The Actuary

November 1975 – Volume 9, No. 9

The Actuary

The Newsletter of the Society of Actuaries

VOLUME 9, No. 9 NOVEMBER, 1975

ENERGY CRISIS

Lawrence Rocks and Richard P. Runyon, *The Energy Crisis*, Crown Publishers Inc., New York, 1972, paper $2.95.

by Gene Held

Actuaries routinely make long-range assumptions in their daily work with regard to future interest rates and general economic conditions. The material presented in this book should make the actuary engaged in this type of work somewhat apprehensive about these assumptions.

In reading the book one develops an easy feeling of *déjà vu,* since many the predictions discussed in it have either occurred or can be seen developing in today's headlines. Many of the authors' conclusions and predictions are unsettling, to say the least, and it would be easy to dismiss the book as one of the current genre of "doomsday" books. In reading the book, however, it becomes apparent that the authors have consistently tried to maintain a "middle of the road" approach in assessing and presenting others' estimates of world resource levels.

They begin by presenting a table of the Probable Life Span of U.S. Energy Resources, viz.,

Gas: 40 years at 1970 consumption rate, and less than 30 years at present growth rate.

Oil: 20 years at 1970 consumption rate, and less than 15 years at present growth rate.

Coal: 200-300 years if coal is used to synthesize oil and gas at present growth rate.

Uranium: 100-1,000 years after the eder reactor is on-stream by the year 2,000 or 2,020.

Deuterium: over a billion years if we could develop controlled thermonuclear fusion reactors.

(*Continued on page 8*)

BROWN ACTUARIAL RESEARCH CONFERENCE

by David Halmstad

The 10th annual Actuarial Research Conference, was held on August 28-30 at Brown University in Providence, R.I. The Department of Applied Mathematics at Brown co-sponsored the meeting, which discussed computational actuarial research, under the general title of Computational Probability and Numerical Analysis.

The late summer timing of the Conference brought over 80 actuaries, (including 5 European actuaries), academics, and guests, as well as 40 accompanying persons. The unusually large number of spouses and children were accommodated by fine weather, a tour of Newport arranged by Mrs. David Halmstad, and the memorable Conference clambake.

Scientific portions of the meeting, under the co-chairmanship of Walter Freiberger and David Halmstad, centered on ten invited papers on Computational Probability, Analysis of Algorithms, Notation and Computation, Numerical Methods, Computational Risk Theory and Computational Statistics. In addition, a complement of ten contributions was received in pension cost analysis, equity contract evaluation, accounting principles notation, reversionary annuity computation, inflation effects on nonlife insurance, generalized inverses applied to demography, stop-loss premium calculation, generalized collective insurance modeling, lapsation studies and symbolic information processing in the insurance context.

The Proceedings of the Conference are to be published by Academic Press, following the procedure of last year's Conference on Credibility Theory, and announcement of the new book is expected in the spring. □

HITTING THE BULL'S-EYE?

by Robert J. Myers

This year, 1975, sees the 40th anniversary of the enactment of the Social Security System in the United States, and this has already been recorded in the press. Related to the System a historic event occurred in April of this year which so far has escaped comment.

At the beginning of April, the combined balance in the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund, which pay the monthly cash benefits under the Social Security program, was $46,211 million, an all-time high. At the end of that month, this balance had risen to $47,062 million, so that at some time during the month it first exceeded $46,943 million.

At first glance, one might say "What is so remarkable about the trust funds reaching this magnitude, even though it is an all-time high?" Further, one might point out that the attainment of such a peak of apparently great magnitude is just a hiatus. Following this, the trust funds will decline almost steadily, becoming exhausted in 1981, according to the latest actuarial cost estimates of the Social Security Administration.

The seasonal trend of these trust funds is such that, in April of each year, they tend to reach a maximum because of the trend of tax receipts. Specifically, the tax receipts are highest for the first quarter of each year, thus spilling over into April, as income tax time occurs and the self-employed pay the balance of the Social Security tax due, and as employers pay up in full for the first quarter of the year (when taxes are higher, because the effect of the maximum taxable earnings base is minimal).

But let us turn back to the point made initially about the remarkable fact that

(*Continued on page 7*)