

BEFORE THE  
SURFACE TRANSPORTATION BOARD

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FINANCE DOCKET No. 30186

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TONGUE RIVER R.R. CO., INC. – RAIL CONSTR.  
AND OPERATION – IN CUSTER, POWDER RIVER AND  
ROSEBUD CNTYS., MT

234499

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NORTHERN PLAINS RESOURCE COUNCIL  
AND ROCKER SIX CATTLE CO.'S  
MOTION FOR LEAVE TO FILE A SUR-REPLY

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Pursuant to 49 C.F.R. § 1117.1, Northern Plains Resource Council and Rocker Six Cattle Company (collectively Northern Plains), petition the Board for leave to file a sur-reply to Tongue River Railroad Company's (TRRC) reply dated June 7, 2013. Northern Plains also reaffirms its request for a discovery schedule. The Board construes its rules liberally to secure a just, speedy, and inexpensive determination of the issues raised. 49 C.F.R. § 1100.3. As such, the Board may waive any procedural rules by petition demonstrating good cause. 49 C.F.R. § 1110.9. Although the Board disallows replies to a reply, Northern Plains can demonstrate good cause for the Board to waive this rule, as set out below, and in detail in our attached Reply. 49 C.F.R. § 1104.13(c).

TRRC has unreasonably delayed these proceedings by failing to submit a complete application to construct and operate *TRR I*. The Board re-opened the *TRR I* application on June 18, 2012. *Tongue River R.R. Co., Inc.—Const. and Operation—Western Alignment*, Finance Docket No. 30186 at 2 (S.T.B. served June 18, 2012) (requiring TRRC to submit a revised application demonstrating their current plans to build the railroad “***and the information required under 49 C.F.R. pt. 1150.***”) (emphasis added). After TRRC attempted to skirt the Board's request, the Board directed TRRC to submit a supplemental application for de novo review of the environmental impacts and transportation merits of *TRR I*. *Tongue River R.R. Co., Inc.—Rail Constr. And Operation—in Custer, Powder River and Rosebud Cntys., Mont.*, Finance Docket No. 30186 at 2 (S.T.B. served Nov. 1, 2012). An application under 49 U.S.C. § 10901 is not complete until the applicant conducts a net income analysis based on traffic projections. 49 C.F.R. § 1150.6(d); *see also New Mexico Navajo Rancher's Ass'n v. Interstate Commerce Comm'n*, 702 F.2d 227, 230 (D.C. Cir. 1983) (holding that the Commission acted arbitrarily and capriciously by ignoring its own regulations requiring an applicant's traffic projections).

However, TRRC has yet to file a complete application, including the mandatory traffic projections, one year after re-opening *TRR I*. 49 C.F.R. § 1150.6(d); *see also Ozark Mountain R.R.—Constr. Exemption*, Finance Docket No. 32204, 1994 WL 698676 at \*4-5 (I.C.C. served Dec. 15, 1994) (requiring a new application with projected net income based on traffic projections); *James Riffin and Eric Strohmeyer—Acquisition and Operation Exemption—in Rio Grande and Mineral Cntys., Colo.*, Finance Docket No. 35705, 2013 WL 160335 at n.8 (S.T.B. served Jan. 11, 2013) (noting that an application is incomplete until the applicant produces the mandatory traffic projections).

Rather than follow proper procedure and provide all of the required information in its Application, TRRC has added bits and pieces of evidence over the last six months. Under the guise of a “Reply to Comments” TRRC now adds new Verified Statements containing information that should have accompanied the original application. As set forth in the attached Sur-reply, TRRC’s June 7, 2013 Reply failed to provide the mandatory traffic projections, introduced new evidence absent from its supplemental application, overstated its assumptions on the Montana Powder River Basin coal market, and mischaracterized Northern Plains’ arguments. Thus, Northern Plains respectfully requests that the Board accept this sur-reply in order to clarify the record and respond to new evidence that would otherwise go unchallenged. Additionally, Northern Plains reaffirms its request for a discovery schedule as it will not have the opportunity to reply to TRRC’s traffic projections.

Where parties introduce new evidence absent from their original application, the Board typically waives Section 1104.13(c). *See 1411 Corp.—Abandonment Exemption—in Lancaster Cnty., PA*, Docket No. AB-581X, *Middletown and Hummelstown R.R. Co.—Abandonment Exemption—in Lancaster Cnty., PA*, Docket No. AB-529X at n.5 (S.T.B. served Oct. 17, 2001)

(granting leave to reply to a response that presented new evidence absent from the original application); *Consolidated Rail Corp.—Abandonment Exemption—in Erie Cnty., NY*, Docket No. AB-167 (Sub No. 1164X) at 5 (S.T.B. served Oct. 7, 1998) (granting leave to file a sur-reply responding to new evidence); *Buffalo & Pittsburgh R.R., Inc.—Exemption—Acquisition and Operation of Lines in New York and Pennsylvania*, Finance Docket No. 31116, *Genesee & Wyoming Indus., Inc., The Arthur J. Walker Estate Co. and Dumaines and Buffalo & Pittsburgh R.R. Inc.—Exemption Control*, Finance Docket No. 31117 at 1 (I.C.C. decided May 6, 1988) (granting leave to reply to a response that presented new evidence absent from the original petition).

In the interest of compiling a complete record, the Board should grant Northern Plains' request to reply to new evidence and mischaracterizations. See *Rail Switching Services, Inc.—Operation Exemption—Pemiscot Cnty. Port Authority*, Finance Docket No. 35685, *Pioneer Railcorp—Continuance in Control Exemption—Rail Switching Services, Inc.*, Finance Docket No. 35686 at 2-3 (S.T.B. served Jan. 8, 2013) (granting leave to reply to the incorrect assertions of a reply in the interest of compiling a complete record); *Union Pacific R.R. Co.—Abandonment Exemption—in Rio Grande and Mineral Cntys., CO*, Docket No. AB-33 (Sub-No. 132X) at 2 (S.T.B. served June 22, 2004) (granting leave file a sur-reply in the interest of compiling a full and complete record); *Arizona Pub. Serv. Co. & PacifiCorp v. The Burlington Northern and Santa Fe R.R. Co.*, Docket No. 42077 at n.7 (S.T.B. served October 14, 2003) (granting leave to file a sur-reply in the interest of a complete record).

Granting Northern Plains' request will not prejudice any party because it will allow Northern Plains to clarify the record. Disallowing this sur-reply would preclude Northern Plains' ability to respond to new evidence and result in an incomplete record. Northern Plains reaffirms

their request for a discovery schedule in light of the ongoing deficiencies in TRRC's application and the need for a complete record. Granting Northern Plains' requests will not unduly prolong the proceedings because the Board cannot determine the transportation merits until TRRC completes its application. For these reasons Northern Plains respectfully requests the Board's leave to file this sur-reply.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jack R. Tuholske by KJR", is written over a horizontal line.

Jack R. Tuholske  
Attorney for the Petitioners

Dated: July 2, 2013

Before  
the  
SURFACE TRANSPORTATION BOARD

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Finance Docket No.  
30186

TONGUE RIVER RAILROAD COMPANY - RAIL  
CONSTRUCTION AND OPERATION-IN CUSTER, POWDER  
RIVER AND ROSEBUD COUNTIES, MONT.

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SUR-REPLY TO TRRC JUNE 7, 2013 REPLY TO COMMENTS

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## **INTRODUCTION AND SUMMARY**

Styled as a Reply, TRRC's June 7, 2013 filing is more accurately characterized as a supplemental application and should be considered as such by the Board. For the first time in this proceeding TRRC provides one-page statements of support from potential customers of Otter Creek and other Ashland area coal (collectively "Otter Creek coal") and a report from a consultant on potential markets for Otter Creek coal (the Schwartz Report). TRRC also argues in response to Northern Plains Resource Council and Rucker Six Cattle Company's (collectively Northern Plains) Petition to Issue Revised Procedural Schedule to Accommodate Limited Discovery that the Board should close the record and deny objectors an opportunity to develop a full record for the Board's review. TRRC should not be allowed to benefit from waiting until its reply to file significant evidence in support of its Application.

History has shown the Tongue River Railroad is inconsistent with the public convenience and necessity. Among the most powerful evidence is the fact that in the thirty years since it was first proposed the rail line has never materialized. The reason it never materialized is that there was never any public demand or need for the railroad. It would have been built had such demand or need ever truly existed. Now thirty years later, TRRC suggests in its Reply that there is even more demand and need for the line than ever before. Indeed, it claims there is a "huge" and expanding market for Otter Creek coal. However, TRRC's Application and Reply suggest otherwise.

Moreover, to grant a Certificate of Public Convenience and Necessity based on such speculative hope needlessly exposes landowners to the permanent condemnation of their farms and railroads. Under Montana law, once the PCN Certificate is granted, TRRC can condemn private land even if it never actually operates the railroad. Such a

deprivation of a property interest offends Due Process and requires the Board to insure that its decision is based on the most complete record possible.

TRRC's Reply confirms that its projected income statements are not "based upon traffic projections" as required by 49 C.F.R. § 1150.6(d) (2012). Doing so would require TRRC to submit an actual analysis of demand for Otter Creek coal. TRRC's revenue projections instead assume an 11.57% rate of return on a capital investment of \$416 million to forecast \$60 million in revenue annually for the first two years of operations. This calculation not only fails to meet the section 1150.6(d) burden, it also fails to account for the realities of today's coal market, which have led Arch Coal to idle certain PRB operations. It also does not account for the 30-year failed history of the Tongue River Railroad project.

It appears TRRC would like to rely on the presumption favoring the approval of rail lines to satisfy its section 1150.6(d) burden. Assuming *arguendo* that the burden of persuasion may be on an objector to show a project is inconsistent with the PCN standard, it does not absolve an applicant from complying with the Board's regulations. TRRC cannot rely on the presumption favoring rail lines to avoid putting evidence damaging to its position on the record. TRRC has a clear evidentiary burden of proof under the Board's regulations that it has not met.

Moreover, the presumption favoring railroad construction cannot overcome the reality that the project has never materialized despite TRRC's claims. The Commission felt assured the line would get off the ground in 1986 when market conditions were more favorable than now. However, as demonstrated by the numerous iterations of the line, these assumptions do not hold true.

