenkrantz Group & Eckstut, New York, New York

ELISHA C. FREEDMAN, Consultant, Associated Public Sector Consultants & University of Connecticut, West Hartford, Connecticut

DENOS C. GAZIS, Assistant Director, Semiconductor Science and Technology, IBM Research Center, Yorktown Heights, New York

GEORGE S. JENKINS, Consultation Networks Inc., Washington, D.C.

RICHARD H. JUDY, Director, Dade County Aviation Department, Miami, Florida

FREDERICK KRIMGOLD, Associate Dean for Research and Extension, Virginia Polytechnic Institute and State University, Alexandria

MILTON PIKARSKY, Distinguished Professor and Director, Institute of Transportation Systems, The City College, New York, New York

KENNETH F. REINSCHMIDT, Vice President, Stone and Webster Engineering Corporation, Boston, Massachusetts

LESLIE E. ROBERTSON, Director, Design and Construction, Leslie E. Robertson Associates, New York, New York

NANCY S. RUTLEDGE, Consultant, Woolwich, Maine

RICHARD L. TUCKER, Director, Construction Industry Institute, The University of Texas, Austin

JAMES E. WOODS, Senior Engineering Manager, Honeywell, Inc., Golden Valley, Minnesota

APRIL L. YOUNG, Vice President, N.V.R. Development, McLean, Virginia

STAFF

ANDREW C. LEMER, Director
HENRY A. BORGER, Executive Secretary, Federal Construction Council
PETER H. SMEALLIE, Executive Secretary, Public Facilities Council
PATRICIA M. WHOLEY, Administrative Coordinator
JOANN V. CURRY, Senior Secretary
LENA B. GRAYSON, Senior Secretary

COMMITTEE ON ASSESSING THE IMPACT ON FEDERAL AGENCIES OF THE USE OF BUILDING CODES AS DESIGN CRITERIA

Chairman

DONALD G. ISELIN, Consultant, Santa Barbara, California

WILLIAM A. BRENNER, Vice President, Codeworks, Inc., Washington, DC

JEAN-PIERRE FARANT, School of Occupational Health, McGill University, Montreal, Quebec, Canada

EARL L. FLANAGAN, Architect, U.S. Department of Housing & Urban Development, Washington, DC

DAVID W. FOWLER, Director of Architectural Engineering, Department of Civil Engineering, The University of Texas at Austin

ROBERT W. GLOWINSKI, Technical Research Counsel, National Forest Products Association, Washington, DC JOHN C. HORNING, Schenectady, New York

WILLIAM N. McCORMICK, Jr., Lockwood Greene Engineers, Inc., Atlanta, Georgia

JOSEPH H. NEWMAN, Retired President and Chief Executive Officer, Tishman Research Corporation, Llewellyn Park, West Orange, New Jersey

JAMES SCHEELER, The American Institute of Architects, Washington, DC

Agency Liaison Representatives

JAMES M. BAYNE, Director, Facilities Operations and Maintenance Division, National Aeronautics and Space Administration, Washington, DC

KENNETH FAULSTICH, Chief, Fire Protection Division, Veterans Administration, Washington, DC

EDWARD FEINER, Architect, General Services Administration, Washington, DC

JAMES GROSS, Deputy Director, Center for Building Technology, National Institutes of Standards and Technology, Gaithersburg, Maryland

DANIEL HIGHTOWER, Division of Health Facilities Planning, Rockville, Maryland

DALE JACKSON, General Engineer, Bolling Air Force Base, Washington, DC

JACK METZLER, General Engineer, U.S. Department of Energy, Washington, DC

RICHARD McCRONE, General Engineer, Veterans Administration, Washington, DC

JACK MORTON, Mechanical Engineer, Veterans Administration, Washington, DC

IVAR R. PAAVOLA, Chief, Structures Section, Corps of Engineers, Washington, DC

THOMAS R. RUTHERFORD, Director, Criteria Division, Naval Facilities Engineering Command, Alexandria, Virginia

MURRAY TUEL, Director, Office of Architectural Services, Montgomery County, Rockville, Maryland

Project Staff

ANDREW C. LEMER, Director HENRY A. BORGER, Executive Secretary, FCC JOANN CURRY, Senior Secretary LENA GRAYSON, Senior Secretary ACKNOWLEDGEMENTS vii

ACKNOWLEDGEMENTS

The committee wishes to thank the representatives of the organizations who presented their views and participated in committee discussions. The committee expresses its appreciation as well of the active participation of the federal agency liaison representatives.

This study was supported by the agencies of the Federal Construction Council (FCC) under their contracts with the National Research Council. Mr. Henry Borger, P.E., Executive Secretary of the FCC served as project manager. Dr. Andrew C. Lemer, Director of the Building Research Board, participated in technical aspects of the study and preparation of the committee's report. Ms. Joann Curry especially is to be commended for her work in preparing the manuscript.

About this PDF file: This new digital representation of the original work has been recomposed from XML files created from the original paper book, not from the original typesetting files. Page breaks are true to the original; line lengths, word breaks, heading styles, and other typesetting-specific formatting, however, cannot be retained, and some typographic errors may have been accidentally inserted. Please use the print version of this publication as the authoritative version for attribution.

ACKNOWLEDGEMENTS viii

PREFACE ix

PREFACE

The diversity of requirements in building codes, zoning regulations, and building design criteria in the United States is truly remarkable, and is often lamented in the building professions. This diversity reflects geographic variations to which buildings must respond and is also understandable, in the case of codes and regulations, as an expression of local authority and freedom from higher levels of government control, and with building design criteria, as a reflection of the needs and preferences of individual building owners and users. While building professionals have long dreamed of the possible benefits of greater uniformity in building regulation throughout the United States, we recognize that some diversity is appropriate and desirable. Striking a balance between uniformity and diversity in policies that regulate building poses a broad range of economic, legal, social, and political as well as technological questions.

In asking the Building Research Board (BRB) to evaluate suggestions that federal agencies should replace portions of their building design criteria with state, local, or model building codes, the agencies of the Federal Construction Council (FCC)¹ inevitably raised many of these questions. The BRB established the Committee on Assessing the Impact on Federal Agencies of Use of Building Codes as Design Criteria to make the evaluation drawing on the committee's collective knowledge of the field, the reported experience of federal agency officials, and presentations by representatives of professional and trade associations. The committee has tried to avoid becoming ensnarled by matters of philosophy, while

_______1 Fourteen federal government agencies with broad interests in building and facilities research, design, construction, operations, and maintenance comprise the FCC. These agencies had a combined construction budget in 1987 of more than \$7 billion, and influence over a much greater amount of the nation's built assets.

PREFACE x

still acknowledging the broader issues, and has conducted its deliberations within the framework of the current status of building codes and design criteria, viewed at a national level. We believe the nation would indeed benefit from some shift in policy and federal agency practice toward uniformity. We hope that the work of this committee will contribute to the necessary groundwork for this shift.

Rear Admiral Donald G. Iselin, CEC, USN (Ret) Chairman, Committee on Assessing the Impact on Federal Agencies on Use of Building Codes as Design Criteria

Andrew C. Lemer, Ph.D. Director, Building Research Board

EXECUTIVE SUMMARY xi

EXECUTIVE SUMMARY

Construction of buildings and other facilities owned by the federal government is not subject to regulations established by local building codes. Concerns for public health and safety, which local building codes are intended to ensure, are addressed in the design criteria federal agencies have established for themselves and firms employed to design and construct their facilities.

Three principal model building codes, published by private professional organizations, are currently used in the United States, although a range of other more limited documents are published by other organizations as model codes. Most of the thousands of different building codes encountered across the country are adapted from one or another of the three principal model codes and given force of law by local or state government.

Responsible state and local government officials are sometimes concerned that a federal building is being constructed or renovated in ways that do not conform to the official building code and therefore may not meet local expectations for health or safety. Organizations that promulgate the model codes are concerned that federal agency design criteria and guidelines differ from model codes and thereby worsen the already complex regulatory situation of the nation's building industry. Federal officials, who are responsible for construction of facilities to serve sometimes specialized agency purposes in many parts of the country, are reluctant to expose themselves unnecessarily to this complex regulatory situation.

The "Public Buildings Amendments of 1988" (Public Law 100-678) require that all federal buildings be "constructed or altered, to the maximum extent feasible" in compliance with one of the nationally recognized model building codes and other applicable recognized codes such as electrical codes, plumbing codes, and fire and life safety codes. The impact of this legislation -- which builds on existing government policy and current practice in some agencies -- will vary substantially among the approximately 30 federal agencies that have responsibilities for building construction and alteration.

The new law enhances existing federal policy stated in the Office of Management and Budget's Circular Number A-119, "Federal Participation in the Development and Use of Voluntary Standards." This circular calls on all agencies to adopt available private sector standards that meet agency needs, to encourage development of such standards, and to participate actively in the professional and industry organizations that develop such standards.

EXECUTIVE SUMMARY xii

The Building Research Board formed the Committee on Assessing the Impact on Federal Agencies of the Use of Building Codes as Design Criteria in response to a request by the Federal Construction Council. This request was motivated by continuing agency desire to improve the efficiency and effectiveness of their building programs, as well as by concerns regarding their compliance with broader federal policy. The committee met over the course of approximately nine months to review available information, hear the testimony of representatives of federal agencies and private sector organizations involved in codes development and use, and discuss the issues of building codes and design criteria used in the United States. This report presents the committee's conclusions and recommendations:

<u>Codes and Design Criteria</u>. Building owners, whether in the public or private sectors, have requirements for building performance that extend well beyond the scope of building codes or the minimum requirements set in such codes. Model building codes can often be used for a portion of agency design criteria, but are not a substitute for all agency design criteria.

Compliance to the Maximum Extent Feasible. The scope of "feasible compliance" under the new law should be limited initially to the three principal model building codes in use in the United States. The diversity of the large number of regularly published documents containing proposed guidelines and standards for building construction and purporting to be model codes is a meager reflection of the morass of more than 10,000 state and local building codes that have force of law in local government jurisdictions across the nation. While some diversity is appropriate among building regulations intended to protect public safety, health and welfare in the varied geographic conditions found from one part of the United States to another, the committee endorses the sentiment of those who call for increased use of the model codes, and for increased uniformity among these model codes.

<u>Limits of Code Applicability</u>. The committee observes that in their experience building codes typically cover no more than approximately 20 percent of the criteria used in design of typical buildings. When agencies' requirements as owners do not differ substantially from common practice reflected in the model codes, the committee recommends that agencies should refer to the model codes as their design criteria for those concerns covered by codes.

Agencies Should Be More Involved in Model Code Development. The committee recognizes that many agencies have not in the past participated actively in development of model codes and have responded in only a limited way to the policy stated in OMB Circular A-119. Agency professionals act as both building owners and regulatory officials, and have the capability to make significant contributions to the quality of building regulation in the United States. These professionals should be encouraged to make this contribution through greater participation in the organizations that promulgate the principal model codes. Some funding

EXECUTIVE SUMMARY xiii

will be required to support meaningful participation. The model code organizations should take steps to foster the participation as well.

Agencies Should Periodically Review their Justification for Design Criteria Above Minimum Standards. The committee observes that federal agencies, like any building owner, may have valid requirements for building performance that exceeds levels implied by the minimum acceptable levels set in building codes. However, the committee recommends that agencies periodically review whether these higher requirements are warranted, in view of their impact on building costs and performance. Model codes can provide a useful baseline for such reviews, conducted within a framework of benefit cost analysis.

Agencies Should Use Model Building Codes. Construction in compliance with nationally recognized model codes is achieved when agency design criteria are met and these criteria meet or exceed requirements stated in the codes. However, the committee recommends that agencies should go the step further and replace their explicit criteria with reference to model codes and the standards they encompass, for those areas covered by the codes and where agency requirements do not warrant performance above the minimums established in codes. Some agencies have already adopted this approach in their design criteria, but others may incur significant costs in revising their criteria documents. The committee feels that these costs will be balanced by long term savings from increased competition, greater efficiency in design, and contribution to an improved building regulatory climate in the United States.

Agencies Should Foster Uniformity in Building Regulation. The committee calls on federal agencies to work actively toward bringing greater order to the morass of building codes and design criteria that regulate building construction in the United States. While there are valid differences in owners' requirements and community concerns for public safety, health, and welfare from one location to another, greater uniformity is possible and can bring economic and performance benefits to the users and producers of buildings. Agencies should support efforts to develop computer databases and analyses of benefits and costs that will assist comparisons among codes and among agency criteria. The committee urges Congress to support such efforts as well.

About this PDF file: This new digital representation of the original work has been recomposed from XML files created from the original paper book, not from the original typesetting files. Page breaks are true to the original; line lengths, word breaks, heading styles, and other typesetting-specific formatting, however, cannot be retained, and some typographic errors may have been accidentally inserted. Please use the print version of this publication as the authoritative version for attribution.

EXECUTIVE SUMMARY xiv

CONTENTS xv

CONTENTS

1.	Introduction	1
	Origin of the Suggestions	1
	Some Key Definitions	3
2.	Underlying Issues	5
	Extensive Scope of Owner's Requirements	5
	Federal Agencies as Building Owners and Users	8
	Scope and Diversity in Federal Agency Requirements	9
	Local Government Concerns About Federal Exemption from Local Codes	10
	Local Building Codes and Building Inspection	10
	Diversity of Local Code Provisions	10
	Local Codes as Barriers to National Policy or Technological Innovation	12
	Potential Advantages of Increased Use of Model Building Codes	12
3.	The Principal Model Codes	15
	How the Model Codes Are Developed	15
	Comparing the Model Codes	16
	Moves Toward Uniformity	17
4.	Federal Actions Related to the Question	19
	Executive Guidelines on Federal Participation in the Development and Use of Voluntary Standards	19
	Legislation to Improve the Efficiency and Effectiveness of Management of Public Buildings	20
	Current Agency Activities	22
5.	Committee Findings, Conclusions, and Recommendations	23
	Codes and Design Criteria	23
	Compliance to the Maximum Extent Feasible	24
	Limits of Model Code Applicability	25

CONTENTS		xv
	Agencies Should be More Involved in Model Code Development	26
	Agencies Should Periodically Review Their Justification for Design Criteria Above Minimum Requirements	26
	Federal Agencies Should Use Model Building Codes	27
	Agencies Should Foster Uniformity in Building Regulation	27
Appendix A	OMB Circular No. A-119	29
Appendix B	Section 6, Public Building Amendments of 1988	45
Appendix C	Survey of Agencies' Design Criteria	51
Appendix D	Biographical Sketches of Committee Members	53

1

INTRODUCTION

This document is the final report of a study conducted by the Building Research Board's Committee on Assessing the Impact on Federal Agencies of Use of Building Codes as Design Criteria. This committee met during a period of about nine months, commencing in May, 1988 to evaluate suggestions that federal agencies should replace some or all of their building design criteria with state, local, or national model building codes.

During the course of the committee's study, the U.S. Congress passed into law the "Public Buildings Amendment Act of 1988." This act requires that federal building construction comply, to the maximum extent feasible, with one of the nationally recognized model building codes. Recognizing that the implications of this new law may differ substantially from one agency to another, the committee undertook to look beyond its original charge and to offer guidance on how federal agencies might best respond to the law's requirements.

