

PRB ROUND-UP

A DRAGON THEY JUST CAN'T KILL

Derailments and capacity problems put a strain on Powder River Basin coal transportation

BY LEE BUCHSBAUM



Foundation Energy Belle Ayr mine loads a Union Pacific train.

At 11:15 p.m. on Saturday May 14, 2005, a Burlington Northern Santa Fe (BNSF) coal train derailed 15 cars 6 miles north of Bill, Wyo., on the southern Powder River Basin (PRB) joint line. The next morning at 5:30 a.m., a Union Pacific (UP) train derailed 28 cars about 19 miles north of Bill, and thus one of the most important arteries in the national coal delivery system was severely injured.

On May 16, less than one-third of the targeted amount of 64 trains per day loaded. Two days later it was still less than 50%. It took more than a week to get movements back to something approximating "normal."

According to the railroads, the problems were caused by unprecedented rain and snowmelt soaking the coal dust that had sunk into roadbed, creating "soft track" conditions. These derailments only further reinforce a perception that rail service has become the weak link in the U.S. power supply chain.

Following these accidents, approximately 150 trains were cancelled the first week and more than 6 million tons were affected before the joint line was back in service and operating near the pre-derailment traffic level of between 60 to 64 trains per day. Moreover, because the line was heavily congested and already running at near capacity, the 2 to 3 million tons of production that were lost will not be made up, and it's very unlikely that the line will be able to move more than 60 trains a day for some time to come particularly now with the scheduled repairs and additional track work being performed, much of which is designed to prevent just these types of accidents from occurring again. But, given that the vast majority of PRB production moves along this one high-density rail corridor, these derailments also vividly illustrate a high level of vulnerability.

"There will be a modest impact on train density over the joint line while repair work is being done," said Richard Russack, BNSF vice president for corporate relations. "And there has only been a modest impact since the derailments occurred." Modest, in this case, means the equivalent of a few less trains operating than what was moving before May 15.

While the UP stated that they were hoping to move 63 loaded trains per day, BNSF has no stated target number, and traffic is now one or two trains below what was previously running. "That's what we mean by modest impact," said Russack. While certainly the mines and utilities may fear that the carriers will not be able to move large quantities of coal, those fears Russack affirms, "have not come close to being realized."

However, because capacity problems are an issue across the board and throughout a variety of transport modes, these incidents only highlight what has become a serious concern for the utility companies, that of securing a long term uninterrupted coal supply, something the railroads—which are now operating a system that displays worrying levels of fragility—are not at all able to guarantee.

MOVING MORE AND MORE COAL

On any given day, despite marked improvements by the two major east-west bound railroads, including a \$1 billion investment in creating a third mainline from Bill to Odin Junction, it's still a constant challenge to move this volume of coal even with optimal running conditions. Indeed, running trains over the traffic clogged mains radiating from the joint line is just as much a problem as operating on it. The question is how to keep trains moving and where to put them when they are not. BNSF is just now opening a new facility in Edgemont, S.D., to relieve congestion and create a place to park train sets off the main, and, as one conductor put it, "any adjustment to the current situation will reduce problems."

But according to one well-placed source, rail capacity on the joint line and throughout the region is "a dragon they just can't kill, especially given that the solution to the situation itself becomes part of the problem." As several sources, who have requested to remain anonymous, have related, any increase in rail capacity is often followed by an increase in production throughout the PRB that then recreates the situation in which the area now finds itself. "While this is cyclical," said the source, "as the mines have grown, the railroads have consistently gotten behind as they build track in response to demand," and not in anticipation of it. This creates a short term bottleneck, but the problem mushrooms if the situation becomes chronic as others in the region now believe it has.

"That wasn't always the case," reminded Tom Canter, director, National Coal Transportation Association. "Back in the 1990's, the railroads got way ahead of the mines, especially when the carriers began double and triple tracking throughout the route." And when the traffic didn't materialize immediately, the railroads

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were criticized by Wall Street. But, with the surge in demand today, whatever excess capacity there was then, is gone now.