TRRC's new consultant report and one-page letters from possible future customers do not cure its incomplete application. The potential customers do not discuss potential volumes of Otter Creek coal they would purchase and in fact make no commitments at all to use Otter Creek coal. Schwartz's estimate of potential markets, which is incorrect, fails to analyze whether there is sufficient demand to warrant the development of the Otter Creek Mine and whether Otter Creek coal could compete with other PRB mines for the declining market. Instead of providing that analysis, Schwartz merely assumes a "difference in the rail rate . . . *could* be offset by the difference in the mine prices between Otter Creek and the Wyoming PRB." Schwartz V.S. at 13 (emphasis added). TRRC cannot project traffic along the Tongue River Railroad without first analyzing demand. Schwartz estimates (incorrectly) the potential market for Montana PRB coal, not demand. Schwartz indicates domestic demand in 2011 for Montana PRB coal was 29.3 million tons fully served by existing mines, while the potential market was 139.7 million tons—a difference of 110.4 million tons. Schwartz's report is also critically flawed as explained more fully below.

The newly filed one page letters indicating general support from three electric utilities do not rebut the evidence demonstrating lack of public demand or need. These utilities or their predecessors filed virtually identical letters in support of earlier versions of the Tongue River Railroad, when demand for Otter Creek coal was stronger. The three utilities also represent several plants that are scheduled for retirement or switching to natural gas. The support letters also erroneously maintain that the Colstrip alternative "would provide an economically and operationally sound rail route" for the transportation of Otter Creek coal to their "facilities" (Minnesota Power, 1). It is obvious that the Colstrip route, which heads west, as opposed to the TRRC II route through Miles City

heading due northeast, would add miles and costs to potential coal movements to east-bound facilities. This will result in higher rail rates and equipment cost and thus will certainly be less “economically” sound than the alternate routes. These potential customers offer no evidence as to how the Colstrip route would be to their economic or operational advantage.

Lastly, TRRC incorrectly claims that Northern Plains does not want an Environmental Impact Statement conducted. Northern Plains went to great effort to prevail at the Ninth Circuit on the need for a comprehensive EIS. The Board has agreed that one is necessary. While Northern Plains did comment that an EIS appears to be a waste of resources given the lack of demand for the coal, all parties agree that a comprehensive EIS is necessary and indeed one is in progress.

In view of TRRC’s new evidence and in view of TRRC’s still incomplete application the Board should either deny the application or order TRRC to submit additional materials and issue a revised procedural schedule consistent with Northern Plains’ June 5, 2013 Petition.

## **ARGUMENT**

### **A. TRRC’s Reply Confirms its Application is Incomplete**

TRRC’s Reply confirms its Application is incomplete. The Board’s regulations require an application to include a statement of projected income for the first two years following construction “based upon traffic projections.” 49 C.F.R. § 1150.6(d) (2012). An application that fails to include mandatory traffic reports is incomplete. *See New Mexico Navajo Rancher’s Ass’n v. Interstate Commerce Comm’n*, 702 F.2d 227, 230 (D.C. Cir. 1983) (holding that the Commission acted arbitrarily and capriciously by “completely ignor[ing] its own regulations” requiring traffic projections); *see also Ozark*

*Mountain R.R.—Constr. Exemption*, Finance Docket No. 32204, 1994 WL 698676 at \*4-5 (I.C.C. served Dec. 15, 1994) (requiring an applicant to base projected net income on traffic projections instead of self-serving assertions); *James Riffin and Eric Strohmeier—Acquisition and Operation Exemption—in Rio Grande and Mineral Cntys., Co*, Finance Docket No. 35705, 2013 WL 160335 at \*2, n.8 (S.T.B. served Jan. 11, 2013).

Traffic projections are a critical component of the application because they assist the Board in determining whether a project will be financially viable. Financial viability is also probative of the public demand or need for the rail service. *See* Application Procedures for a Certificate to Construct, Acquire or Operate Railroad Lines, 47 Fed. Reg. 8195, 8197 (Feb. 25, 1982) (the Board’s predecessor noted it could not determine whether an application meets the PCN standard “[u]nless it is demonstrated that the operation has a reasonable prospect of financial success . . . .”). Here, the Tongue River Railroad is economically linked to the Otter Creek Mine and the demand for its coal. If the mine is not viable due to lack of demand for Otter Creek coal, then there is no public demand or need for the rail line serving it.

TRRC’s Application lacks a traffic projection. Instead, TRRC assumes the Otter Creek Mine will be developed, that it will operate at full capacity, and that willing customers will exist to purchase Otter Creek coal. TRRC assumes the Otter Creek Mine will reach a full production level of 20 million tons per year and that it will ship every ounce. TRRC Supplemental Application at 17. These assumptions belie the reality of today’s coal market and the history of failed efforts to construct the Tongue River Railroad. Arch Coal has idled PRB operations due to poor market conditions. *See Arch Coal’s CEO Discusses Q4 2012 Results-Earnings Call Transcript*, Seeking Alpha (Feb. 5, 2013), available at <http://seekingalpha.com/article/1157721-arch-coal-s-ceo->

discusses-q4-2012-results-earnings-call-transcript?source=email\_rt\_article\_title (last visited June 28, 2013).

There is no apparent connection between the 20 million tons per year and TRRC's projected revenue. In response to Northern Plains's comments on TRRC's financial fitness projections, TRRC states that "the project income statement itself (Exhibit G to the Application) provides notes that explain exactly how the projected income was derived." TRRC Reply Comments at 26. However, the notes merely provide that the \$60 million in annual revenue "is an estimate of projected income that TRRC will receive from the operator" and "is calculated assuming 11.57% return on a \$416 million (in 2013 dollars) investment. 11.57% is the 2011 railroad cost of capital as calculated by the Surface Transportation Board in EP 558 (Sub-No. 15) (served September 13, 2012)."<sup>1</sup> This clearly is not "based upon traffic projections" as required by section 1150.6(d). Nor does it explain the \$20 million difference in projected income between its October 2012 Application and its December 2012 Supplemental Application. TRRC initially projected \$80 million in revenue from the operator for the first two years following completion of the line. TRRC Application at Ex. G, Oct. 16, 2012. Two months later it projected revenues of \$60 million per year. TRRC Supplemental Application at Ex. G, Dec. 17, 2012.

In an attempt to escape its 1150.6(d) burden, TRRC essentially asks the Board to ignore the financial fitness test in this proceeding because there are no existing shippers

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<sup>1</sup> EP 558 (Sub-No. 15) provides: "The cost of capital finding made in this proceeding will be used in the determination of railroad revenue adequacy for 2012. It may also be used in other Board railroad proceedings, including, but not limited to, those involving the prescription of maximum reasonable rate levels; the determination of trackage rights compensation; the proposed abandonments of rail lines; railroad mergers; and applications to purchase feeder lines."

to protect and because TRRC's owners are "large sophisticated businesses." Reply at 26. History is replete with the failure of "large sophisticated businesses" so that bald assertion is of no merit. Moreover TRRC claims erroneously that the *only* purpose of the financial fitness test is to protect existing shippers. *See, e.g.*, TRRC Reply Comments at 23-24. This is not true. When the Interstate Commerce Commission revised the financial fitness test in 1982, it noted:

In addition, under section 10901, we must find that the public convenience and necessity require or permit the proposed construction or acquisition and operation. ***Unless it is demonstrated that the operation has a reasonable prospect of financial success, we cannot make this finding.*** Thus, a revenue projection of at least two years is necessary for proper analysis of an application.

Application Procedures for a Certificate to Construct, Acquire or Operate Railroad Lines, 47 Fed. Reg. 8195, 8197 (Feb. 25, 1982) (emphasis added). TRRC also ignores the Board's actions on earlier versions of the Tongue River Railroad proposal. *See Tongue River R.R.—Rail Constr. and Operation—Western Alignment*, Finance Docket No. 30186 (Sub-No. 3), 2007 WL 2936132, \*8 (STB served Oct. 9, 2007) (TRR III) (stating that the Board's purpose in looking at the financial condition of the applicant and the financial feasibility of the project includes protecting "the affected communities from the needless disruptions and environmental impacts if the applicant were to start construction but not be able to complete the project and provide the proposed service."); *see also N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1093 (9th Cir. 2011) (agreeing with petitioner Northern Plains that the Board should consider protection of the public in administering the financial fitness test).

While the Board may be inclined in some circumstances to rely on the financial markets to determine the financial fitness of a particular project, it must take note that the

economics of the Tongue River Railroad have never been strong enough to warrant construction since it was first conceived in the early 1980s. It must also take note of current market conditions that warrant caution for any investment in a new mine.

Second, TRRC claims that its Supplemental Application and later filings “show that it has reasonable options available for financing the construction of the Tongue River Railroad and that the rail line is expected to be profitable in the two years following construction based on projected payments from the operator, BNSF.” TRRC Reply Comments at 24. It points to its Supplemental Application at 31-32 and several exhibits.

TRRC asserts on page 31 of its Supplemental Application that the \$416 million rail line “will *most likely* be financed” by (1) 100% equity contributions from some or all of the members of its sole shareholder, TRR Holding; (2) guarantee by some or all of the members of its sole shareholder TRR Holding, of long-term debt privately placed by TRRC; or (3) a combination of either. TRRC Supplemental Application at 31 (emphasis added). TRRC claims because it now has “large owners that [have] committed to either provide equity contributions to fund the construction or guarantee long-term debt privately placed by TRRC that would fund the construction.” TRRC Reply Comments at 27. It claims that “[g]iven these commitments by the current owners, TRRC does not need to provide a verified statement from a company like Lehman Brothers to demonstrate that it will have financing to construct the rail project.” TRRC Reply Comments at 27. However, there is no evidence of “these commitments” on the record.

There is also no evidence TRRC’s “large and sophisticated owners” are obligated to take any of the actions TRRC claims are “most likely” to occur for financing the proposal. TRRC’s ownership and their commitments to the project can change. Similarly, TRRC has also yet to provide the Board with any evidence that BNSF has

committed to be the operator. *See* TRRC Supplemental Application at 11 (“BNSF is expected to be the sole operator over TRRC’s rail line pursuant to an agreement that has yet to be reached. TRRC will promptly inform the Board when a final agreement is reached with BNSF.”).

### **B. TRRC Overstates the Presumption Favoring Approval**

TRRC misstates the nature of the presumption under the latest iteration of the PCN standard. The presumption is not so strong as to eliminate the applicant’s burden of production. For example, the Board has admonished applicants for providing generalized statements in support of a project. *See e.g., Dakota, Minnesota & E. R.R. Corp. Constr. into the Powder River Basin*, Finance Docket No. 33407, 1998 WL 398189, \*3 (S.T.B. July 15, 1998) (“*DM&E I*”). In *DM&E I*, the Board noted that “[e]ven given the more favorable policy toward line constructions evidenced by the recent changes to 49 U.S.C. 10901, it is important for DM&E to demonstrate its ability to carry the project through to completion in light of the state of the record to date in this proceeding.” *Id.* at \*4 (noting that where an applicant “offered little in the way of evidence or argument” to rebut an objector’s contention, the Board cannot determine the applicant’s financial fitness).

