

LEAD INDUSTRIES ASSOCIATION

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MEMBER INFORMATION

To Members of the Lead Industries Association:

The Atomic Energy Commission recently issued A.E.C. Document TID-7004, entitled, "Reactor Shielding Design Manual" with Theodore Rockwell, III, technical director, Naval Reactors Branch, Division of Reactor Development, A.E.C. editor.

This Manual is a comprehensive treatise on the theoretical and practical aspects of shielding, based on the techniques and data developed in the Naval Reactors Program. The subject is covered comprehensively as shown by the following chapter headings:

- Introduction and Outline of Basic Shielding Theory
- Setting Allowable Radiation Levels
- Shielding the Reactor Core
- Shielding the Reactor Cooling System
- Plant Layout and Other Factors Affecting Total Shield Design
- Shield Engineering
- Radioactivity of Shutdown System (The Accessibility Problem)
- Effect of Irregularities in Shield
- Effect of Geometry of Radiation Source
- Basic Data

Under Chapter 6-Shield Engineering-the various shielding materials and their advantages are discussed. Methods of fabrication and installation for both lead shields and composite shields of lead and other materials are included in considerable detail.

In discussing the comparative effectiveness of the various materials for gamma radiation, the following statement is made:

"Comparisons are usually expressed in terms of lead because it represents the best practical gamma shield material for most applications."

Under fabrication and installation, this statement is also made:



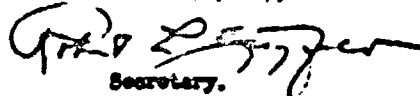
Lead Shielding Bulletin No. 5

- 2 -

"Where large attenuations of gamma-radiation intensities are desired, the use of lead instead of iron results in a weight saving of at least 30 percent."

Anyone interested in lead as a radiation shielding material should have a copy of this Bulletin. It is available for (1) paper copy from the Office of Technical Services, Department of Commerce, Washington 25, D.C.

Very truly yours,


Secretary.