That said, the railroads have to be given credit for moving a tremendous volume of coal in amounts that have grown far beyond anyone's initial expectations. According to BNSF's Russack, "in 1995, the total amount of PRB coal that was produced and hauled was 269 million tons. That figure doubled to 421 million tons [which includes Montana] in 2004. The joint line in 1995 carried 191.4 million tons. Last year that number had grown to 322.1 million tons. There is no place in the world that has experienced this much growth, and no line in country that moves so much coal."

The efforts needed to move 60 plus loaded coal trains out of the region daily, plus another 60 empty train sets in, the dozens of trains moving from mine spur to loading track and all the other runs daily over a relatively short stretch of track requires as Russack said a "heroic effort on the part of hundreds of experienced and committed railroaders."

Movements on the joint line have a similar density to commuter runs near a large metropolitan area. Trains are seemingly everywhere at once, like huge streetcars, some stopped in sidings or on the mains, many more racing over the road. The joint line functions as a giant conveyor belt funneling coal to the BNSF main to the north and the UP to the south and eventually to power plants across two-thirds of the nation.

One could argue that much of the blame for this Catch 22 situation should be pointed directly at the coal companies themselves. In the past, as the PRB produced coal, most mines looked toward expansion, "but expansion has to fit the marketplace," noted the anonymous source, "and at the same point be in balance with the railroad's ability to ship."

That clearly has not happened. During the 1990s production had stabilized, but now it is very much on the upswing and given that there are some 50 to 100 new power plants on the boards across the nation, demand for PRB coal will certainly grow. As PRB producers vie for market share, the problem becomes how to move that much more coal. While the PRB now can produce about 62 to 64 trains a day, there wouldn't be a capacity problem if the coal was sold to the infrastructure and also produced to the marketplace.

INNOVATIVE TECHNIQUES: RAIL STORAGE

Even though operations were running smoothly through this spring's record precipitation and up until the derailments, both the producers and the railroads have been attempting a variety of creative and unique methods designed to address ratatability and also increase capacity on the existing Joint Line. Several mines are constructing up to a four-track spurs for loading areas.

The mines are not allowed to stockpile coal on the ground. Because of this, several mines have constructed large "coal barns" that function as enclosed vertical silos. A few mines are now experimenting with storing coal directly in loaded train sets that are themselves waiting for an opening in traffic to move over the longer branches and out onto the joint line.

"The push today," said Steve Rennell, president, Foundation Coal West, Inc., which operates the Eagle Butte and Belle Ayr mines, "is to have off-mainline rail storage. Belle Ayr has one track to the south, one to the north, and space to hold two empties and a



DM&E PROGRESS REPORT

In 1996, the Dakota Minnesota and Eastern (DM&E) railroad had grown into a 1,100-mile regional carrier after purchasing almost 200 miles of former Chicago & North Western trackage stretching from Crawford, Neb., through Rapid City, S.D., and up to Colony, Wyo. Two years later, the DM&E applied to the U.S. Surface Transportation Board (STB) for permission to build nearly 262 miles of track across South Dakota and into the Powder River Basin (PRB) coalfield in Wyoming. This extension, the largest single rail building project in many decades, would create an alternative shipper to the two Class I railroads already in the PRB. The DM&E also plans to upgrade some 600 miles of existing line as well, rebuilding it into a first class coal hauling road.

In 2002, while the STB was deliberating, the DM&E purchased the assets of the I&M Rail Link for approximately \$150 million. This line was renamed the Iowa, Chicago and Eastern (IC&E) railroad and both the DM&E and the IC&E are operated jointly by Cedar American Rail Holdings based in Sioux Falls, S.D. The now 2,500-mile system extends from eastern Wyoming through South Dakota and into Minnesota, and, with the addition of the former I&M, into Illinois, Iowa, Missouri and Wisconsin as well. The combined railroad now serves the cities of Chicago, Kansas City, and Minneapolis-St. Paul and is now the largest contiguous Class II regional system in the nation and the only regional railroad with connections to all major North American Class I railroads.

