

## Editorial Staff

PUBLISHER  
Jon Payne

EDITOR-IN-CHIEF  
Gregg M. Taylor

INTERNATIONAL EDITOR  
Simon Rippon

SENIOR EDITOR  
Elizabeth S. Tompkins

SENIOR ASSOCIATE EDITOR  
Richard A. Michal

ASSOCIATE EDITORS  
Susan E. Bailey  
Patrick Sinco

PRODUCTION EDITOR  
Susan E. Bailey

DESKTOP EDITOR  
Chris Salvato

EDITORIAL ASSISTANT  
Nancy Slove

CONTRIBUTING COLUMNIST  
Bill Minkler

## Business

ADVERTISING SALES MANAGER  
Jeffery R. Mosses

ADVERTISING ASSISTANT  
Patricia Fairchild

CIRCULATION/READER SERVICE  
COORDINATOR  
Bess Weglarz

PROCUREMENT SUPERVISOR  
Wayne Witek

## Editorial Advisory Committee

Ramon Ashley, Sam K. Bhattacharyya,  
Annick Carnino, Doug Stickney,  
Roger Tilbrook, and Paul Turinsky

## ANS Headquarters

GENERAL NUMBER  
708/352-6611

Facsimile 708/352-0499  
Web site <<http://www.ans.org>>

NUCLEAR NEWS ADVERTISING  
708/579-8226  
Facsimile 708/352-6464

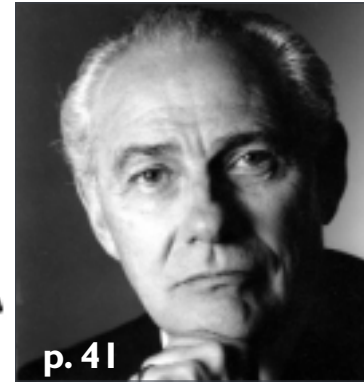
NUCLEAR NEWS EDITORIAL  
708/579-8245  
Facsimile 708/352-6464  
e-mail <[nucnews@ans.org](mailto:nucnews@ans.org)>

INTERNATIONAL EDITOR (SIMON RIPPON)  
011-44-181-789-2159  
e-mail <[70734.166@compuserve.com](mailto:70734.166@compuserve.com)>

# Nuclear News

January 2000

Volume 43, Number 1



## FEATURE ARTICLES

- Air crew radiation exposure—An overview BY SUSAN BAILEY 32  
Lemley: Speaking out on low-level waste disposal INTERVIEW BY BETSY TOMPKINS 41  
Nuclear power—Viable in a competitive market? BY WALTER H. ESSELMAN AND THOMAS C. ESSELMAN 48

## LIST OF SCHEDULED OUTAGES AT U.S. NUCLEAR POWER PLANTS 23

## INDEX TO 1999 NUCLEAR NEWS CONTENTS 11

## POWER 15

TVA agrees to make tritium for United States. Court to rehear Calvert Cliffs relicensing case. Nuclear plant dealings—completed, under way, and in negotiations. Clinton's operating license okayed for transfer to AmerGen. Entergy Corporation announces five-year expansion plan. RCS alert at Waterford under NRC investigation.

## OPERATIONS 28

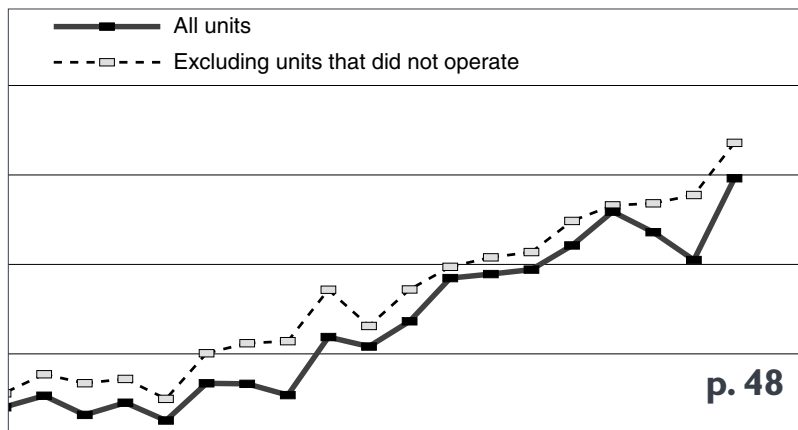
ANS Winter Meeting "Crisis in the Workplace" Workshop: Supply shrinking, demand growing for nuclear engineers.

