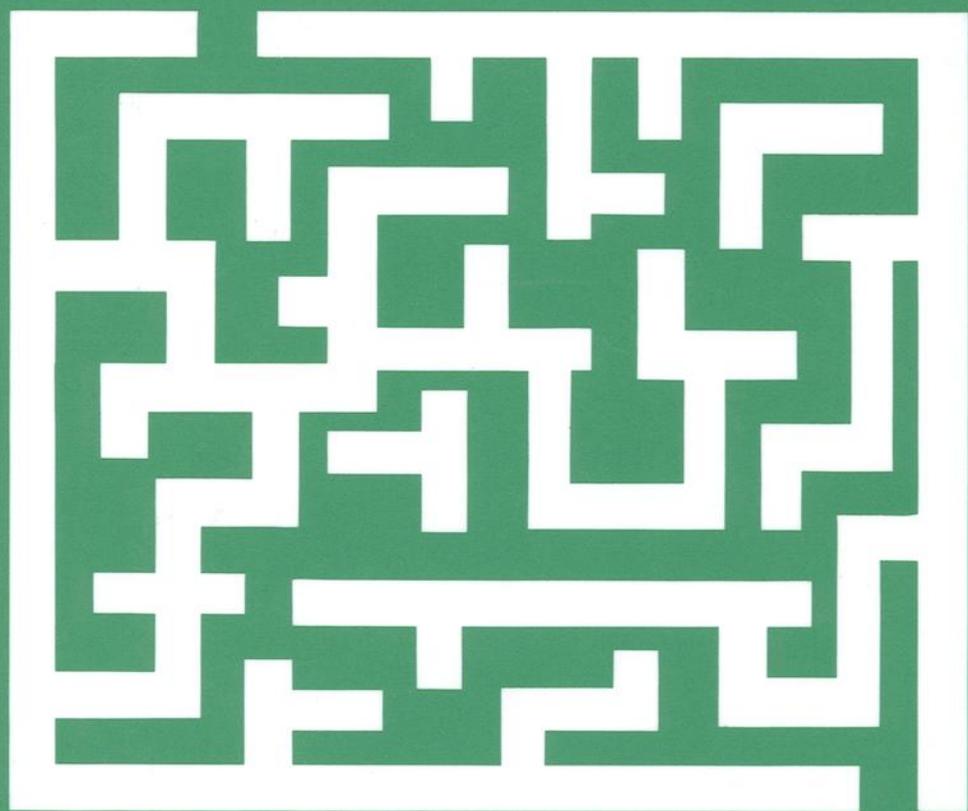


Performance of Buildings and Serviceability of Facilities



Davis/Ventre, editors



STP 1029

STP 1029

Performance of Buildings and Serviceability of Facilities

Gerald Davis and Francis T. Ventre, editors



ASTM
1916 Race Street
Philadelphia, PA 19103

Library of Congress Cataloging-in-Publication Data

Performance of buildings and serviceability of facilities / Gerald Davis and Francis T. Ventre, editors.
(STP ; 1029)

"ASTM publication code number (PCN) 04-010290-10"--T.p. verso.

Papers presented at the Symposium on Overall Facility Performance--Use, Operation, and Cost, held in Toronto, Ontario, Canada, October 13-14, 1988, sponsored by ASTM Committee E06 on Performance of Building Constructions and ASTM Subcommittee E06.25 on Whole Buildings and Facilities.

Includes bibliographical references.

ISBN 0-8031-1292-0

1. Buildings--Performance--Congresses. I. Davis, Gerald, 1926-.
II. Ventre, Francis T. III. Symposium on Overall Facility Performance--Use, Operation, and Cost (1988 : Toronto, Ont.)
IV. ASTM Committee E-6 on Performance of Building Constructions.
V. ASTM Subcommittee E06.25 on Whole Buildings and Facilities.
VI. Series: ASTM special technical publication ; 1029.

TH453.P47 1990

690--dc20

90-31703

CIP

Copyright © by AMERICAN SOCIETY FOR TESTING AND MATERIALS 1990

NOTE

The Society is not responsible, as a body,
for the statements and opinions
advanced in this publication.

Peer Review Policy

Each paper published in this volume was evaluated by three peer reviewers. The authors addressed all of the reviewers' comments to the satisfaction of both the technical editor(s) and the ASTM Committee on Publications.

