

Turbine Oil Monitoring

Young/Robertson, editors



STP 1021

STP 1021

Turbine Oil Monitoring

William C. Young and Reginald S. Roberton, editors



ASTM
1916 Race St.
Philadelphia, PA 19103

Library of Congress Cataloging-in-Publication Data

Turbine oil monitoring/William C. Young and Reginald S. Robertson,
editors.

(STP ; 1021)

Papers presented at the symposium held in Orlando, FL on 8 Dec.
1987 and sponsored by ASTM Committee D-2 on Petroleum Products
and Lubricants.

"ASTM publication number (PCN) 04-01021012"—T.p. verso.

Includes bibliographies and index.

ISBN 0-8031-1252-1

1. Turbomachines—Lubrication—Congresses. I. Young, William C.
II. Robertson, Reginald S. III. ASTM Committee D-2 on Petroleum
Products and Lubricants. IV. Series: ASTM special technical
publication; 1021.

TJ266.T873 1987

621.406—dc19

89-301
CIP

Copyright © by AMERICAN SOCIETY FOR TESTING AND MATERIALS 1989

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

This publication, *Turbine Oil Monitoring*, contains papers presented at the symposium of the same name held in Orlando, Florida on 8 Dec. 1987. The symposium was sponsored by ASTM Committee D-2 on Petroleum Products and Lubricants. William C. Young, General Electric, and Reginald S. Robertson of Princeton, New Jersey presided as symposium co-chairmen and were coeditors of this publication.

Dedication

This book is respectfully dedicated to Andrew N. Smith and Reginald S. Robertson in recognition of their years of effort as, respectively, chairman and secretary of Subcommittee D02.C on Turbine Oils. In their offices they promoted, both in the United States and internationally, greater knowledge of turbine lubrication and the use of ASTM standards to improve turbine lubrication performance. ASTM D 4378, "Practice for In-Service Monitoring of Mineral Turbine Oils for Steam and Gas Turbines," the focus of this symposium, was the result of their dedication.

Contents

Overview	1
Background and Development of ASTM D 4378: Practice for In-Service Monitoring of Mineral Turbine Oils for Steam and Gas Turbines— R. S. ROBERTON	3
A Turbine Lube Oil System Monitoring Program—D. BONETT	19
A Supplier's Approach to Turbine Oil Monitoring—G. R. TRABERT AND G. J. SCHREUDERS	25
The Reliable Control of Oil Quality in Japanese Turbine Units— R. OHGAKE, M. SUNAMI, T. YOSHIDA, AND H. WATANABE	32
Monitoring Practices for Phosphate Ester Fluids for Turbine Lubrication and Control—J. F. ANZENBERGER, SR.	44
Experiences with an Analytical Monitoring Program Designed for Commerical Flight Tests of Advanced Mil-L-23699 Turbine Fluids— D. G. PACHUTA, J. A. THICH, R. W. KNIPPLE, AND D. A. STEPHANIC	54



ISBN 0-8031-1252-1