Last year the DM&E upgraded several hundred miles of line with 136-lb continuous welded rail and did track work on another 800 miles of trackage. In April, the STB finally signed off on the PRB project, and now all that remains is the hurdle of raising the \$1.5 to \$2 billion needed to actually build the extension. To get a better sense of the status of the DM&E project and the vision behind it, *Coal Age* spoke with Kevin V. Schieffer, president and CEO, Cedar American Rail Holdings, during June.

CA: Can you give us an accurate account of where the DM&E's proposed extension stands at this point?

Schieffer: The regulatory part of the process is mostly completed, although there are still some details being resolved. We just completed a comment period and I expect in another couple of months it will be finalized and the outcome is pretty clear. The focus now is really on the financing part of the project. It's time to raise the money to get [the expansion into the Powder River Basin] built and that, for obvious confidentiality reasons, is hard to talk about publicly. Our efforts now are on the financing. That requires a demonstrable commitment on the part of the customers and a demand has to be demonstrated. Everyone knows what the capacity issues are out there. And what the service issues are. But getting that translated into a hard commitment though for both investors and customers is something else.

Realistically, we could be in a position to get the financing and contracting issues lined up this year and start construction later next. But, the first full construction season would be 2007. It's a 3-year construction project, so operations would begin late 2009 and 2010. That said, we've already done an awful lot of work putting in

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Arch Coal's Thunder Basin mine is capable of producing approximately 100 million tons.

loaded train. We have a second load track under construction now and hope to have it in production in the fourth quarter.”

Kennecott's Jacob's Ranch mine is likewise on schedule to complete an extended four-track spur later this summer that will double capacity and allow some additional storage space. Loaded trains can be parked there awaiting access to the Joint Line and when possible empty trains can await loading. This will help with ratability issues there and allow more evenly spaced methodical loading procedures. Currently Jacob's Ranch loads about eight trains per day with a peak output of around 10 trains per day. When these new tracks are in service, the mine will be able to ship up to 14 trains per day, particularly on the days following train delays. Whether these trains and other increased traffic will be able to move over the joint line, remains a question.

Also, roughly one-half of the shipping producers in the PRB now employ Rail Link one-person crews to move these trains once they arrive on or near property. Rail Link, owned by Genesee and Wyoming Inc., keeps crews at the mines or nearby at all times. Given that there continues to be a shortage of experienced railroaders, this frees up badly needed PRB-based BNSF and UP crews to move coal trains over the road and not waste another 12-hour shift stuck on a load out, or waiting for a break in coal traffic. Furthermore, “with Rail Link and BNSF working together, service is better coordinated and more timely,” said Rennell. “They're on site 24/7, so all BNSF has to do is just deliver our trains. Their combined presence allows us to more efficiently move through the approximate combined tonnage of 45 million annually between Eagle Butte and Belle Ayr.”

RAIL DEMAND CHANGES PRIORITIES

To the south at Arch Coal's mammoth Thunder Basin mine, which loads between 18 to 20 trains a day or 1.5 million tons a

week from three load outs, including a 135 car/hour gravity fed batch loader, the recent derailments and other disruptions in rail service, gave the mine, according to Vice President Greg Schaefer an opportunity to change cycles and shift employees toward reclamation work and maintenance duties, and “take advantage of the slowdown.” Typically, throughout the PRB, the mines didn't simply stop working when the railroads more or less shut down, they simply changed tactics. “Like any other time,” said Schaefer, “when you fill the silos and can't ship, you start running dirt, overburden.”

With their nearly “seamless integration with Triton,” Thunder Basin is now by far not only the largest mine in the PRB, but the largest mine in the United States, capable of producing approximately 100 millions per year and supplying more than 6% of the entire energy needs of the nation. But as Arch's Schaefer reminded, “technology is increasingly efficient and as suppliers continue to manufacture trucks and shovels that are bigger in size, we'll be able to produce more coal in a shorter time period than before.”

