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Safeguards Against Nuclear Proliferation

Author Benjamin Sanders
Publishers The MIT Press
Pages 114
Price \$14.95
Reviewer Manuel A. Kanter

Safeguards Against Nuclear Proliferation is a short, well-written background volume concerned with the activities of the International Atomic Energy Agency (IAEA) in the safeguarding of nuclear material. The author outlines the major considerations that shape the safeguards in force today. The book will be quite useful to interested members of the nuclear community because the issues and some of the documentation are very well presented in a very short 114 pages.

It is interesting that the authorship is disclosed only in the last paragraph of the preface. The cover page indicates that the book is simply a monograph by the Stockholm International Peace Research Institute. I would suppose that the intention is that the contents of the book speak for themselves. However, it is a pity that the excellent qualifications of the author, Benjamin Sanders, are not brought to the attention of the reader.

It is my observation that many of the discussions on this subject that one hears in corridors at meetings and sees in the editorial columns of

the press show a remarkable ignorance of the fact that international safeguards are circumscribed by international agreements. They are limited by considerations of national sovereignty and, in general, cannot be approached from a unilateral point of view. The IAEA is often criticized as if its limitations were self-imposed. A reading of this book will quickly show that the IAEA is a creature of its member nations and will give the reader a quite clear idea of the limitations those members have placed upon it.

In 57 pages, the text gives a short history of safeguards, lays out the basic issues involved in coming to the present international safeguards, details the present application of safeguards by the IAEA, gives finances and statistics of the IAEA, and briefly discusses future developments. This is supplemented by an additional 57 pages of appendix material giving the full text of the major IAEA documents that are not generally known except by those within the safeguards and arms control community.

The major shortcoming of the volume lies in the chapter on applications. Not enough material is presented to allow for any significant assessment of the efficacy of IAEA safeguards. The reader would have been well served by the inclusion in the appendix of either actual or model safeguards subsidiary arrangements, so that the extent of the application of safeguards would be known to the reader. In addition, some discussion of the actual inspection effort would be helpful in this regard.

In conclusion, I believe the book can easily be read in an evening. It would be an evening well spent by those in the nuclear community who have an interest in this very current topic.

Manuel A. Kanter (a graduate of Northeastern University and the Illinois Institute of Technology) has been a member of the staff of the Argonne National Laboratory (ANL) since 1946. A physical chemist, he spent the first 22 of those years at ANL in basic research with materials in the nuclear fuel cycle. In 1968, he became director of the training program in safeguards at the ANL Center for Educational Af-

fairs, a program that in its five years of operation has trained over 300 participants from industry and government, both foreign and domestic.

Since January of 1976, he has been the director of the nuclear power courses that the Center is presenting for managers and engineers of developing countries in a cooperative program of the International Atomic Energy Agency (IAEA) and the Government of the U.S. Kanter is education chairman of the Institute of Nuclear Materials Management and a member of the American Nuclear Society and the American Physical Society. He has served as a consultant and senior officer with the IAEA in the area of safeguards training.

Thermodynamics of Linear Transport Processes

Author Marjan Ribarič
Publisher Slovene Academy of Sciences and Arts (1975)
Pages 158
Reviewer Paul Nelson

This monograph is philosophically similar to, and substantially based upon, the earlier two-volume work, *Functional-Analytic Concepts and Structures of Neutron Transport Theory*, from the same author and publisher. Consequently, the present review should be read in conjunction with the review by Larsen of the earlier monograph.¹

The basic language of this monograph is modern functional analysis in a Banach-space context. The viewpoint is that of linear input-output analysis for bodies of finite size ("black boxes"), as contrasted to the much more prevalent field-theoretical approach in which the starting point concerns behavior within infinitesimal bodies. The aim is to formulate input-output hypotheses that appropriately reproduce the qualitative aspects of thermodynamic behavior. To paraphrase a comment from the cited earlier work, the author seems more interested in analyzing physical inferences of thermodynamicists than in