ORIGIN OF THE SUGGESTIONS

Most private construction in the United States is regulated by state or local government-enacted building codes and zoning regulations intended to protect the safety, health and welfare of building occupants and the community at large. Individual building owners establish their own criteria, sometimes extensive, for a building's design, construction, and operations, but in matters covered by government codes and regulations, the building must meet requirements set by law and ordinance. Consequently, few private building owners concern themselves directly with the building characteristics covered by codes, and entrust to their engineers and architects the responsibility to assure that code requirements are met, and these professionals in turn must work with responsible local officials to assure code compliance.

Building code regulations are adopted by the governing body having authority to do so in a particular jurisdiction. In most areas of the United States, local government has been given the major share of that authority. Some 16 states now exercise broad powers over building, in

²PL 100-678; 40 CFR 601-616

the form of statewide codes, and most others impose regulations in such areas as energy conservation and access for handicapped persons. Buildings may be subject to additional federal or state regulations, usually as a condition of funds used in construction of facilities such as prisons or hospitals.

The majority of these many regulations are contained, directly or by reference, in the local jurisdiction's official building code.³ The building codes in many jurisdictions are based on one of the several model building codes.⁴ While historic precedent has led to broad similarity among building codes in nearby jurisdictions, codes found in different parts of the country may differ substantially in their format and substance. Even those jurisdictions using the same basic model code may introduce differences in the specific provisions of their codes through their dependence on different editions of the published model code or their desire to protect the unique interests of their local community or interest groups.

Federal agencies are exempt from these state and local building codes (and from zoning laws as well), and are entirely responsible for all aspects of safety and health in their facilities. As a result, most of the 30 or more federal agencies with statutory authority to procure construction and related professional services have included requirements in their, criteria for design and construction requirements that address the same concerns as local building codes, but may not apply the same standards.

In recent years, suggestions have been made that federal agencies should adopt applicable state or local codes in lieu of their own criteria.⁵ The Council of American Building Officials (CABO) has taken such a stance, for example, as have some local and state government officials.

Federal policy⁶ encourages agencies to adopt product standards set by the private sector when these standards are adequate for the agency's needs. This policy has led to suggestions that agencies should use

³The term building code is used here to include all codes that apply to structure, fire protection, plumbing, electrical systems, and other elements of buildings.

⁴Terms such as code and model code have particular meanings that are sometimes confusing in discussions of these topics. The committee has adopted the definitions presented later in this chapter.

⁵Department of Housing and Urban Development (HUD) has in fact substantially reduced the bulk of the agency's Minimum Property Standards (MPS) and now accepts compliance with local codes in determining whether housing is eligible for mortgage insurance or other assistance under Federal Housing Administration programs. However, HUD is not an owner of the resulting buildings and thereby differs substantially from other agencies being considered here.

⁶Office of Management and Budget Circular A-119, discussed in Chapter 4.

national model codes -- upon which almost all local building codes are based -- in lieu of their own criteria.

SOME KEY DEFINITIONS

No standard terminology is universally accepted for discussion of building codes and regulations. The committee found that even among themselves there was a need to establish a consistent set of definitions of key terms. Drawing primarily upon <u>Standard Terminology of Building Constructions</u> issued by ASTM (formerly the American Society for Testing and Materials), the committee adopted the following definitions:

Building -- a shelter comprising a partially or totally enclosed space, erected by means of a planned process of forming and combining materials. Buildings serve a variety of functions -- as offices, housing, storage, or other uses -- that influence the performance characteristics required of a building.

Building performance -- the behavior of a building in service, generally described in terms of the ability of the building to support the functions it serves.

Building life cycle -- an imprecise term of the period of time and course of events of a building's construction and use. The life cycle may extend for many years and include significant maintenance, repair, and alteration activities. For purposes of design and economic analysis, the life cycle is often defined as the time from completion of a building's construction until the building is demolished or so completely rebuilt that it is essentially a new building, typically 30 to 50 years.

Owner's requirements -- the characteristics of a building and the *building's performance*⁷ that an owner requires to assure that the building serves the purpose for which it is intended. Owner's requirements may depend on the owner's particular interests or mission, including whether the owner expects to retain ownership beyond completion of construction and to rent the building to others or to use it for his own activities.

Criterion -- an established precedent, rule, measure, or *code* upon which a decision is based.

Standard -- a definite rule or measure adopted by recognized authority as a basis for judging quality or quantity. Standards, termed "voluntary," may be promulgated by professional organizations, governmental agencies, trade groups, or independent expertise, and may be adopted in owners' criteria or codes. The committee estimates that more than 125 such

⁷Terms in italics are defined in this section of the report.

groups produce building standards. Among the more widely adopted standards in building are those developed by the American National Standards Institute (ANSI), ASTM (formerly American Society for Testing and Materials), the National Fire Protection Association (NFPA), the American Institute for Steel Construction (AISC), and the American Concrete Institute (ACI). Such standards may also be termed "consensus" or "industry" standards. Standards applicable to buildings may also be established by legislation, for example with respect to energy conservation, air quality, or exposure to hazardous materials, or by general government regulations. These standards may be termed "statutory standards."

Design criteria -- the set of criteria established by a building owner as factors for determining whether a building's design and construction are acceptable. Design criteria are based on owner's requirements and applicable government regulations. These criteria, also termed "owner's criteria," may be adopted directly by the actual building owner or indirectly by the owner's selected designer. Many owners and managers of large numbers of buildings (such as major industrial firms, real estate developers and managers, and federal agencies) have assembled and formalized their building design criteria into design guideline documents or manuals. Design criteria generally incorporate a range of criteria and standards intended to assure acceptable performance of a building, which include implicitly or by reference applicable building codes. However, owner's criteria include many items not covered by codes and may include standards that exceed levels adopted in building codes.

Code -- a collection of laws, regulations, ordinances, or other statutory requirements adopted by government legislative authority. Some professional and trade organizations have published advisory documents that they term "codes" (see also *model code*), but these documents do not have the force of law (unless adopted by a government body) and therefore are really collections of promulgated *criteria* and *standards*, rather than codes.

Building *code* -- *a code* applicable to buildings, adopted by a government body and administered with the primary intent of protecting public safety, health, and welfare; generally includes both review and approval process requirements and specific technical standards.

Model code -- a proposed *code* that is established within the procedural context of a group of knowledgeable people, often working within the framework of a professional organization, and is designed for adoption by responsible governmental authority. There currently are three major organizations that have developed model codes that have been adopted - -often with modification -- as the basis for *building codes* in various jurisdictions: the Southern Building Codes Congress International (SBCCI), the International Conference of Building Officials (ICBO), and the Building Officials and Codes Administrators International (BOCA). There are other organizations that promulgate model codes that typically are limited in scope.

2

UNDERLYING ISSUES

The sometimes divergent interests of agencies at different levels of government (acting as building owners or as regulators of building design and construction), professional groups, and local communities give rise to a range of issues that must be weighed in discussions of building codes and design criteria. The committee discussed a number of such issues that have bearing on the questions posed in this study.

EXTENSIVE SCOPE OF OWNER'S REQUIREMENTS

In reviewing the scope of its charge and the origins of suggestions that federal agencies use building codes as design criteria, the committee perceived some confusion among building users regarding the scope of owners requirements and code requirements, and how these requirements influence design criteria. Design criteria address a broad range of concerns such as building comfort, economy, operating efficiency, visual appearance, durability, safety, health, and other qualities. Design criteria comprise the combined requirements of applicable building codes and owner's concerns that extend to areas not considered in codes. (Refer to Figure 1)

Building codes address building characteristics that have direct implication for public safety, health, and welfare. These codes establish standards that the local jurisdiction or promulgating authority judge to be the minimum acceptable for protection of the public interest. Building owners, private or public, may choose to adopt design criteria that exceed the minimum requirements set in applicable codes. These owners' requirements reflect a balancing of economic and other concerns that may go beyond the public interest. Federal agencies may in principle elect to adopt design criteria that are below standards incorporated in a local code.

Owner's requirements will in addition address matters beyond the scope of codes. Representatives of FCC member agencies whose design criteria are acknowledged to incorporate elements that duplicate model codes estimate that code items comprise approximately 20 percent of the overall scope of their owner's requirements.

There are several steps in the progression from owner's and code requirements to finished buildings. (Refer to Figure 2) The design criteria, which are tailored to the specific project to be built, are

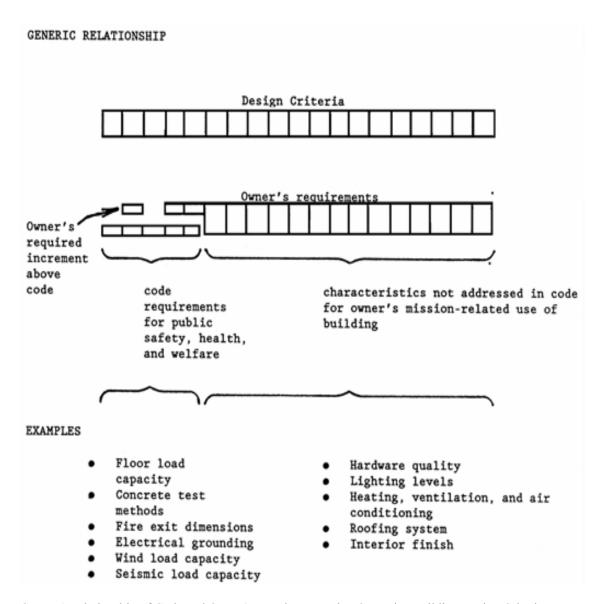


FIGURE 1 Relationship of Code and Owner's Requirements that Comprise Building Design Criteria

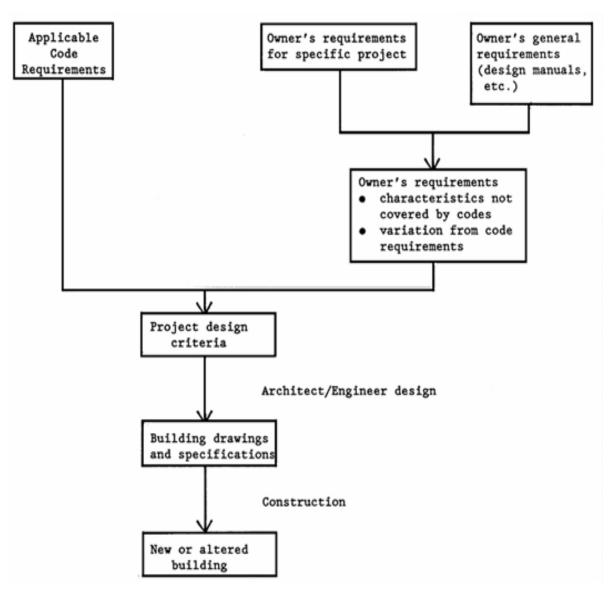


FIGURE 2 Progression from Requirements to Finished Building

given to an architect or engineer designer for design development. The drawings and specifications that the designer produces and gives to a constructor are meant to reflect all owner's and code requirements. To the extent that the designer has been successful -- and the constructor produces a building that conforms to the drawings and specifications -- the finished building will meet all requirements.

FEDERAL AGENCIES AS BUILDING OWNERS AND USERS

Federal agencies are individually and as a group among the largest purchasers and managers of buildings in the United States. These agencies share a number of characteristics that have significant influence on their owner's requirements:

- As agencies of federal government, they are exempt from local government regulations and remain
 entirely responsible for establishing appropriate requirements of building performance for protection of
 safety, health, and welfare of building users and surrounding areas.
- Many agencies have responsibility for relatively unusual types of buildings such as military
 installations, scientific laboratory and testing facilities, and facilities intended to serve special
 populations (such as native Americans or disabled military veterans) or in especially hostile
 environments (such as arctic conditions).
- These agencies build facilities primarily for their own use, and so (in contrast to developers in the
 private sector) must live --throughout the building's life cycle -- with the consequences of design and
 construction. This characteristic is shared by many large private sector building owners.⁸
- The federal government is self-insured with respect to building damage and loss, and thus these
 agencies have total concern for financial consequences of building performance.

Federal agency owner's requirements have typically evolved over a period of many years to cover all elements of concern to each agency. Each agency has developed various guidelines and manuals to document their owner's requirements. These documents are sometimes voluminous and generally differ from one agency to another. While some agencies have referred to selected model codes or other voluntary standards in stating their building design criteria, others have stated explicitly the requirements they have developed themselves or adopted for their purposes.

Changes, additions and deletions proposed for these federal documents must generally undergo extensive processes of agency review and approval prior to their adoption in agency building practice. Agency officials may be understandably hesitant to undertake making such changes unless they are warrented by changing mission requirements, potential

⁸However, in contrast to private sector owners, agencies are subject to congressional review of their decisions about appropriate design criteria.

improvements in productivity, or new legislation. However, some agencies undertake periodic review and revision of their design criteria.

SCOPE AND DIVERSITY IN FEDERAL AGENCY REQUIREMENTS

While federal agency design criteria are well documented, designers and constructors must expend considerable effort to familiarize themselves with the specific criteria used by the agency they wish to serve. These private architects, engineers, and builders sometimes suggest that the effort required may restrict competition for agency work and diminish the potential economies of scale of firms that might work for several agencies.

Some observers argue that the agencies themselves may expend excess effort developing their own requirements, when standards proposed by private sector groups or other agencies would serve the agency equally well. This latter observation underlies regulations and laws that encourage federal government agencies to rely to the greatest feasible extent on voluntary standards proposed by private sector bodies. (Refer to Chapter 4)

The effort required to become familiar with agency criteria has led the National Institute of Building Sciences (NIBS), with agency support, to undertake development of a computerized library of selected federal agency construction guide specifications, standards, and manuals. This Construction Criteria Base (CCB) is contained on a single optical compact disk (CD-ROM) that may be accessed by an appropriately equipped microcomputer, and contains the full text of more than 50,000 pages of documents issued by the U.S. Naval Facilities Engineering Command (NAVFAC), U.S. Army Corps of Engineers (CoE), Veterans Administration (VA), and National Aeronautics and Space Administration (NASA). Data are updated quarterly, and additional agencies are to be added. The committee notes that such a system could over the long term encourage uniformity of agency criteria, simply by making it possible to compare quickly the latest criteria being used by each agency. However, diversity of agencies' missions and procedures underlies lack of uniformity of federal design criteria.

Limited comparisons of agency criteria suggest there may in fact be a good deal of similarity, but that substantive differences do exist. For example, one agency was found to have a uniform 100 pounds per square foot required design load for automobile parking structures, twice that specified by five other agencies. Such differences generally result from unique agency requirements, but may sometimes be due to overly conservative judgments on the part of some agency personnel.

⁹Standardizing the Structural Engineering Criteria of Federal Construction Agencies. Transactions of the Federal Construction Council for 1979-80, Building Research Advisory Board, Washington, DC.

LOCAL GOVERNMENT CONCERNS ABOUT FEDERAL EXEMPTION FROM LOCAL CODES

Local building codes are tailored, in principle, to reflect the unique problems and concerns of the local community, and local building officials are responsible for assuring that these problems and concerns are addressed in design and construction of buildings within their jurisdictions. Local government officials sometimes feel that federal agencies may fail to recognize these unique problems and concerns. The committee was told of cases in which designs for federal buildings were inappropriate to local conditions and resulted in costly difficulties during construction, that could have been avoided had local building code provisions been applied. Officials are said to question the safety of federal buildings in other cases in which design or renovations vary from requirements adopted in local building codes.