Ultimately, the problem with TRRC’s erroneous approach is that it confuses the burden of persuasion and the burden of production. The difference is important. TRRC assumes that the Board’s regulations place on an applicant virtually no burden of production – i.e. to produce credible evidence to substantiate its application. While the Board presumes railroad construction meets the third prong of the PCN analysis, i.e. that the rail line is in the public interest, it does not presume such lines meet the public demand or need standard. *Norfolk Southern Corp. and Norfolk Southern Ry. Co.—Construction and Operation—in Indiana County, PA*, Finance Docket No. 33928, 2003

WL 21132522, \*1 (STB Served May 16, 2003). TRRC improperly assumes the presumption for public interest also means there is a presumption of public demand or need. This is not the law.

The Board's actions in response to TRRC's initial Application are illustrative. TRRC initially attempted to meet its burden of production by asking the Board to adopt its 1986 PCN determination in TRR I in the reopened proceeding. As noted above, the Board rejected TRRC's approach and required a supplemental application, including "evidence and argument . . . in support of the transportation merits for the line that it now intends to build." *Tongue River R.R. Co., Inc.—Rail Constr. and Operation—in Custer, Powder River and Rosebud Cntys., Mont.*, 3 (S.T.B. served Nov. 1, 2012).

TRRC then relied on the verified statements of William Rowlands and Stevan Bobb. Mr. Rowlands is the President of Otter Creek Coal, LLC whose responsibilities "include the day to day operation and development of the Otter Creek Mine." Rowlands V.S. at 1 (Dec. 13, 2013). His responsibilities in that capacity relate to engineering, operations and management. *Id.* His statement failed to identify sales or coal market analysis as part of his responsibilities. *See id.* Nevertheless, he asserted "there are various potential markets generally identified for Otter Creek coal." *Id.* at 4.

Mr. Bobb is President of TRRC and Executive Vice President and Chief Marketing Officer for BNSF Railway Company. He stated that the proposed rail line "would serve the same public need as the line approved by the ICC in 1986. Specifically, the line will allow for the transportation of coal produced at the Otter Creek Mine . . . [and] from other mines in the Ashland area and other products that may be transported by any shippers that choose to use the line." Bobb V.S. at 4 (Dec. 14, 2012). He claimed "[s]uch transportation is critical to meeting energy needs, to the financial health of the

coal industry and to the economy of eastern Montana.” *Id.* at 5. However, he provided no specific information supporting these claims. In particular, he offered no evidence supporting the claim that the Tongue River Railroad is “critical” for meeting energy needs in light of the declining use of coal for meeting U.S. energy needs. Moreover, TRRC’s export potential, assuming *arguendo* that such a potential exists, has nothing to do with U.S. energy needs.

TRRC next offered the verified statement of Andrew Blumenfeld, Vice President of Analysis and Strategy for Arch Coal. Mr. Blumenfeld went slightly farther than Messrs. Rowlands and Bobb in that he noted the anticipated lower cost of extracting coal from the proposed Otter Creek mine due to lower stripping ratios. Blumenfeld V.S. at 3 (Jan. 25, 2013). Yet two weeks later TRRC submitted evidence indicating that this advantage “will be offset by Otter Creek’s higher capital recovery / depreciation costs.” TRRC’s Response to STB Request for More Information (Feb. 6, 2013) (Norwest Report, Ex. 3 at E-5). The only logical conclusion—consistent with thirty years of failed plans—is that there is no public demand or need for the Tongue River Railroad.

Moreover, section 10901 requirements would be meaningless if it were. TRRC’s version of the law would lead to approval of rail lines and permit unnecessary condemnation of private property even when an application merely consists of unsubstantiated claims, uncommitted statements of support, and generalized, self-serving assertions from the applicant. The Board has an independent obligation to protect the public interest, and the public interest is far more than assuring TRRC a chance to build its speculative railroad.

The newly filed one-page letters of support from three utilities are similarly unconvincing. Several of these same utilities expressed the same general support for the

Tongue River Railroad more than twenty years ago without ever having received an ounce of Otter Creek Coal. *See e.g.*, Norman Barthlow V.S. (Apr. 29, 1992) (Manager, Fuel Supply, Detroit Edison) and John Wagner, Director – Fuel Supply, DTE Electric Company (formerly Detroit Edison), Letter to the Surface Transportation Board (undated, submitted by TRRC in Ex. 1 to its June 7, 2013 Reply Comments). If these general letters of support were truly probative of public demand or need, the Tongue River Railroad would already be operating.

Over the last ten years, DTE Electric, Minnesota Power, and We Energies sub-bituminous coal burning plants' fuel supply has been comprised of nearly 60% Wyoming PRB coal. *See* EIA 923 data 2002 – 2012 at <http://www.eia.gov/electricity/data/eia923/>; FERC 423 data 2002-2007 at <http://www.eia.gov/electricity/data/eia423/>. Three of the six largest consumers of PRB coal plants have burned Wyoming coal exclusively during this time period. *Id.* The remaining three top consumers, use a mix of Wyoming and Montana PRB coal. *Id.*

Both TRRC in its Reply and Schwartz in his Verified Statement observe that certain boiler designs require the high sodium coal that is present in Montana and lacking in Wyoming mines. Schwartz V.S. at 14, 16; TRRC Reply to Comments at 17. While this may be true, it does not establish a need for Montana's higher sodium coal based on infrastructure. Out of all the plants of the three supporting companies only Syl Laskin, which is slated to convert to natural gas in 2015, reports utilizing a wet-bottom boiler. *See* EIA 860 data 2011 at <http://www.eia.gov/electricity/data/eia860/index.html>.

### **C. TRRC's Reply Underscores the Need for Discovery**

TRRC's Reply underscores the need for discovery. It highlights several key disputed factual issues and inconsistencies in TRRC's filings. That TRRC is relying on its owners to finance the project underscores the need to establish a discovery schedule in light of TRRC's application, which remains incomplete more than a year after reopening TRR I. BNSF joined the TRRC in the Supplemental Application, and its analysis of demand for Otter Creek coal and its transportation needs will help create a full record for the Board to determine the transportation merits of the application. Supplemental Application at 5. Among other things, the Board would benefit from discovery into the basis for BNSF's confidence and its level of commitment in the Tongue River Railroad project. *See id.* ("Further, BNSF . . . is likewise confident that the TRRC rail line will be used to transport a significant volume of coal between Otter Creek and the national rail network. BNSF has demonstrated this confidence by also investing as an approximately one third owner in TRRC's parent").

The Board would similarly benefit from discovery into Arch Coal's coal use projections. Unlike TRRC's other investors, Arch Coal is uniquely positioned to provide analyses of demand for Otter Creek coal. It owns the Otter Creek mine, which is inextricably linked to the Tongue River Railroad.

The Board would benefit from discovery into whether and to what extent TRRC's owners have committed to the project and the basis for those commitments. There is simply nothing on the record to suggest TRRC has a reasonable chance of financial success.

TRRC's Supplemental Application also lacks evidence similar to what it submitted in the TRR III proceedings. As part of their TRR III application, TRRC

submitted various verified statements to demonstrate the demand for PRB coal and traffic projections. For example, TRRC submitted the verified statement of Mark Morey, Managing Director of the coal consulting group within Platts Research & Consulting/RDI. Verified Statement of Mark T. Morey (Apr. 30, 2003), submitted with Supplemental Evidence (May 1, 2003) at Appendix A. Mr. Morey opined that there was “sufficient demand for NPRB coal to warrant the development of new compliance coal mines in the NPRB.” *Id.* at 2. Such evidence is lacking here. These statements should be tested through discovery. TRRC would of course have the same opportunity to test Northern Plains’ evidence as well.

**D. TRRC’s New Claims About “Huge” Demand for Otter Creek Coal Are Baseless and Warrant Testing Through Discovery.**

TRRC’s Reply includes the report of its expert consultant Seth Schwartz to demonstrate a market exists for Otter Creek coal. However, the report improperly conflates the limited market for Otter Creek coal with the combined market for Montana and Wyoming coal. As Dr. Thomas Power explains, Schwartz’s description of a “huge” market for Otter Creek coal from the “fastest-growing coal supply region in the country” is misleading. *Power V.S.*, 12 (July 1, 2013) (submitted with this Reply as exhibit A). Under EIA’s projections, it would take 20 years before the market could absorb the projected 20 million tons per year of Otter Creek coal production. *Id.* at 10. Moreover, Power points out that the projected demand for Otter Creek coal in the mid-1980s, when TRR I was approved, was far greater than now. *Id.* at 12. The 1985 Annual Energy Outlook from the EIA projected 42% growth for western coal production. *Id.* at 13. The EIA’s 2013 Annual Energy Outlook projects a 10% growth rate for western coal for 2020-2030. *Id.*

Schwartz tries to explain why the market for Montana PRB coal is better now than in 1986—when a national demand for Montana PRB coal simply failed to develop. Schwartz V.S. at 34. He claims there has been insufficient rail transportation, not markets; that the market for PRB coal is much larger today; and that other PRB coal reserves have been heavily mined and have much higher costs. Schwartz V.S. at 34-35. Power debunks each of these myths. First, if the market for Montana PRB was “huge” then why were investors unwilling to invest in the Tongue River Railroad or develop other Montana PRB resources that were closer to existing rail lines. After all, TRRC had many years to bring TRR II and III into operation, and failed to do so. Power V.S. at 19-20. Second, while the market for PRB coal is larger today than in the past, Schwartz does not explain why Montana PRB coal did not gain access to the same market growth Wyoming PRB enjoyed. *Id.* Last, more favorable stripping ratios alone do not justify developments of a new mine. Power explains:

Opening a new mine in an area isolated from railroad infrastructure is a very costly undertaking. The older mines already have access to rail transportation and are likely to have recovered much of their initial investment in developing the mine and purchasing the mining equipment. It would take much more careful mine plan analysis to demonstrate that the competitive decision is to open a new mine in an isolated location requiring a new railroad, a mine whose market is ultimately limited by both the coal’s high sodium content and a geographic location that largely limits it to selling into the northern tier of states.

*Id.* at 21.

