



nuclear technology

EDITOR

ROY G. POST
Department of Nuclear Engineering
University of Arizona,
Tucson, Arizona 85721

ANS OFFICERS

JAMES R. LILIENTHAL, *President*
JOHN W. SIMPSON, *Vice President-President Elect*
J. ERNEST WILKINS, Jr., *Treasurer*
OCTAVE J. DU TEMPLE, *Executive Secretary*

ANS STAFF

NORMAN H. JACOBSON, *Publications Manager*
RUTH FARMAKES, *Assistant Staff Editor*
BARRETT M. SCHROEDER, *Copy Editor*
SIEGFRIED H. KRAPP, *Production Manager*
KATHRYN L. FROELICH, *Production Assistant*
MERRILL ALBERTUS, *Production Coordinator*

Advertising

RICHARD HARRIS, *Advertising Sales Manager*
ROSEMARY HARVEY, *Circulation Manager*

EDITORIAL ADVISORY BOARD

SPENCER H. BUSH, ERIC T. CLARKE, VAUGHN E. CULLER, GARY J. DAU, W. KENNETH DAVIS, MILTON C. EDLUND, WALTER H. ESSELMAN, PAUL R. FIELDS, JOHN H. FRYE, JR., STEPHEN J. GAGE, O. H. GREAGER, MARSHALL GROTEHUIS, VINCENT P. GUINN, DAVID B. HALL, DANIEL F. HANG, JOSEPH M. HENDRIE, PAUL KRUGER, STEPHEN LAWROSKI, FORREST J. REMICK, WALTON RODGER, ZOLTON ROSZTOCZY, WILSON TALLEY, EDWIN L. ZEBROSKI

Address all manuscript and editorial communications to the editorial offices, *Nuclear Technology*, Department of Nuclear Engineering, The University of Arizona, Tucson, Arizona 85721.

Nuclear Technology is published monthly by the American Nuclear Society, Inc., with executive and business offices at 244 East Ogdan Avenue, Hinsdale, Illinois 60521, telephone 312/325-1991. Subscription rate is \$30 or \$110/four volumes per year. Single copy price is \$13 (special issue slightly higher). It is printed in Danville, Illinois, and second class postage is paid at Hinsdale, Illinois, and at additional mailing offices. Copyright © 1973 by the American Nuclear Society, Inc

Statements made by authors of contributions to the various departments or of technical papers and notes do not necessarily reflect the viewpoint of the American Nuclear Society nor should their appearance herein be construed as tacit approval or endorsement by the Society. Abstracts in *Nuclear Technology* may be freely republished anywhere at any time.

ON THE COVER:

This month's cover picture of the Palisades Nuclear Power Station is courtesy of Combustion Engineering, supplier of the PWR. The child, representing the public's interest, is added by our artist.

CONTENTS — MARCH 1973

TECHNICAL PAPERS

REACTORS

Breakdown Pulse Noise in Insulated Systems for LMFBR Application / R. R. Schemmel, L. D. Philipp, J. L. Stringer - - - - - 198

EBRFLOW—A Computer Program for Predicting the Coolant Flow Distribution in the Experimental Breeder Reactor-II / A. Gopalakrishnan, J. L. Gillette - - - - - 205

FUELS

Neutron Shielding Problems in the Shipping of High Burnup Thermal Reactor Fuel / H. S. Bailey, R. N. Evatt, G. L. Gyorey, C. P. Ruiz - - - - - 217

MATERIALS

Thermal Conductivity of Two-Phase Solid Bodies / J. P. Stora - - - - - 225

Fast-Neutron Damage to Polycrystalline Alumina at Temperatures from 60 to 1230°C / G. W. Keilholtz, R. E. Moore, H. E. Robertson - - - - - 234

RADIOISOTOPES

Cyclic Activation with a Californium-252 Source / S. J. Gage, G. D. Atkinson, Jr., G. D. Bouchev - - - - - 247

Demonstration of Cobalt-60 Heat Source Capsule Performance / C. L. Angerman - - - - - 261

INSTRUMENTS

Radioactivity Monitor for Power Plant Environmental Water / G. Riel, W. M. Hawkins, Jr., G. H. Liebler, D. Duffey - - - - - 275

TECHNICAL NOTE

ANALYSIS

The Half-Life of Dysprosium-165 / A. Haccoun, K. Preiss, G. Shani - - - - - 280

DEPARTMENTS

AUTHORS - - - - - 194

BOOK REVIEWS - - - - - 282

VOLUME 17 INDEXES - - - - - 286

VOLUME 17 CONTENTS - - - - - iii