LOCAL BUILDING CODES AND BUILDING INSPECTION

Building codes operate in two ways: First, the requirements they contain establish minimum levels of performance that buildings and their constituent elements should achieve. The public is assured that all buildings meeting code provisions in a jurisdiction can withstand certain anticipated demands and hazards of use, such as the particular rooftop snow load, fire intensity and duration, and weight of people and equipment occupying the building, that the code specifies.

In addition to these specific requirements, building codes require that building plans and construction be reviewed by local government officials who must certify that code provisions have been met. Building permits and occupancy permits are issued in most jurisdictions when, respectively, the building's plans and specifications are reviewed and approved and the finished construction is inspected and accepted. The adequacy and objectivity of each approval may depend on the thoroughness and judgement of the individual official, a factor that the committee observes has sometimes led to abuses of the code process.

Local government agencies typically charge building designers and construction contractors permit fees to cover some portion of the costs of inspection and code enforcement. These costs may in turn be repaid by the building owner or recovered indirectly as part of the design fee or construction contract payment. Federal agencies, exempt from local review and permit requirements, avoid the costs associated not only with permit fees but also the time and labor required to accomplish the review process. However, the agencies may or may not expend greater effort -- relative to a private building owner who relies on the building code to deal with particular health and safety concerns -- to assure that their owner's criteria are met.

DIVERSITY OF LOCAL CODE PROVISIONS

Local building codes in the United States exhibit extraordinary diversity from one jurisdiction to another. While a relatively small

number of prototypes have served as the point of departure for local code development, there are by some estimates more than 10,000 different local codes that a federal agency may encounter across the country. In the Philadelphia, Pennsylvania region alone, there are reported to be 220 political and administrative jurisdictions that have distinct code requirements. Professionals responsible for building design and construction in many jurisdictions face a large burden to remain aware of the distinct review processes and standards that govern in a particular location.

This diversity of local codes springs from many sources:

- The conditions of climate, soils, and geology to which a building must accommodate vary from place to place.
- Communities may adopt different priorities toward the various aspects of safety, health, and welfare that
 building codes are intended to protect, or may have particular aesthetic or historic aspects of the
 community's design they wish to preserve.
- Historic precedent may have determined the basic framework and subsequent evolution of a community's code.
- Available budgets and professional staff capability prevent many communities from keeping their building codes up-to-date with new information made available by national standards and model code organizations.
- Public officials responsible for adopting building code revisions may not act to bring their local code into conformance with models proposed by other government bodies or national standards and model code organizations.¹¹

The diversity is apparent both in the specific standards and procedures adopted in various codes and in the ways these codes are laid out. The lack of parallel structure often makes direct comparison of two code documents extremely difficult and time consuming, even for the nationally recognized model codes.

Diversity of local codes is frequently cited by the building profession as a factor that fosters inappropriate regionalism and limits competition in building markets by requiring designers and builders to become familiar with potentially different regulations in every jurisdiction where they might wish to work. This situation also is said to retard innovation in building products and processes when new ideas require changes in existing codes.

At least one commercial enterprise is addressing the difficulties this diversity of codes raises for the profession. Under an agreement with the National Conference of States on Building Codes and Standards (NCSBCS), a computerized database is being developed. This database

¹⁰District requirements in any single jurisdiction may result from adoption and adaptation of provisions selected from the smaller number of model codes and historic precedents.

¹¹Building codes typically are adopted by legislative process that cannot respond quickly to changes in model codes.

includes provisions of the nationally recognized codes as well as officially adopted state and major city building codes. Users of the system may conduct searches of the codes contained in the documents included in the database.

The committee observes that such a system, if complete in its coverage of a region where an agency intends to build, could assist comparison of any owner's design criteria with nationally recognized and local building codes. However, currently available systems are far from complete, and may be difficult to keep up-to-date.

LOCAL CODES AS BARRIERS TO NATIONAL POLICY OR TECHNOLOGICAL INNOVATION

To the extent that a local jurisdiction's building code contains provisions that respond to particular interests and concerns of the local community, the code may be viewed by outsiders as an inappropriate constraint on what is built or how buildings are designed in the community. Local building codes and zoning ordinances have been cited as barriers to development of low cost housing and to introduction of new building materials or products that could reduce costs or improve performance. Federal agencies, exempt from local building codes, retain the ability to be innovative or to implement federal policies in design and construction of their facilities.

POTENTIAL ADVANTAGES OF INCREASED USE OF MODEL BUILDING CODES

The committee observes that discussion of whether federal agencies should use building codes in place of their own design criteria inevitably expresses a desire by many people in the building professions for increased uniformity in building codes and design criteria throughout the nation. Proponents attribute to increasing uniformity a variety of benefits: Federal agencies and other building owners (or their architects and engineers) would, as a group, expend less effort developing and reviewing their individual project design criteria; builders and building products manufacturers would have access to expanded markets and associated economies of scale; government building regulatory agencies would expend less effort reviewing and maintaining their local building codes.

Such arguments must be weighed against the diversity of geographic areas and owner' requirements that lead to variations. The committee acknowledged that some of the variation in codes and criteria is unavoidable and appropriate. Nevertheless, the committee members' experience suggests that the variation is greater than necessary, and that federal agencies can benefit from increased use of model codes:

 Agencies will find it easier to communicate their requirements to architectural and engineering firms seeking to undertake design work with an agency but unfamiliar with the agency's design criteria.

• Greater numbers of architects and engineers may consequently be attracted to compete for work with agencies, new to that firm, which can reduce agency design and construction costs or improve quality.

 Agencies may find it easier to justify their project designs within a budgetary process that can place severe pressure to reduce design criteria.

In addition, the nation as a whole could benefit from the leadership that federal agencies can exert through greater use of model codes:

- Model code organizations (refer to Chapter 3) may be encouraged by federal agency participation to make greater efforts to reduce unnecessary differences among codes.
- Local communities throughout the nation may be encouraged to adopt current model codes as the basis for their local building codes.

About this PDF file: This new digital representation of the original work has been recomposed from XML files created from the original paper book, not from the original typesetting files. Page breaks are true to the original; line lengths, word breaks, heading styles, and other typesetting-specific formatting, however, cannot be retained, and some typographic errors may have been accidentally inserted. Please use the print version of this publication as the authoritative version for attribution.

UNDERLYING ISSUES 14

3

THE PRINCIPAL MODEL CODES

The three principal model building codes used in the United States are the <u>Uniform Building Code</u> (published by ICBO), the <u>Standard Building Code</u> (formerly the Southern Building Code and published by SBCCI), and the <u>National Building Code</u> (formerly the <u>Basic Building Code</u>, published by BOCA). The three model code organizations each publish a number of different model code documents that cover particular types of buildings or building subsystems, but integrate these separate documents under the umbrella of their overall model codes.

In addition to these three principal codes, there are model codes published by other organizations that are limited in scope. For example, the National Fire Protection Association (NFPA) promulgates guidelines and standards for building egress and smoke control in its <u>Life Safety Code</u>, the National Association of Plumbing, Heating, and Cooling Contractors of America publishes its <u>National Plumbing Code</u>, and the American Concrete Institute its <u>Building Code Requirements for Reinforced Concrete</u>. ¹³

HOW THE MODEL CODES ARE DEVELOPED

The principal model codes are developed through a quasi-consensus -building process with participation of many state and local building code administration officials and representatives of industry and professional associations. Each of the three model code organizations has subcommittees to address standards and procedures applicable to particular areas of technical expertise such as fire hazard, materials characteristics, or mechanical systems.

¹²In addition, CABO has published a model code for one- and two-family dwellings.

¹³Still other organizations, such as the American Institute of Steel Construction (AISC) and the American National Standards Institute (ANSI) publish recommended specific standards that may be incorporated in code documents. ANSI coordinates the work of many other groups, in an effort to reduce overlap and duplication of effort.

Proposed code changes and the justification for a proposed change may be initiated by any interested party. Proposals frequently come from industry seeking to introduce new materials or products, or from professionals or state or municipal officials whose recent experience suggests that changes are warranted to enhance safety or reduce costs.

Proposals are screened by the appropriate subcommittee and are circulated for review and comment within the organization. Any interested party is invited to present arguments for or against the proposed change, but only members of the organization--restricted to building code officials--may vote on the change. Controversial proposals may be referred back to committee for additional review. Changes that are adopted are then included in the next publication of the organization's model code or code amendments.

Such a process allows many points of view to be brought out in the standards-setting process, but is sometimes exceedingly slow and contentious. Participants cite some cases in which the process spanned as much as a decade, and others in which introduction of particular products that might yield benefits for building users has been slowed, sometimes by apparently narrow industry or trade union interests. On the whole however, state and local governments have found the model codes organizations a helpful way to share the substantial costs and effort associated with standards writing. Governments must still go through their own administrative and legislative procedures to review, modify, and adopt all or some portion of a model code as the official building code for a jurisdiction.

COMPARING THE MODEL CODES

Many of the differences among the three model codes are a matter of format and style, and derive from the history of the codes' development. Each of the three codes organizations began with strong connections to geographic regions of the nation, and their model codes reflect the tradition of building codes used in those regions. The Standard Building Code is thus most similar to earlier codes adopted by communities in the southeastern states, and has in turn been adopted as the building code most frequently in this same region. Similarly, the Uniform Building Code has its widest application in the western states, and the Basic Building Code is prevalent in the northeast and midwest.

Direct point-by-point comparison of the three model codes is difficult, and differences among the codes do indeed exist. The committee's experience is that these differences are frequently matters of form and phrasing rather than of technical requirements. However, there are significant technical differences: the Uniform Building Code includes greater emphasis on criteria for design for seismic conditions than do the other two models, and the Standard Building Code deals more extensively with strong winds.

MOVES TOWARD UNIFORMITY

The Council of American Building Officials (CABO) serves as an umbrella, representing the model code organizations interests in Washington, and as a forum for identifying and sometimes resolving differences among the model codes. BOCA, ICBO, and SBCC jointly publish a model code for one- and two-family dwellings, under the CABO banner.

BOCA, ICBO, SBCC and NFPA have formed the Board for Coordination of Model Codes (BCMC) to work toward coordinating the model codes. Two members of each organization comprise the BCMC, which meets approximately three times each year to discuss issues brought before the board by CABO. If the members of BCMC agree to a change to be made in one or more of the model codes, the change is proposed to the membership of the appropriate model code organization for adoption and inclusion in future editions of the model codes.

The committee notes that there has been a convergence of state and local jurisdictions toward the uniform adoption of model codes. The committee thus sees reason to believe that differences among building codes may decrease in the future. This convergence is proceeding slowly, and the real differences among conditions in various regions may well preclude complete uniformity among local building codes. However, the committee endorses all efforts toward reducing the number and variety of local building regulations in the United States.

This new digital representation of the original work has been recomposed from XML files created from the original paper book, not from the original typesetting files. Page breaks are true errors may have been accidentally inserted. and cannot be the original; line lengths, word breaks, heading styles, and other typesetting-specific 1 use the print version of this publication as the authoritative version for attributior About this PDF file:

4

FEDERAL ACTIONS RELATED TO THE QUESTION

The Public Building Amendments act of 1988 is not the first instance of official concern about the relationship between federal government design criteria and non-federal standards and criteria. In 1984, the FCC member agencies sponsored a BRB study of opportunities for increasing the quality and efficiency of federal design and construction. The committee conducting that study expressed concern regarding lack of coordination among various agencies' criteria for design of similar facilities, and the overlap of federal regulations with codes, standards, and criteria used in the private sector. The committee recommended that, wherever possible, federal agencies should purge their design criteria of provisions that needlessly duplicate provisions of the model codes and specify by reference the use of one of these codes.

EXECUTIVE GUIDELINES ON FEDERAL PARTICIPATION IN THE DEVELOPMENT AND USE OF VOLUNTARY STANDARDS

The federal government, as a whole, has recognized that standards for describing required characteristics of many products or services used by the government may be adapted from or used as stated by private voluntary standards bodies. This recognition, as well as a policy of reliance on the private sector to supply government's needs for goods and services, led to issuance by the Office of Management and Budget (OMB) of Circular No. A-119, "Federal Participation in the Development and Use of Voluntary Standards." The most recently revised version of this circular was issued October 26, 1982. (Appendix A)

The circular calls upon federal agencies to adopt and use "voluntary standards that will serve agencies' purposes and are consistent with applicable laws and regulations," in the interests of economy and efficiency, unless they are specifically prohibited by law from doing so. Agencies are further urged to give voluntary standards preference over non-mandatory government standards unless use of these voluntary standards would adversely effect performance or cost or have other

¹⁴Design Criteria for Federal Buildings. Committee on Federal Construction Design Criteria, Building Research Board. National Academy Press, Washington, DC, 1985.

true Please This new digital representation of the original work has been recomposed from XML files created from the original paper book, not from the original typesetting files. Page breaks are and some typographic errors may have been accidentally inserted. cannot be retained. and other typesetting-specific formatting, however, use the print version of this publication as the authoritative version for attribution the original; line lengths, word breaks, heading styles, file: About this PDF ф

significant disadvantages. Agencies responsible for developing standards are advised to review their standards at least every five years and to cancel those for which an "adequate and appropriate voluntary standard" is available.

The circular also encourages participation of knowledgeable agency employees in the standards-development activities of groups that propose voluntary standards. Noting specifically that such participation does not signify agency endorsement or adoption of agreements and standards that might result from these activities, the circular suggests that this participation should be aimed at eliminating the need for development and maintenance of separate government standards.

While the benefits of reducing duplication of effort and needless diversity of product standards are clear, there are caveats as well. The OMB memorandum issuing the 1982 revision of Circular No. A-119 included a copy of the letter from the Department of Justice commenting on issues of competition raised by the policy. This letter referred to U.S. Supreme Court opinion and international treaty responsibilities as bases for federal government agencies to encourage voluntary standards groups to give open consideration of all relevant viewpoints and interests, and to remain wary of the possible anticompetitive impact of broad adoption of standards set by private groups without adequate involvement of existing and potential industry participants and consumers.

The Secretary of Commerce, given responsibility for reporting progress under Circular No. A-119, submits a triennial report for the Director of OMB. An Interagency Committee on Standards Policy (ICSP) prepares this report based on annual reports by other federal agencies to the Secretary of Commerce.

The committee noted that the large number of voluntary standards groups, the very wide range of relevant interests in standards influencing building products, design, and construction, and absence of funds specifically designated for agency participation in standards setting, make it especially difficult for federal construction agencies to assure that the guidance given by the OMB is effectively applied. Thus, while agencies have in fact adopted many voluntary standards in their owner's criteria, the committee found it difficult to distinguish the impact of OMB Circular No. A-119 in current agency practices regarding building design.

LEGISLATION TO IMPROVE THE EFFICIENCY AND EFFECTIVENESS OF MANAGEMENT OF PUBLIC BUILDINGS

The 100th Congress, in October, 1988 passed the "Public Buildings Amendments of 1988." (Appendix B) The act includes a section (designated Sec 21. Compliance with Nationally Recognized Codes) requiring that all federal buildings be "constructed or altered, to the maximum extent feasible" in compliance with one of the nationally recognized model building codes and other applicable nationally recognized codes such as electrical codes, plumbing codes, and fire and life safety codes. The "maximum extent feasible" is as determined by the Administrator of the General Services Administration (GSA) or the head of the federal agency undertaking the construction or alteration. The law also requires that

true Please This new digital representation of the original work has been recomposed from XML files created from the original paper book, not from the original typesetting files. Page breaks are and other typesetting-specific formatting, however, cannot be retained, and some typographic errors may have been accidentally inserted. use the print version of this publication as the authoritative version for attribution the original; line lengths, word breaks, heading styles, About this PDF file: 9

federal agency officials consult with appropriate state or local officials and, if requested, submit building plans for review and permit inspection of construction according to local customary procedures.¹⁵

The committee observes that this legislation, in principle, simply codifies what is already federal agencies' policy. The committee's experience is that agency design criteria typically meet or exceed the provisions of the model codes. Further, despite some examples of agency personnel failing to take account of concerns or knowledge of local conditions that state or local officials have, the committee asserts that responsible managers and professionals for most federal building projects seek to respect local building and zoning regulations which do not conflict with the government's needs. Where conflict may arise, the committee's experience is that efforts are typically made to resolve the matter to the satisfaction of all parties.