The quality of the papers in this publication reflects not only the obvious efforts of the authors and the technical editor(s), but also the work of these peer reviewers. The ASTM Committee on Publications acknowledges with appreciation their dedication and contribution of time and effort on behalf of ASTM.

FOREWORD

The symposium on Overall Facility Performance -- Use, Operation and Cost was presented at Toronto, Ontario, Canada, October 13-14, 1988. It was sponsored by ASTM Committee E06 on Performance of Building Constructions and ASTM Subcommittee E06.25 on Whole Buildings and Facilities.

Gerald Davis, Chairman, ASTM Subcommittee E06.25, and President, International Centre for Facilities, Ottawa, Canada, and Seattle, USA, served as chairman of the symposium and co-editor. Francis T. Ventre, Professor and Director, Environmental Systems Laboratory, College of Architecture and Urban Studies, Virginia Polytechnic Institute and State University, served as co-editor. Mary-Anne McKiechan, Principal, McKiechan and Associates, and Françoise Szigeti, Executive Director, International Centre for Facilities, served as technical co-editors.

ACKNOWLEDGEMENTS

Organizing this symposium and assembling this publication have required the combined efforts of many individuals. It is our pleasure to acknowledge here the support we received from ASTM, from its Chairman, DeWayne France, who welcomed our dinner speaker and all present, on to the Executive Committee of Committee E06, who supported our unconventional symposium format, to our Committee Chairman, Fred Pneuman, who welcomed the participants to the symposium. Others at ASTM who should be recognized here include: our former staff manager, Teri McMasters, who got us under way with great enthusiasm and competence, our current staff manager, David R. Bradley, who took over in mid-stream and did a great job in trying circumstances, Dorothy Savini, who also took over the symposium organization in mid-stream and sorted out numerous crises, Kathleen Green and Monica Armata, who supervised the editing process with their usual care, patience and attention to details.

We are grateful to Mr. Dennis P. Caplice, Deputy Minister, Ontario Ministry of Government Services for taking the time to welcome ASTM and the symposium on behalf of the Government of Ontario.

Last but not least, we would like to thank all the speakers and authors without whom there would have been no symposium or publication, and all the reviewers whose thoughtful comments and helpful suggestions ensured the high quality of this publication. Any shortcomings are our responsibility.

Gerald Davis, President

International Centre for Facilities
Ottawa, Ontario Canada
Symposium chairman and co-editor

Francis T. Ventre

Center for Building Economics and Industry Studies
College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University
Blacksburg, Virginia, USA
Co-editor

Contents

Overview

Beyond Aesthetics: Can Buildings Be Judged on How Well They Work?— GERALD DAVIS	1
---	---

PANELS

Introduction: Facility Serviceability Standards: Current Developments— GERALD DAVIS AND FRANCIS T. VENTRE	5
---	---

Keynote Address: Canada's Biggest Landlord Looks at Facility Performance— J. McD. DUNPHY	10
--	----

Panel A: Measuring Performance and Serviceability	
Keynote Paper: Establishing Appropriate Measurements for the Performance of Buildings and the Serviceability of Facilities— FRANCIS T. VENTRE	17

Rapporteur's Summary: Discussion of Measuring Performance and Serviceability— STEVE LLOYD	25
--	----

Comments on Establishing Appropriate Measurements for the Performance of Buildings and the Serviceability of Facilities by Francis T. Ventre—	
PIERRE G. GOUMAIN	30
SCOTT M. MEIS	31
KAREN M. ODLUM	32
STEPHEN J. SURMAN	33

Panel B: Operating Performance	
Keynote Paper: Facility Performance and Serviceability from a Facility Manager's Viewpoint— ARTHUR P. HAHN	37

Rapporteur's Summary: Discussion of Operating Performance— JOHN SALUSTRI	45
---	----

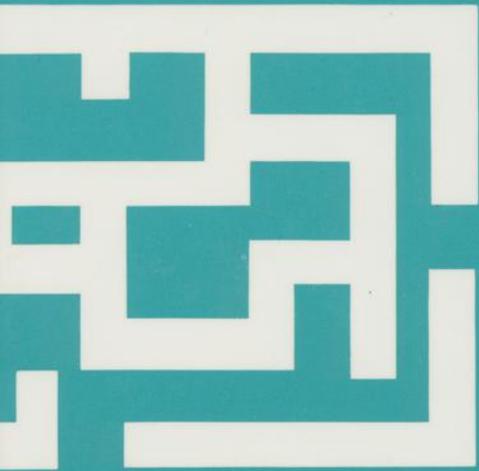
Comments on Facility Performance and Serviceability from a Facility Manager's Viewpoint by Arthur P. Hahn—	
PHILIP D. ALSOPP	49
GREGORY DICK	50
JOHN M. DUNPHY	51
ALTON J. PENZ	52

