



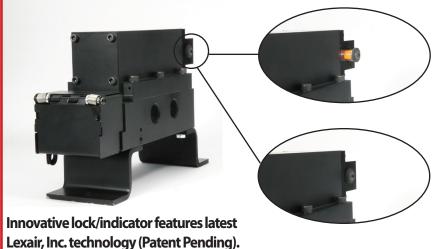


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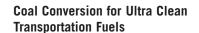
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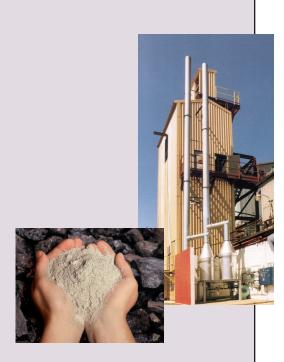
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Call and identify yourself as a Railroad Equipment Finance attendee.

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#### PRESIDENT'S MESSAGE / BOB NEFF



Bob Neff President, NCTA



### PRESIDENT'S REPORT

e were all sorry to have Bryan Bashore leave us as NCTA President in December. Bryan did a great job of keeping the NCTA "on track" and was a source of energy and commitment for us all. On behalf of the NCTA membership, we thank Bryan for his service and wish him well. Hopefully, we will see him at our future meetings.

With the close of 2007 upon us, we have seen increased coal loadings in both the east and west. In the PRB, the addition of trackage on the Joint Line and the conclusion of maintenance and upgrades by some mines has increased the potential capacity to even higher levels. In the east, we are seeing the emergence of that most elusive of markets, exports. Based on all of the excitement of late, it would appear that the United States will, once again, be the swing coal supplier to the world. How long this will continue is subject to the experts, but certainly 2008 promises to be an interesting year.

The NCTA, under the guidance of your Board of Directors, has initiated further study into certain aspects of the Joint Line coal loss mitigation. A successful response for funding from NCTA members has enabled the NCTA to further study the many questions around coal loss. The focus of

the study is guided by a Steering Committee, which is made up of the major funding contributors. This study will focus, and determine additional facts, on such issues as water availability in the areas of the mines, the effectiveness of large scale railcar top spraying, determination of the best rail car loading practices and an economic analysis of the best methods of addressing recommended solutions. The input and expertise received by many of our members has been remarkable, and greatly appreciated. The areas of study have been selected by the Steering Committee, and the selected engineering firm, Exponent, began work in January 2008. We should have an update at the spring conference in Colorado Springs.

The NCTA continues to move forward, attracting new members. We have formed a Strategic Planning Committee, headed by Jack Reid of Seminole Electric. The purpose of this committee will be to review the purpose, direction and objectives of our association and provide new initiatives for presentation to the executive director, board and general membership. Thanks to Jack for taking on this task and for the enthusiasm that he brings.

2008 looks to be shaping up into an exciting year for the NCTA and for all of us. ▲







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#### **EXECUTIVE DIRECTOR'S MESSAGE / TOM CANTER**



Tom Canter Executive Director, NCTA



### **MOVING** COAL

A Message from NCTA's Executive Director, Tom Canter.

s I write this message, coal is moving at a satisfactory pace by railroads, trucks, barges, ocean vessels, lake vessels and conveyor belts. River terminals, Great Lakes terminals, and ocean terminals are all busy loading and unloading ships and barges. This prosperity in coal logistics is occurring while the utilization of coal is under attack by politicians and activists worldwide. Nevertheless, coal remains the low cost, reliable source of energy throughout the globe and is a major driver of modern economies.

Robust coal demand presents regional challenges for the available coal supply to meet this demand. A surprise challenge will be for the transportation and coal supply structures to meet the growing demand for coal exports while satisfying domestic requirements.

The NCTA Fall Conference at the historic Brown Palace in downtown Denver, Colo. provided a balanced program addressing the issues of energy supply and demand, environmental challenges and transportation issues. The conference was enjoyed by close to 300 attendees from all sectors of the coal transportation industry. NCTA will always strive to provide superior programs at all conferences and working committee meetings.

NCTA members will be busy over the next few months in finding a cost effective course of action to address the fugitive coal dust that is emanating from railcars under current operations. NCTA will manage engineering studies to analyze and demonstrate proposals for implementing a cost effective solution to minimize coal dust. Of course, all courses of action must be demonstrated to be effective while minimizing the impact on the environment by requiring a sustainable usage of water resources. NCTA is committed to analyzing innovative ideas for coal transportation that will go beyond simply minimizing fugitive coal.

The association continues to increase membership and will have a full- time director of communications and operations starting in 2008. The NCTA Board of Directors has stepped up to the need for enhanced member services and the requests for more association involvement in all sectors of coal transportation. The level of involvement in the industry by NCTA staff and members will expand as we strive to meet our goals of member and public education and problem resolution for coal transportation.