The law may provide state or local authorities with a stronger weapon for dealing with those cases of conflict that do occasionally arise. However, the law specifically states that no action may be brought against the federal government for failure to comply with the act's consultation and review provisions, and exempts the federal government and its contractors from payment of any fees that might normally be collected by a state or local agency for plan review or construction inspection.

The committee anticipates that guidelines that may be issued by GSA, regarding how compliance with nationally recognized building codes is to be assured, will have cost implications for the agencies. In the extreme, it could become necessary for each agency to prepare point-by-point comparisons of the agency's design criteria with the requirements in each nationally recognized building code.

The committee asserts that there is still a benefit to be gained by reducing the overlap of some agencies' criteria with the principal model codes, but that a laborious point-by-point comparison would be largely unproductive, because of both the large number of nationally recognized codes and the typically equal or higher requirements set in federal design criteria. However, the committee suggests as well that such a comparison may evolve with development of computerized building code and design criteria databases and that such evolutionary development is worthy of encouragement. (Refer to Chapter 2)

¹⁵The act also requires that consideration be given to all requirements (other than procedural requirements) of zoning laws and laws relating to landscaping, open space, building heights, distances between buildings and property lines (termed "building setbacks"), historic preservation, aesthetic qualities of a building, and other similar state or local government laws that would apply if the building project were not being undertaken by a federal government agency. Such requirements are outside the scope of building codes and thus are not addressed in this study.

CURRENT AGENCY ACTIVITIES

The various federal agencies have little uniformity in their policies and practices regarding the relationship of their owner's criteria to model codes or local codes. The Army Corps of Engineers reports, for example, that the agency used the Uniform Building Code (UBC) as the starting point for developing its criteria documents. Consequently, the Corps' criteria are very similar to the UBC in matters having to do with health, safety, and general welfare of building occupants, but these documents do not make any specific reference to the UBC.

The Naval Facilities Engineering Command has not followed closely any single model code in developing its criteria documents, but has adopted many specific proposed voluntary standards. This more eclectic approach to criteria development may be most representative of current federal agency practice.

The Department of Energy (DOE) has in recent years reviewed and revised its design criteria to virtually eliminate overlap with the model codes. As they are currently written, the predominant model code in a region governs on all matters not covered in the agency's design criteria documents. Design standards are incorporated by reference to voluntary standards, rather than by incorporation of the specific standard. On occasion, for example with respect to earthquake design loads, a single specific model code provision may be referenced. DOE staff estimate that less than one percent of their design criteria now directly address matters covered by the model codes.

The Department of Housing and Urban Development (HUD) for many years issued an extensive list of criteria governing the design and construction of housing and certain other types of facilities eligible for financial assistance under HUD programs, the Minimum Property Standards (MPS). The MPS was developed to protect the government's investment in mortgages secured by the assisted properties, and to maintain the integrity of the underlying government policies of providing decent housing and a suitable living environment to a broad range of people.

Many builders and local governments found the imposition of a second set of code-like requirements, on top of local codes, to be burdensome and possibly contributing to costs and management problems in many projects. Responding to these concerns, HUD adopted a policy that compliance with nationally recognized model codes or local codes that HUD staff deemed to be comparable would be considered acceptable for program eligibility, and substantially curtailed the scope of the MPS. The MPS now covers only those matters, such as interior sound transmission and site development characteristics, not covered in the principal model codes.

This new digital representation of the original work has been recomposed from XML files created from the original paper book, not from the original typesetting files. Page breaks are true the original; line lengths, word breaks, heading styles, and other typesetting-specific About this PDF file:

5

COMMITTEE FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The Committee on Assessing the Impact on Federal Agencies of the Use of Building Codes as Design Criteria find that the primary issue faced here is not whether agencies should use the codes, but rather which codes and how quickly. Current federal law requires agencies' construction to conform to the provisions of model codes, and policy encourages adoption of the standards contained in these model codes. The committee believes that federal agencies have an opportunity and responsibility to take a leadership role in reducing the unproductive plethora of building code regulations in the United States. Nevertheless, the committee anticipates that federal agencies undertaking to assume this leadership will have valid concerns.

CODES AND DESIGN CRITERIA

Participants in the discussion of federal agency use of building codes must keep in mind that codes cover only a portion of the many design criteria that any owner will impose to assure that a building's performance meets requirements. Federal agencies will always have extensive design criteria, and some of these criteria may represent agency requirements for performance that exceeds the minimum requirements set in applicable building codes.

Both local building codes and the nationally recognized model codes have a limited scope compared to owner's design criteria. While any inspection of agency plans and construction that occurs under the provisions of the Public Building Amendments Act of 1988 may be helpful to the agency in pointing out local conditions that have been poorly accommodated in a building's design, the agency's costs of assuring compliance with its own design criteria may not be significantly reduced. (However, local inspection may serve to document compliance with model codes, in those jurisdictions that have adopted a current model code as local regulation.) The committee anticipates that the absence of funding for local inspections may reduce the frequency with which such inspections occur.

true Please created from the original paper book, not from the original typesetting files. Page breaks are errors may have been accidentally inserted. and some typographic cannot be retained, and other typesetting-specific formatting, however, This new digital representation of the original work has been recomposed from XML files use the print version of this publication as the authoritative version for attribution lengths, word breaks, heading styles, file: the original; line About this PDF 9

COMPLIANCE TO THE MAXIMUM EXTENT FEASIBLE

The committee discussed the issues of determining in an administratively efficient way -- under the Public Building Amendments of 1988 -- whether federal agency projects are "to the maximum extent feasible" in compliance with a nationally recognized model building code. The committee is concerned that agencies have not been given funding for activities called for under the new law or older OMB Circular No. A-119.

"Feasible" in one sense means simply capable of being done. There is no question that each of the federal agencies could review its design criteria and the several national model codes to determine that their provisions are compatible, and either make changes to reach compliance or justify differences.¹⁶

In the broader sense, however, "feasible" means reasonable, and the committee questions whether the costs of requiring such a review by all agencies are warranted by the benefits that might be gained. First, there must be a determination of which of the many documents purporting to be model codes should be recognized by the federal agencies. The committee proposes the three principal model codes -- Basic or National Building Code, Standard Building Code, and Uniform Building Code -- are an adequate set for the purposes of the law. It would be the responsibility of the model codes organizations to incorporate directly or by reference those plumbing, electrical, fire safety, or other codes that are not now part of these three principal model codes.

Then, based upon discussions with agency and codes organization representatives, the committee proposes that either of two principal courses of action might be taken, at an agency's discretion, to determine compliance:

- An agency could choose one of the three principal model codes and make a complete review of its
 agency's criteria in comparison to that code document. Differences would be noted and justified or
 eliminated by changing the criteria. The committee anticipates that requirements included in owner's
 criteria that exceed those contained in the selected model code would generally be justifiable in
 terms of the agency's mission requirements.
- 2. An agency could make a project-by-project selection of the one model code prevalent in the area or that best suits the conditions of the particular project. The agency would instruct the agency's project architect/engineer (A&E) firm to use the model code and to note and report to the agency all points of difference between the agency's design criteria and the selected model code. The agency could then justify any differences between its design criteria and the model code for the project under concern or simply instruct the A&E firm to design to meet

¹⁶Such a review might be accomplished without revision of an agency's criteria to purge repetition of items covered adequately in the model codes.

true Please This new digital representation of the original work has been recomposed from XML files created from the original paper book, not from the original typesetting files. Page breaks are and some typographic errors may have been accidentally inserted. cannot be retained. the original; line lengths, word breaks, heading styles, and other typesetting-specific formatting, however, use the print version of this publication as the authoritative version for attribution About this PDF file: ф

the model code requirements.¹⁷ In those jurisdictions where local code is based upon a current model code, the compliance review could be carried out by local building code officials.

Under both options, the agency or its A&E will be faced with the task of documenting all points of overlap between the model codes and agency design criteria. The committee observes that for some projects and some agencies this overlap may be substantial. The committee believes that agency costs will in the long term be lower if agencies simply follow the course of DOE: eliminate from their design criteria those requirements that are adequately covered by model code(s) and cite the model code(s) as requirements.

LIMITS OF MODEL CODE APPLICABILITY

The major model codes incorporate standards that generally are supported by substantial background research and have received thorough review by highly competent professionals. The committee recognizes that these model codes are therefore valuable examples that may be modified to reflect local conditions and adopted by local jurisdictions, which may lack the professional and financial resources to develop their own building codes without such assistance. The committee recognizes as well that the public interest is served when increased use of model codes fosters reduction of unnecessary variation in building code requirements in communities throughout the United States.

However, the committee notes that the performance required of many government buildings is particular to the federal agency's mission and very different from what is expected of typical buildings covered by local codes. ¹⁸ It would be certainly inefficient for model codes to be prepared to address the requirements of unusual building types and environmental situations. There are then limits to how much of the federal construction program can be covered by model codes.

On the other hand, facilities such as warehouses, office buildings, dormitories, and hospitals do frequently have many similar characteristics -- regardless of the government agency or private owner for which they are built -- and the committee feels federal agencies could more effectively coordinate their development of design and construction criteria. Use of model codes is one means for achieving greater uniformity in design criteria.

¹⁷An important justification might be, for example, the desire of an agency to adopt an innovative material or process for which the code has no appropriate guidance.

¹⁸Specialized defense and scientific research facilities, for example, while not necessarily unique to government owners, are infrequently encountered by local building code officials.

AGENCIES SHOULD BE MORE INVOLVED IN MODEL CODE DEVELOPMENT

The committee observes that the agencies have had limited involvement in the activities of the model code bodies, in part because of lack of funding for such involvement. Government agency personnel often have experience in large and unusual projects that push the limits of technical knowledge. These personnel also may have experience in many areas of the United States. In both cases, their experience can be a valuable addition to the process of building professional consensus that underlies code development. Regardless of whether individual agencies in the short run increase their use of model codes, long term benefits for the nation's buildings may be realized by encouraging federal agencies to take a more active role in model code development. The committee calls on the agencies to encourage their professional staff to comply with the spirit as well as the letter of the Public Buildings Amendments of 1988 and OMB Circular No. A-119.

The committee recommends that all federal agencies with construction programs should report periodically on their progress in participation in model codes development and their adoption of model codes as a part of their design criteria. Agencies should be called upon to report also their recommendations for changes needed to help the model codes to serve better the public interest. These topics could appropriately be included in annual reports agencies make to the Secretary of Commerce under OMB Circular No. A-119 and in the triennial report to the Director of the OMB of the Interagency Committee on Standards Policy.

The committee recognizes that some agencies will incur significant costs in complying fully with the spirit of current law and policy, and that all agencies will have to make a commitment of professional staff time for participation in codes organizations. These commitments will enhance agency staff opportunities for professional growth bringing agency leadership into the codes development process. The committee urges administration and Congress to look favorably upon agency budget allocations in support of such activity.

AGENCIES SHOULD PERIODICALLY REVIEW THEIR JUSTIFICATION FOR DESIGN CRITERIA ABOVE MINIMUM REQUIREMENTS

The committee observes that Federal agencies' design criteria frequently exceed the minimum requirements adopted in building codes. These criteria assure higher building performance, and, in turn, that federal buildings would meet local code requirements if they became subject to local code. One may argue that the resulting federal buildings may be at least as safe and healthful as others in a given community.

The committee notes that the higher criteria are generally justified by specific performance requirements. However, sometimes higher criteria may be a result of transferring criteria appropriate to one region or application to another where a different standard would be appropriate. Higher performance in federal buildings may be warranted by the agency's mission, by the desire to minimize overall life cycle costs,

true Please This new digital representation of the original work has been recomposed from XML files created from the original paper book, not from the original typesetting files. Page breaks are and some typographic errors may have been accidentally inserted. cannot be retained. and other typesetting-specific formatting, however, use the print version of this publication as the authoritative version for attribution the original; line lengths, word breaks, heading styles, About this PDF file: ф

or by the government's general responsibility to maintain high standards in public buildings. The committee nevertheless recommends that agencies should regularly re-examine their design criteria to assure that the requirements they contain are yielding benefits commensurate with any increases in building costs they may bring about. Higher criteria should not be imposed in all regions or all building situations simply for the sake of maintaining uniformity. The model codes, intended to be applicable in all regions, are designed to avoid requirements that are unnecessarily high. The committee suggests that the model codes may be useful baselines against which agencies can measure the benefits and costs of their higher owner's criteria.

FEDERAL AGENCIES SHOULD USE MODEL BUILDING CODES

The committee appreciates the concerns expressed by local communities regarding federal exemption from local building codes and from zoning or other regulations intended to give a local community some control over their built environment. The committee notes with dismay those cases in which federal agencies have failed to consult with local authorities and to exercise sensitivity to local design practices and preferences. However, the committee judges that these cases are exceptional, and that there would be little or no national benefit to by making federal agencies subject to local codes.

The committee applauds the efforts of model code organizations to reduce the unproductive diversity of standards and procedures found in local building codes. (Indeed, some of the committee's members expressed the wish that there were only one national model code.) Nevertheless, with the exception of the points made in the preceding paragraphs, the committee judges that imposition of any particular one of the model codes on all federal agencies would be inappropriate and unproductive. This judgment in no way diminishes the committee's opinion that agencies should adopt by reference the appropriate portions of model codes that duplicate provisions in their current agency design criteria. In this sense, federal agencies should not just construct their facilities to comply with model codes: They should actually use the model codes as design criteria in those areas within the purview of the model codes and where agency needs do not warrant higher performance.

AGENCIES SHOULD FOSTER UNIFORMITY IN BUILDING REGULATION

The committee urges the federal government to take an active role in fostering greater uniformity in building regulation in the United States. The committee proposes that the model codes organizations and all agencies with responsibility for construction and alteration of buildings should actively participate in the development of a unified computerized data base (such as the NIBS CCB described in Chapter 2) that will make accessible the various standards and procedures contained in the model codes and agency design criteria, and again urges Congress to be supportive of such activities.

This new digital representation of the original work has been recomposed from XML files created from the original paper book, not from the original typesetting files. Page breaks are true lengths, word breaks, heading styles, and other typesetting-specific formatting, however, cannot be retained, and some typographic errors may have been accidentally inserted. Please use the print version of this publication as the authoritative version for attribution the original; line lengths, word breaks, heading styles, About this PDF file:

Once a complete and unified database is developed, the procedures of expert consensus that have served the industry in the past can be applied to review of the model codes and widely used design criteria. The review would seek first to establish a parallel presentation of requirements and the measures or procedures used to determine if requirements have been met. Direct comparison of the requirements themselves will then be possible within a context of long term building life cycle performance. Substantive differences among requirements or measures of compliance can be discussed and evaluated in an open forum that will make a long term contribution to improved efficiency and appropriate uniformity in building design in the United States.