It is not just Dr. Power that finds fault in Schwartz’s report. Schwartz offers several exhibits that directly contradict or undermine his opinions. For example, his exhibit SS-16, an excerpt from the McCloskey Coal Report, states that:

[T]he steady move away from coal-fired electricity generation in the US means that demand for the coal is essentially capped, a

situation that is unlikely to be reversed given the recent shale-gas revolution. ***The only way for PRB producers to sell more tons, or even to sustain current tonnages, is to expand into other markets . . . .***

Schwartz V.S. at SS-16, McCloskey Coal Report (Dec. 14, 2012) (emphasis added).

Dr. Power also points out the errors in the Schwartz report regarding the marketability of high-sodium coal from Otter Creek. Indeed, Dr. Power notes that the high sodium content of Montana coal has been of such concern that the Center for Advanced Mineral and Metallurgical Processing at Montana Tech of the University of Montana has been working on sodium removal processes to make Montana coal more marketable. Power V.S. at 17. The researchers note that, “One factor that has historically limited the market for certain Montana coal reserves is the relatively high sodium content. Because elevated levels of sodium may cause excessive slagging in some power plant boilers, high sodium coal can only be marketed to power plants with specially designed boilers.” *Id.* (citing Enhancement of Montana Coal: Sodium Removal Technology Evaluation and Development,” Jay McCloskey, et al. 2011; Paper presented at the International Coal Preparation Congress 2011, May 3, 2011, Lexington, KY. Moreover, the researchers note, “some of the more promising gasification processes cannot utilize high sodium coal. Thus, the future ‘clean coal’ market for Montana high sodium coal is expected to be restricted much as the traditional power plant market has been in the past.” *Id.*

Schwartz’s opinions on the ability of Otter Creek to export coal are also flawed. His market analysis fails to identify a viable export route for Otter Creek coal. The report ignores the long-term throughput agreements that thermal coal ports have with existing producers, and in the case of the Neptune terminal, fails to consider the difference

between thermal and metallurgical coal. Schwartz also does not acknowledge thermal coal export markets are already oversupplied, nor does the report show how a new producer could find a viable port for thermal coal export. *See Arch Coal Q1 2013 Results, Earnings Call Transcript, available at <http://seekingalpha.com/article/1362491-arch-coal-s-ceo-discusses-q1-2013-results-earnings-call-transcript?part=single>* (explaining that Arch Coal paid \$11 million in liquidated damages on export logistics contracts during Q1 2013 because “the market for international opportunities fell below what was economical to ship” and that “it is in Arch’s and the market’s best interest to not shift the tons into an oversupplied global market”).

The Schwartz Report completely ignores the fact that Canadian mining interests continue to secure additional capacity as these facilities build out. Meanwhile, all U.S. producers are chasing the same miniscule capacity left over after Canadian producers have secured guaranteed long-term throughput capacity that will be under even more pressure if coal markets ever improve.

Schwartz claims there will be 22 million tonnes per year (Mtpa) of additional export capacity through Canadian terminals. *See Schwartz V.S. 19-22* (6 Mtpa per year at Westshore; 12 Mtpa at Neptune; 4 Mtpa at Surrey Docks; and excluding 13 Mtpa at Ridley). This projection is not accurate. Schwartz mistakenly identifies the Neptune terminal as a possible export terminal for Otter Creek coal. *Schwartz V.S. at 20.* However, the Neptune terminal deals solely in metallurgical coal and their entire throughput is controlled by Teck industries. Neptune Terminals, *Community Update Summer 2012, available at [http://www.neptuneterminals.com/wp-content/uploads/2012/04/Neptune\\_Information-Summer\\_2012.pdf](http://www.neptuneterminals.com/wp-content/uploads/2012/04/Neptune_Information-Summer_2012.pdf)* (last visited Jun. 24, 2013) (noting that it only handles steelmaking, i.e. metallurgical, coal); Teck, *Teck’s*

*Coal Exports – Ports* (Sep. 27 – 29, 2011), available at

<http://www.teck.com/DocumentViewer.aspx?elementId=197877&portalName=tc>, Page 10 (indicating Teck has “sole rights to the coal system” at Neptune) (last visited Jun. 24, 2013); Schwartz V.S. at 20. Not only is Otter Creek the wrong kind of coal for this port, its use is exclusively reserved for a different coal company. There is no capacity available to export Otter Creek thermal coal from the Neptune Terminal. Consequently, Schwartz’s estimates must be reduced by 12 Mtpa (13.27 tons) to 10 Mtpa year (11.02 million tons). This a little more than half of the expected output from the Otter Creek mine when it reaches full production of 20 million tons per year.

Mr. Schwartz asserts that there will be 14 Mtpa of capacity at the Westshore terminal available after it finishes expanding to the limit of its footprint to a maximum capacity of 33Mtpa. Schwartz V.S. at 19 (6 Mtpa from expansion on top of 8 Mtpa currently exported from the PRB). This is false. In fact, over 80% of Westshore’s total throughput capacity has already been guaranteed to other shippers through 2021, with the possibility of higher than committed shipments. Westshore Terminals Investment Corp. Q 1, 2013 Report, available at <http://www.westshore.com/quarter.html>. Teck is guaranteed up to 19 Mtpa through 2021.

<http://www.westshore.com/pdf/news/2012/sep19.pdf> (last visited June 24, 2013). Coal Valley has a guaranteed throughput of up to 3Mtpa until 2022.

<http://www.westshore.com/pdf/news/2012/nov19.pdf> (last visited June 24, 2013).

Grande Cache has an exclusive arrangement with Westshore to ship all of its export volume through 2022 as it expands and increases production above the 1.3 million tonnes it exported in 2010. Grande Cache Coal Corp. News Release (Mar. 30, 2011), available at <http://www.gccoal.com>. Cloud Peak Energy has an agreement with Westshore in

effect until 2021 and expects to export 4.4 million tonnes in 2013. *See* <http://www.businesswire.com/news/home/20110614005387/en/Cloud-Peak-Energy-Agrees-Terms-Terminal-Capacity>; *see also* Cloud Peak Energy Port Position, Page 20, Annual Stockholder Meeting, (May 14, 2013) *available at* [http://www.sec.gov/Archives/edgar/data/1441849/000110465913041084/a13-11832\\_2ex99d1.htm](http://www.sec.gov/Archives/edgar/data/1441849/000110465913041084/a13-11832_2ex99d1.htm).

Signal Peak has a confidential long-term agreement with Westshore until 2021, and has increased production in order to capitalize on the export market. [http://billingsgazette.com/news/state-and-regional/montana/swiss-company-with-russian-ties-buys-into-signal-peak-coal/article\\_5b349520-a087-5b9a-b1ad-aa5558ee1514.html](http://billingsgazette.com/news/state-and-regional/montana/swiss-company-with-russian-ties-buys-into-signal-peak-coal/article_5b349520-a087-5b9a-b1ad-aa5558ee1514.html) (last visited June 25, 2013). Even without taking into account the Signal peak deal or the increase from Grande Cache, there is only 5.3Mtpa available at Westshore. Westshore also ships US Coal and Peabody coal through its port. 2013 CIBC Institutional Investor Conference, (Slide 10), *available at* <http://www.westshore.com/pdf/presentations>. If Otter Creek coal is going to move through Westshore, it will have to displace current U.S. producers to do so.

Even if the proposed terminal at Fraser Surry Docks becomes operational, there is no reason to assume that any of the 4 Mtpa capacity created there would be allotted to U.S. suppliers (let alone a single U.S. supplier) instead of Canadian mining interests at anything less than a super-premium.

TRRC also suggests that it might be able to export its coal via the Ridley Terminal in Prince Rupert, BC, which is about 1,900 miles from the proposed mine at Otter Creek. Although Arch currently has a throughput contract with Ridley, it expires in 2015 and will not be renewed.

Arch's competitors have secured all of the throughput capacity at this export terminal. Coalspur has a long-term agreement in place securing 11.7 Mtpa of throughput. Coalspur News Release, Sept. 4, 2012, *available at* <http://www.coalspur.com>. Teck, in addition to its throughput agreement with Westshore and complete control of Neptune, has an agreement until 2024 that allows for 3 Mtpa at Ridley. Teck News Release 11-43-TR, 9/1/2011, *available at* <http://www.teck.com>. Maxim Power Corp has an agreement guaranteeing 900,000 tonnes per year through 2024. <http://finance.yahoo.com/news/Maxim-Power-Corp-Ridley-ccn-2521800590.html> (last visited June 24, 2013). Western Coal (Walter Energy) has a ten-year agreement in place for 6 Mtpa through 2020. *See* Western Coal News Release July 31, 2006 and Western Coal News Release Feb. 7, 2011, *available at* <http://www.walterenergy.com>. This leaves 2.4 Mtpa for the other confidential agreements with, Hillsborough Resources and Anglo American effectively using all of the post-expansion coal export capacity at Ridley into the next decade. <http://www.marketwire.com/press-release/ridley-terminals-inc-hillsborough-resources-limited-conclude-long-term-service-agreement-1578906.htm> (last visited June 22, 2013); <http://www.marketwire.com/press-release/anglo-american-and-ridley-terminals-conclude-agreement-1569706.htm> (last visited June 22, 2013). This means that Arch coal's throughput contract with Ridley that expires in 2015 cannot be renewed. *See* Arch Coal News Release (Jan. 18, 2011), *available at* <http://news.archcoal.com> (last visited June 20, 2013).

TRRC also asserts that Otter Creek coal would be marketable in Europe for no other reason than it could conceivably travel through the MERC terminal. This last quarter alone, Arch was required to pay \$11 million for failing to meet contracted European export volumes because the "prevailing thermal coal market makes it

uneconomical to ship.” Arch Coal Q1 2013 Results, Earnings Call Transcript, *available at* <http://seekingalpha.com/article/1362491-arch-coal-s-ceo-discusses-q1-2013-results-earnings-call-transcript?part=single> (last visited Jun. 20, 2013). Arch currently has two idle draglines and eight truck-shovel spreads in the PRB. *Id.* If Arch could profitably pass thermal coal exports through the MERC terminal on their way to Europe, they would have done so, but instead have taken the position that “it is in Arch’s and the market’s best interest to not shift the tons into an over supplied global market at this time.” *Id.* There is excess capacity at the MERC terminal because the market is oversupplied and unprofitable.

Schwartz’s exhibits also cast serious doubt on his claims regarding the potential to export Otter Creek coal:

Even if PRB can develop a market in Asia, there are significant logistical challenges. PRB does not travel well, with its high volatile content and long travel distances making it prone to spontaneous combustion en route. This doesn’t prevent the movement of the coal to Asia, but it impacts the heat content of the delivered coal and therefore its economics.

