TABLE OF CONTENTS

LECTURES	1
MODERN CAVITATION CRITERIA FOR CENTRIFUGAL PUMPS S. Gopalakrishnan, Manager of Research and Development, Byron Jackson Pump Division, Borg-Warner Industrial Products, Incorporated, Long Beach California	3
A SOLUTION FOR VARIABLE SPEED VERTICAL PUMP VIBRATION PROBLEMS	l1
FORCES ON CENTRIFUGAL PUMP IMPELLERS	:1
EXPERIMENTAL STUDY OF THE INFLUENCE OF BACKFLOW CONTROL ON PUMP HYDRAULIC-MECHANICAL INTERACTION	33
SCREW PUMPS OF ONE, TWO AND THREE SCREW DESIGN	11
PUMP SELECTION AND APPLICATION IN A PRESSURIZED WATER REACTOR ELECTRIC GENERATING PLANT	17
CRITICAL SPEED ANALYSIS OF AN EIGHT-STAGE CENTRIFUGAL PUMP	59
FLOW PATTERNS CAUSING INSTABILITIES IN THE PERFORMANCE CURVES OF CENTRIFUGAL PUMPS WITH VANED DIFFUSERS	7
THE PREDICTION OF BEARING LUBRICANT TEMPERATURES AND COOLING REQUIREMENTS FOR A CENTRIFUGAL PUMP	'7
A POWERFUL APPLICATION AND TROUBLESHOOTING METHOD FOR MECHANICAL SEALS 8 Thomas P. Will, Jr., Senior Staff Engineer, Exxon Research and Engineering Company, Florham Park, New Jersey	5
SPECIAL PAPERS 9	1
FLOW FIELD INVESTIGATION FOR A SERIES OF RIGHT ANGLE MINIMUM AXIAL DEPTH PUMP INTAKES 9 Joseph H. G. Howard, Professor of Mechanical Engineering, University of Waterloo, Waterloo, Ontario, Canada, and Paul Hermann, Chief, Turbomachinery Research Engineering, Sundstrand Aviation Operations, Rockford, Illinois	3

TECHNICAL FEATURES OF LARGE VERTICAL CONCRETE VOLUTE PUMPS
TUTORIAL SESSIONS
RELIABILITY IMPROVEMENT IN MECHANICAL SEALS
RELIABILITY IMPROVEMENT IN MECHANICAL SEALS— ANALYSIS OF DESIGN CONSIDERATIONS
REVERSE INDICATOR ALIGNMENT METHODS
REVERSE INDICATOR COLD ALIGNMENT WITH GRAPHICAL PLOTTING
PANEL SESSION
PUMP RELIABILITY PROBLEMS: MANUFACTURER VS. USER RESPONSIBILITY
DISCUSSION LEADERS
SPECIAL EVENTS SPEAKERS
PUMP SYMPOSIUM ADVISORY COMMITTEE
EXHIBITORS
TURBOMACHINERY LABORATORIES STAFF
TURBOMACHINERY LABORATORIES