Panel C: Functional Performance	
Keynote Paper: Developing Standardized Tools for Assessing Employees' Ratings of Facility Performance— DANIEL STOKOLS AND TED SCHARF	55

Rapporteur's Summary: Discussion of Functional Performance— FORREST WILSON	80
---	----

Comments on Functional Performance and Developing Standardized Tools for Assessing Employees' Ratings of Facility Performance by Daniel Stokols and Frederick Scharf—	
RICHARD E. BARRY	87
LARRY G. DUFOUR	88
DAVID M. DUNN	89
E. YAMAN UZUMERI	90
Panel D: Economic Performance	
Keynote Paper: Measuring Economic Performance— HAROLD E. MARSHALL	93
Rapporteur's Summary: Discussion on Measuring Economic Performance— JOHN FENNEL	111
Comments on Measuring Economic Performance by Harold E. Marshall—	
LIONEL G. BONNELL	115
B. LUM LEE	116
GARY J. MIELAK	117
Panel E: Individual Occupants	
Keynote Paper: Control Is Beautiful: Measuring Facility Performance as if People (and Buildings) Really Mattered— JAMES A. WISE	121
Rapporteur's Summary: Discussion of Measures of Building Performance Applicable to Individual Occupants and Small Groups— SHARON M. MCFADDEN	144
Comments on Control is Beautiful: Measuring Facility Performance as if People (and Buildings) Really Mattered by James A. Wise— MARY L. BAETZ	149
The Occupant's View— LOUISE HALL AND PATTY DELINE	150
Choosing Performance and Serviceability Measures for Standardization— WARREN L. WALKER	152
Panel F: Organizational Occupants	
Keynote Paper: A Performance Profile Approach to Measuring Overall Facility Management (FM) Performance— FRANKLIN BECKER	155
Comments on A Performance Profile Approach to Measuring Overall Building Performance by Franklin Becker—	
RICHARD E. BARRY	167
KREON L. CYROS	169
JAMES M. HICKEY	170
PAUL TRANQUADA	171
Panel G: Viewpoints from Outside North America	
Rapporteur's Summary: Discussion of Viewpoints from Outside North America— JOAN B. DENT	175
Overall Facility Performance: A Personal View of the U.K. Perspective— ALAN HEDGE	179

Issues Affecting Building Performance, A Point of View from the Federal Republic of Germany—	PETER JOCKUSCH	180
Negotiating Facility Evaluation in New Zealand—	DUNCAN A. JOINER	183
Panel H: Performance and Serviceability Standards—Directions and Priorities		
Keynote Paper: Performance of Buildings and Serviceability of Facilities: Background and Impact of Presentations on Standards Needs—	WAYNE P. ELLIS	187
Rapporteur's Summary: Discussion of Performance and Serviceability Standards: What Next—	VICTOR CLARK AND JOAN DENT	193
REFEREED PAPERS		
An Information System for Measuring the Performance of Health Facilities—	PHILIP D. ALLSOPP AND GARY J. MIELAK	199
Application of the Exo-Endo Model to the Measurement of Building Energy Performance—	GEORGE BAIRD, HARRY R. BRUHNS, MICHAEL R. DONN, AND NIGEL P. ISAACS	214
A Method for Collecting User Based Facility Requirements—	NANCY C. CANESTARO	226
Optimizing Facility Performance: A Portfolio Approach—	PATRICE A. DERRINGTON	238
A Post-Occupancy Evaluation of Two Energy-Efficient Office Buildings—	RICHARD C. DIAMOND	252
Integrating Overall Performance Measures in Organizational Facility Planning: The United States Postal Service—	JAY FARBSTAIN AND MIN KANTROWITZ	266
Health Reports as Facility Performance Measures: The Role of Environmental and Occupational Factors in the Genesis of Building-Related Illnesses—	ALAN HEDGE	275
Matching Building Performance to Organizational Needs—	WILLIAM R. SIMS AND FRANKLIN D. BECKER	289
Total Functional Value: Facility Performance and Functional Use Costs—	ROBERTSON WARD, JR.	311
Index		325



ISBN 0-8031-1292-0