Another factor capping PRB exports is the I-5 rail corridor in the North West of the US, which would be used to serve the West Coast ports. This is one of the busiest rail stretches in the country, and likely cannot accommodate coal movements of anywhere near the 115 mt/yr of proposed export capacity without substantial development. Additionally, the trip-miles involved in exporting PRB are long, so would require additional locomotives, rolling stock and crews. These issues are likely not insurmountable, but rail companies will not invest without guaranteed business, and there is little actual booked business underlying these terminal projects.

Schwartz V.S. at SS-16, McCloskey Coal Report (Dec. 14, 2012)

### **E. TRRC's Straw Man Arguments**

TRRC incorrectly asserts that Northern Plains does not want an Environmental Impact Study conducted. Northern Plains' comments stand for the unremarkable position that in its opinion it is a waste of resources to perform an EIS when there is no public demand or need for the rail line. It has been thirty years since the first Tongue River Railroad application on June 2, 1983. Throughout the history of the line TRRC has maintained that the line is absolutely necessary to meet domestic demand and need for electricity generation. It has submitted studies, letters of support from potential utility customers, politicians, and business leaders. Yet in all that time and with all the support for its claim *the line has never been built*.

With that said, if TRRC continues to push this project in the face of such evidence, then an EIS is clearly needed and one is already under preparation. Northern Plains has, and will continue to participate in this process. TRRC's straw man claim that Northern Plains is *against* conducting an EIS is frankly beyond comprehension given the years spent at the Ninth Circuit securing a court-ordered comprehensive EIS.

### **CONCLUSION**

In sum, TRRC has unreasonably delayed these proceedings by failing to produce a complete application. One year after re-opening the TRR I application, TRRC has yet to project their net income based on traffic projections. TRRC has not met its burden on proof of financial fitness to construct the proposed line. TRRC's assertions on the Montana Powder River Basin coal market and available capacity are misleading. TRRC has also mischaracterized Northern Plains's arguments. These ongoing deficiencies and inconsistencies underlie the need for discovery before the Board can determine the transportation merits of the line.

Submitted this 2<sup>nd</sup> day of July, 2013.

  
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Jack R. Tuholske  
Attorney for the Petitioners

**Certification of Service**

I certify that the foregoing has been served by U.S. mail on all parties of record on this 2<sup>nd</sup> day of July, 2013.

  
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**Exhibit A**

**BEFORE THE  
SURFACE TRANSPORTATION BOARD**

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**STB FINANCE DOCKET NO. 30186**

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**TONGUE RIVER RAILROAD COMPANY, INC. – RAIL CONSTRUCTION  
AND OPERATION – IN CUSTER, POWEDER RIVER AND  
ROSEBUD COUNTIES, MT**

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**VERIFIED STATEMENT OF THOMAS MICHAEL POWER, PHD  
IN SUPPORT OF  
NORTHERN PLAINS RESOURCE COUNCIL'S  
COMMENTS TO SUPPLEMENTAL APPLICATION**

**1. Qualifications**

My name is Thomas Michael Power. I am a Principal in Power Consulting Inc. and a Research Professor and Professor Emeritus in the Economics Department of The University of Montana. My business address is 920 Evans Avenue, Missoula, MT 59801.

I have been an Economics Professor and Consulting Economist in Montana since 1968 when I joined the faculty of the Economics Department at the University of Montana. I served as Chairman of the Economic Department from 1978 to 2008 at which time I retired from teaching and university administration but continued as a Research Professor.

My professional fields of specialization have been Natural Resource Economics, Regional Economics, and the interaction between them. I have emphasized energy,

water, and environmental resources. In those academic areas I have published five books and two-dozen book chapters. I have also written over a hundred articles, monographs, reports, and papers.

I received my undergraduate education at Lehigh University where I graduated *Phi Beta Kappa* and *cum laude* with a degree in Physics. I was elected a Woodrow Wilson Fellow in national competition and attended Princeton University where I received my Masters and Doctoral Degrees in Economics.

I have been involved in electric utility resource planning, including decisions to build coal-fired electric generators, since the early 1970s when I was hired by the Montana Public Service Commission to study the proposed Colstrip 3 and 4 power plants that would burn Montana Powder River Basin coal.

I have done research involving coal development in the Powder River Basin since 1975 when I received a National Science Foundation RANN grant to assemble a team of economists, geologists, and energy technologists to study coal development in the Powder River Basin and the larger the Northern Great Plains region. That study led to a series of almost a dozen reports, the final summary being published as "Projections of Northern Great Plains Coal Mining and Energy Conversion Development 1975-2000 A.D." Several of the other papers dealing with defining coal markets and energy projection techniques have also been published.

Since 1988 I have served on the Montana Power Company Integrated Resource Planning Committee. Since NorthWestern Energy Company took over the Montana Power distribution system in the early 2000s, I have served on NorthWestern Energy's Technical Advisory Committee. For several years I also served on the Montana

Regulatory Reform Working Group. In the past I have served on the Montana Governor's Citizens' Advisory Council on Energy. More recently I served on the Governor's Energy Security Task Force.

I have testified before the Federal Energy Regulatory Commission, the Northwest Regional Power Planning Council, and the Bonneville Power Administration as well as before various congressional committees. I have also testified before the utility regulatory commissions in the following states: Arizona, Colorado, Florida, Georgia, Idaho, Indiana, Illinois, Kansas, Montana, Nebraska, Nevada, Oklahoma, Oregon, Texas, Utah, and Washington. I have testified before the Federal Court of Claims, in State District Courts in Idaho, North Dakota, Oregon, and Montana and in Federal Court in Montana.

In preparing this statement I was assisted by the Chief Scientist for Power Consulting, Inc., Donovan S. Power, who received his undergraduate degree in Geological Sciences at the University of Montana and his Master of Sciences degree in Geology from the University of Washington.

## **2. Summary of Opinions**

The proposed Tongue River Railroad would initially serve the proposed Otter Creek coal mine, allowing the movement of that coal to market. For that reason, the proposed Tongue River Railroad (TRRC) and Otter Creek Mine are economically linked together. The public purpose of the proposed railroad is linked to the purpose of the proposed coal mine. Exhibit D of the Revised Application for Construction and Operation Authority for the Tongue River Railroad contains the Operating Plan for the

Tongue River Railroad. It states that “Although US domestic electric utilities represent the prime demand potential for Otter Creek coal that the TRRC would haul, additional tonnages could be anticipated for export markets.”<sup>1</sup>

Seth Schwartz of Energy Ventures Analysis, Inc. has filed a verified statement (Schwartz Report) making many assertions about the economics of the proposed Otter Creek mine and, by inference, the Tongue River Railroad. My statement will respond to several of those claims. In particular I will address the following claims:

- i That the U.S. Department of Energy’s (DOE’s) Energy Information Administration (EIA) projects a “large domestic market for Otter Creek and Ashland Area coal” and “EIA projects that Montana PRB coal will be the fastest-growing coal supply region of any region in the country.” (Schwartz, pp. 2 and 7)
- ii That, in general, the coal at the proposed Otter Creek coal mine, is economically similar to the coal in the southern Powder River Basin (PRB) of Wyoming.
  - a. That the American market for this type of coal is not limited by its high sodium content. (Schwartz, pp. 2 and 11-13 )
  - b. That the location of the Otter Creek coal mine does not limit its access to domestic U.S. markets. (Schwartz, pp. 2 and 14-17)
- iii That the Otter Creek coal mine is primarily intended to serve domestic U.S. markets and, because of that, the TRRC is also intended to primarily serve domestic U.S. markets just as was initially proposed in the TRRR application to

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<sup>1</sup> It should be noted that the specification of the “prime demand potential” in the Application’s Operating Plan shifts in TRRC’s Reply Comments. The “primary markets for which most of the coal likely will be destined” now is stated as “the domestic market in the Midwest and export coal market via the Pacific Northwest.” (pp. 31-32 emphasis added)

the Interstate Commerce Commission that led to a decision approving the TRRC in 1986. (Schwartz, pp. 3, 14, 16-17)

My opinions are summarized as follows:

- Since 1983 when the Tongue River Railroad was first proposed, the market for Montana PRB coal grew at about 580,000 tons per year while the market for Wyoming PRB coal grew over twenty times as fast, 12.5 million tons per year. These divergent market trajectories need to be explained. The market for Montana PRB coal cannot be assumed to be the same as the market for Wyoming PRB coal
- The U.S. Department of Energy's Energy Information Administration (EIA) does not project that the demand for Montana PRB coal will grow rapidly through 2040. Quite the contrary, EIA projects that the demand for low sulfur Montana PRB coal will grow at about 1.0 million tons per year. At that rate it would take at least 20 years for that market to expand to absorb the planned production of the Otter Creek mine.
- In the three decades since the Tongue River Railroad was first proposed, the EIA's projections of the demand for Western coal, including PRB coal, has declined dramatically, from 55 percent per decade to 10 percent per decade. The EIA's projections for the demand for Western coal have never been bleaker than at the present.
- The high sodium content of Otter Creek and most Montana PRB coal creates costly slagging or fouling problems in electric generator boilers. Mr. Schwartz's attachments and citations confirm this. Earlier analysis of the market for Otter

Creek coal done for the State of Montana confirms that this high sodium content limits the market for Otter Creek coal. Current research being carried out in Montana seeks to find cost-effective ways to enhance the value of Montana coal by removing the sodium so that Montana coal will have access to a wider market.

- The geographic location of Montana PRB coal also limits the market to which Montana coal has access. The fastest growing economies in the Sunbelt states are three to four hundred miles closer to Wyoming PRB coal than to Montana coal. Montana has a transportation cost advantage only in accessing the northern tier of states, including Rustbelt states such as Michigan and Ohio. This partially explains the slower growth in demand for Montana PRB coal compared to the growth in demand for Wyoming PRB coal.
- Mr. Schwartz offers no plausible explanation for why since 1983, when the Tongue River Railroad was first proposed, the growth in demand for Montana PRB coal did not lead to investments in either that railroad or in coal mines in the Tongue River Valley. At the same time he emphatically rejects the explanations that are easily documented.
- Mr. Schwartz ignores this history of the actual development of Montana and Wyoming PRB coal markets and focuses on the future, arguing that “this time will be different.” The “difference” he points to is the increasing operating costs at the older existing PRB coal mines as they have had to go deeper and deeper to extract the coal. In comparison, he asserts, the operating costs of a new mine such as the Otter Creek mine will be lower. However, he provides no market analysis or mine plan analysis that shows that the high capital costs of building a

railroad and a new mine in a market area disadvantaged by geography and coal quality would be justified by the initial lower operating costs.

