

BAKKEN PEAKING POWER: CHAPTER III

By Chris Gessele

The steep incline of electrical load growth in the Williston Basin has flattened some in response to depressed crude oil prices, but Basin Electric's members in the region remain in great need of power.

That's where Basin Electric's Pioneer Generation Station and Lonesome Creek Station come into play.

At Pioneer Generation Station, a 135-megawatt (MW) natural gas-based peaking station northwest of Williston, construction started May 4 on Phase III of the project.

Phase III for Pioneer Generation Station will consist of 112 MW of additional peaking capacity, provided by 12 natural gas-based reciprocating engines that each have a generating capacity of 9.3 MW. Commercial operation of Pioneer Generation Station Phase III is targeted for June 2016.

"This technology is totally brand new to Basin Electric," says Josh Rossow.

According to Rossow, Basin Electric project manager II, contractors are currently grading the site, installing storm sewer systems, excavating holes for building foundations and building roads at the site.

Foundations for all buildings and major equipment will begin being poured in June 2015. The most critical is the foundation for the building that will house the 12 reciprocating engines. Those large engines set sail from Finland, and once they arrive they'll be loaded onto 12 separate rail cars in Duluth, MN, and railed to Williston, ND. The engines will arrive onsite via heavy haul truck in November 2015.

"During November there will be a lot of mechanical and electrical work going on," Rossow says. "That will be the height of construction."

Construction has also started on Phase III at Lonesome Creek Station, a natural gas-based peaking station west of Watford City, ND.

Permitting for the Lonesome Creek Station Phase III allows for the addition of three 45-MW

combustion turbines. Commercial operation of two of the units is targeted for June 2016, with the potential third unit slated to go commercial in 2017.

Lonesome Creek Station Unit 1 started commercial operation December 2013, with Units 2 and 3 going commercial on Jan. 1, 2015. Each of the three units has 45 MW of generation capacity, giving the station a total rating of 135 MW. The new turbines will be adjacent to three existing turbines at the site, bringing the plant's total generation capacity to 270 MW.

The two new units will be arriving onsite in September 2015.

About 150 workers are expected at the peak of construction at each site.

Each of the projects take many months of planning and collaboration by many different people, Rossow says.

"There's a ton of work that goes into the permitting, engineering and procurement for these projects," Rossow says. "The project teams have put in a lot of hard work over the last year. There's still a huge amount of work to be done, but it's a great feeling to see these plans put into action and begin coming together."

Projects receive permits

The North Dakota Public Service Commission approved Basin Electric's applications for Certificates of Site Compatibility for both Phase III projects at Pioneer Generation Station and Lonesome Creek Station on April 29, 2015.

In addition, Basin Electric received Air Pollution Control Permits to Construct from the North Dakota Department of Health for Pioneer Generation Station on April 7, 2015, and Lonesome Creek Station Phase III on May 12, 2015.