

## Call for study of human rights in Democratic Kampuchea

Secretary of State for External Affairs Don Jamieson recently announced that Canada had made a detailed submission on human rights in Democratic Kampuchea (formerly Cambodia) to the United Nations Commission on Human Rights (UNCHR). It was delivered in Geneva by R.H. Jay, Canada's permanent representative to the office of the United Nations there.

Evidence of violations of human rights in Democratic Kampuchea has been mounting in recent months as the flow of refugees from that country increases.

"This evidence constitutes a strong *prima facie* case for an urgent investigation of the situation with respect to human rights in Democratic Kampuchea," states the Canadian submission to the CHR, which is based on 30 voluntary interviews with Kampuchean refugees carried out by the Canadian Embassy in Thailand in August. Many of those interviewed had recently left Democratic Kampuchea.

Testimony from the refugees reveals a wide range of violations of human rights, including arbitrary arrest, detention and execution, cruel and/or unusual punishment, religious suppression, and denial of free expression other than that which is authorized by the state.

This submission follows an earlier one made by Canada to the CHR on May 2 of the text of a motion passed by the House of Commons, April 7, condemning human rights violations in Democratic Kampuchea (also submitted to the Government through the Cambodian Embassy in Peking), and a second submission on July 14.

## Rideau Falls renewable energy

During the last century, water cascading over the Rideau Falls into the Ottawa River was used to power lumber mills. The water still falls, though the mills are long gone. Where they stood, the National Research Council has built an exhibit of ways to extract power from the sun and wind — sources of energy which, like waterfalls, are naturally renewed.

The exhibit consists of a small, well-insulated building, roughly equivalent in

power needs to a three-bedroom home. Though it is hooked up to the electric power lines, it only draws on them to supplement the energy gathered by a windmill, solar collectors, and a strip of solar cells, all mounted on its roof, and by a large window facing south. Inside, visitors can feel and see these devices work, tapping from sunshine and wind the heat to warm rooms and water, and the electricity to run a radio, television, tape-deck, and lights.

### Heat from the sun

Because it is designed with a large window facing south, towards the sun, the entire building collects solar energy. Sunshine flows through the glass, and is trapped inside as heat. The passive system has no moving parts, except for the blinds which are drawn in summer to keep out excess heat, and at night, to keep in collected heat.

Sunlight flows through the glass covers of the 14 solar collectors mounted on the roof and warms the black metal plates underneath. Air, blown through the panels, carries this collected heat into the building.

### Electricity from the sun

Solar cells are slices of pure silicon crystals. The electrical properties in an ex-

tremely thin layer are changed by adding minute quantities of impurities. As long as light shines on the "doped" cell, a direct current of electricity is produced.

In the exhibit, current from the cells on the roof flows first to batteries, where it is stored, and then to a television set, radio and tape-deck, which it powers.

### Electricity from the wind

What looks like a large kitchen mixer on the roof of the exhibit is a new type of windmill. It was invented at the National Research Council — or rather, reinvented; for it was forgotten soon after it was invented in the 1920s. Traditional windmills have propellers that turn around a horizontal axis (like a ferris wheel at the circus). This one has curved blades that turn on a vertical axis (similar to a merry-go-round).

Its design offers a number of advantages. For instance — ordinary windmills have to be swung around to face the wind, but this one spins no matter what direction the wind blows from. It is therefore simple, and light.

The wind is harnessed to generate an alternating electric current. This powers lights and other things in the building. When the current is not needed in the exhibit, it is distributed through the electric power lines for use elsewhere in the city.