### **3. An Overview of the Relative Markets for Montana and Wyoming PRB Coal**

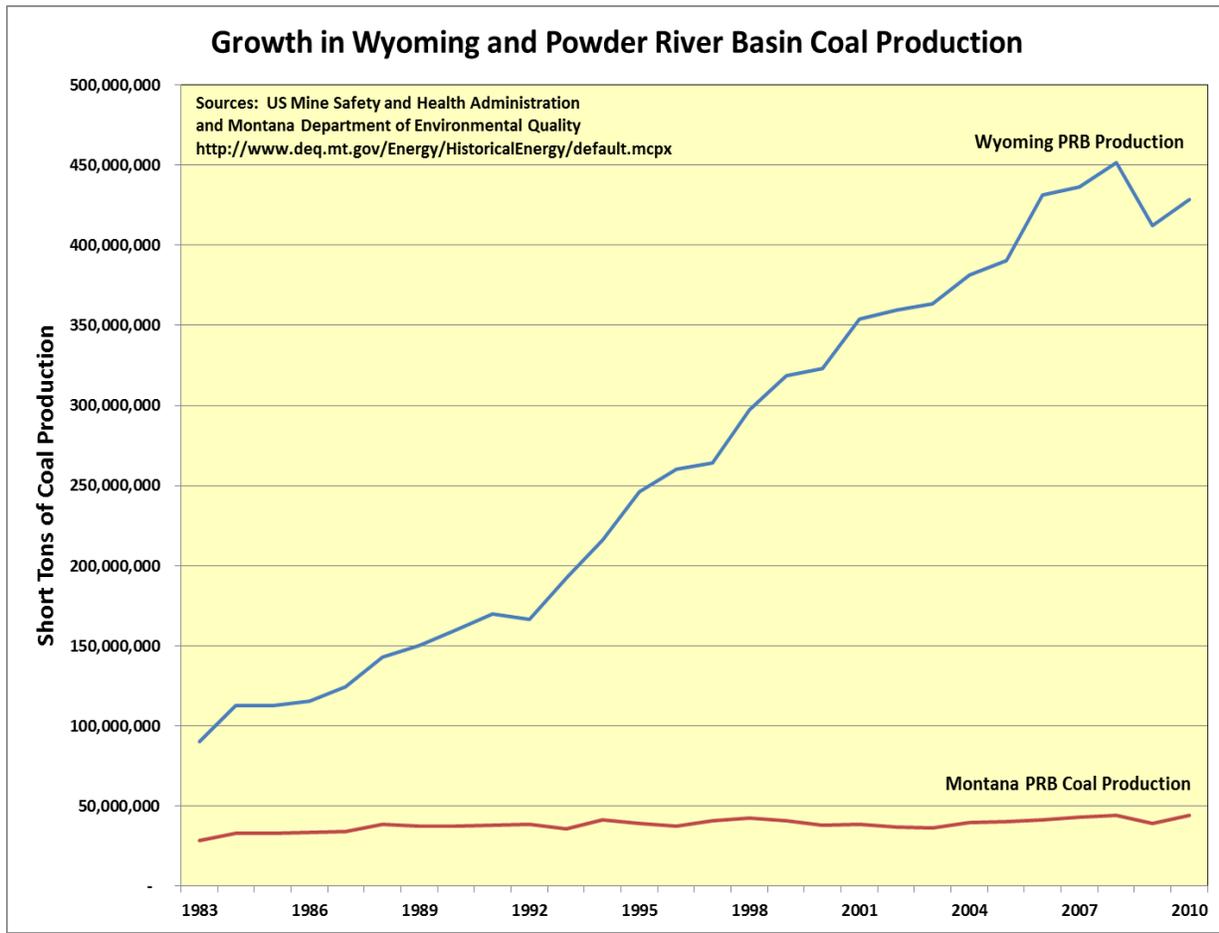
Mr. Schwartz faces a very difficult factual problem in defending his various assertions that the markets opened to Montana coal are more or less similar to the markets open to Wyoming coal. Over the last several decades that certainly does not appear to be the case. Between 1983 and 2010 the annual production of Wyoming PRB coal increased almost 300 percent while Montana PRB coal production increased by only 55 percent. Between 2001 and 2010 annual PRB coal production has typically been ten times that in Montana. The annual growth rate in Wyoming's PRB coal production was 5.9 percent while that for Montana coal was 1.6 percent. See Figure 1 below.

It is important to point out that this limited production and sale of Montana PRB coal is not due to much more limited coal resources in Montana. As coal researchers at Montana Tech recently pointed out: "Montana has approximately 120 billion tons of coal reserves, more than any other state in the U.S. However, Montana ranks only 6th among the states in coal production."

Clearly, despite Mr. Schwartz's assertions to the contrary, Montana and Wyoming PRB coals have not faced the same domestic market opportunities. There have been important differences that have severely constrained the marketing of Montana coal as widely in the U.S. as Wyoming coal. Mr. Schwartz appears to imagine a dramatic turn-around in this market situation by simply denying that markets for

Montana and Wyoming coal are constrained by different factors. As will be discussed below neither Mr. Schwartz's arguments nor the technical works he cites support his assertions about these two coals facing similar markets.

**Figure 1**



This is important. Wyoming PRB coal is sold widely across the United States and its geographic range has continued to grow. Before the impacts of the Great Recession began to be felt in 2008, Wyoming was selling ten-times as much coal as Montana was. Wyoming truly did realize a very large market. Mr. Schwartz regularly runs the market for Montana PRB coal together with the overall market for PRB coal, a market dominated by Wyoming. This verbal word play, moving from Montana PRB coal to the

much larger total PRB coal obscures important distinctions rather than assisting with the analysis.

Anyone seriously analyzing the market for Montana PRB coal has to explain the dramatically slower development of that market compared to the very rapidly growing market for Wyoming coal.

#### **4. An Accurate Portrayal of the EIA Projections of Future Sales of PRB Coal**

Mr. Schwartz uses the EIA projections of the future production of Montana and Wyoming PRB coal as an indication of growth in the market for PRB coal. From a faulty review of these projections he concludes that “There is a large domestic market for Otter Creek and Ashland Area coal.” (heading on p. 4) From that heading, he then turns to the *whole of the Powder River Basin*, the sum of both Wyoming and Montana coal, in the following three sections of his statement (1. through 3.) That is, rather than focus on the 40 million ton per year being produced from Montana part of the PRB, he focuses on the nearly 500 million ton per year (2008) combination of the two coal fields. Montana represents about 4 percent of the U.S. coal production. The total PRB represents 40+ percent. Running these together can be seriously misleading.

This becomes clear when Mr. Schwartz points out that the compound rate of growth that EIA estimates for the production of Montana PRB coal is the highest of all of the coal fields it specifically identifies, 2.0 percent from 2011 to 2040. For the low sulfur portion of the Montana PRB coal, EIA estimates an even higher future growth rate of 2.8 percent. That is an even smaller portion of US domestic coal production, 24 million tons per year in 2011. As Schwartz puts it: “**...EIA projects that Montana PRB coal will be**

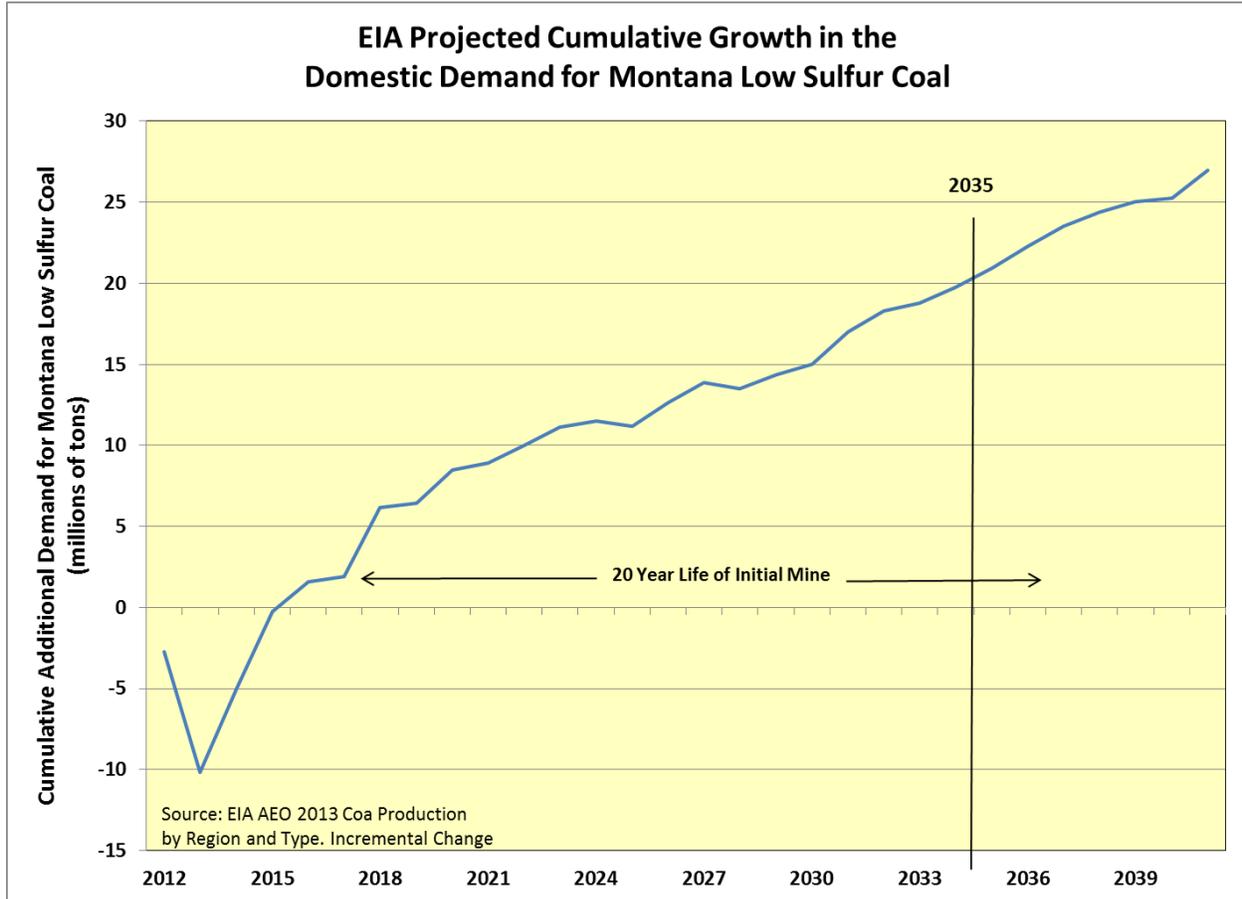
***the fastest-growing coal supply region of any region in the country*** (Schwartz, pp. 7-8, emphasis in the original).

