



## DOWFROST™ Heat Transfer Fluid

### Dow Service Valued at SVSU

Officials at Saginaw Valley State University (SVSU) in University Center, Michigan, say that they experienced the difference expert Dow support can make when they installed a closed-loop aquathermal system in 2010 to provide heating and cooling to the university's new \$28 million Health and Human Services building. Similar to a geothermal heat pump system, an aquathermal system utilizes the earth's relatively constant subsurface temperatures to provide heating and cooling to the building. However, instead of tapping heat from below solid ground, the SVSU system draws upon heat below the surface of a 6.75-acre, 2.2 million-gallon retention pond adjacent to the building.

#### Improving Operating Efficiency

More than 20 miles' worth of heat exchange tubing is installed in the pond and a solution of DOWFROST™ inhibited propylene glycol-based Heat Transfer Fluid circulates in a closed-loop system to support the heating and cooling needs of 13 laboratories, 12 classrooms and office space housed within the 90,000-square-foot building. The system was installed as part of an ongoing SVSU initiative to improve operating efficiency. It provides 378 tons of cooling or 3 million BTUs of heating capacity.

Gerald Stuart, Director of Construction at SVSU, says that although the system is still being brought online, his organization has already seen the benefits of obtaining expert supporting service

from their fluid supplier. "Dow worked with us in the early stages of the project to help us choose the right fluid and ensure the fluid properties were factored into our performance projections for the system. Then, when it came time to install the fluid, delivery of the initial 10,000 gallons of DOWFROST™ Fluid was coordinated by Dow to avoid disruptions on the jobsite. The trucks were emptied quickly and efficiently with no unexpected delays or problems." Stuart said a second delivery of an equal volume of fluid was delivered with equal efficiency.

"Considering the large volume of material, just filling the system within a short time period without problems was a real accomplishment," he said.



The new Health and Human Services building at Saginaw Valley State University uses DOWFROST™ Heat Transfer Fluid in its closed-loop aquathermal heating and cooling system. The service and support provided by Dow has been an important ingredient in the success of the project.

Stuart notes that the need for support doesn't end when the fluid arrives on the site. "Dow experts have continued to consult with us, drawing on their experience to help us work through installation and start-up details," Stuart said. "We will continue to rely on Dow as a resource to help us maintain the fluid in the system, to help ensure that freeze protection, corrosion control, and heat transfer efficiency remain constant in the years to come."

Nicole Gorsuch, NAA Marketing Manager for Dow Low Temperature Thermal Fluids, says that one of the most valuable attributes of DOWFROST™ Fluid is the consistency of the formulation, which allows the fluid to be monitored over time to detect changes in inhibitor or glycol levels that, left unattended, could lead to system problems, damage or failure. "Dow offers a free annual fluid analysis service for qualifying systems that supports efforts to monitor the fluid. It allows users to always understand the condition of the fluid in the system so they can maintain it and avoid the high cost of draining and replacing the fluid prematurely. We expect the fluid to last 20 years or more as long as users continue to check it and maintain the potency of the inhibitors and glycol," Gorsuch said.

**Protecting the Environment**  
When Saginaw Valley State University decided to use aquathermal technology to provide heating and cooling to its new Health and Human Services Building, they understood that using a high quality fluid like DOWFROST™ would help protect their investment in the building and the comfort of the building's occupants.

Today they also understand that the service and support provided by Dow behind the fluid has also been an important ingredient in the success of their project. Stuart makes it clear that, when SVSU is ready to expand the current system to serve additional university buildings, he expects DOWFROST™ Fluid and Dow service and support to be an important part of those plans.



These lines are ready to be submerged and filled with DOWFROST Fluid to begin working in Saginaw Valley State University's aquathermal heating and cooling system.



Dow experts work with local distributors to help manage the logistics of delivery and installation. At SVSU, two 10,000-gallon shipments of DOWFROST Fluid were delivered and trucks emptied quickly and efficiently.

**For more information, contact us at your convenience:**

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