APPENDIX A



EXECUTIVE OFFICE OF THE PRESIDENT OFFICE OF MANAGEMENT AND BUDGET WASHINGTON, D.C. 20503

OCT 26 1982

M-83-4

MEMORANDUM TO HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: David A. Stockman



SUBJECT: OMB Circular No. A-119, "Federal Participation in the Development and Use of Voluntary Standards"

Attached, for your implementation, is a revision to OMB Circular No. A-119 which provides guidance to agencies in working with, and using the products of, private sector standards organizations. The effect of this revision is to eliminate the costly, unnecessary, and burdensome aspects of the Circular, while continuing to encourage agency participation in the development of private sector standards.

Also attached for your information and use is a letter, dated June 22, 1982, from the Department of Justice, which provides guidance in the implementation of the Circular -- particularly as it relates to working with private sector groups to develop needed standards.

Attachments



EXECUTIVE OFFICE OF THE PRESIDENT OFFICE OF MANAGEMENT AND BUDGET WASHINGTON, D.C. 20503

OCT 26 1882 CIRCULAR NO. A-119 REVISED Transmittal Memorandum No. 1

TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS

SUBJECT: Federal Participation in the Development and Use of Voluntary Standards

- 1. <u>Purpose</u>. This Circular establishes policy to be followed by executive agencies in working with voluntary standards bodies. It also establishes policy to be followed by executive branch agencies in adopting and using voluntary standards.
- 2. <u>Rescissions</u>. This Circular supersedes OMB Circular No. A-119, dated January 17, 1980, which is rescinded.
- 3. <u>Background</u>. Many Governmental functions involve products or services that must meet reliable standards. Many such standards, appropriate or adaptable for the Government's purposes, are available from private voluntary standards bodies. Government participation in the standards-related activities of these voluntary bodies provides incentives and opportunities to establish standards that serve national needs, and the adoption of voluntary standards, whenever practicable and appropriate, eliminates the cost to the Government of developing its own standards. Adoption of such standards also furthers the policy of reliance upon the private sector to supply Government needs for goods and services, as enunciated in OMB Circular No. A-76.
- 4. <u>Applicability</u>. This Circular applies to all executive agency participation in voluntary standards activities, domestic and international, but not to activities, carried out pursuant to treaties and international standardization agreements.
 - 5. <u>Definitions</u>. As used in this Circular:
- a. <u>Executive agency</u> (hereinafter referred to as "agency") means any executive department, independent commission, board, bureau, office, agency, Government-owned or controlled corporation or other establishment of the Federal Government, including regulatory commission or board. It does not include the legislative or judicial branches of the Federal Government.

b. <u>Standard</u> means a prescribed set of rules, conditions, or requirements concerned with the definition of terms; classification of components; delineation of procedures; specification of dimensions, materials, performance, design, or operations; measurement of quality and quantity in describing materials, products, systems, services, or practices; or descriptions of fit and measurement of size.

- c. <u>Voluntary standards</u> are established generally by private sector bodies and are available for use by any person or organization, private or governmental. The term includes what are commonly referred to as "industry standards" as well as "consensus standards", but does not include professional standards of personal conduct, institutional codes of ethics, private standards of individual firms, or standards mandated by law, such as those contained in the United States Pharmacopeia and the National Formulary, as referenced in 21 U.S.C. 351.
- d. <u>Government standards</u> include individual agency standards and specifications as well as Federal and Military standards and specifications.
- e. <u>Voluntary standards bodies</u> are private sector domestic or multinational organizations -- such as nonprofit organizations, industry associations, professional and technical societies, institutes, or groups, and recognized test laboratories -- that plan, develop, establish, or coordinate voluntary standards.
- f. <u>Standards-developing groups</u> are committees, boards, or any other principal subdivisions of voluntary standards bodies, established by such bodies for the purpose of developing, revising, or reviewing standards, and which are bound by the procedures of those bodies.
- g. <u>Adoption</u> means the use of the latest edition of a voluntary standard in whole, in part, or by reference for procurement purposes and the inclusion of the latest edition of a voluntary standard in whole, in part, or by reference in regulation(s).
 - h. <u>Secretary</u> means the Secretary of Commerce or that Secretary's designee.

- 6. <u>Policy</u>. It is the policy of the Federal Government in its procurement and regulatory activities to:
- a. Rely on voluntary standards, both domestic and international, whenever feasible and consistent with law and regulation pursuant to law;
- b. Participate in voluntary standards bodies when such participation is in the public interest and is compatible with agencies' missions, authorities, priorities, and budget resources; and
- c. Coordinate agency participation in voluntary standards bodies so that (1) the most effective use is made of agency resources and representatives; and (2) the views expressed by such representatives are in the public interest and, as a minimum, do not conflict with the interests and established views of the agencies.
- 7. <u>Policy Guidelines</u>. In implementing the policy established by this Circular, agencies should recognize the positive contribution of standards development and related activities. When properly conducted, standards development can increase productivity and efficiency in industry, expand opportunities for international trade, conserve resources, and improve health and safety. It also must be recognized, however, that these activities, if improperly conducted, can suppress free and fair competition, impede innovation and technical progress, exclude safer and less expensive products, or otherwise adversely affect trade, commerce, health, or safety. Full account shall be taken of the impact on the economy, applicable Federal laws, policies, and national objectives, including, for example, laws and regulations relating to antitrust, national security, small business, product safety, environment, technological development, and conflicts of interest. It should also be noted, however, that the provisions of this Circular are intended for internal management purposes only and are not intended to (1) create delay in the administrative process, (2) provide new grounds for judicial review, or (3) create legal rights enforceable against agencies or their officers. The following policy guidelines are provided to assist and govern implementation of the policy enunciated in paragraph 6.
 - a. Reliance on Voluntary Standards.
- (1) Voluntary standards that will serve agencies' purposes and are consistent with applicable laws and regulations should be adopted and used by Federal agencies in the interests of greater economy and efficiency, unless they are specifically prohibited by law from doing so.

(2) Voluntary standards should be given preference over non-mandatory Government standards unless use of such voluntary standards would adversely affect performance or cost, reduce competition, or have other significant disadvantages. Agencies responsible for developing Government standards should review their existing standards at least every five years and cancel those for which an adequate and appropriate voluntary standard can be substituted.

- (3) In adopting and using voluntary standards, preference should be given to those based on performance criteria when such criteria may reasonably be used in lieu of design, material, or construction criteria.
- (4) Voluntary standards adopted by Federal agencies should be referenced, along with their dates of issuance and sources of availability, in appropriate publications, regulatory orders, and related in-house documents. Such adoption should take into account the requirements of copyright and other similar restrictions.
- (5) Agencies should not be inhibited, if within their statutory authorities, from developing and using Government standards in the event that voluntary standards bodies cannot or do not develop a needed, acceptable standard in a timely fashion. Nor should the policy contained in this Circular be construed to commit any agency to the use of a voluntary standard which, after due consideration, is, in its opinion, inadequate, does not meet statutory criteria, or is otherwise inappropriate.

b. Participation in Voluntary Standards Bodies.

- (1) Participation by knowledgeable agency employees in the standards activities of voluntary standards bodies and standards-developing groups should be actively encouraged and promoted by agency officials when consistent with the provisions of paragraph 6b.
- (2) Agency employees who, at Government expense, participate in standards activities of voluntary standards bodies and standards-developing groups should do so as specifically authorized agency representatives.

(3) Agency participation in voluntary standards bodies and standards-developing groups does not, of itself, connote agency agreement with, or endorsement of, decisions reached by such bodies and groups or of standards approved and published by voluntary standards bodies.

- (4) Participation by agency representatives should be aimed at contributing to the development of voluntary standards that will eliminate the necessity for development or maintenance of separate Government standards.
- (5) Agency representatives serving as members of standards-developing groups should participate actively and on a basis of equality with private sector representatives. In doing so, agency representatives should not seek to dominate such groups. Active participation is intended to include full involvement in discussions and technical debates, registering of opinions and, if selected, serving as chairpersons or in other official capacities. Agency representatives may vote, in accordance with the procedures of the voluntary standards body, at each stage of standards development, unless specifically prohibited from doing so by law or their agencies.
- (6) The number of individual agency participants in a given voluntary standards activity should be kept to the minimum required for effective presentation of the various program, technical, or other concerns of Federal agencies.
- (7) The providing of Agency support to a voluntary standards activity should be limited to that which is clearly in furtherance of an agency's mission and responsibility. Normally, the total amount of Federal support should be no greater than that of all private sector participants in that activity except when it is in the direct and predominant interest of the Government to develop a standard or revision thereto and its development appears unlikely in the absence of such support. The form of agency support, subject to legal and budgetary authority, may include:
 - (a) Direct financial support; e.g., grants, sustaining memberships, and contracts;
 - (b) Administrative support; e.g., travel costs, hosting of meetings, and secretarial functions;

(c) Technical support; e.g., cooperative testing for standards evaluation and participation of agency personnel in the activities of standards-developing groups; and

- (d) Joint planning with voluntary standards bodies to facilitate a coordinated effort in identifying and developing needed standards.
- (8) Participation by agency representatives in the policymaking process of voluntary standards bodies, in accordance with the procedures of those bodies, is encouraged --particularly in matters such as establishing priorities, developing procedures for preparing, reviewing, and approving standards, and creating standards-developing groups. In order to maintain the private, nongovernmental nature of such bodies, however, agency representatives should refrain from decisionmaking involvement in the internal day-to-day management of such bodies (e.g., selection of salaried officers and employees, establishment of staff salaries and administrative policies).
- (9) This Circular does not provide guidance concerning the internal operating procedures that may be applicable to voluntary standards bodies because of their relationships to agencies under this Circular. Agencies should, however, carefully consider what laws or rules may apply in a particular instance because of these relationships. For example, these relationships may involve the Federal Advisory Committee Act, as amended (5 U.S.C. App. I), or a provision of an authorizing statute for a particular agency. Agencies are best able to determine what laws and policies should govern particular relationships and to assess the extent to which competition may be enhanced and cost-effectiveness increased. Questions relating to anti-trust implications of such relationships should be addressed to the Attorney General.
 - 8. Responsibilities.
 - a. The Secretary will:
- (1) Coordinate and foster executive branch implementation of the policy in paragraph 6 of this Circular, and may provide administrative guidance to assist agencies in implementing paragraph 8.b. (5) of this Circular;
- (2) Establish an interagency consultative mechanism to advise the Secretary and agency heads in implementing the policy contained herein. That mechanism shall provide for participation by all affected agencies and ensure that their views are considered; and

- (3) Report to the Office of Management and Budget concerning implementation of this Circular.
- b. The heads of agencies concerned with standards will:
- (1) Implement the policy in paragraph 6 of this Circular in accordance with the policy guidelines in paragraph 7 within 120 days of issuance;
- (2) Establish procedures to ensure that agency representatives participating in voluntary standards bodies and standards-developing groups will, to the extent possible, ascertain the views of the agency on matters of paramount interest and will, as a minimum, express views that are not inconsistent or in conflict with established agency views;
- (3) Endeavor, when two or more agencies participate in a given voluntary standards body or standards-developing group, to coordinate their views on matters of paramount importance so as to present, whenever feasible, a single, unified position.
 - (4) Cooperate with the Secretary in carrying out his responsibilities under this Circular; and
- (5) Consult with the Secretary, as necessary, in the development and issuance of, internal agency procedures and guidance implementing this Circular, and submit, in response to the request of the Secretary, summary reports on the status of agency interaction with voluntary standards bodies.
- 9. <u>Reporting Requirements</u>. Three years from the date of issuance of this Circular, and each third year thereafter, the Secretary will submit to the Office of Management and Budget a brief, summary report on the status of agency interaction with voluntary standards bodies. As a minimum, the report will include the following information:
- a. The nature and extent of agency participation in the development and utilization of voluntary standards; and
- b. An evaluation of the effectiveness of the policy promulgated in this Circular and recommendations for change.

10. <u>Policy Review</u>. The policy contained in this Circular shall be reviewed for effectiveness by the Office of Management and Budget three years from the date of issuance.

11. <u>Inquiries</u>. For information concerning this Circular, contact the Office of Management and Budget, Office of Federal Procurement Policy, telephone 202/395-7207.

Director

(No. A-119)

Must A. Stortemen



U.S. Department of Justice Antitrust Division Office of the Assistant Attorney General Washington, D.C. 20530

JUN 22 1982

Mr. Donald E. Sowle Administrator for Federal Procurement Policy Office of Management and Budget Washington, D.C. 20503

Dear Mr. Sowle:

I am writing to express the views of the Department of Justice on competition policy issues raised by the Revised OMB Circular No. A-119, "Federal Participation in the Development and Use of Voluntary Standards Federal Register on April 20, 1982 (47 Fed. Reg. 16, 919).

In our comments on previous drafts of the Circular, dated December 26, 1976 and June 13, 1978, we have supported a policy of federal adoption of privately developed standards when appropriate. Through participation in, and support for, private standards making activities, agencies may benefit greatly from private expertise and will avoid the wasteful duplication of cost and effort involved in developing their own in-house standards. The Department of Justice is not opposed to the policy announced in Revised OMB Circular A-119, which would eliminate the rigid "due process' precondition to federal participation in private standards activities. Such a precondition is overly restrictive, since as a practical matter federal agencies will often be required to adopt the standards developed regardless of federal participation in their development. Thus, in our view, the better solution is to participate in standards setting bodies and work within them to assure that appropriate procedures are adopted.

The Department believes that federal participants should encourage the adoption of procedures to foster access to standard setting activities and transparency in such activities. Such procedures facilitate the development of standards acceptable to the entire affected industry as well as to consumers. In particular, notice and opportunity for comment help assure that standards will be based on adequate information as to their utility and consequences. Moreover, it is especially important that performance criteria be given a prominent, perhaps predominant, place in any standards activity. Federal agency representatives, therefore, should advocate, as strongly as possible, procedures designed to assure that a broad range of information is solicited, and that performance criteria are central elements of the resulting standards.

In addition to the practical advantages of open standards proceedings, such safeguards would mitigate the substantial anticompetitive potential inherent in private standards groups. The importance of assuring adequate consideration of competition in the work of private standards bodies was noted recently by the Supreme Court in American Society of Mechanical Engineers, Inc. v. Hydrolevel Corp. The case involved a product standard which had been adopted in 46 states and all but one of the Canadian provinces. The Court observed that organizations creating such standards could be "rife with opportunities for anticompetitive activity." Federal agencies ought to strongly encourage these private groups to ensure consideration of all relevant viewpoints and interests including those of consumers, and potential or existing industry participants.

This country's international obligations and policy, as expressed in the Standards Code negotiated during the Tokyo Round of the Multilateral Trade negotiations, see the Agreement on Technical Barriers to Trade, codified at 19 U.S.C.A. 2531 et sec. (1980), provide another important reason for federal agency participants to encourage the adoption of open procedures for private standards groups. This Code, approved by Congress as well as by our leading trading partners, seeks to prevent the creation of product standards which discriminate against import competition. It requires central governmental bodies to provide notice and opportunity to comment in their own standards making activities, and encourages governments to take reasonable measures to ensure that non-governmental bodies provide similar protection. Where the federal government is in fact involved in the private group, the obligations of the Standards Code would appear even stronger. Open procedures, specifically adequate notice and opportunity to comment, would further the objectives of the Standards Code, and would substantially reduce the possibility that discriminatory, anticompetitive standards will be developed.

