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Power up

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Published: Saturday, July 4, 2009 11:43 PM MDT

Construction of two power plants in Campbell County soon will start tapering off since work is beginning to focus on the interior.

Completion of the two plants — Dry Fork is set to be operational by 2011 and WyGen III will go online in June 2010 — means that about 1,200 temporary workers who are now building the plants will leave the county for jobs elsewhere. The two projects combined now employ about 1,400. That's about a quarter of the workforce employed by the local mines combined. Completion of these two plants will also mean for Campbell County slightly more than a drop in the number of temporary workers.

Differences, similarities

Dry Fork and WyGen III are different in many aspects.



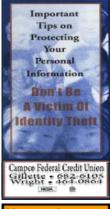
A worker holds a rope tied to a set of pipes being raised into the boiler at the WyGen III power plant. The plant is about 60 percent complete. - News-Record photo by Nathan Payne

- The megawatts: Wygen III will generate 110 megawatts of electricity, whereas Dry Fork alone will generate more than all three of Black Hill's WyGen plants combined. By Basin Electric standards, Dry Fork's output will be somewhat mediocre — 385 megawatts is half of Basin's share of electricity from the Laramie River Station in Wheatland. In Gillette, however, Dry Fork will be the biggest power plant followed by Black Hills and Pacificorp's Wyodak power plant with 362 megawatts.
- The workers: About a third of the workers at Wygen III are local. The portion of local workers is significantly less in Dry Fork's case. Basin Electric reports between 60 and 100 locals workers.
- The construction: Other differences between WyGen III and Dry Fork include contrasts in size of equipment and amount of construction material.
- The air: The plants do have one thing in common: Developers of both plants claim their plants will be the cleanest plants in the nation, equipped with the latest available air quality control systems including sulfur dioxide, nitrogen oxide, mercury removal and ash removal.

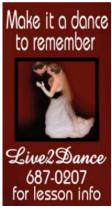
The air quality control system on Dry Fork will cost about \$300 million, Basin Electric officials said. That's more than the entire WyGen III plant, which cost its developers

The only thing the plants won't have is technologies to remove carbon dioxide from the smoke. Permitting for the two plants started several years before the first ton of concrete was poured — years before a new federal administration entered the White House and began focusing on CO2 environmental regulations. Now, with technology to control CO2 emissions slow to develop, it will become more difficult to build coal-fired power plants.

Black Hills has been adding power plants to its energy complex in Gillette since 1969, including four in the past decade. WyGen III will be the eighth one. Building smaller power plants instead of a big one is a measured investment, said Greg Hager, vice president and general manager for the Black Hills' Energy Complex. Should Gillette







expect another power plant to be nested by one of its multiple coal-mines?

It all will depend on the demand for electricity, Hager said. And on permitting regulations for power plants, he added.

Stricter regulations

Permitting of coal-fired power plants has become tougher in the last several years as emissions regulations became stricter, said Basin Electric and Black Hills officials.



In just five years — between completion of WyGen I in 2003 and WyGen II in 2008 requirements for nitrogen oxide and sulfur dioxide emissions decreased by almost half. How new regulations will change future power plant designs is only speculative at this point, officials from both companies say. But it certainly is changing the outlook on energy generation, which is why Basin Electric and Black Hills are focusing on increasing their renewable energy portfolio.

"There's a lot of industrial publications right now saying that it's becoming more difficult to permit and build a coal-fired power plant," said Jason Katchum, director of investor relations and corporate communication with Black Hills Corp. "But it probably will change how people are thinking about their fuel mix and generation portfolio. That's probably more an issue of getting into the design of it, just fuel selection overall."

Both Black Hills and Basin Electric are developing wind farms, but admit that renewable resources won't be able to replace coal. At the same time, neither of the companies is in the process of permitting for a conventional coal-fired power plant, but both say that construction of the Dry Fork Station and WyGen III is a testament that coal will remain the main fuel for the growth in energy demand.

Basin Electric's recent estimates project about a 2.2 percent increase in energy demand for the next 10 years. It's lower than the company's forecast of 4 percent growth in 2007, but new energy resources still need to be developed. That justifies the need for the Dry Fork power plant, said Daryl Hill, news media coordinator with Basin Electric.

For now, there are no plans for a new coal-fired power plant. The company postponed the initial 2015 completion date for its NextGen coal-fired power plant in South Dakota because of uncertainties with carbon dioxide.

"Some of these factors include uncertainties with economics and some regulatory uncertainty with carbon emissions," Hill said. "And we feel until clarities are reached on this matter we feel it's prudent to reassess our generation portfolios."

Plants at a glance:

WyGen III

Owner: Blacks Hills Corp

Output: 110 megawatts

Startup date: June 2010

Cost: \$255 million

Work force peak: 350 people, the work force will start tapering off next month when workers finish work on the boiler and will continue to taper off until the end of the year.

Start of construction: March 2008

Progress: 60 percent of the project is completed

Man hours: The work done so far equates to 500,000. Total work is estimated to take 850,000 man hours.

Construction numbers: The plant requires 9,000 cubic yards (about 100 cubic yards of concrete is left to pour in the auxiliary water cooling system and the fan foundation) and about 4,000 tons of steel.





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The Gillette News-Record: Today Chimney: 397 feet Coal consumption: 635,000 tons per year What's ahead: The last piece of steel on the power plant was topped out in December and was followed by raising of the steam drum in mid-January and setting of the transformer in May. In July, workers will start pulling power from WyGen II and start commissioning pumps and electrical gear in WyGen III. Some pieces of equipment will be commissioned as construction progresses. **Dry Fork** Owner: Basin Electric Output: 385 megawatts Startup date: by 2011 Cost: \$1.3 billion Work force peak: 1,057 people, the work force will remain stable until the end of the summer, between 60 and 100 people out of this number are local workers. Start of construction: October 2007 Progress: The plant is about 50 percent complete Man hours: All the work done on the project equates to about 1.7 million man hours. The project requires a total of 4 million man hours. Construction numbers: The plant requires about 67,000 cubic yards of concrete and about 30,000 cubic yards is left to pour for small equipment pads and for coal silos on the plant site. Construction of new silos near the Dry Fork mine was completed this week and work on silos at the plant site will begin in August. The plant requires about 11,500 tons of steel has been erected. The last 1,000 tons of steel is left to be erected in the boiler building. Chimney: 500 feet. Coal consumption: 1.9 million tons per year What's ahead: By Oct. 1 the siding on the plant should be completed and work will move inside, said Tom Stalcup, plant manager. The workers can start moving inside the plant after most of the "shell" has been completed. The last piece of steel topped out at the end of June. Inside work includes installation of the pipes between the boiler and condenser, electrical equipment, completion of the air quality control System and finishing the offices and control rooms. « Previous Article Article Rating Current Rating: 4 of 1 votes! Rate File: Select Rating: Reader Comments The following are comments from the readers. In no way do they represent the view of gillettenewsrecord.com. Submit a Comment We encourage your feedback and dialog, all comments will be reviewed by our Web staff before appearing on the Web site.

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