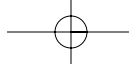
While that's an efficiency issue, producing more often translates into shipping more which again leads back to the question of what can the existing infrastructure really handle. Thunder Basin's four spur tracks are already constantly in use, holding up to eight trains currently and now building capacity to hold another two train sets at the north end.

While the railroads' strategy thus far has been to put more high capacity aluminum cars into the fleet and also continue to increase train length (120 ton cars and 150 car trains), the heavier trains may have had a negative impact on the viability of the line itself by increasing track damage. Paul Smith, a Denver-based railroad consultant and a former Regional Train Master for Southern Pacific and the D&RGW observed that “part of the problem on the southern end of the PRB may be a result of operating heavier trains than were envisioned when the tracks were first built. Back in the late 1970's and early 1980's, few believed that we would exceed the 264,000 limit.”

However, in a very positive development, the BNSF has also stated that part of their maintenance plan this year is to put more triple track on the joint line. As Russack stated, “we have put huge investments into the Joint line and infrastructure supporting coal traffic within and out of the PRB, and we will continue to make them as needed.”

While adding traffic lanes within the Joint Line will certainly go a long way to solving some problems there, Smith and others have also begun to question what good that will do when the routes the Joint Line connects to are already overburdened. “Line capacity on both the BNSF (east and south of Lincoln) and on the UP east and south of North Platte,” observed Smith, “is already at a premium. So coal trains often wait because there is an attitude that coal will be there tomorrow when other highly competitive freight won't be. Look at the decision to shut down Tennessee Pass in Colorado, the UP felt it could handle the volume they wanted to handle and the rest can wait. I am sure that attitude may have positioned itself on to the PRB as well.”

While tight capacity is not at all unique to the PRB, nowhere else are systematic coal shipments so vital than in this one region where more than one-third the nation's coal is produced. The problems here are magnified by the fact that the strain already hampers whatever mine growth is planned. But as several includ-

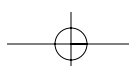


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hundreds of miles of 136-lb continuous welded rail, we've put a couple of hundred million dollars into the overall infrastructure in the last few years. Everything is being built to coal-hauling standards. And we've done a couple of hundred miles of it.

CA: *What are some of the major hurdles that need to be overcome for the DM&E to move into Wyoming?*

Schieffer: Financing, engineering and contracting issues. Construction contracting issues are obviously a big part of it. We've done a lot of work there. We've spent \$40 million to date on engineering and things of that nature as well. We have pretty good plans in place. We will not come into contact with the joint line at any point out in the PRB, specifically to avoid those congestion problems. Our access is east-west and goes into each mine. But we want to stay away from impact on the congestion that's already out there.

CA: *How have the Class I railroads responded to the proposed line?*

Schieffer: In the railroad world, we all compete against each other and work with each other. The BNSF and UP are two of our biggest connections. We have good relationships with both. They are both first class railroads, and we're not in this do to anything but fill a need and brighten our future. At the end of the day, I don't think that we will have that much impact on the UP and the BNSF. I think with the growth potential in the PRB there is plenty of room without it coming out of somebody's hide...

CA: *Once the DM&E is built or as it is being constructed, do you see power plants being developed along the line?*

Schieffer: In terms of on-line development, I think absolutely there will be on-line development of power plants here. It makes too much sense for it not to happen. South Dakota just passed legislation encouraging power plant construction. We worked with the Legislature and the Governor's office on that. It's political because everyone sees the logic in it. We are a state looking for that kind of investment. It is absolutely inevitable.

CA: *When the DM&E is finished, will it operate as the alternative transport route? An alternative to the Class I railroads also in thinking as well as transportation?*

Schieffer: We will be that alternative.

We definitely want to be a service oriented railway. Our route is designed to move mainly bulk commodity traffic like coal. We don't have inter-modal and its not practical for us, which means we would not have any higher priority traffic than coal. That has a big impact on other service issues.