Have a safe day while providing energy to the good people of North America. ▲





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#### **BOARD PROFILE / DAVE LAFFERE**



**Dave Laffere** *Manager of Fuels*Kansas City Power & Light Co.



## MEET YOUR BOARD Dave Laffere

By Sara Ajluni

ave Laffere, manager of fuels for Kansas City Power & Light Co., has worked in the fuels area for 14 years. Born and raised in a rural agricultural town in north central Kansas, Laffere went to college at Rockhurst University, where he earned a B.A. in finance and economics and an MBA in finance. He then moved to Kansas City in 1980.

Laffere began his career with utilities in 1988 working in the finance department, with responsibilities for daily cash management activities and corporate financings. He developed an increasing interest in the operational side of the business and moved to the fuels area in September 1993.

In 2005, he became the manager of the fuels group with responsibilities for coal purchasing, rail transportation, railcar acquisition and maintenance, natural gas purchasing and transportation, oil purchasing, limestone and ammonia acquisition, as well as managing environmental allowance programs and the marketing of combustion byproducts.

"The best thing about this job is the relationships I've developed with people in all industries related to coal production," Laffere said.

He first became involved in with the NCTA shortly after joining Fuels in 1993. Over the years, he has participated in both the Western Logistics and Planning committee and the O&M committee. In 2005, he accepted a position on the Board

of Directors of the NCTA and was recently re-elected for another term.

Laffere said that he believes one of the NCTA's biggest achievements has been the growth and longevity of the Logistics and Planning group. The group was formed in the late '90s to identify operational issues and to develop better coordination between railroads, mines and utilities. One of the biggest challenges of the job is keeping on top of all the new information relating to the various markets we deal in, Laffere said.

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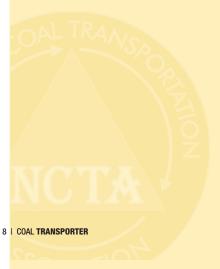
"As an industry, it is imperative that all facets of the transportation chain continue to become ever more efficient to ensure as much coal as possible is produced and transported from the Powder River Basin."

From a more general perspective, Laffere said he enjoys dealing with the dynamics of the changing marketplace.

We are constantly evaluating the changing market forces related to fuel and transportation, ever changing environmental issues and international events that are beginning to have a direct impact on how we do business, he said.

"I enjoy what I'm doing," Laferre said. "The people in this industry are truly special and I have made friendships that will last a lifetime."

In his spare time, Dave enjoys outdoor activities like golf, hunting, fishing and other recreational activities with his family. He and his wife, Carolyn, have been married for 27 years and they have four children, Kelly, Eric, Christina and Sarah.



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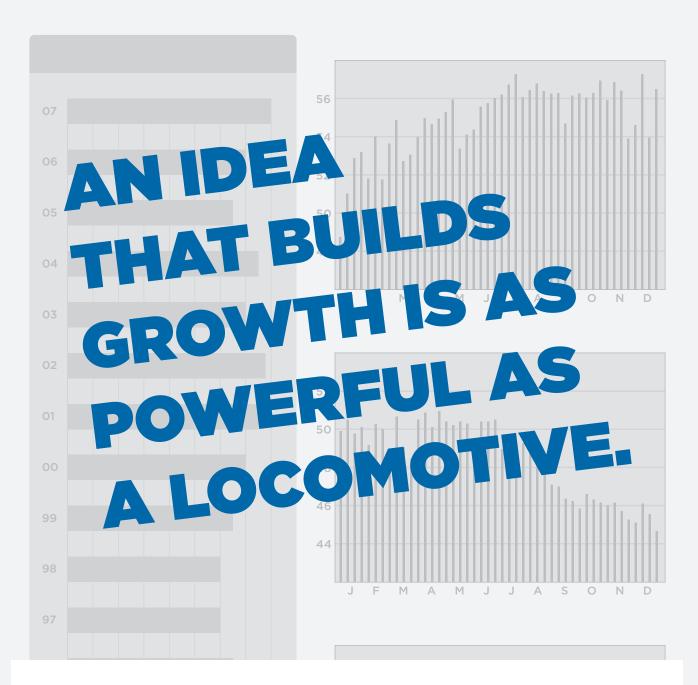
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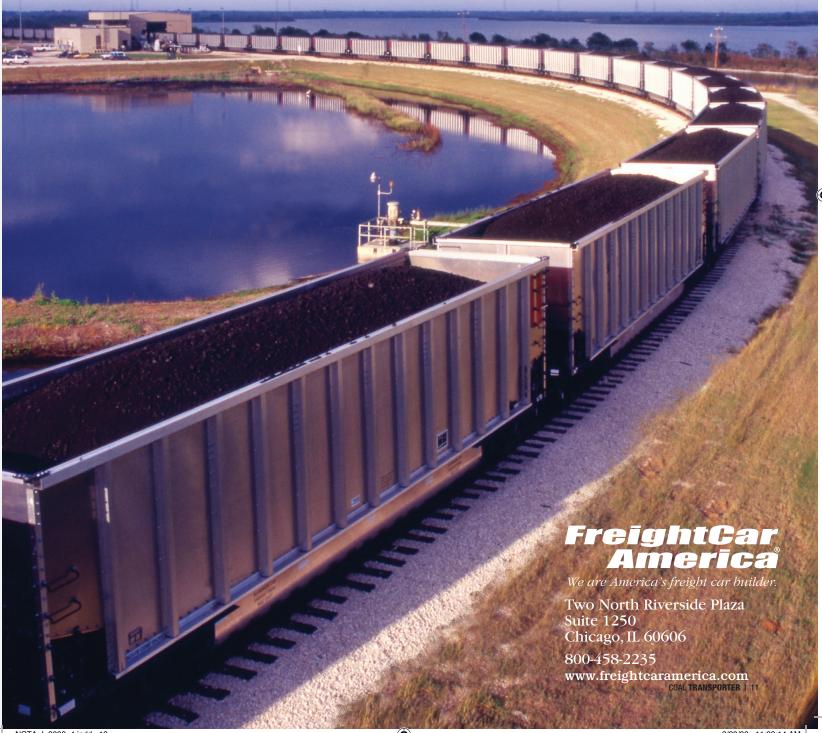
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# Membership Criteria

