

Passive freezer project wins national award for TCC

by Tom Alton

Editor, *The Council*

TCC's Energy Program has won a National Award for Energy Innovation for the construction of passive community freezers in four Interior villages.

In announcing the 220 national award winners, U.S. Secretary of Energy John S. Herrington said the projects "represent the work of persons across the country who are making a determined effort to use energy in efficient and innovative ways."

The passive freezer project was the only nomination submitted by the Alaska Department of Commerce and Economic Development. The state recommended the project because of its "contribution in providing an environmentally sound, energy efficient alternative to food storage in remote communities."

Passive freezers are operating in Holy Cross, Huslia and Allakaket, and another is being built in Shageluk. TCC energy Administrator Jeff Weltzin describes the units as a modern version of the old ice house. They are super-insulated buildings that hold salt brine storage mass. The 14 percent salt solution is frozen in 400 55-gallon drums. Cold air from outside circulates around the drums in the winter, and the circulation stops when the outside temperature rises above the temperature of the brine solution.

The system provides continuous refrigeration because the salt reduces the temperature at which water freezes and thaws. Freezing water at 32 degrees is well above the temperature needed to preserve food. Salt can

lower the freezing temperature to six degrees below zero.

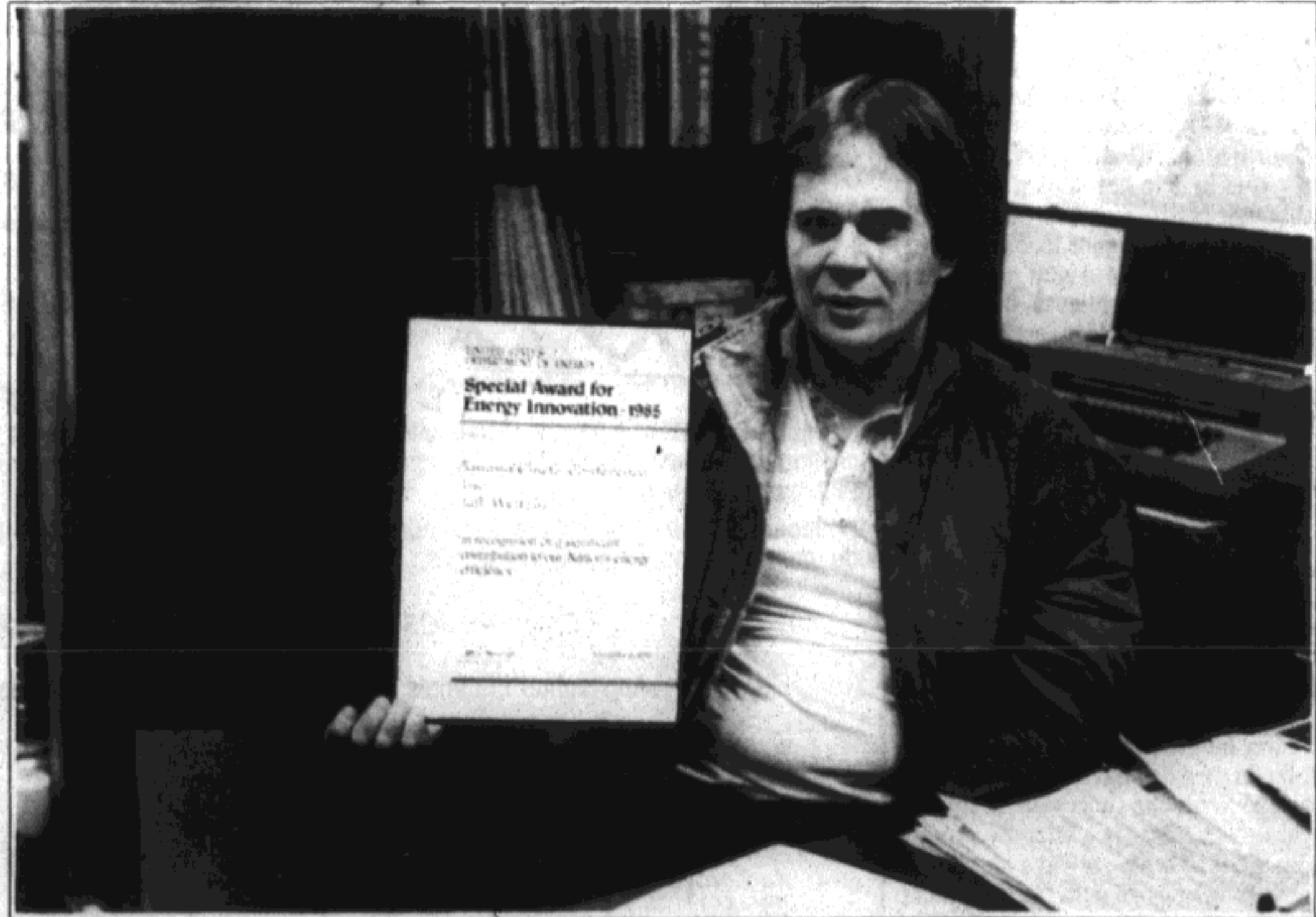
The passive freezer in Allakaket cost \$130,000 and has 1,056 cubic feet of freezer space. Although this is greater than the cost of individual freezers for the 200 village residents, the passive freezer saves money because of the high cost of electricity in the village.

At 50 cents per kilowatt hour, yearly electricity bills would be \$500 per freezer. The extra cost of the passive freezer will be made up in 3.7 years.

The National Awards for Energy Innovation were established to identify the best energy-saving ideas nationwide. A panel of representatives from 14 federal agencies determined the 220

winners. The energy secretary published a brief description of each project so that people all over the country can adapt award-winning ideas to their own uses.

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Jeff Weltzin, TCC Energy Administrator, will give a presentation on their award-winning passive freezer at the 7th Annual Alaska Energy Conference, ENERGY OPTIONS '86. The conference will take place March 20-23 at the Hotel Captain Cook in Anchorage. See Related Article on page two of this issue.

photo by Tom Alton