By contrast total U.S. domestic production is projected by EIA to increase at only 0.2 percent per year. The projected growth for the Wyoming PRB production was only 0.4 percent per year. For all of the PRB including Montana, it was 0.5 percent per year. (EIA AEO 2013, Reference Case, Coal Production by Region and Type)

Mr. Schwartz urges us to consider this an impressive projected growth in the demand for Montana PRB coal: a growth rate 10 to 14 times that projected for domestic coal demand in the aggregate. But since he is trying to dramatize how easy it will be to market the proposed Otter Creek Mine's production of 20 million tons per year, it is important to ask what a growth rate of 2 percent per year in the demand for Montana PRB coal would actually be in terms of additional tons of coal produced.

It is the low sulfur Montana coal that is most likely to be sold outside of Montana. The 2.8 percent per year compound growth rate would represent the average production of an additional 1.0 million tons of coal per year. At that rate of expansion, Montana's PRB production of low sulfur coal would not increase by 20 million tons until 2035. Mr. Schwartz interprets EIA's projections of Montana PRB low sulfur coal as "showing rapid growth beginning in 2017 (about the time that Otter Creek could be on line)." (p. 7) That is, according to the EIA projections on which Mr. Schwartz relies, the Otter Creek mine will be 18 years through its estimated 20 year life when the domestic U.S. market for that coal will have increased enough to absorb an additional 20 million ton per year of production. See Figure 2 below.

Figure 2



The “high growth rate” Mr. Schwartz emphasizes when applied to a very small current level of demand results in a very small annual increment in the demand for Montana coal. It does not produce either a large or a rapidly growing market for Montana coal. Schwartz reads this EIA projection of the market for Montana PRB coal as: “Clearly, EIA thinks that there will be a demand for the Otter Creek coal.” (p. 8) That is true only if the mine is delayed until 2035.

Mr. Schwartz looks at these EIA results and sees a large and growing market for Otter Creek and other new Montana PRB coal by confusing the market for all of the PRB coal, including the Wyoming PRB that is ten times the size of the Montana PRB.

He then interprets a modest rate of growth applied to a small base as leading to a large increase in demand for Montana PRB coal.

It should also be pointed out that while the Wyoming PRB coal market is indeed large, EIA's projected growth rate of 0.4 percent for Wyoming PRB coal is not particularly impressive. That represents a projected average growth in the demand for that coal of 1.7 million tons per year for the 2011 through 2040 period.

Despite Mr. Schwartz's glowing projections of demand for Montana coal in particular and PRB coal in general based on EIA projections, those EIA projections have never been bleaker for Western coal.<sup>2</sup> If one looks back to the EIA projections of the demand for Western coal when the TRRC applied for and got initial permission to build a railroad in the Tongue River Valley, the mid-1980s, one sees a much more optimistic projection of the demand for Western coal, including PRB coal.

For instance in the 1982 and 1985 projections, the demand for the coal from the Western Region coal fields was projected to grow over the following decade by 55 and 42 percent respectively. Total US coal demand was projected to grow by only 33 and 32 percent respectively. On the other hand, the projected growth in the demand for Western coal was projected to grow in the decade following the 2010 and 2013 Annual Energy Outlooks by only 14 and then 10 percent while total US coal demand was projected to increase by 10 and 8 percent respectively. See Table 1 below.

If there was not a market that would support the building of the TRRC and the development of Tongue River coal mines in those earlier decades when the demand for

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<sup>2</sup> EIA did not begin regularly breaking out the PRB coal fields in its projections until about 2000. Previous to that the EIA only referenced coal fields "west of the Mississippi." Later EIA narrowed this to a "Western Region" that excluded some states located west of the Mississippi and combined those states with the "Interior Region." The states west of the Mississippi River that were not included in the "Western Region" were Louisiana, Missouri, Arkansas, Oklahoma, Texas, and Kansas.

PRB and other Western coals was booming, it is hard to understand how in the limited market that now exists, and is projected by EIA to exist in the future, one can see a “large and growing demand.”

**Table 1**

<b>Annual Energy Outlook Coal Production Forecast</b>			
<b>Projected Growth over the Following Ten-Year Period</b>			
Year of AEO	Next Decade	Projected Growth in Coal Production (%)	
		Western Region	Total US
1982	1980-1990	55%	33%
1985	1985-1995	42%	32%
1991	1990-2000	21%	9%
1996	2000-2010	16%	1%
2000	2005-2015	18%	4%
2005	2010-2020	18%	9%
2010	2015-2025	14%	7%
2013	2020-2030	10%	8%

Source: USDOE EIA AEO: Tables: 1982,A.8.1;1985, A10;1991,A10; 1996, A16; 2000, A16; 2005, A15; 2010, A15; 2013, A15.

Before 2000 "west of the Mississippi" was used; after 2000 a smaller "Western" region was used.

The "Western" region does not include coal from LA, MO, AR, OK, TX, or KS

## **5. Limits on the Market for Otter Creek Coal Due to High Sodium Content**

In 2006 Norwest Corporation produced a report for the owners of the Otter Creek coal tracts, namely the State of Montana through the Montana Department of Natural Resources and Great Northern Properties, to evaluate that coal property.<sup>3</sup> In 2009 Norwest Corporation also produced an appraisal of the Otter Creek coal owned by the State of Montana.<sup>4</sup> Mr. Schwartz references the latter Norwest report in discussing,

<sup>3</sup> Otter Creek Property Summary Report, Volume I and II, July 12, 2006, Norwest Corporation, Salt Lake City, UT, and Ashland, KY.

<sup>4</sup> Montana Otter Creek State Coal Valuation, January 30, 2009.

among other things, the expected strip ratio associated with the proposed Otter Creek mine (p. 40) and the characteristics of the coal coming from various PRB coal mines (p. 12). He also attaches the Executive Summary associated with the Norwest 2009 appraisal of the Montana Otter Creek coal tract to his statement.

In the earlier statement that Power Consulting submitted in this case, I quoted the 2006 Norwest report on the market for Otter Creek coal. That quote was:<sup>5</sup>

“Coals with high sodium content **share a limited market** due to slagging problems they cause in certain types of power plant boilers. **This limits the market for high sodium coals to a small number of mid-western electric generating plants and some industrial plants.**” (Emphasis added)

The 2006 Norwest Otter Creek Summary Report went into more detail on just how the high sodium content of the Otter Creek coal would limit the marketing of that coal (pp. 4-1 to 4-4). It noted that “Higher sodium levels generally create greater slagging problems. As a result, most plants avoid burning high sodium coals” (p. 4-1) Norwest went on to identify “ten plants which are within the competitive area for Otter Creek currently accept[ing] higher sodium coals” (p. 4-1) Norwest warned that: “The volume of coal shipped from Montana to the high sodium-accepting power plants is only about 20 million tpy. Careful effort developing a solid market strategy will be necessary to determine how best to nudge into this market without destroying whatever price discipline, if any, currently exists” (p. 4-4).

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<sup>5</sup> The quote was on page 14 of Power Consulting’s November 2012 statement. It came from the 2009 Norwest appraisal at p. 2-4.

Despite citing the Norwest reports and attaching part of one to his statement, Mr. Schwartz does not explain his difference of opinion (if he has one) with Norwest's analysis of the market open to Otter Creek coal. Mr. Schwartz simply asserts that "All Montana PRB coals are high-sodium. The Otter Creek coal is no different than the coals that have been produced and sold in Montana for many years" (p. 12). He cites the 2009 Norwest Corporation report excerpt he attached to support that statement. In general, it is a correct statement, but saying it simply underlines the limited market that Montana PRB coal has found for three decades compared to the lower sodium PRB coals found in Wyoming. As Norwest said in its 2006 report on the Otter Creek coal:

"The sodium content of Otter Creek coal ranges from 5.8% to 8.8% and is high in comparison to other coals in the western U.S. but about the same as other Montana PRB mines. For example: coals from the southern Powder River Basin of Wyoming typically average 1.2% sodium....Sodium in ash can cause slagging problems in certain types of boilers in electric generating plants. Higher sodium levels generally created greater slagging problems. As a result, most plants avoid burning high sodium coal." (p. 4-1)

Mr. Schwartz, rather than directly discussing the drawbacks of high sodium coal, discusses the molten slag that may accumulate at the bottom of boilers and how "wet bottom boilers" are designed to deal with that. But the concern with sodium, as he certainly knows, is with "slagging" and that is what I referred to in my earlier statement in this case (p. 14). The "slagging" problem, as Mr. Schwartz points out, is the adhering of coal ash to the surface of the boiler (Schwartz, p. 12) and elements of the boiler in

the path of the fly ash that is exiting the boiler. As Mr. Schwartz puts it: “The high sodium content of Montana coals can cause fouling in the superheater area (from fly ash), which is a different problem for boilers not designed for this coal’ (p. 12).

This is largely word play. Mr. Schwartz has already defined slag as solid material from coal ash that adheres to the furnace. When this happens in the superheater area, he refers to it as “fouling” and dismisses it as a problem that is easily solved. The cost of solving that problem and whether it can always be solved, he does not discuss.

As pointed out by the Babcock & Wilcox Company chapter on “Fuel Ash Effects on Boiler Design and Operation” that Mr. Schwartz attached to his statement, because the deposition mechanisms associated with fly ash coating various surfaces differs between the furnace walls and the super heaters and reheaters, distinguishing between “slagging” and “fouling” can serve a useful purpose. But it is not always the language used. For instance in the “Lehigh Energy Update” that Mr. Schwartz attached to his statement, “slagging” is used to refer to both “furnace slagging and convective pass plugging” and “slagging on the close-to-the-furnace heat transfer surfaces, such as superheater screen tubes and boiler arch.” (pp. 1 and 2) This is not surprising since it is the deposition of the same fly ash causing the problem in both locations. In addition, “boiler design” does not only refer to molten slag accumulating on the bottom. That is made clear in the title of the Babcock & Wilcox chapter, “Fuel Ash Effects on Boiler Design,” which discusses both “slagging” and “fouling.”

The Babcock & Wilcox chapter that Mr. Schwartz attached to his statement emphasized the problems associated with high-sodium, low-ranked coals. They report that sodium tends to readily vaporize during combustion and play a dominating role in

fouling. Also the tendency of ash to weld itself together into a coating (sintering) was directly proportional to the total sodium content in the ash. The also report a correlation between fouling rate and sodium content. Deposition rates were found to increase sharply as the sodium oxide content increased up to approximately 6 percent and then leveled off somewhat at higher percentages of sodium. (Babcock & Wilcox pp. 21-11 and 21-12 and Figure 14) One of the coals studied was a Montana subbituminous coal that caused severe fouling at a sodium content of 6.4 percent. (Table 5)

Neither Mr. Schwartz's Babcock & Wilcox Company attachment nor the Lehigh University "Energy Update" attachment suggests that the problems associated with high sodium in coal are of minor concern.