The Circular would encourage use of voluntary standards for regulatory and other purposes. Although we applaud this expansion of the scope of the Circular, we believe that broadened federal use of privately developed standards should be accompanied with broad federal awareness of the practical and competitive advantages of industry-wide access to private standards bodies. Such access is an asset to federal participation in private standards activities, but it is also of great importance when federal agencies, without participation in the process, merely adopt standards for procurement or regulatory use.

As we indicated in our previous comments, private activity is not, by virtue of governmental participation or approval, shielded from the antitrust laws. Federal agency participation in a standards body, however, may imply federal approval of the process and of the resulting standard, and perhaps lead private participants to become lax in their own antitrust scrutiny. To dispel any false impressions, federal agency representatives should inform private participants that federal participation does not remove antitrust concerns, as well as advocate that appropriate procedures be employed in the standards proceedings.

Sincerely yours,

Ronald G. Carr Acting Assistant Attorney General Antitrust Division

OFFICE OF MANAGEMENT AND BUDGET

AGENCY: Office of Management and Budget.

ACTION: Final Issuance of OMB Circular No.

A-119. "Federal Participation in the Develop-

SUMMARY: This OMB Circular provides

agencies on using voluntary standards for

regulatory purposes, on participating

this Circular is expected to result in

for products, systems and services.

EFFECTIVE DATE: This Circular, which

with private sector organizations to

develop such standards and

coordinating Executive Branch

standards. Implementation of

and maintaining standards

policy and administrative guidance to Federal

participation in the development of voluntary

reduced costs to the Government in developing

ment and Use of Voluntary Standards.'

Issuance of Circular No. A-110.

Development and Use of Voluntary

"Federal Participation in the

procurement and

APPENDIX A 40

> supersedes OMB Circular No. A-119. dated January 17, 1980, is effective upon

FOR FURTHER INFORMATION CONTACT: David F. Baker, Office of Federal Procurement

Office of Management and Budget, Washington, DC 20503 (202) 395-7207.

SUPPLEMENTARY INFORMATION: On April 21, 1982, the Office of Management and Budget published a draft Circular. subject as above, for a 80-day period of public and agency comment. Comments were

received from more than 120 individuals and organizations, including Federal agencies, business firms, industry

associations, professional groups and private citizens.

There follows a summary of the major comments grouped by subject and a response to eachincluding a

brief description of changes made as a result of the comments. Many other changes of a less significant character

were made to increase clarity, simplicity, precision and readibility, and to reduce the burdens of compliance as much as possible.

A. Procedural Criteria Imposed on Standards

Comment: Several commenters objected to OMB's deletion of specific procedural criteria which the

previous version of the Circular imposed on voluntary standards bodies as a precondition to

participation. They argued that such criteriaintended to increase public participation and openness-would

help to minimize the potential for anti-trust activities. Other commenters suggested that while such procedures

should not be mandatorily imposed, OMB should instruct agencies to encourage private standards developers to follow such procedures.

Response: With regard to the inclusion of procedural criteria and their mandatory imposition on standard

developers, we have concluded that imposition of the mandatory procedures contained in the previous edition of

the Circular is inappropriate, burdensome and costly and that the question of imposing such criteria is peripheral

to the fundamental aims of the Circular. We do agree that, as with any human endeavor, the voluntary standards

development process is vulnerable to abuse. Consequently, we have cautioned Federal

agencies to beware of such potential (Para. 7). We have also provided guidance to agencies in the form of a letter from

the Department of justice, dated June 22, 1982, which discusses suggested agency approaches to the question of

participation in private sector standards

development.

B. Regulatory Applications

Comment: Some commenters suggested that the Circular should be limited to procurement applications, and

that Federal agencies should not be required to use voluntary standards for regulatory purposes.

commenters suggested, in addition, that the Circular should not apply to "independent regulatory agencies'

Response: We believe the benefits to be derived from the procurement use of standards are equally valid for

regulatory applications-particularly the benefits of assuring private sector input into Federal regulatory

activities while reducing the potential for duplicating existing, adequate voluntary standards with Government

standards. With regard to the second concern, the Circular does not "require" Federal agencies to use voluntary

standards for regulatory purposes. It establishes a policy preference in that regard but leaves to the agencies,

themselves, the decision as to whether to adopt a given voluntary standard for a specific Federal regulatory

purpose. (The legal requirements associated with such adoption, such as those of the Administrative Procedures

Act. will, of course, continue to apply.) We believe such an approach is entirely appropriate

independent regulatory agencies as with the rest of the Executive Branch.

C. Role of the Department of Commerce

Comment: Several commenters objected to the requirements that the Department of Commerce maintain

listings of (1) voluntary and Government standards, (2) voluntary standards bodies, and (3) those standards

organizations with which Federal agencies interact-on the grounds that this would result in extensive and costly

reporting requirements. Other commenters suggested that the agency reporting requirements contained in the

Circular were, themselves, overly burdensome.

Response: We agree. The requirements to maintain various listings have been eliminated. The provisions

dealing with reports on agency implementation of the Circular have been revised to require that reports be

summary, as opposed to detailed, in nature.

D. Voluntary Dispute Resolution Service

Comment: Some commenters objected to our deletion of the requirement that the Department of Commerce

establish a program to make available a "voluntary dispute resolution service" to handle precedural complaints

brought by

interested parties against voluntary standards bodies. Those commenters suggested that such a mechanism would

provide an impartial means of resolving standards disputes without costly and lengthy

Response: While we take no position on the substantive merits of such a mechanism, we are satisfied that

the -requirement to establish such a service is not an appropriate element for inclusion in this Circular. Agencies

with mission concerns in this area (e.g. Commerce, Justice, etc.) may, of course, consider establishing such a service as it is within their province to do so.

The creation of the mechanism is clearly peripheral to the policy issues dealt with in the Circular, however, which are limited to Federal participation in the development and use of voluntary standards.

E. Single Federal Position

Comment: Many commenters suggested that the provisions of the Circular that required agencies to coordinate their views and express a single Federal position in private sector standards development activities were unnecessary and unworkable-and that establishment of a mechanism to achieve these purposes would be costly and lead to lengthy delays in the standards development process.

Response: We continue to believe that agencies should endeavor to coordinate their views and present single Federal positions in matters of paramount importance. We agree, however, that the requirement to do so in all such instances is unreasonable and could lead to bureaucratic delays. Consequently, we have eliminated the requirement that Federal positions must be developed in all instances, as well as those provisions which would have required the Secretary of Commerce to appoint a "lead" agency when disagreements as to the nature of the Government's position occurred on a given issue. We continue to expect agency representatives to make a reasonable effort to present a single Federal position reflective of the public interest on matters on paramount interest in those standards activities wherein two or more agencies participate.

Candica C. Bryant. Acting Deputy Assistant Director for Administration.

Executive Office of the President Office of Management and Budget October 28, 1982.

Memorandum to Heads of Executive Departments and Agencies From: David A. Stockman

Subject: OMB Circular No. A-119, "Federal Participation in the Development and Use of Voluntary Standards" Attached, for your implementation, is a revision to OMB Circular No. A-119 which provides guidance to agencies in working with, and using the products of, private sector standards organizations. The effect of this revision is to eliminate the costly, unnecessary, and burdensome aspects of the Circular, while continuing to encourage agency participation in the development of private sector standards.

Also attached for your information and use is a letter, dated june 22, 1982, from the Department of justice, which provides guidance in the implementation of the Circular-particularly as it relates to working with private sector groups to develop needed standards.

Executive Office of the President

Office of Management and Budget October 28, 1982. Circular No. A-119-Revised

To the Heads of Executive Departments and Establishments Subject: Federal Participation in the

Development and Use of Voluntary Standards
1. Purpose. This Circular establishes
policy to be followed by executive agencies in
working with

voluntary standards bodies. It also establishes policy to be followed by executive branch agencies in

adopting and using voluntary standards.

2. Rescissions. This Circular supersedes OMB Circular No. A-119, dated January 17, 1980, which is rescinded.

3. Background. Many Governmental functions involve products or services that must meet reliable standards. Many such standards, appropriate or adaptable for the Government's purposes, are available from private voluntary standards bodies. Government participation in the standards-related activities of these voluntary bodies provides incentives and opportunities to establish standards that serve national needs, and the adoption of voluntary standards, whenever practicable and appropriate, eliminates the cost to the Government of developing its own standards. Adoption of such standards also furthers the policy of reliance upon the private sector to supply Government needs for goods and services, as enunciated in OMB Circular No. A-76.

- 4. Applicability. This Circular applies to all executive agency participation in voluntary standards activities, domestic and international, but not to activities carried out pursuant to treaties and international standardization agreements.
- 5. Definitions. As used in this Circular a Executive agency (hereinafter referred to as "agency") means any executive department, independent commission, board, bureau, office, agency.

Government-owned or-controlled corporation or other establishment of the Federal Government, including regulatory commission or board. It does not include the legislative or judicial branches of

the Federal Government.

b. Standard means a prescribed set of rules, conditions, or requirements concerned with the definition of terms; classification of components; delineation of procedures: specification of dimensions, materials, performance, design, or operations; measurement of quality and quantity in describing materials, products, systems, services, or practices; or descriptions of fit

c. Voluntary standards are established generally by private sector bodies and are available for use by any person or organization, private or governmental, the term includes what are commonly referred to as "industry standards" as well as "consensus standards", but does not include professional standards of personal conduct. institutional codes of ethics, private standards of individual firms, or standards mandated by law, such as those contained in the United States Pharmacopeia and the National Formulary, as referenced in 21 U.S.C. 351.

d. Government standards include

individual agency standards and specifications as well as Federal and Military standards and specifications.

e. Voluntary standards bodies are private sector domestic or multinational organizations-such as nonprofit organizations, industry associations, professional and technical societies, institutes, or groups, and recognized test laboratories-that plan, develop, establish, or coordinate voluntary standards.

f. Standards-developing groups are committees, boards, or any other principal subdivisions of voluntary standards bodies. established by such bodies for the purpose of developing, revising, or reviewing standards, and which are bound by the procedures of those bodies.

g. Adoption means the use of the latest edition of a voluntary standard in whole, in part, or by reference for procurement purposes and the inclusion of the latest edition of a voluntary standard in whole, in part, or by reference in regulation(s).

h. Secretary means the Secretary of Commerce or that Secretary's designee.

6. Policy. It is the policy of the Federal Government in its procurement and regulatory activities to: a. Rely on voluntary standards, both domestic and international, whenever feasible and consistent with law and regulation pursuant to law;

b. Participate in voluntary standards bodies when such participation is in the public interest and is compatible with agencies' missions, authorities, priorities, and budget resources; and

c. Coordinate agency participation in voluntary standards bodies so that (1) the most effective use is made of agency resources and representatives; and (2) the views expressed by such representatives are in the public interest and, as a minimum, do not conflict with the interests and established views of the agencies.

- 7. Policy Guidelines. In implementing the policy established by this Circular, agencies should recognize the positive contribution of standards development and related activities. When property conducted, standards development can increase productivity and efficiency in industry, expand opportunities for international trade, conserve resources, and improve health and safety. It also must be recognized, however, that these activities, if improperly conducted, can suppress free and fair competition, impede innovation and technical progress, exclude safer and less expensive products, or otherwise adversely affect trade, commerce, health, or safety. Full account shall be taken of the impact on the economy, applicable Federal laws, policies, and national objectives, including, for example, laws and regulations relating to antitrust, national security, small business, product safety, environment, technological development, and conflicts of interest. It should also be noted, however, that the provisions of this Circular are intended for internal management purposes only and are not intended to (1) create delay in the administrative process, (2) provide new grounds for judicial review, or (3) create legal rights enforceable against agencies or their officers. The following policy guidelines are provided to assist and govern implementation of the policy enunciated in paragraph 6.
 - a. Reliance on Voluntary Standards.

- (1) Voluntary standards that will serve agencies' purposes and are consistent with applicable laws and regulations should be adopted and used by Federal agencies in the interests of greater economy and efficiency, unless they are specifically prohibited by law from doing so.
- (2) Voluntary standards should be given preference over non-mandatory Government standards unless use of such voluntary standards would adversely affect: performance or cost, reduce competition, or have other significant disadvantages. Agencies responsible for developing Government standards should review their existing standards at least every five years and cancel those for which an adequate and appropriate voluntary standard can be substituted.
- (3) In adopting and using voluntary standards, preference should be given to those based on performance criteria when such criteria may reasonably be used in lieu of design, material, or construction criteria.
- (4) Voluntary standards adopted by Federal agencies should be referenced, along with their dates of issuance and sources of availability, in appropriate publications, regulatory orders, and related in-house documents. Such adoption should take into account the requirements of copyright and other similar restrictions.
- (5) Agencies should not be inhibited, if within their statutory authorities, from developing and using Government standards in the event that voluntary standards bodies cannot or do not develop a needed, acceptable standard in a timely fashion. Nor should the policy contained in this Circular be construed to commit any agency to the use of a voluntary standard which, after due consideration, is, in its opinion, inadequate, does not meet statutory criteria, or is otherwise inappropriate.
- b. Participation in Voluntary Standards Bodies.
- (1) Participation by Knowledgeable agency employees in the standards activities of voluntary standards bodies and standards-developing groups should be actively encouraged and promoted by agency officials when consistent with the provisions of paragraph 6b.
- (2) Agency employees who, at Government expense, participate in standards activities of voluntary standards bodies and standards-developing groups should do so as specifically authorized agency representatives.
- (3) Agency participation in voluntary standards bodies and standards-developing groups does not of itself, connote agency agreement with, or endorsement of, decisions reached by such bodies and groups or of standards approved and published by voluntary standards bodies.
- (4) Participation by agency representatives should be aimed at contributing to the development of voluntary standards that will eliminate the necessity for development or maintenance of separate Government standards.
- (5) Agency representatives serving as members of standards-developing groups should participate actively and on a basis of equality with private sector representatives. In doing so, agency representatives should not seek to dominate such groups. Active

- participation is intended to include full involvement in discussions and technical debates, registering of opinions and, if selected, serving as chairpersons or in other official capacities. Agency representatives may vote, in accordance with the procedures of the voluntary standards body, at each stage of standards
- development, unless specifically prohibited from doing so by law or their agencies.
- (6) The number of individual agency participants in a given voluntary standards activity should be kept to the minimum required for effective presentation of the various program, technical, or other concerns of Federal agencies.
- (7) The providing of Agency support to a voluntary standards activity should be limited to that which is clearly in furtherance of an agency's mission and responsibility. Normally, the total amount of Federal support should be no greater than that of all private sector participants in that activity except when it is in the direct and predominant interest of the Government to develop a standard or revision thereto and its development appears unlikely in the absence of such support. The form of agency support, subject
- to legal and budgetary authority, may include:
 (a) Direct financial support: e.g., grants, sustaining memberships, and contracts:
- (b) Administrative support: e.g., travel costs, hosting of meetings, and secretarial function:
- (c) Technical support: e.g., cooperative testing for standards evaluation and participation of agency personnel in the activities of standardsdeveloping groups: and
- (d) Joint planning with voluntary standards bodies to facilitate a coordinated effort in identifying and

developing needed standards.

