SUSQUEHANNA COUNTY, Pa. - It may be really big, but this gift is a perfect fit just the same: A "glycol dehydrator," it stands 35 feet tall and about as wide, is used to process natural gas before compression and distribution and now is nestled snugly into one corner of the Susquehanna County site of Lackawanna College’s School of Petroleum & Natural Gas.

The dehydrator is the gift of Williams, one of North America's largest natural gas gatherers and processors, and it just arrived at the school, which offers Associate of Science degrees in petroleum and natural gas technologies.

"The unit wasn’t in service, and we could see a real use for it at the college," said company representative Ryan Stalker a few days back.

Williams operates compressor and gas processing stations, gathering pipelines and other facilities within miles of the School of PNG, which is in Pennsylvania’s Marcellus Shale region, and saw the gift as a way of achieving two important goals: making it clear that Williams wants to continue being a good neighbor and helping to build a competent, reliable work force to meet its technical employment needs.

"Our employees are technicians who spend a lot of time on computers," Stalker said. “They have to understand complicated machinery and know how every part of it works. Also most of the people coming for jobs with us here are from nearby communities, so helping this school train them just makes good sense. We’re dealing with a new work force here.

"Williams sees itself as a long-term partner in this area," he continued. "We stay in a region for a long time - 35 years and more - and we need highly skilled, highly trained workers." Williams has hired graduates from the School of PNG every year.

Stalker, a native of northeastern Pennsylvania, says dehydrators like this are found at 95 percent of the natural-gas compressor installations in the region, and industry sources say tens of thousands of these units are in daily use across the nation. "If the students here learn how a device like this works, it will be rare that they won't be able to apply that knowledge," he said.

"The gas here is good quality except that it contains water in droplets or vapor form that has to be removed," he explained. If it isn’t removed, the water can collect in pipelines, freeze and
block the flow of gas. The water can also cause various problems for the end user.

A glycol dehydrator, he said, has two key components: a “contact tower” (a steel cylinder that can stand 35 feet tall) and a “glycol reboiler” (a large horizontal cylinder), which is basically a kind of still. The system uses a chemical called "triethylene glycol" (TEG) as a dehydrating agent.

The wet gas collected from wells enters the base of the contact tower where it ascends upward, contacting the TEG, which absorbs water. The gas, now dry, then enters the pipeline. The TEG is pumped to the reboiler, where it’s heated sufficiently to boil off the water it has absorbed. The TEG is then pumped back to the tower to be reused in an endless cycle.

The unit at the college will be non-operational, Stalker said, but all the piping and other hardware needed to operate such a unit will be installed so students can see how an actual dehydrator works and become thoroughly familiar with it.

In addition to the unit itself, Williams has given the college $10,000 to cover the costs of acquiring and installing the necessary controllers, regulators, valves and piping. The firm has not placed a cash value on the unit, which is used but perfectly usable after the hardware additions, but Stalker said a new one would cost between $80,000 and $100,000.

Rick Marquardt, executive director of the School of Petroleum & Natural Gas, said he’s both pleased and appreciative of the gifts Williams has made to the school. The firm has also given $2,500 to fund a scholarship for a School of PNG student. “The dehydrator will be an immediately available and important learning-tool addition to the school’s new Field Lab, which includes all the field handling equipment used in the production of natural gas.” Moreover, he says, the gifts tells him that management in the oil and gas industry think well enough of the School of PNG’s degree programs to want to seriously support them.

"We worked to identify the technical skill base required of oil and natural-gas industry technicians and technologists," Marquardt said, "and we write curricula that try to meet those needs. These Williams gifts and the School of PNG graduates they hire every year as technicians say to me that industry people feel we’re doing it the right way and they want to help us continue improving it. More than 75 percent of our graduates and interns are hired by major oil and gas companies, and they come back every year to seek additional students."

For more information about Lackawanna College’s School of Petroleum & Natural Gas and its degree programs, please call the school at (570) 465-2344, send an email to PNGSchool@lackawanna.edu or visit www.marcellusshaletraining.com or www.lackawanna.edu.

-CAPTION: Shown during the Williams donation of a glycol dehydrator are, from left, Dave Oakley, Lackawanna College School of PNG facilities tech; student Susan Gumble; Ray McDonald, Lackawanna College School of PNG director of compression technology; Beth Thompson, Lackawanna College School of PNG general administrative assistant; Betty Seelenbrandt, project coordinator; Rick Marquardt, executive director, Lackawanna College School of PNG; Tammy Bonnice, field office administrator for strategic outreach, Williams; Ryan Stalker, senior regulatory compliance specialist, Williams; Jennifer Fifth, Lackawanna College School of PNG administrative assistant of student affairs; and student Becky Sommers.