exporting harm to the future, without an equal concern for exporting the peculiar benefits of coal and oil.

Since 1964, Donald A. Daavettila has been a teacher of nuclear-power-related courses at Michigan Technological University where he is an associate professor of physics. After receiving his master's degree from Michigan Tech in 1958, through a cooperative thesis program with Argonne National Laboratory, he attended and taught at the International School of Nuclear Science and Engineering at Argonne. Then, following a year as an experimental physicist at the Enrico Fermi Nuclear Plant, he joined the Tech faculty. His interests include environmental effects of power production, radiation measurements, and nuclear waste disposal. Parts of two recent summers were spent with nuclear waste study groups at Battelle's Pacific Northwest Laboratories and Rockwell Hanford Operations as a NORCUS summer faculty appointee.

Iodine-129: Evaluation of Releases from Nuclear Power Generation

Publisher National Council on Radiation Protection and Measurement (1983)

Pages 74

Price $10.00

Reviewer Geoffrey G. Eichholz

Iodine-129 is a long-lived ($T^{1/2} = 1.57 \times 10^7$ yr) radioisotope of iodine produced with a relatively low yield in nuclear fission. As an anion and as an elemental species that is easily assimilated into the food chain, it has received a great deal of attention in assessments of the long-term impact of nuclear power plant effluents and of radioactive waste disposal. This little booklet summarizes concisely what is known about sources of ^{129}I, thyroid exposures from dietary sources, metabolic constraints on ^{129}I organ concentrations, control technology, and measurement techniques. An extensive bibliography, to 1982, rounds off the presentation.

Though the actual doses projected by the various calculational models are quite small, the report draws attention to the major discrepancies in the estimates obtained with some models that are based on assumptions that are considered unrealistic. The report does not deal with dose commitments associated with different waste disposal schemes, but it is evident that ^{129}I would not be expected to be a major contributor to any long-range population dose. The review of measurement methods seems excessively brief, consisting of little more than a literature review.

The overall format and coverage conform with that of other National Council on Radiation Protection reports. The report is a worthy addition to the series and can serve as a ready reference on matters concerning this radioisotope.

Geoffrey G. Eichholz is Regents' Professor of Nuclear Engineering at the Georgia Institute of Technology, which he joined in 1963. He obtained his PhD in physics at the University of Leeds, England, and was awarded the DSc degree in 1979. He has edited the book Radioisotopes Engineering *and is the author of* Environmental Aspects of Nuclear Power *and* Principles of Nuclear Radiation Detection, *both published by Ann Arbor Science Publishers. His research interests include the migration of radioactive wastes, environmental surveillance problems, radiation detector development, industrial radiation applications, nuclear materials technology, and the health physics of nonionizing radiations.*

Computational Methods for Turbulent, Transonic and Viscous Flows

Editor J. A. Essers

Publisher Hemisphere Publishing Corporation (1983)

Pages 360

Price $49.95

Reviewer Efstathios E. Michaelides

This compendium edited by J. A. Essers presents the reader with recent advances in the field of numerical methods for turbulent, transonic, and viscous flows. Apparently, it emanates from a series of lectures the authors gave in 1981 at the Von Karman Institute. There are six review articles in it which present in detail the following topics:

1. "Numerical Methods for Coordinate Generation": The approach to this subject is based on numerical integration of Schwartz-Christoffel transformations and yields simple, accurate, and flexible grids. The technique of grid generation also generates body-fitted coordinates. Examples for grid generation are given for flow past a hexagon, a six-point cross, an airfoil, and a circular cylinder.

2. "Introduction to Multigrid Methods for the Numerical Solution of Boundary Value Problems": This part starts with a short summary of difference schemes and finite element methods. It then proceeds with a full exposition of the linear two-grid and multigrid methods with their modifications, as well as the multigrid method of the second kind. Among the examples given, there is one of the Bernard problem in natural convection and another of the steady-state Navier-Stokes equations.

3. "Higher Level Simulations of Turbulent Flows": This part is a thorough review of advanced turbulence modeling, one of the most comprehensive and informative this reviewer has seen. It is worth acquiring the book for this 90-page part alone. Here large eddy simulation is discussed with subgrid scale models and the numerical methods used in such simulation. Homogeneous flows, free shear flows, and bounded flows are examined. Examples of large eddy simulations are given in meteorological and environmental flows, as well as directions in which this branch of modeling is proceeding. The only drawback of this part is that its author seems to place more emphasis on advances made within his own research group.

4. The fourth part, "Numerical Methods for Two- and Three-Dimensional Recirculating Flows," presents a brief review of the alternatives encountered in the application of