

Energy experts are encouraged that future contains remedies

By IRVING W. ROZIAN
Most readers of Observer & Eccentric Newspapers are aware that Detroit was host city last week to 4,000 delegates from 84 countries attending something called the "World Energy Conference." However, I feel you may not be aware of the full impact this gathering may have on our lives.

Purpose of these meetings, first held in London in 1924 as the World Power Conference, is not to present esoteric papers on advanced research but rather to exchange information about present and near-future technology and its socio-economic implications.

The last conference stressed environmental quality, an much progress was reported here. Unlike other recent international conferences on the environment and on law of the sea, no resolutions were passed.



IRVING W. ROZIAN, 48, of Plymouth, attended the World Energy Conference in Detroit and summarizes his impressions in this, the first of two articles. Known to the general public as a member of the State Boundary Commission, Rozian is president of Michigan Universities Consulting Service, a general engineering firm in Ann Arbor, and is an associate in the Plymouth-based management consulting firm of George Odiorne Associates.

THE MAJOR product carried away by participants is a consensus about progress made, problems to be faced and the most promising directions for their solution. Even more significant are lasting personal acquaintanceships among professional colleagues of diverse nations.

As the writer remarked to a Detroit arts group, most attendees at the energy conference were serious men, confident in their ability to deal rationally with human needs and the quality of the environment, but embattled at the breastworks, fending off the ultimate cold of the second law of thermodynamics.

Each understood the short-term interests of his own nation, but he was also concerned that neither uncertainty nor unbridled competition should cause a breakdown of the international economic structure.

IN THE MINDS of the world's most authoritative energy experts, what is our human condition?

First, there is still a dangerous rate of rise of the human population, particularly in Asia and South America. We are too successful as a species.

However, there is encouraging evidence that birth rates can be brought under control without drastic measures. For example, a British spokesman stated that, mainly because of the

new practicality of voluntary birth control, projections of the population of Great Britain in their year 2000 have been cut 20 per cent.

Second, the long-term energy resource picture is not bad, on a world basis. Natural gas is the most convenient fuel of the 20th century but has the least reserves. Its production will peak out in 10 to 20 years.

Oil is the next most plentiful and convenient to transport and use. We have used less than one-quarter of known reserves, but without an alternative source for the bulk of our energy needs, peak production may come before the end of the century, and reserves may be dissipated by the first quarter of the 21st century.

COAL IS FOUR or more times as plentiful as oil and can supply the bulk of human needs for a half-century to a century.

However, natural gas and oil have been so cheap and convenient that we abandoned much of our coal handling capacity 40 years ago. Coal can be burned cleanly in large central generating stations and industrial plants, but it is no longer acceptable for railroad locomotives, ships or home heating. It never has been usable for automobiles and airplanes, etc.

Many of us are rightfully concerned about the safety of nuclear power. Participants in the conference stressed the need for environmentalists to be more quantitative about the capacity of chemical and thermal effluents. Realistic standards are needed.

So far, it was stated, the safety record of nuclear industry, having 15 years experience with between 50 and 100 reactors, is so good that your chance of being killed, directly or indirectly, by a reactor accident is thousands of times less than all other accidents combined. It is about the same as your chances of being killed by a meteor.

Further attention is needed to such things as the stability of fast-neutron breeder reactors, and security of fissionable or radioactive materials against terrorist activity.

NEVERTHELESS, it appears the human race has little hope for a comfortable and satisfying life without using fission atomic power as its main energy source in the late 20th and early 21st centuries.

Reserves of uranium and thorium should be good for a couple of centuries, at least, if the breeder technique is used, or another method can be found to consume the more abundant isotopes.

Thermonuclear fusion promises unlimited energy from the deuterium in sea water, but there is no process yet, short of the hydrogen bomb, which comes anywhere near a net yield of energy.



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