NEWS & NOTES

• **SENATE ENDORSES METRICATION**: The Senate on 18 August passed a bill (S.2483) which would set the nation on a voluntary course of conversion to the metric system. The object is to make metrication "the predominant but not exclusive" system of weights and measures within 10 years.

The bill essentially follows the recommendations of a report completed in July 1971 by the National Bureau of Standards. It calls for the appointment of an independent 11-member board which would be given 18 months to concoct a national plan for metric conversion and outline any new legislation that might be necessary. Federal agencies will take the lead by working out their own conversion schedules and changing procurement practices to reflect the new policy. The bill would authorize the expenditure of $14.5 million over the next 5 years on government research, information, and coordination activities.

Passage of the bill came as something of a surprise because Congress has not exhibited much interest in metric conversion. The House Science and Astronautics Committee is still sitting on its Administration-sponsored metrication bill and is not expected to act before next year.

• **ETHICS ENCYCLOPEDIA**: Georgetown University has announced that preparations are under way for the first comprehensive encyclopedia of medical ethics. Scientists and ethicists of "Protestant, Jewish, Catholic, and humanistic beliefs" will write and edit the four-volume opus, which will take about 3 years to complete. The $400,000 project is being helped along by a $200,000 grant from the National Endowment for the Humanities.

The encyclopedia is a major project of the Joseph and Rose Kennedy Institute for the Study of Human Reproduction and Bioethics, a multidisciplinary organization established at Georgetown a year ago. Editor of the encyclopedia is Warren T. Reich, a former theology professor at Catholic University and now senior research scholar at the institute. The encyclopedia, says Reich, will be a source of "the finest ethical wisdom available," bearing on the unprecedented moral problems that advances in science and medicine have created.

that, because of funding and for other reasons, the recommendations of the ACRS will not be implemented at this time.

It should be noted that this criticism also came 2 years after the Joint Committee on Atomic Energy upbraided the AEC for not fitting the safety program to the regulatory arm's needs.

Those needs, of course, had not been ignored altogether. Even the modest effort cited by the ACRS was producing results, and there results were even less encouraging than the Ergan group's findings. According to one man involved in this research at Idaho:

> The more we worked this problem the more it fell apart in our laps. Everything we did to analyze the physical phenomena, to improve correlations, to better describe what happens during blowdown [the explosive depressurization of a reactor vessel] pushed our predicted temperatures higher toward melting and the margins of fuel safety lower.
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> The more we got into this the more it became apparent that RDT was very unhappy with all this. The problems we were raising were upsetting their cozy relationship with the vendors and utilities, whose support they needed for the breeder. . . . It also became clear that Shaw and others just didn't believe a serious accident of this kind could happen, and that it was really worth working on. They'd say all the right things in public, but in the small, executive session their enthusiasm would cool off.

Both sides think the probability of a major accident is low, but low means different things to different people. In the spectrum of estimates, officials in Washington lean toward lower estimates—on the order of one chance in a billion—than researchers in the laboratories. "What bothers me most," says a prominent engineer at Oak Ridge, "is that after 20 years we are still making purely subjective judgments on what is important and what is not in reactor safety. Purely by decree, some things, like the rupture of a reactor pressure vessel, are ruled impossible. To decide these things without some objective measure of probabilities is, to me, almost criminal."

It is difficult for an outside observer to judge the extent to which estimates of accident probabilities have cooled or fired enthusiasm. Shaw and Pressesky acknowledge that differences of opinion exist, but they say the debate is irrelevant. "Our job is to work out these problems," Pressesky says, "and that's what we're trying to do. For our purposes, the probability of an accident is one." Shaw adds that he thinks serious reactor accidents will inevitably occur—but that safety systems will protect public life and property.

And yet, all this time, strange things were happening to the safety budget. As always, Congress authorized money for both breeder reactor and water-cooled reactor safety in one lump sum each year, and between 1969 and 1972 this sum oscillated gently between $34 million and $37 million. Within that essentially constant budget, though, money allocated to breeder studies during the 4-year period rose from $4 million in 1969 to more than $11 million in 1972.

The source of this added money was clear, and so were the effects of its transferral. Over the vigorous protests of the Advisory Committee on Reactor Safeguards and the regulatory arm, water reactor safety research was being sacrificed for the benefit of the breeder.

Who is responsible for this sacrifice is far less clear. One analysis suggests that not all the blame is Shaw's, although he has tended to serve as something of a lightning rod for the rancor of short-changed researchers. In his annual appearances before the Joint Committee's budget hearings, Shaw has forthrightly pointed out that pumping new money into the breeder has brought about cutbacks in "vital and important" studies pertaining to water-cooled reactors. Moreover, the records of the hearings show that he consistently asked for 10 to 20 percent more money for nuclear safety than he ultimately received. Just as consistently, the AEC's own budget-makers and the White House budget office markedly reduced the amount Shaw was allowed to request from Congress. It is difficult to imagine that these cuts were not approved, at least in part, by the five commissioners. And the Joint Committee, in its eagerness to press on with the breeder, has shown no public signs of anxiety over water reactor safety either.*

Nevertheless, the ups and downs of the safety budget, and the emphasis on the breeder, aroused strong suspicions among safety researchers that the RDT had been a bit too intimate with the industry. The suspicions have been further piqued by the RDT's efforts to escape its financial problems by divesting itself of major safety research tasks and in-

* The Joint Committee may also have cast a skeptical eye on AEC requests for safety money after the agency diverted to other purposes or simply failed to spend $12 million or 8.5 percent of the funds appropriated for nuclear safety from 1965 through 1968. The committee said in 1969 that this was "indicative of persistent overestimates of budget needs."