And there is one other element: There is a way of doing business out there today and its driven largely by past practice of railroads. Whether things move by contract or tariff, the railroads largely dictate the range of options. Rarely is there a tailor-made agreement between parties. We enter this business with a blank page and we don't feel compelled to have to follow the pattern.

CA: *Is starting from a blank sheet more difficult though at this point? Or easier instead?*

Schieffer: Early on in this process, one of the consultants—after spending time here and pouring over papers to try and understand our project—a light finally came on in his head.

He said 'the great thing about this project is that you don't have any traffic today and your track is in terrible shape.' I looked at him and said 'this is what we're paying you for?' He replied that his point is that because this is a new line, that it is all being designed from the ground up instead of dealing with 'here is where the yard is because it was there in 1863.' Well we'll build it where it needs to be. We can build sidings in the same way.

The line is being built to move coal from Wyoming east, period. In terms of train control technology, we have advantages because it has to be completely redone. Roughly 80% of the traffic on this line will be coal. And most of the other traffic mix will operate just like coal. Whether it is grain, industrial clay, cement, it moves just like coal. We don't have 70-mph, inter-modal trains that we put coal in the sidings for. Also, because its built new, the quality and design of it is state-of-the-art. Today, most railroads in this country are operating 20- to 30-year old signaling and dealing with historic yards and siding layouts that may or may not work for the traffic that they are moving. It's the difference between a dedicated railroad and a mixed railroad. There is no retrofitting and we're only building it for one thing: hauling coal.

ing Kennecott Energy's Vice President of Finance, Strategy and Law and CFO, Alan Davies, have suggested, "throughout the Basin, there will have to be an increasing strain on the system until there is some significant new rail capacity investment" beyond the \$1 billion that has just been spent creating a third main through much of the southern joint line. Perhaps it is here that the planned Dakota, Minnesota and Eastern (DM&E) railway line fits, as a way to open the railroad bottleneck.

This long discussed and long planned line, already operating across South Dakota on former Chicago & North Western tracks, has recently received government blessing to proceed with the re-construction of the line throughout their system and begin building into Wyoming. What is lacking now, of course, are the funds to embark on what will certainly be a 3-year construction project to build more than 200 miles of new track into the PRB from the East that will serve all the existing mines without having to use the taxed Joint Line. To be sure, what is happening today in the PRB further bolsters the argument for why the new railroad should be built. The rationale for this project, Tom Canter said, "has been handed to the DM&E on a golden platter."

However, the DM&E's proposed line surprisingly could have a double effect throughout the industry. While it may pressure the two majors to be more competitive in their shipping rates, what it does for the bottleneck longer term is questionable. There is a risk that if coal supply then begins to expand over both needed levels and whatever becomes the new ceiling for rail transport capacity, we may end up in the same position again.

So how will the PRB properly increase production especially as Antelope has planned to expand from 30 million tons to 36 million tons over the next several years and Peabody is mining another 20 million tons in total from their mines? How will that coal travel? A few other questions range from the speculative to the catastrophically successful: What if Arch decides to open up its currently idled Coal Creek mine? And what happens when and if KFx's operation north of Gillette has the desired effect and is able to increase PRB coal heating values by approximately 30% as planned?

"PRB coal is clearly an attractive option for utilities and that encourages customers to take that step toward purchasing coal from the region," Davies said. "With business of our scale, ratable production is something we strive for and if the trains don't turn up reliably, that does put a strain on our production process and operations. But we are pretty agile and we'll move as quickly as we can to mitigate problems like this one, although major train delays ultimately result in lost production."

However, at the end of the day, the PRB has the fuel source that the power plants want, need and can economically purchase, and that will continue to drive matters. But according to a July 1 statement, for the foreseeable future, operations throughout the PRB will be "significantly impaired" and movements off the line will be down 15% to 20% as the UP is now "unable to meet all of its obligations for coal...and does not expect to be a position to operate the joint line unencumbered until late November 2005 when track repair is completed for the year or suspended due to weather." In other words, it's going to be a long summer for folks in Wyoming and many utilities nationwide that depend on PRB coal.

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