Bombardier wins transit contract

The largest contract for public transit equipment in the United States this year has been awarded to Bombardier Incorporated of Montreal.

The Canadian company won the $50-million (U.S.) contract to build 57 passenger railcars for New Jersey's commuter services over competitors Budd Company of Troy, Michigan, and Vickers Canada Incorporated, also of Montreal.

The deal includes an option for an additional 58 cars which, if exercised, would put the total value over $100 million.

Although Bombardier already has substantial U.S. orders ($27 million for self-propelled double-decker commuter cars in Chicago and a $10-million lease-purchase agreement for two high-speed, lightweight intercity trains for Amtrak), this one is the biggest yet.

To comply with provisions of the U.S. Buy America Act, Bombardier will set up an assembly plant in the United States, probably in New England or New Jersey.

Under the U.S. law, 50 per cent of the cars' content must be made in the United States and all American-made components must be assembled in the United States.

The cars are scheduled for delivery in July 1982.

Simple solar system saves money

A New Brunswick landlord is saving 30 per cent on his heating bill because of a simple solar system he has built onto his three-storey apartment building.

Philip Massey of Saint John, New Brunswick, had experimented with solar assistance for domestic hot water in the mid-Seventies before buying an eight-unit frame apartment building.

The three-storey building sparked Massey's imagination with its southerly orientation. It encouraged Massey to exploit the sun to boost the building's conventional oil-fired hot-air heating system by building an extremely simple solar collector.

Two-by-fours and corrugated greenhouse plastic transform most of the south wall of the building into a walk-in solar collector. Massey says materials and labour together cost only $2,500. The plastic is suspended about eight inches from the structural back of the building, enclosing fire-escape stairs to one side, and an air space to the other.

A timber and thermostat-equipped fan drives heated air from the top of the three-storey collector down a duct to the basement. There, it effectively preheats air carried through the building's conventional hot-air duct work.

Vertical aspect

Massey believes the collector's vertical aspect, while less than perfectly efficient, does pick up extra heat in the winter from reflection off snow, while cutting down on undesirable heat collection in the summer.

By way of aiding the solar effect, the building's south, east, and west walls are painted matte black. The north wall is a light tone.

Records Massey kept during 1979 show temperatures of 32° Celsius inside the collector on a sunny -1° Celsius day in January. At -5° Celsius and overcast outside, the inside temperature averaged 13° Celsius.

"When the sun's out," Massey says, "the furnace rarely comes on. It would be (saving) 30 to 40 per cent anyway" on heating costs.

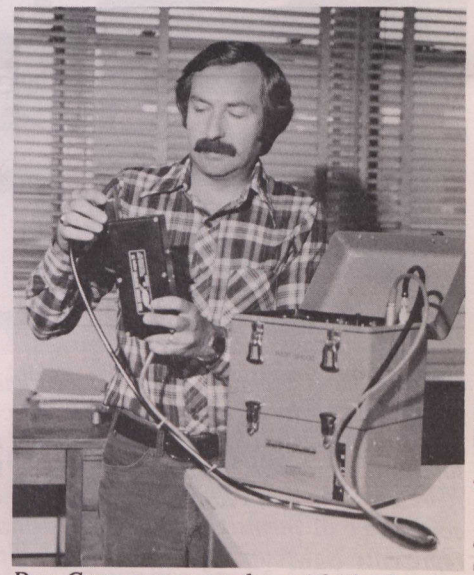
The Saint John landlord says the oil bill before he bought the building in 1977 was $2,400 a month in winter. Weather stripping, and the addition of eight inches of attic insulation to the 50-year-old building, reduced that to $1,400. Twelve months later, while oil prices skyrocketed, the solar addition kept the heating costs the same.

(Article by Chris Wood in Canadian Renewable Energy News, *June 1980.)*

Instrument rapidly determines radioactivity level

The federal Department of Energy, Mines and Resources has designed a device that could become the standard instrument worldwide for determining the radioactivity level in uranium mines relevant to the health and safety of uranium miners.

The Pylon WL-1000 working level meter, produced by Pylon Electronic Development Company Limited of Ottawa, is a lightweight, compact, portable, rugged, battery-operated instrument which tells miners quickly and accurately how much radioactivity they are receiving.



Information EMR

Don Carson, a researcher with the Department of Energy, Mines and Resources, demonstrates the Pylon WL-1000, which he developed.

Specifically, the instrument measures the radon and thoron daughters at the site and displays directly the working concentration of radioactive ions in the atmosphere and the working level. Previous techniques were non-automatic, counted only radon daughters, and required calculations to be made at the end of the day.

The term "daughters" refers to the radioactive products created by radon and thoron gases, two gases which are present in certain uranium mines, such as at Elliot Lake, Ontario. "Working level" refers to the amount of radiation a person can safely receive.

This new instrument is simple to use: the mining inspector (or whoever is testing the site) places a specially treated piece of filter paper in the sampling detector head. During the next ten minutes the instrument automatically goes through the sampling stage.

(During this time, air from the site is pumped through the filter paper. The radon and thoron daughters, which like dust particles are suspended in the air, remain on the filter paper.)

For the next 60 minutes, the instrument's microprocessor counts the radon and thoron daughters and then calculates the working levels. The inspector then pushes certain keys on the keyboard and reads the results on the display.

The instrument can also be used in laboratories for research work and for calibrating other instruments.