- (8) Participation by agency representatives in the policymaking process of voluntary standards bodies,
- in accordance with the procedures of those bodies, is encouraged-particularly in matters such is
- establishing priorities, developing procedures for preparing, reviewing, and approving standards.
- and creating standards-developing groups. In order to maintain the private. nongovernmental nature
- of such bodies. however, agency representatives should refrain from decisionmaking involvement in
- the internal day-to-day management of such bodies (e.g., selection of salaried officers and employees, establishment of staff salaries and administrative policies).
- (9) This Circular does not provide guidance concerning the internal operating procedures that may be
- applicable to voluntary standards bodies because of their relationships to agencies under
- Circular. Agencies should, however, carefully consider what laws or rules may apply in particular
- instance because of these relationships. For example, these relationships may involve the Federal
- Advisory Committee Act. as amended (5 U.S.C App. 1), or a provision of an authorizing statute for
- a particular agency. Agencies are best able to determine what laws and policies should

govern

particular relationships and to assess the extent to which competition may be enhanced and cost-effectiveness

increased. Questions relating to anti-trust implications of such relationships should be addressed to the Attorney General

- 8. Responsibilities.
- a. The Secretary will:
- (1) Coordinate and foster executive branch implementation of the policy in paragraph 6 of this Circular,
- and may provide administrative guidance to assist agencies in implementing paragraph 8.b. (5) of

this Circular.

- (2) Establish an interagency consultative mechanism to advise the Secretary and agency heads in
- implementing the policy contained herein. That mechanism shall provide for participation by all
- affected agencies and ensure that their views are considered: and
- (3) Report to the Office of Management and Budget concerning implementation of this Circular.
- b. The heads of agencies concerned with standards will:
- (1) Implement the policy in paragraph 6 of this Circular in accordance with the policy guidelines in
- paragraph 7 within 120 days of issuance: (2) Establish procedures to ensure that agency representatives participating in voluntary standards bodies and standards-developing groups will to the extent possible, ascertain the views of the agency
- on matters of paramount interest and will as a minimum, express views that are not inconsistent or in conflict with established agency views:
- (3) Endeavor, when two or more agencies participate in a given voluntary standards body or standards-developing group, to coordinate their views on matters of paramount importance so as to present whenever feasible, a single unified position.
- (4) Cooperate with the Secretary in carrying out his responsibilities under this Circular and
- (5) Consult with the Secretary, as necessary, in the development and issuance of, internal agency procedures and guidance implementing this Circular, and submit, in response to the request of the Secretary, summary reports on the status of agency interaction with voluntary standards bodies
- Reporting Requirements. Three years from the date of issuance of this Circular, and each third year thereafter, the Secretary will submit is the

Office of Management and Budget a brief summary report on the status of agency interaction with voluntary standards bodies. As a minimum, the report will include the following information.

 a. The nature and extent of agency participation in the development and utilization of voluntary

standards: and
b. An evaluation of the effectiveness of

- the policy promulgated in this Circular and recommendations of change.
- 10. Policy Review. The policy contained in this Circular shall be reviewed for effectiveness by the Office of Management

and Budget three years from the date of

11. Inquiries. For information concerning this Circular, contact the Office of Management and Budget.

Office of Federal Procurement Policy, telephone 202/395-7207.

David A. Stockman.

Director.

Department of Justice Antitrust Division

Office of the Assistant Attorney General

June 22, 1962.

Mr. Donald E. Sowle.

Administrator for Federal Procurement Policy Office of Management and Budget

Washington, D.C. 20503

Dear Mr. Sowle: I am writing to express the views of the Department of Justice on competition policy

issues raised by the Revised OMB Circular No. A-119. "Federal Participation in the Development and Use of

Voluntary Standards" published for comment in the Federal Register on April

29, 1982 (47 Fed. Reg. 16. 919). In our comments on previous drafts of the Circular, dated December 28, 1976 and June 13, 1978, we have supported a policy of federal adoption of privately developed standards when appropriate. Through participation in, and support for, private standards making activities, agencies may benefit greatly from private expertise and will avoid the wasteful duplication of cost and effort involved in developing their own inhouse standards. The Department of justice is not opposed to the policy announced in Revised OMB Circular A-119, which would eliminate the rigid "due process" precondition to federal participation in private standards activities. Such a

precondition is overly restrictive, since as a practical matter federal agencies will often be required to adopt the standards developed regardless of federal participation in their development. Thus, in our view, the better solution is to participate in standards setting bodies and work within them to assure that

appropriate procedures

are adopted. The Department believes that federal participants should encourage the adoption of procedures to foster access to standard setting activities and transparency in such activities. Such procedures facilitate the development of standards acceptable to the entire affected industry as well as to consumers. In particular, notice and opportunity for comment help assure that standards will be based on adequate information as to their utility and consequences. Moreover, it is especially important that performance criteria be given a prominent perhaps

predominant, place in any standards-activity. Federal agency representatives, therefore, should advocate. as strongly as possible, procedures designed to assure that a broad range of information is solicited, and that performance criteria are central elements of the

resulting standards.

In addition to the practical advantages of open standards proceedings, such safeguards would mitigate the

substantial anticompetitive potential inherent in private standards groups. The importance of assuring adequate

consideration of competition in the work of private standards bodies was noted recently by the Supreme Court in American Society of Mechanical Engineers. Inc. v. Hydrolevel Corp. The case involved a product standard which had been adopted in 46 states and all but one of the Canadian provinces. The Court

organizations creating such standards could be "rife with opportunities for anticompetitive activity." Federal

agencies ought to strongly encourage these private groups, to ensure consideration of all relevant viewpoints and interests including those of consumers, and potential or existing industry participants.

This country's international obligations and policy, as expressed in the Standards Code negotiated during the Tokyo Round of the Multilateral Trade Negotiations, see the Agreement on Technical Barriers to Trade. codified at 19 U.S.CA. 2531 et seq. (1980). provide another important reason for federal agency participants to encourage the adoption of open procedures for private standards groups. This Code, approved by Congress as well as by our leading trading partners, seeks to prevent the creation of product standards which discriminate

against import competition. It requires central governmental bodies to provide notice and opportunity to comment in their own standards making activities, and encourages governments to take reasonable measures to ensure that non-governmental bodies provide similar protection. Where the federal government is in fact involved in the private group, the obligations of the Standards Code would appear even stronger. Open procedures, specifically adequate notice and opportunity to comment, would further the objectives of the Standards Code, and would substantially reduce the possibility that discriminatory, anticompetitive standards will be developed. The Circular would encourage use of voluntary standards for regulatory and other purposes. Although we

applaud this expansion of the scope of the Circular, we believe that broadened federal use of privately developed standards should be accompanied with broad federal awareness of the practical and competitive advantages of industry-wide access to private standards bodies. Such access is an asset to federal participation in private

standards activities, but it is also of great importance when federal agencies, without participation in the process

merely adopt standards for procurement or regulatory use. As we indicated in our previous comments. private activity is not, by virtue of governmental participation or approval, shielded from the antitrust laws. Federal agency participation in a standards body. however, may imply

federal approval of the process and of the resulting standard, and perhaps lead private participants to become tax

in their own antitrust scrutiny. To dispel any false impressions, federal agency representatives should inform

private participants that federal participation does not remove antitrust concerns, as well as

appropriate procedures be employed in the standards proceedings.

Sincerely yours.

Ronald G. Carr. Acting Assistant Attorney General. Antitrust [FR Doc. 42-38017 Filed 10-29-42 8:45 am]

BILLING CODE 31 10-01-M

SECURITIES AND EXCHANGE COMMISSION

[Ref. No. 12750; 812-5268]

Daily Tax Free Income Fund, Inc; Filling of an Application

October 19, 1982.

Notice is hereby given that Daily Tax Free Income Fund Inc., 100 Park Avenue, New York, N.Y. 10017 [the "Applicant"], registered under the Investment Company Act of 1940 ["Act"] as an open-end, diversified. management investment company, filed an application on August 6, 1982, and an amendment thereto on October 18, 1982. requesting an order of the Commission, pursuant to Section 6(c) of the Act, exempting Applicant and any additional separate portfolios that may be established by Applicant in the future, from the provisions of Section 2(a)(41) of the Act and Rules 2a-4 and 22c-1 under the Act to the extent necessary to permit Applicant to value its assets using the amortized cost method of valuation. All interested persons are referred to the application on file with the Commission for a statement of the representations contained therein, which are summarized

Applicant states that it was organized as a corporation under the laws of Maryland on July 22, 1982, and that it registered under the Act on July 22, 1982. Although it will have initially only one investment portfolio the

About this PDF file: This new digital representation of the original work has been recomposed from XML files created from the original paper book, not from the original typesetting files. Page breaks are true to the original; line lengths, word breaks, heading styles, and other typesetting-specific formatting, however, cannot be retained, and some typographic errors may have been accidentally inserted. Please use the print version of this publication as the authoritative version for attribution.

APPENDIX A 44

APPENDIX B

PUBLIC LAW 100-678—NOV. 17, 1988 102 STAT. 4049

Public Law 100-678 100th Congress

AN ACT

To improve the efficiency and effectiveness of management of public buildings.

Nov. 17, 1988 [S. 2186]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Public Buildings Amendments of 1988.

40 USC 601 note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Public Buildings Amendments of 1988".

SEC. 2. INCREASED THRESHOLD FOR APPROVAL PROCESS.

Sections 4(b) and 7(a) of the Public Buildings Act of 1959 (40 U.S.C. 603(b) and 606(a)) are amended by striking out "\$500,000" each place it appears and inserting in lieu thereof "\$1,500,000".

SEC. 3. LIMITATIONS ON LEASING AUTHORITY.

- (a) LIMITATION ON APPROPRIATIONS FOR LEASING CERTAIN SPACE.—Section 7(a) of the Public Buildings Act of 1959 (40 U.S.C. 606(a)) is amended by inserting after the second sentence the following new sentence: "No appropriation shall be made to alter any building, or part thereof, which is under lease by the United States for use for a public purpose if the cost of such alteration would exceed \$750,000 unless such alteration has been approved by resolutions adopted by the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives."
- (b) Limitation on Leasing Certain Space.—Section 7 of such Act (40 U.S.C. 606) is amended by adding at the end thereof the following new subsection:
- "(e) Limitation on Leasing Certain Space.—
- "(1) GENERAL RULE.—The Administrator may not lease any space to accommodate—
- "(A) computer and telecommunications operations;
- "(B) secure or sensitive activities related to the national defense or security, except in any case in which it would be inappropriate to locate such activities in a public building or other facility identified with the United States Government; or
- "(C) a permanent courtroom, judicial chamber, or administrative office for any United States court; if the average rental cost of leasing such space would exceed \$1,500,000.
- "(2) EXCEPTION.—The Administrator may lease any space with respect to which paragraph (1) applies if the Administrator first determines, for reasons set forth in writing, that leasing such space is necessary to meet requirements which cannot be met in public buildings and submits such reasons to the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives."

29-1390-63 06780

102 STAT. 4050 PUBLIC LAW 100-678—NOV, 17, 1988

SEC. 4. DOLLAR AMOUNT ADJUSTMENT.

Section 7 of the Public Buildings Act of 1959 (40 U.S.C. 606) is further amended by adding at the end the following new subsection:

"(f) Dollar Amount Adjustment.—Any dollar amount referred to in this section and section 4(b) of this Act may be adjusted by the Administrator annually to reflect a percentage increase or decrease in construction costs during the preceding calendar year, as determined by the composite index of construction costs of the Department of Commerce. Any such adjustment shall be expeditiously reported to the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives."

SEC. 5. STATE ADMINISTRATION; SPECIAL RULES FOR LEASED BUILDINGS.

The Public Buildings Act of 1959 (40 U.S.C. 601-616) is amended by adding at the end thereof the following new sections:

"SEC. 19. STATE ADMINISTRATION OF CRIMINAL AND HEALTH AND SAFETY LAWS. 40 USC 617.

"Notwithstanding any other provision of law, the Administrator may, whenever the Administrator considers it desirable, assign to a State, or to a commonwealth, territory, or possession of the United States, all or part of the authority of the United States to administer criminal laws and health and safety laws with respect to lands or interests in lands under the control of the Administrator located in such State, commonwealth, territory, or possession. Assignment of authority under this section may be accomplished by filing with the chief executive officer of such State, commonwealth, territory, or possession a notice of assignment to take effect upon acceptance thereof, or in such other manner as may be prescribed by the laws of the State, commonwealth, territory, or possession in which such lands or interests in lands are located.

Public lands.

"SEC. 20. SPECIAL RULES FOR LEASED BUILDINGS. 40 USC 618.

- "(a) Specifications.—Notwithstanding the provisions of section 210(h)(l) of the Federal Property and Administrative Services Act of 1949, the Administrator shall not make any agreement or undertake any commitment which will result in the construction of any building which is to be constructed for lease to, and for predominant use by, the United States until the Administrator has established detailed specification requirements for such building.
- "(b) Competitive Procedures.—The Administrator may acquire a leasehold interest in any building which is constructed for lease to, and for predominant use by, the United States only by the use of competitive procedures required by section 303 of the Federal Property and Administrative Services Act of 1949 (41 U.S.C. 253).
- "(c) Inspections.—The Administrator shall inspect every building to be constructed for lease to, and for predominant use by, the United States during the construction of such building in order to determine that the specifications established for such building are complied with.
- "(d) Enforcement.—
- "(1) Post-construction evaluation.—Upon completion of a building constructed for lease to, and for predominant use by, the United States, the Administrator shall evaluate such build

ing for the purpose of determining the extent, if any, of failure to comply with the specifications referred to in subsection (a).

PUBLIC LAW 100-678—NOV. 17, 1988 102 STAT. 4051

"(2) CONTRACT CLAUSE.—The Administrator shall ensure that any contract entered into for a building described in paragraph (1) shall contain provisions permitting a reduction of rent during any period when such building is not in compliance with such specifications.".

SEC. 6. COMPLIANCE WITH NATIONALLY RECOGNIZED CODES.

(a) In General.—The Public Buildings Act of 1959 (40 U.S.C. 601-616) is further amended by adding at the end the following new section:

"SEC 21. COMPLIANCE WITH NATIONALLY RECOGNIZED CODES. Public health and safety.
40 USC 619.

- "(a) BUILDING CODES.—Each building constructed or altered by the General Services Administration or any other Federal agency shall be constructed or altered, to the maximum extent feasible as determined by the Administrator or the head of such Federal agency, in compliance with one of the nationally recognized model building codes and with other applicable nationally recognized codes. Such other codes shall include, but not be limited to, electrical codes, fire and life safety codes, and plumbing codes, as determined appropriate by the Administrator. In carrying out this subsection, the Administrator or the head of the Federal agency authorized to construct or alter the building shall use the latest edition of the nationally recognized codes referred to in this subsection.
- "(b) Zoning Laws.—Each building constructed or altered by the General Services Administration or any other Federal agency shall be constructed or altered only after consideration of all requirements (other than procedural requirements) of—

State and local governments.

