

ECONOMICAL DESIGN

Late in 1967, two members of the team at WNRE, J.W. Hilborn and R.B. Lyon, proposed the SLOWPOKE experiment. Their basic proposal was a major simplification in design which would result in capital and operating costs much lower than those of any similar units previously considered. By surrounding a very small fuel core in water with a beryllium reflector, it was possible to use the inherent negative coefficient as the primary safety mechanism. When the water in contact with the fuel gets hot, its effectiveness as a moderator decreases and the fission power is automatically limited to a safe level.

Conventional electro-mechanical safety devices are not necessary; nor are the skilled tradesmen normally required to test and maintain them. During routine operation the neutron flux is kept at the specified level by an automatic drive control-rod. Operating procedures are reduced to a minimum so that relatively unskilled personnel can operate the reactor in complete safety. (One of the main objects of the present test program is to show experimentally that conventional electro-mechanical devices are unnecessary.)

USES

Neutrons from SLOWPOKE can be used to detect impurities in industrial and environmental materials, contributing to quality-control and to pollution-control. It can also produce very short-lived radioactive isotopes for use as tracers and for the treatment of some medical tumors. Another possible use is neutron radiography.

MAN AND HIS CROWDED WORLD

One of the most stimulating presentations at Man and His World 1970, Montreal's international cultural exhibition, which runs this year from June 12 to September 7, seems sure to be the "Overpopulation" pavilion, which takes an unwavering look at the world we live in, and what we have been doing to it all these years.

The exhibits in this pavilion answer hundreds of questions about the Earth and the things that it has provided for Man. They raise dozens of other questions about the way Man is using these resources and the changes he may have to make in this approach if he is to survive in the manner to which he has become accustomed.

Films, photographs, charts, maps, diagrams, graphics and all sorts of objects on exhibit tell the story in more than two dozen display areas, each with a theme and a message of its own.

Among the highlights is a report on non-renewable resources, those found in limited amounts and undergoing steady consumption, such as coal, oil and soil. The fact that they are essential and basic to man's survival is underlined and the exhibit shows

how long each will last, based on known reserves and our ever-increasing consumption.

The impact of a series of exhibits on the power of nature, which, while usually beneficial to Man, also can be catastrophically destructive, comes from dramatic illustration of the effects of earthquakes, the forces of the sea and the winds, and even the rain.

The facts and figures on the population explosion are presented with shattering effect by the use of distortion mirrors, multiplying mirrors and controlled lighting and sound, which produce a feeling of overcrowding and limited freedom.

DIRTY MAN AND HIS DIRTY WORLD

A metal-welded "junk wall" shows Man as Consumer and touches on another of today's vital problems - pollution. The exhibits on the wall include such things as rusted bed springs, old car parts, tools, instruments, toys and appliances.

Another wall shows a mass of objects that are thrown away in everyday living - cigarette butts, beer bottles, soft-drink cans and candy wrappers.

The pavilion is not, however, wholly given over to sad or depressing topics. Two of the most striking exhibits are quite the reverse.

"The Many Faces of Man", a photographic display of children's portraits and of youngsters at play, emphasizes the differences in appearance of children in various parts of the world, but also stresses the similarities of their facial expressions and the games they enjoy.

"The Joys of Living" presents a refreshing change of pace. It reminds the visitors of those things that provide pleasure, the shared experiences that bring people together. The mood is created by a series of photo panels that catch people in motion, doing things they enjoy.

AID TO FIJI UNIVERSITY

The University of the South Pacific on the island of Fiji will receive \$250,000 from the Canadian Government over the next two years.

This assistance, administered by the Canadian International Development Agency, includes about \$100,000 for training awards that will enable students from Fiji and other islands in the region to go to the USP for training. These "Canada Scholarships" will be for degree-level or diploma studies in the University's schools of education, social and economic development and natural resources.

The Canadian commitment also includes provision of two or three professors to the university and certain research-support equipment. The USP may also establish a "twinning" arrangement with a university in Western Canada. Under arrangements of this sort an exchange of staff members takes place and there is collaboration in research undertakings or similar kinds of co-operation.