

Pembroke Project Progresses

By DENNIS McNEIL, RRC, CCS, RRO

RCI CONTINUES ITS collaboration with the Oak Ridge National Laboratory (ORNL) and SPRI (Sheet Membrane & Component Suppliers to the Commercial Refrigeration Industry) on the subject of roof drying. Begun in late 1994 at a building in Pembroke, VA, (hence the name "Pembroke Project"), the research site moved recently to Rossville, IL.

Rossville is a small farm community in east-central Illinois, located 35 miles northeast of Champaign-Urbana, home of the University of Illinois. The "Rossville Project" is a small church known as the New Bethel Fellowship Church, housed in a structure originally

built as a grocery store. The one-story hip roof is approximately 90 squares, sloped at about 2 in 12, with structural steel framing, steel roof deck, an original asphalt and gravel built-up roof over rigid Perlite roof insulation, and an overlay membrane consisting of one ply of felt and aluminum coating.

André Desjarlais of ORNL originally inspected the roof during the fall of 1997 and, through core cuts, discovered a number of areas of entrapped water. Due to the aluminum coating, an infrared survey was unsuccessful. Additional non-destructive moisture surveys were then scheduled for mid December, conducted by RCI members Bill Early, RRC, CCS (Illinois Roof Consulting Assoc., Ltd., McHenry, IL), and Dale Kinsel (Kinsel & Sons

Roofing Consultants, Champaign, IL).

The purpose of the additional testing—a nuclear scan by Bill Early (assisted by Region III Director Dennis McNeil), and a capacitance survey by Dale Kinsel—was to establish initial baseline data for the current level of moisture presence, against which subsequent tests can compare the drying performance of the roof after recovery with new insulation and membrane.

Roofing work (consisting of two different thicknesses of polyisocyanurate insulation and a TPO membrane in both black and white) is tentatively scheduled for the spring of 1998. The intent is to chart the drying rate using varied combinations of overlay insulation with different membrane colors.

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Bill Early, left, of RCI, and André Desjarlais, of ORNL, at the roof-drying site in Rossville, IL December 14, 1997. (Photo, courtesy of Dennis McNeil)