



CONTENTS

VOLUME 2 NO. 6 DECEMBER, 1966/PAGES 453-540

NUCLEAR APPLICATIONS STAFF

LOUIS G. STANG, JR. *Editor*
DUDLEY THOMPSON *Associate Editor*
DORIAN STANG *Editorial Assistant*

ANS STAFF

Technical Publications and Production

JOHN GRAHAM *Senior Staff Editor*
RUTH FARMAKES *Assistant Staff Editor*
RICHARD HARRIS *Design and Production Editor*
MARY M. GRIFFITH *Art Editor*
HELEN ANDERSON *Copy Editor*
JANET BLUMA *Production Assistant*

Advertising

RICHARD B. QUINN *Advertising Sales Manager*
DENNIS J. UMBIOR *Midwest Sales Manager*
ROSEMARY HARVEY *Circulation Manager*

EDITORIAL ADVISORY BOARD

E. ALFRED BURRILL—S. H. BUSH
A. B. CHILTON—ERIC T. CLARKE
ROGER J. COE—VAUGHN CULLER
RALPH L. ELY, JR.—W. H. ESSELMAN
PAUL R. FIELDS—JOHN H. FRYE, JR.
DAVID B. HALL—JOSEPH M. HENDRIE
STEPHEN LAWROSKI—FORREST J. REMICK
S. SANDHAUS—MORTIMER A. SCHULTZ
EDWIN L. ZEBROSKI

ANS OFFICERS





SIDNEY SIEGEL *President*
RAEMER E. SCHREIBER *Vice President*
JOHN W. LANDIS *Treasurer*
OCTAVE J. DU TEMPLE *Executive Secretary*
CLARKE WILLIAMS *Director of Publications*

Address all manuscripts and editorial communications to the editorial offices, *Nuclear Applications*, 60 Rutherford Drive, Upton, New York 11973.

Nuclear Applications is published bimonthly by the American Nuclear Society, Incorporated, with executive and business offices at 244 East Ogden Avenue, Hinsdale, Illinois 60521, telephone 312 / 326-1991. Subscription rate is \$21/volume (\$6/year to members). It is printed in Danville, Illinois, and second-class postage is paid at Hinsdale, Illinois, and at additional mailing offices. Copyright© 1966 by the American Nuclear Society, Incorporated.


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 appearing in *Nuclear Applications* may be freely republished anywhere any time.


TECHNICAL PAPERS AND NOTES

	Critical Dimensions of Water-Reflected Systems Containing $^{235}\text{U}-\text{H}_2\text{O}-\text{Zr}$ / G. P. Rutledge, F. A. Dobbe, C. H. Price - - - - -	461
	Nondestructive Examination of Radioactive Material Using Neutron Radiography / Wayne A. Carbiener - -	468
	The Deposition of Thin Films of Enriched Uranium Dioxide / Renato M. Baciarelli - - - - -	471
	Stepwise Release of Fission Gas from UO_2 Fuel / M. J. F. Notley, J. R. MacEwan - - - - -	477
	Creep-Rupture Properties under Conditions of Constant and Varying Stresses / H. E. McCoy - - - -	481
	Radiation Damage in Incoloy-800 / H. J. Busboom, F. A. Comprelli, C. N. Spalaris - - - - -	486

The following five papers were presented at the Fuel Performance in Water-Cooled Power Reactors Symposium, Washington, D.C., November, 1965

	A Utility-Oriented View of Fuel Performance Requirements for Water Reactors / John E. Gray - - -	489
	Fuel-Element Experience in Pressurized-Water Reactors / H. M. Ferrari, R. J. Allio - - - - -	492
	Examination of Fuel and Cladding in PWR-1 Blanket Rods / B. Rubin, L. Lynam - - - - -	499
	CANDU Fuel Performance in NPD / J. Pawliw, G. H. Chalder, R. T. Popple - - - - -	505
	Fuel Performance in Boiling-Water Reactors / T. J. Pashos, H. E. Williamson, R. N. Duncan - - - - -	510

	Resolving Time of a Pulsed-Neutron Source Data-Acquisition System / S. R. Bierman, K. L. Garlid, J. R. Clark - - - - -	515
---	--	-----

	Postirradiation Chemical Analysis of SNAP-8 Experimental Reactor Coolant / Knox M. Broom, Jr., Carleton D. Bingham, Thomas B. Crockett, Nancy M. Trahey - - - - -	519
---	---	-----

DEPARTMENTS

COMMENTARY - - - - -	454
AUTHORS AND PAPERS - - - - -	457
BOOK REVIEWS - - - - -	524
VOLUME 2 INDEXES - - - - -	527
VOLUME 2 CONTENTS - - - - -	535