## MEETINGS 53

1999 ANS Winter Meeting: Nuclear power in the 21st century. Topical Meeting: Deregulation overview. Topical Meeting: ATW road map.

## INTERNATIONAL 64

Nuclear phaseout in Sweden begins with Barsebäck closure order. Sweden buys into German nuclear generation. Retirement date announced for U.K.'s Bradwell station. International Comment: The threat of decline . . . what can stop it? Chernobyl-3 back in service in Ukraine until mid-2000. Waste from VVER-440s in Hungary to undergo minimization. Framatome, Siemens combine activities through merger. Revisions to IAEA protection convention proposed.



## WASTE MANAGEMENT 69

ANS submits comments on EPA radiation protection standards for Yucca Mountain. Itkin named director of OCRWM. Radiation-resistant bacteria may assist in decontamination. Final Pu disposition EIS examines strategy's potential impacts. Portemus Engineering formed; contracts awarded.

## ISOTOPES & RADIATION 76

Bill to aid sick workers put before Congress.

## FUEL 77

USEC to continue handling Russian LEU under "Megatons to Megawatts" program. NRC issues criticality safety regulatory notice.

## INDUSTRY 79

Bicon acquires radiation detection firms; other business developments. New management and operations contractor at ORNL; other contracts.

## STANDARDS 80

ANS standards recently published, approved.

### DEPARTMENTS

Backscatter	88	86	Literature from Suppliers
Calendar	6	81	People
Calls for Papers	8	10	Proceedings Available
Employment	87	9	Recently Published
Equipment & Services	84	14	Retrospective
Index to Advertisers	73	4	Setpoint
Late News in Brief	17	8	Short Courses and Seminars

## ANS Officers

PRESIDENT

Andrew C. Kadak

VICE PRESIDENT/PRESIDENT-ELECT

James A. Lake

TREASURER

Denis E. O'Brien

CHAIRMAN, ANS PUBLICATIONS

STEERING COMMITTEE

Robert W. Hess

## Administrative

EXECUTIVE DIRECTOR

Harry Bradley

### Coming up ...

**March**—The Second Annual Nuclear News Reference Issue

**April**—Special Section on Irradiation Technology



*Nuclear News* (ISSN: 0029-5574) is published monthly (except during the month of March when issued twice monthly) by the American Nuclear Society, Incorporated, with business, executive, and editorial offices at 555 N. Kensington Ave., La Grange Park, Illinois 60526; telephone 708/352-6611. Subscription rate is \$236 for 2000; overseas subscribers add \$51 per year for postage and handling. Single copy price is \$19; \$8 additional for overseas postage and handling (except for the Buyers Guide issue, which is \$78; \$10 additional for overseas postage and handling). Individual ANS members receive *NN* as part of membership (up to \$44 of dues allocated to *NN*). Replacement copies may be obtained at the single copy price, as long as copies are available. Inquiries about the distribution and delivery of *Nuclear News* and requests for changes of address should be directed to the American Nuclear Society. Allow six weeks for a change to become effective. POSTMASTER: Send change of address orders to *Nuclear News*, American Nuclear Society, 555 N. Kensington Ave., La Grange Park, Illinois 60526, or <nucnews@ans.org>.

*Nuclear News* is printed in New Richmond, Wis. 54017, by St. Croix Press, Inc. Nonprofit periodicals postage paid at La Grange, Illinois, and at additional mailing offices. Copyright © 2000 by the American Nuclear Society, Inc. Trademark registered in USA and Canada.

Opinions expressed in this publication by the authors are their own and do not necessarily reflect the opinions of the editors, the American Nuclear Society, or the organizations with which the authors are affiliated, nor should publication of author viewpoints or identification of materials or products be construed as endorsement by this publication or by the Society.

Texts of most *Nuclear News* articles are available on the NEXIS data base, from Mead Data Corporation.