

Professor Finston has been engaged in radio-nuclear and analytical chemistry since 1943 when he joined the Manhattan Project at the University of Chicago. During 1945-1950 he was Research Assistant in the Departments of Chemistry and Physics at Ohio State University and was responsible for the separations of cyclotron-produced radioisotopes. From 1950 to 1963 he worked at Brookhaven National Laboratory, becoming Head of the Radiochemical Analysis Section of the Hot Laboratory Division. In 1963 he was appointed Professor of Chemistry, Graduate Division, Brooklyn College of The City University of New York.

### KILOWATTS BY THE GALLON

*Title* Water Desalting and Nuclear Energy

*Author* Michel d'Orival

*Publisher* Verlag Karl Thiemig KG, 1967

*Pages* v + 197

*Price* DM 14.80

*Reviewer* Barnett F. Dodge

This small pocket-sized (4- × 7-in.), paper-covered book packs a surprising amount of useful information. It is divided into four parts. The first deals with the water demand and supply around the world and includes some discussion of the economics of supplying fresh water. The second part, which comprises somewhat more than one-third of the book, is concerned with saline water conversion. It contains a discussion of the theoretical minimum energy requirement for conversion and reasons for the much larger practical requirements, a review of the main desalting processes and evaluation of them from the standpoint of energy consumption, scale, corrosion, heat transfer, materials of construction, fluid circulation and mass transfer, and a discussion of the present status of desalting plants around the world.

The review of processes is an excellent concise description of the

principles, illustrated by simplified flowsheets, of 13 processes classified under the general heads of distillation, crystallization, solvent extraction, membrane and ion exchange. Only processes showing economic promise are included. Table 18 summarizes the salient facts about the processes, and Table 19 provides information on 52 plants having capacities of 250 000 US gallons or more per day in actual operation. A number of other tables in this section summarize much useful information on the three processes that have reached the industrial stage.

Part three discusses the potential role of nuclear energy in desalting. It includes technical and economic data on various proved reactor types, a discussion of nuclear fuel cycles, various concepts for coupling desalting plants to nuclear reactors, a discussion of dual-purpose installations, i.e., those that produce both electric power and fresh water, and a comparison between nuclear and conventional desalination processes.

The fourth part is concerned with various practical aspects of nuclear dual-purpose installations. Methods of allocating cost between power and water are examined in some detail. A typical schedule for the development of a nuclear dual-purpose project is presented in graphical form and discussed with relation to the decisions that have to be made in the promotion of such a project. Various programs and specific projects for the use of nuclear energy are discussed, and, finally, a table summarizes technical and economic data on six proposed plants. An Appendix shows photos taken at five operating plants and of a projected plant for Israel.

The book is well organized and well written and this reviewer could find no errors of significance. Naturally, much of the treatment has to be superficial, but for anyone who wishes to get a good picture of the current situation on desalination, and especially the relation of nuclear energy to it, should consult this book.

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*degrees from Yale, Worcester Polytechnic Institute, and Toulouse University. He has lectured extensively, here and abroad as a US State Department and Fulbright lecturer, and as the Reilly lecturer, University of Notre Dame. Interested in the treatment of saline water and industrial waste water, among many other things, he has been consultant to the Office of Saline Water, US Department of the Interior, since 1954.*

### IMPROVING YOUR WRITING

*Title* Communicating Technical Information

*Author* Robert R. Rathbone

*Publisher* Addison-Wesley Publishing Company, 1966

*Pages* vii + 104

*Price* \$1.95

*Reviewer* Jules B. Godel

What would you do if, just after accepting the Assistant Editorship of *Nuclear Applications* and submitting your first paper to that journal, your "editor-boss," with pained expression, asked you to review this book? Feigning self-confidence, I took on the task.

The book, according to the author, "has a modest function: to serve as an inexpensive self-improvement guide for engineers and scientists whether on the job or in the classroom." Coverage includes improving the writing of abstracts, titles, technical descriptions, conclusions, and recommendations. The text also details how to eliminate mechanical noise,<sup>a</sup> edit someone else's writing, and organize subject matter effectively.

The chapter on semantic and mechanical noise, written from the reader's viewpoint, was particularly useful, and my complaint is that the author didn't expand this important section. Semantic noise covers choice of correct words, clarity, avoidance of roundabout expressions

<sup>a</sup>Defined as factors which alter the intended message.