- "(1) zoning laws, and
- "(2) laws relating to landscaping, open space, minimum distance of a building from the property line, maximum height of a building, historic preservation, and esthetic qualities of a building, and other similar laws, of a State or a political subdivision of a State which would apply to the building if it were not a building constructed or altered by a Federal agency.
- "(c) Special Rules.—
- "(1) State and local government consultation, review, and inspections.—For purposes of meeting the requirements of subsections (a) and (b) with respect to a building, the Administrator or the head of the Federal agency authorized to construct or alter the building shall—
- "(A) in preparing plans for the building, consult with appropriate officials of the State or political subdivision, or both, in which the building will be located;
- "(B) upon request, submit such plans in a timely manner to such officials for review by such officials for a reasonable period of time not exceeding 30 days; and
- "(C) permit inspection by such officials during construction or alteration of the building, in accordance with the customary schedule of inspections for construction or alteration of buildings in the locality, if such officials provide to the Administrator or the head of the Federal agency, as the case may be—

102 STAT. 4052 PUBLIC LAW 100-678—NOV. 17, 1988

- "(i) a copy of such schedule before construction of the building is begun; and
- "(ii) reasonable notice of their intention to conduct any inspection before conducting such inspection.
- "(2) Limitation on State responsibilities.—Nothing in this section shall impose an obligation on any State or political subdivision to take any action under paragraph (1).
- "(d) State and Local Government Recommendations.—Appropriate officials of a State or a political subdivision of a State may make recommendations to the Administrator or the head of the Federal agency authorized to construct or alter a building concerning measures necessary to meet the requirements of subsections (a) and (b). Such officials may also make recommendations to the Administrator or the head of the Federal agency concerning measures which should be taken in the construction or alteration of the building to take into account local conditions. The Administrator or the head of the Federal agency shall give due consideration to any such recommendations.
- "(e) Effect of Noncompliance.—No action may be brought against the United States and no fine or penalty may be imposed against the United States for failure to meet the requirements of subsection (a), (b), or (c) of this section or for failure to carry out any recommendation under subsection (d).
- "(f) LIMITATION ON LIABILITY.—The United States and its contractors shall not be required to pay any amount for any action taken by a State or a political subdivision of a State to carry out this section (including reviewing plans, carrying out on-site inspections, issuing building permits, and making recommendations).
- "(g) APPLICABILITY TO CERTAIN BUILDINGS.—This section applies to any project for construction or alteration of a building for which funds are first appropriated for a fiscal year beginning after September 30, 1989.
- "(h) National Security Waiver.—This section shall not apply with respect to any building if the Administrator or the head of the Federal agency authorized to construct or alter the building determines that the application of this section to the building would adversely affect national security. A determination under this subsection shall not be subject to administrative or judicial review."
- (b) Notification of Federal Agencies.—Not later than 180 days after the date of the enactment of this section, the Administrator of General Services shall notify the heads of all Federal agencies of the requirements of section 21 of the Public Buildings Act of 1959.

40 USC 619 note.

SEC 7. LIMITATION ON MAXIMUM RENTAL RATE.

Section 322 of the Act of June 30, 1932 (47 Stat. 412; 40 U.S.C. 278a), is repealed.

SEC. 8. PROTECTION OF FEDERAL PROPERTY.

- (a) Reference to GSA.—The Act of June 1, 1948 (62 Stat. 281; 40 U.S.C. 318-318d) is amended—
- (1) by striking out "Federal Works Agency" each place it appears and inserting in lieu thereof "General Services Administration"; and
- (2) by striking out "Federal Works Administrator" each place it appears and inserting in lieu thereof "Administrator of General Services".

PUBLIC LAW 100-678—NOV. 17, 1988 102 STAT. 4053

(b) INCLUSION OF LEASED PROPERTY.—The first section of such Act (40 U.S.C. 318) is amended to read as follows:

"SECTION 1. SPECIAL POLICE.

- "(a) APPOINTMENT.—The Administrator of General Services, or officials of the General Services Administration duly authorized by the Administrator, may appoint uniformed guards of such Administration as special policemen without additional compensation for duty in connection with the policing of all buildings and areas owned or occupied by the United States and under the charge and control of the Administrator.
- "(b) Powers.—Special policemen appointed under this section shall have the same powers as sheriffs and constables upon property referred to in subsection (a) to enforce the laws enacted for the protection of persons and property, and to prevent breaches of the peace, to suppress affrays or unlawful assemblies, and to enforce any rules and regulations promulgated by the Administrator of General Services or such duly authorized officials of the General Services Administration for the property under their jurisdiction; except that the jurisdiction and policing powers of such special policemen shall not extend to the service of civil process."
- (c) Conforming Amendments.—
- (1) Section 2.—Section 2 of such Act (40 U.S.C. 318a) is amended by striking out "Federal property" each place it appears and inserting in lieu thereof "property".
- (2) Section 3.—Section 3 of such Act (40 U.S.C. 318b) is amended by striking out "and over which the United States has acquired exclusive or concurrent criminal jurisdiction".

SEC. 9. CERTAIN OTHER AUTHORITIES.

40 USC 601 note.

Nothing in this Act (including any amendment made by this Act) shall be construed to affect the authorities granted in sections 5, 6, and 8 of the Central Intelligence Agency Act of 1949 (50 U.S.C. 403f, 403g, and 403j).

SEC. 10. TECHNICAL AMENDMENT.

The Act entitled "An Act to designate the United States Post Office and Courthouse in Pendleton, Oregon, as the 'John F. Kilkenny United States Post Office and Courthouse' ", approved October 17, 1984 (Public Law 98-492; 98 Stat. 2271), is amended by striking out "Dorian" and inserting in lieu thereof "Dorion".

SEC. 11. NAMINGS.

- (a) LAWTON CHILES, JR. FEDERAL BUILDING, LAKELAND, FLORIDA.—
- (1) Designation.—The Federal Building to be constructed in Lakeland, Florida, that will replace the existing Federal Building in Lakeland, Florida, shall be known and designated as the "Lawton Chiles, Jr. Federal Building".
- (2) Legal references.—Any reference in any law, regulation, document, record, map, or other paper of the United States to the building designated by paragraph (1) is deemed to be a reference to the "Lawton Chiles, Jr. Federal Building".
- (3) Effective DATE.—This subsection shall take effect on whichever of the following occurs later:
- (A) The date of the enactment of this Act.
- (B) January 3, 1989.
- (b) ROBERT A. YOUNG FEDERAL BUILDING, St. LOUIS, MISSOURI.—

102 STAT. 4054 PUBLIC LAW 100-678—NOV. 17, 1988

(1) Designation.—The Federal building located at 405 South Tucker Boulevard, St. Louis, Missouri, shall be known and designated as the "Robert A. Young Federal Building".

(2) Legal references.—Any reference in a law, map, regulation, document, record, or other paper of the United States to the Federal building referred to in paragraph (1) shall be deemed to be a reference to the "Robert A. Young Federal Building".

Approved November 17, 1988.

LEGISLATIVE HISTORY—S. 2186 (H.R. 2790):

HOUSE REPORTS: No. 100-474, Pt. 1, accompanying H.R. 2790 (Comm. on Public Works and Transportation). <u>SENATE REPORTS</u>: No. 100-322 (Comm. on Environment and Public Works).

CONGRESSIONAL RECORD:

Vol. 133 (1987): Dec. 14, H.R. 2790 considered and passed House.

Vol. 134 (1988): May 18, S. 2186 considered and passed Senate.

Oct. 19, considered and passed House, amended.

Oct. 21, Senate concurred in House amendment.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 24 (1988): Nov. 17, Presidential statement.

APPENDIX C 51

APPENDIX C

SURVEY OF AGENCIES' DESIGN CRITERIA

The Committee on Assessing the Impact on Federal Agencies of the Use of Building Codes as Design Criteria conducted an informal survey among construction agency members of the Federal Construction Council to gather information on the extent of overlap between current agency design criteria and the provisions of the principal model codes. Four questions were asked of the agencies:

- 1. Approximately what percent of the total information covered in the agency's design criteria documents addresses matters covered by the national model building codes, and what percent addresses owner's requirements beyond those covered in national codes?
- 2. Approximately what effort would be involved in comparing the agency's documents to one of the national codes to determine points of significant difference in requirements for those matters covered in both the code and agency criteria?
- 3. Approximately what effort would be required to a) create a cross reference guide to the selected national model code label by labeling all appropriate parts of the agency's criteria, and b) segregate and reorganize all material in the agency's design criteria to match the organization of the model code?
- 4. Approximately what effort would be required to identify and remove from the agency's design criteria documents all criteria that are met or exceeded by criteria presented in one of the national model codes, and to replace the criteria removed with references to national model codes?

Question 4 differs from question 3 in that administrative review and approval procedures that agencies must follow to make changes in their official criteria documents would be activated.

Responses varied substantially among agencies. At one extreme was the Department of Energy (DoE). This agency has already undertaken to follow the course suggested in question 4, and reports that less than one percent of its criteria address directly matters covered in the national model codes. DoE criteria documents refer users to standards promulgated by industry consensus organizations and to the national model codes. The balance of the agency's criteria documents deal with owner's requirements outside the scope of the model codes. DoE staff estimate

APPENDIX C 52

that the effort required to make the changes in the agency's design criteria documents exceeded 3,000 persondays of staff effort and \$1.25 million of consultant assistance.

The Public Health Service reported that it has in the past made substantial reference to national consensus standards and model codes, and estimates that approximately 98 percent of its criteria address matters outside the scope of model codes. The agency estimated that verification -- by review of a selected sample of their criteria documents -- that their documents contain no material that could be replaced by reference to model codes would require approximately 160 person-days.

The General Services Administration (GSA), Air Force (AF), Army Corps of Engineers (CoE), and Naval Facilities Engineering Command (NAVFAC) all estimated that approximately 20 percent of the material in their criteria documents that deal with military facilities deals with matters covered in national model codes. ¹⁸ These agencies all have a relatively wide range of facilities types and projects located throughout the United States. The National Aeronautics and Space Administration (NASA), which has facilities located in comparatively few geographic areas, estimated that as much as 30 percent of its criteria documents overlap with model codes, and another 30 percent cover matters similar to those covered in model codes. Approximately 40 to 80 percent of these agencies' criteria documents deal with requirements outside the scope of model codes.

The CoE, NAVFAC, and GSA have by far the most extensive sets of criteria documents, and estimated the costs to each agency of following a course of action similar to that undertaken by the DoE will exceed \$1.3 million for consultant assistance in the first year, and that several years of effort may be required. NASA estimated their costs would be between approximately \$500,000 and \$750,000.

¹⁸The Corps has an extensive program of construction of dams and other public works facilities that are not typically covered by model codes, and estimates that only ten percent of their criteria documents for such facilities overlap with codes.

APPENDIX D 53

APPENDIX D

BIOGRAPHICAL SKETCHES OF COMMITTEE MEMBERS

DONALD G. ISELIN (Chairman) is currently a consulting engineer in Santa Barbara, CA, specializing in management. Rear Admiral Iselin, CEC, USN (Retired) served as Vice Commander and then Commander of the Naval Facilities Engineering Command and as Chief of Civil Engineers of the Navy. Upon retiring from the Navy in 1981, he joined Kaiser Engineers as Group Vice President, Advanced Technology and Operations Support, and served as President of Raymond International Service Company before retiring in 1986. Adm. Iselin attended Marquette University before entering the Naval Academy where he graduated at the head of his class. He is also a graduate of the Advanced Management Program at the Harvard Business School. Recipient of the Distinguished Service Medal, four Legions of Merit, and the Navy's Stephen Decatur Award for Operational Competence. Adm. Iselin is a member of numerous professional organizations and a registered engineer in the District of Columbia.

WILLIAM A. BRENNER has more than twenty years of experience as an architect and planner concerned with building design and regulation. As Vice President of Codeworks Corporation, he is actively involved in developing information systems for building regulation. Mr. Brenner was principal author of several building guidelines and regulatory documents, including the Guidebook for Residential Building Systems Inspection, the Structural Assessment Guideline, and Brick Veneer and Steel Stud Exterior Masonry Walls. A recipient of a B. Arch. from Miami University in Oxford, Ohio and M.C.P. from Yale University, he has been awarded Yale's Potter Memorial Medal and a National Endowment for the Arts Architecture and Environmental Arts fellowship. Mr. Brenner is a registered architect in Ohio, a member of the American Institute of Architects and other professional organizations, and serves as a town councilman in his local community.

JEAN-PIERRE FARANT is Associate Professor, Occupational Hygiene, and Director, Environmental Laboratories, School of Occupational Health, McGill University. He received a B.Sc. in chemistry and a Ph.D. in analytical toxicology from Carlton University. Prof. Farant is certified as an industrial hygienist by the American Board of

APPENDIX D 54

Industrial Hygiene, and a member of industrial hygiene organizations in Canada and the United States.

- **EARL L. FLANAGAN** is an architect and the principal expert on building codes and code administration for the U.S. Department of Housing and Urban Development. Mr. Flanagan joined HUD after more than fifteen years in private practice as an architect, local planning commissioner, building commissioner, and elected official. Mr. Flanagan received a B.S. in architectural engineering from the University of Illinois and a graduate diploma in social psychology and political science from Georgetown University's School of Foreign Service. He is a registered architect in Illinois and currently Chairman of the National Institute of Building Sciences' Consultative Council.
- **DAVID W. FOWLER** is the Dean T.U. Taylor Professor and Director of Architectural Engineering at the Department of Civil Engineering, University of Texas at Austin. An active researcher in concrete, polymers, and wood, Prof. Fowler has published numerous papers and reports, and was awarded the American Concrete Institute's Delmar L. Bloem Award for "major and significant to the knowledge of polymers in concrete." He received his B.S. and M.S. in architectural engineering at the University of Texas at Austin and his Ph.D. in civil engineering at the University of Colorado, and is active in numerous international professional and research organizations.
- **ROBERT W. GLOWINSKI** is Technical Research Counsel for the National Forest Products Association, and has in the past served as manager of fire technology activities for that organization. He received his B.A. in urban planning from Rutgers College and his J.D. from the University of Baltimore School of Law, and is admitted to practice law in Maryland and the District of Columbia, as well as before several U.S. Courts. Mr. Glowinski teaches fire science on the faculty of University College, University of Maryland.
- **JOHN C. HORNING** has some forty years of experience as a mechanical engineer in design, manufacturing, and management. After obtaining his Mechanical Engineering degree from Case Institute of Technology, Mr. Horning joined General Electric Company, where he worked in a variety of roles, finally retiring as Manager-Engineering of the Real Estate and Construction Operation responsible for all major facilities projects, foreign and domestic. He has served as a member of the Building Research Board and has been active in numerous professional organizations.
- WILLIAM N. McCORMICK is mechanical engineer with diverse international experience, on major projects throughout the world, gained in 27 years as a professional with the U.S. Army Corps of Engineers. After serving as Chief of the Engineering Division at the Corps' headquarters, Mr. McCormick joined Lockwood Greene Engineers, Inc., where he is now employed. He received a B. Mech Eng. from Alabama Polytechnic Institute (Auburn University), and is a registered engineer in Alabama.

APPENDIX D 55

JOSEPH H. NEWMAN recently retired as President, Tishman Research Corporation. In his career spanning some forty years, Mr. Newman has distinguished himself as a researcher and builder, and is a member of the National Academy of Engineering. He has served as a member and chairman of the Building Research Board, member of the National Research Council's Commission on Engineering and Technical Systems, and Director and Chairman of the National Institute of Building Sciences. Mr. Newman received Bachelor and Master degrees in chemical engineering from the Polytechnic Institute of New York. He is active in the New York Building Congress and Association for a Better New York.

JAMES A. SCHEELER currently Group Executive, Program and Services Management, American Institute of Architects, has served as well as President of the AIA Research Corporation and the AIA Corporation. Holder of a B.S. and M.S. in architecture from the University of Illinois, Mr. Scheeler is recipient of that university's Francis J. Plyne Fellowship in Design for travel and study in Europe, and completed graduate studies in Civic Design and Town Planning at the University of Liverpool under a Fulbright Scholarship.