In Montana the high sodium content of much of Montana's PRB coal has been of considerable concern because of the way it limits the market for Montana coal. The Center for Advanced Mineral and Metallurgical Processing at Montana Tech of The University of Montana has been working on sodium removal to enhance Montana coal. As the researchers there phrased it recently in the abstract to an article on sodium removal technology: "One factor that has historically limited the market for certain Montana coal reserves is the relatively high sodium content. Because elevated levels of sodium may cause excessive slagging in some power plant boilers, high sodium coal can only be marketed to power plants with specially designed boilers."<sup>6</sup> In addition, they point out that: "Unfortunately, some of the most promising gasification processes cannot utilize high sodium coal. Thus, the future "clean coal" market for Montana high sodium

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<sup>6</sup> "Enhancement of Montana Coal: Sodium Removal Technology Evaluation and Development," Jay McCloskey, et al. 2011. Paper presented at the International Coal Preparation Congress 2011, May 3, 2011, Lexington, KY. Page 1. [http://www.camp-montanatech.net/\\_Documents/Published/Articles\\_Papers/08162011/ICPC%202010%20McCloskey%20et%20al%20coal.pdf](http://www.camp-montanatech.net/_Documents/Published/Articles_Papers/08162011/ICPC%202010%20McCloskey%20et%20al%20coal.pdf)

coal is expected to be restricted much as the traditional power plant market has been in the past.”<sup>7</sup>

Mr. Schwartz simply dismisses as unimportant the very concerns with high sodium coal that his own references raise. This does not make the costs of adapting a coal-fired boiler and its ancillary heat transfer and fly ash controls so that they can operate with high sodium coal go away.

## **6. The Geographic Disadvantage Montana PRB Coal Faces in U.S. Coal Markets**

Montana PRB coal is located several hundred miles to the north of the Wyoming PRB coal when it comes to serving the more rapidly growing domestic coal markets in the Sunbelt states in the south. This, as Mr. Schwartz agrees (pp. 12-13), makes the transportation cost of moving Montana PRB coal to those southern markets higher than for Wyoming PRB coal. On the other hand, Montana PRB coal has an advantage in reaching markets in the northern tier of states (Washington, Oregon, North Dakota, Minnesota, and the Great Lakes). The transportation cost advantage/disadvantage can be 300 to 400 miles. (Schwartz, pp. 12-13) Those transportation cost differences explain much of the geographic extent of the Montana and Wyoming markets over the last several decades.<sup>8</sup> One can draw an “equi-cost” line on a map showing where the transportation costs from the Montana and Wyoming PRB are equal. Most customers for Montana PRB coal, unsurprisingly, are located north of that line.

Given the difference in economic growth rates in the Sun Belt compared to the Rust Belt, this transportation cost disadvantage, like the high sodium content of its

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<sup>7</sup> Ibid.

<sup>8</sup> High sodium content has limited overall sales. Transportation costs have limited the geographic extent of the sales.

coals, has limited the market for Montana PRB coal. That was the point emphasized by Norwest Corporation (2006 and 2009) in its market analysis of Otter Creek coal for the owners of that coal. TRRC, on the other hand, has provided no such market analysis.

Despite this, Mr. Schwartz insists that “the potential domestic market for Otter Creek and Montana coal is huge” (p. 14) But over the last three decades Montana PRB coal has not poured into those “huge” domestic markets while Wyoming PRB coal has dramatically claimed more and more of the national coal market. Recall Figure 1. Either that “huge” domestic market for Montana PRB coal has not existed thus far or it is only expected to spring into existence in the future.

But TRRC has projected markets for Tongue River coal and its railroad since 1983, exactly the period on which Figure 1 focuses. Despite getting approval from the Interstate Commerce Commission to build that railroad in 1986, neither the railroad nor the projected coal mines were ever developed during the following 27-year period. This makes it clear that thus far the “huge domestic market” for Tongue River coal has not existed.

Mr. Schwartz is aware of this historical problem: “...if the market for Montana PRB coal was not sufficient to develop the Tongue River Railroad in 1986, why would it be better now?”(p. 34) He offers several answers.

i. “The reason that the Ashland area Montana PRB mines were not developed prior to now has been the lack of rail transportation, not lack of market.”  
“...the Tongue River Railroad was not built.” (p. 34)

Of course that simply raises the question of why investors were not willing to invest in the TRRC if the markets existed and were “huge.” It also raises the question

as to why other Montana PRB coal resources that were closer to existing rail lines were not developed to serve those markets if they existed. It was not just Tongue River coal in Montana that was not developed over the last three decades.

ii. “The market for PRB coal is much larger today than it was in 1986. PRB coal production in 1986 was only 151 million tons. PRB coal production for the last 10 years has averaged 450 million tons per year.”

That is true, but this involves Mr. Schwartz simply assuming that Montana PRB coal had or has or will have economic access to all of the PRB market, including the very large Wyoming PRB market. That cannot simply be asserted. It has to be demonstrated. The “market” for PRB coal did not suddenly jump from 151 million tons to 450 million tons. It grew systematically over time as shown by the Wyoming and Montana PRB markets in Figure 1. The question Mr. Schwartz does not answer is why over that three-decade period Montana did not gain access to more of the market growth that Wyoming enjoyed. Surely the failure of investors to see this “huge and growing” market and invest in the TRRC was not solely responsible for the very slow growth in Montana’s share of that “market” relative to Wyoming’s. Clearly Montana did not have access to the same markets to which Wyoming had access. That remains unexplained given Mr. Schwartz’s flat rejection of anything suggesting that Montana has had more limited access to national markets than Wyoming.

iii. “...the coal reserves at the existing PRB mines (both Montana and Wyoming) have been heavily mined over this period of time and have much higher costs now. The undeveloped reserves at Otter Creek still have low strip ratios...while the strip ratios at the existing PRB mines have been steadily rising.” (pp. 34-35)

This is the pattern that one would expect in any mining area. Low cost deposits are developed first and as mining continues the operating costs at existing mines tend to increase as deeper and deeper deposits are mined. The result, ultimately, is that the new mines with initially lower operating costs would open and successfully compete with the older mines. If the “heavily mined” areas have increasingly non-competitive operating costs, one would expect new mines to be opening elsewhere in both the Montana and Wyoming PRB. That is what Mr. Schwartz suggests has happened at Otter Creek and led to that mine and its supporting railroad to now be profitable when it was not in the past (despite TRRC’s assertions to the contrary).

But the issue is not as simple as the difference in strip ratios. Opening a new mine in an area isolated from railroad infrastructure is a very costly undertaking. The older mines already have access to rail transportation and are likely to have recovered much of their initial investment in developing the mine and purchasing the mining equipment. It would take much more careful mine plan analysis to demonstrate that the competitive decision is to open a new mine in an isolated location requiring a new railroad, a mine whose market is ultimately limited by both the coal’s high sodium content and a geographic location that largely limits it to selling into the northern tier of states.

Ignoring the high capital costs (railroad and mine) and market limitations and simply focusing on the lower strip ratios is not convincing given the many potential mine sites in Wyoming without these limitations. It is important to note that Mr. Schwartz’s discussion of higher strip ratios and operating costs is focused on existing PRB mines.

New mines, in general, not just Otter Creek, would have lower initial strip ratios and operating costs “purchased” at the high capital costs of developing a new mine.

Some of Mr. Schwartz’s comments suggest that the PRB is running out of coal. He says, for instance, that: “Since 1986, the mines in the PRB have mined more coal than they have remaining reserves” (p.35). He points out mines that have closed and some that are nearly depleted. He says that the current reserves held by the active mines in the Wyoming PRB “are adequate to support the current production rate...for about 18 years.” He also points out that the addition of the Otter Creek mine would “more than double the total assigned reserves at all of the existing mines in the Montana PRB.” (p. 35)

Note that Mr. Schwartz is referring to coal reserves associated with *existing* operating mines. He is not commenting on all of the coal reserves found in the Montana and Wyoming PRB. As mining proceeds, mines lease additional reserves if the economics support it. They avoid leasing all of the coal they hope to mine because such leases require upfront “bonus bid” payments or other costs of holding the leases undeveloped for long periods of time. The coal reserves in the Montana and Wyoming PRB remain substantial.<sup>9</sup> For the whole of the PRB, USGS estimates that there are 162 billion tons of recoverable coal and 25 billion tons of coal that is economically recoverable at current coal prices.<sup>10</sup> As the assumed real mine mouth coal price increases, the amount of economically recoverable coal increases significantly. For the coal fields in the Gillette area, for instance, USGS found that at a mine mouth price of

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<sup>9</sup> See the recent U.S. Geological Survey “Assessment of Coal Geology, Resources, and Reserves” for each of Montana, Northern Wyoming, and Gillette Coalfields in the Powder River Basin. <http://energy.usgs.gov/Miscellaneous/Articles/tabid/98/ID/233/New-Powder-River-Basin-Wide-Coal-Assessment-of-Recoverable-Resources-and-Reserves.aspx> .

<sup>10</sup> <http://pubs.usgs.gov/fs/2012/3143/>

about \$10 per ton, 10 billion tons of coal were economically recoverable. At \$15 per ton, about 20 billion tons were economically recoverable. At \$20 per ton, almost 40 billion tons were economically recoverable. At recent production rates at the Gillette coal fields of about 400 million tons per year<sup>11</sup>, these economically recoverable coal reserves would move from a 20-year to an 80-year supply as one moves from a mine mouth coal price of \$10 to \$20 a ton.<sup>12</sup> It is also important to note that we are discussing only the Gillette portion of the PRB when considering the 20-80 year supply. If one considers the entire PRB the economically recoverable amount of coal also increases dramatically as stated earlier.

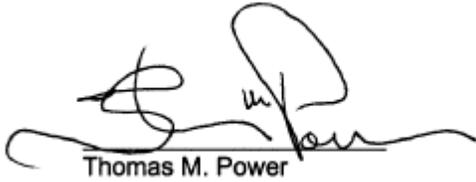
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<sup>11</sup> <http://pubs.usgs.gov/of/2008/1202/>

<sup>12</sup> Ibid., Figure 4

## VERIFICATION

I, Thomas M. Power, hereby verify under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge and belief.



Thomas M. Power

Dated this 1st day of July, 2013