

and the Ion-Layer fusion reactor configuration. He received his BS in physics at Boston College and his MS and PhD in physics at the Massachusetts Institute of Technology. He has been associated with fusion work at Oak Ridge National Laboratory since 1954, when it was the classified Sherwood Project.

Safeguards Against Nuclear Proliferation. A Monograph from the Stockholm International Peace Research Institute, The MIT Press, Cambridge, Massachusetts (1975). 114 pp. \$14.95.

My ever-growing collection of references about safeguards contains a good deal of doomsday stuff, but every now and again I come across serious papers or books, like this one, that are long on information and short on polemics.

The author is Benjamin Sanders, whose name, somewhat oddly, does not appear on the title page. Mr. Sanders, an official of the International Atomic Energy Agency (IAEA), wrote this book for the Stockholm Peace Research Institute. This is described on the flyleaf as "an independent institute for research into the problems of peace and conflict . . . established in 1966 . . . to commemorate Sweden's 150 years of unbroken peace." The organization is financed by the Swedish government, but its staff and directive boards are international.

Although the book is short and the author has a pleasingly lucid style, it is not easy reading. Partly it is the author's fault; I was bothered by the absence of an index, and I think the discussion could have been organized better, particularly in the historical account. Partly the difficulty is with the material, a tangled network of relationships, treaties, and diplomatic arrangements. There is the Treaty of Rome, the Treaty of Tlatelolco, the Non-Proliferation Treaty, the Statute of the International Atomic Energy Agency, nations who have signed one thing and not another, "Grey Books," "Blue Books," INFCIRCs, and "trigger lists." (This last is a much less menacing concept than the name might suggest.)

The author opens with an account of the history of the growth of safeguards concepts from the days of the

Acheson/Lilienthal report, upon which the ill-fated "Baruch Plan" was based, to the present operations of the IAEA. The latter, it should be recalled, arose out of the 1953 "Atoms for Peace" proposal to the United Nations by President Dwight D. Eisenhower. Succeeding chapters deal mainly with how the IAEA tries to provide realistic, consistent, and unobtrusive procedures to make it easier for the nations to find it to their advantage to use nuclear energy for constructive purposes rather than for weapons. The IAEA cannot, as the author points out, impose safeguards but only make them possible on the basis of continuing mutual agreement. Moral suasions, mere words, legalisms, may seem puny things to deal with the imperatives of national interest. One wonders, however, if India would have set off a nuclear explosion in 1974 if the Canada-India agreement had used the specific language of the Non-Proliferation Treaty rather than a general remark about peaceful uses that the Indians interpreted one way and the Canadians another.

There is much information in this slim book. You can find out how safeguards inspectors are hired, how the IAEA finances its work, and how it fosters safeguards research. Substantial appendices are provided containing texts of important treaty sections and statutes. Most of all you can get a feel for the patient, continuing work of the IAEA in trying to create constructive relationships in a complex, ever-shifting world of commercial and nationalistic rivalries. With all its flaws, this book is to be recommended.

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July 20, 1976

About the Reviewer: Melvin Tobias, an Associate Editor of Nuclear Science and Engineering, has been a member of the Staff of the Oak Ridge National Laboratory since 1950. Dr. Tobias' interest in safeguards problems stems from a recent study of the matter in connection with fuel recycling for gas-cooled reactors.