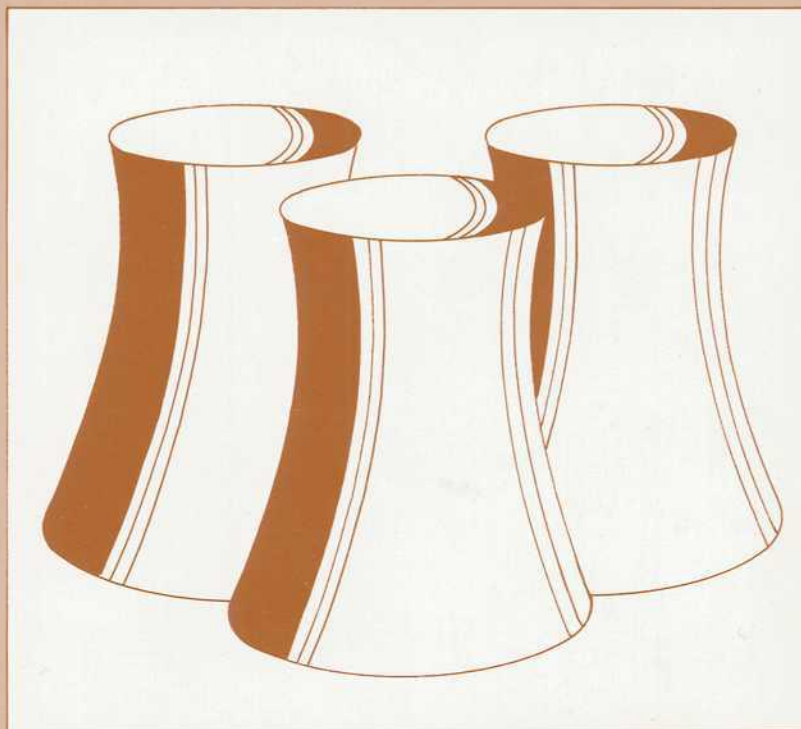


MANUAL ON



**MAINTENANCE
COATINGS
FOR NUCLEAR
POWER PLANTS**



Manual on Maintenance Coatings for Nuclear Power Plants

**Compiled by
ASTM SUBCOMMITTEE D33.10
ON PROTECTIVE COATINGS
MAINTENANCE WORK FOR POWER
GENERATION FACILITIES**

ASTM Manual Series: MNL 8



1916 Race Street ■ Philadelphia, PA 19103

Library of Congress Cataloging-in-Publication Data

Manual on maintenance coatings for nuclear power plants/compiled by
ASTM Subcommittee D33.10 on Protective Coatings Maintenance Work for
Power Generation Facilities.

(ASTM manual series; MNL 8)

“ASTM publication code number (PCN) 28-008090-14”—T.p. verso.

Includes bibliographical references and index.

ISBN 0-8031-1404-4

1. Nuclear power plants—Maintenance and repair—Handbooks, manuals, etc. 2. Nuclear power plants—Painting—Handbooks, manuals, etc. 3. Nuclear reactors—Containment—Painting—Handbooks, manuals, etc. I. ASTM Subcommittee D33.10 on Protective Coatings Maintenance Work for Power Generation Facilities. II. Series.

TK1078.M254 1990

621.48'3'0288—dc20

90-15589

CIP

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ASTM Publication Code Number (PCN): 28-008090-14

**NOTE: The Society is not responsible, as a body, for statements
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Printed in Baltimore/December 1990

Dedication



Mendel A. Puschel
1932–1990

MENDEL A. PUSCHEL was one of a small but active group in the early history of ASTM Committee D33 on Protective Coating and Lining Work for Power Generation Facilities, known in the early years as ASTM Subcommittee D01.43. Mendel served in a variety of roles, giving input to various task groups from quality assurance of coating application to the advisory aspects of the power utilities. However, his main goal was to establish maintenance coating procedures for nuclear power plants, for which this manual is intended.

He gained first hand experience in his work interests at Consumers Power Company of Jackson, Michigan. There he served, at the time of his early retirement, as staff engineer of projects, Engineering and Construction.

Mendel graduated in 1957 from Michigan Technical Institute with a Bachelor of Science in Engineering and began working for Consumers Power Co. two years later. In 1989 he received the Engineer of the Year Award from the Jackson Chapter of the Michigan Society of Professional Engineers.

At the time of Mendel's death he was the chairman of Subcommittee D33.10 on Protective Coatings Maintenance Work for Power Generation Facilities. We of ASTM D33 dedicate this manual to his memory. He was our friend, associate, and fellow engineer.

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Foreword

THIS PUBLICATION WAS sponsored by ASTM Committee D33 on Protective Coating and Lining Work for Power Generation Facilities. Its creation and maintenance is the responsibility of Subcommittee D33.10 on Protective Coatings Maintenance Work for Power Generation Facilities. This subcommittee is composed of representatives from various organizations involved with corrosion control by use of protective coatings. Subcommittee members include individuals from utilities, architect-engineer-constructors, coating inspection services, and other interested parties. The information presented herein reflects a consensus of the subcommittee (the list of contributors is on the facing page, members of D33.10 as of 5 Feb. 1990).

This manual was prepared to address a need perceived by ASTM Committee D33 for guidance in selecting and applying maintenance coatings in nuclear plants but is not to be considered a standard. In addition to servicing as that source, this document has the equally necessary role of acting as a focal point for a rapidly changing technology. While the subcommittee considers the information contained in this manual to be state of the art, the book offers limited historical data upon which to establish detailed requirements or methodologies. Accordingly, the user will find this edition rather general.

The procedures described herein may involve hazardous materials, operations, and equipment. This manual does not purport to address all the safety problems associated with their use. It is the responsibility of the user of this manual to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

Mendel A. Puschel

Acronyms

3M	Minnesota Mining and Manufacturing
ACI	American Concrete Institute
ALARA	As low as reasonably achievable
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
BWR	Boiling water reactor
CFR	Code of Federal Regulations
DBA	Design basis accident
DWV	Drain, waste, and vent
ECCS	Emergency core cooling system
EPA	Environmental Protection Agency
ESS	Engineered safety system
FSAR	Final safety analysis report
HEPA	High efficiency particulate air
HVAC	Heating, ventilation, and air conditioning
LOCA	Loss of coolant accident
MSHA	Mine Safety and Health Administration
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NFPA	National Fire Protection Association
NIOSH	National Institute of Occupational Safety and Health
NRC	Nuclear Regulatory Commission
OSHA	Occupational Safety and Health Act
PWR	Pressurized water reactor
QA/QC	Quality assurance/quality control
QC	Quality control
RHR	Residual heat removal
Reg. Guide	Regulatory Guide
SAR	Safety analysis report
SSPC	Steel Structure Painting Council
SSPC-SPII	Steel Structures Painting Council—Surface Preparation
UT	Ultrasonic test

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ISBN 0-8031-1404-4