Morth America and other entities which are interested in its transportation and related issues. Entities or their affiliates whose primary business is providing transportation of coal by rail, barge, truck, pipeline slurry, or any other mode shall not be eligible for membership. One individual from each member company is designated to act as its representative. However, any individual employed by the member may participate in association activities.

#### Classes of Membership

#### Regular Members:

Actual or potential producers or consumers of coal shall be entitled to apply to become voting members of the association in accordance with provisions in the bylaws and policies adopted by the Board of Directors.

#### **Associate Members:**

Individuals or entities who are interested in the transportation of coal or related issues, but who do not otherwise qualify for admission as voting members, may seek admission as a non-voting member. Associate members may serve and be empowered by the committee chair to vote on committees, but shall not have the right to vote in general or special meetings of NCTA.

#### Honorary Individual Members:

For good cause shown including but not limited to exemplary and outstanding service to the NCTA, a former

Designated Representative of a Voting Member may be appointed an Honorary Individual Member of the National Coal Transportation Association. Honorary members may serve and be empowered to vote by the committee chair on committees, but do not have the right to vote in general or special meetings of NCTA. Membership dues and registration fees and other assessments of NCTA may be waived for Honorary Individual Members.

#### Membership Benefits

Your company may belong to more industry associations than just NCTA, but no other association provides the unique combination of education and real world results that come from NCTA membership. The financial impact associated with the procurement and delivery of coal demands this focus. NCTA maintains a high level of national prominence and credibility by participating in hearings, workshops, and symposiums, coordinating with ad hoc coalitions, providing resource material for governmental agencies, negotiating and educating on issues of general membership concern with carriers.

#### Conferences with Character

For three days in the spring and fall of each year, NCTA provides coal industry professionals with an exclusive opportunity to share their outlook and knowledge and to exchange ideas. NCTA conferences provide its members the opportunity to learn from the experiences of others with similar responsibilities and from outside experts in an open and noncompetitive environment. Think of the ideas you can borrow, the pitfalls you can avoid and the valuable insight you can give and receive. Members attend all conferences at a preferential rate.



#### Logistics and Planning Subcommittees

The Eastern and Western Logistics & Planning Subcommittees do much of the heavy lifting to solve problems with respect to the efficient operation of the coal delivery process. An important source of strength is the NCTA working committee system that is made possible by the dedication and expertise of our member representatives and the cooperation of the rail carriers. Each Logistics & Planning group meets at least twice annually. These working group meetings are open meetings and are free to attend.





#### Operations & Maintenance Subcommittee

For companies that do not have the resources, or have diminished resources to support company representation on industry and consensus-based technical panels, the O&M subcommittee helps to fill this gap. The annual conference program provides excellent information on new technologies and best practices for coal car design, maintenance, and repair.

### Access to Railcar Leasing Exchange Board

NCTA members have exclusive access to a railcar leasing exchange board where

excess train capacity can be posted for lease and where members can post railcar needs. With 60,000 to 70,000 private cars owned and operated by NCTA members, this is a good place to start when you need to adjust your capacity requirements.

#### Commitment to Education

Education is a hallmark of NCTA. NCTA educates its members through its annual conferences and publications. NCTA also supports education through its scholarship program that awards scholarships to students in transportation at several major universities as well as to the dependent sons and daughters of employees of member companies.

#### Policy Insights

The Board of Directors continues to meet in Washington, D.C. each year to visit governmental agencies and other trade associations. Maintaining a presence in Washington enables NCTA to have input into federal policymaking and to better represent member concerns on federal issues. NCTA fosters relationships with key personnel and departments within the Department of Energy, the Department of Transportation, the Surface Transportation Board, the Federal Railroad Administration, and with various elected representatives. NCTA is an educational entity and does not

officially lobby for or against legislation. However, we do actively participate in hearings and rulemaking proceedings of interest to our membership.

#### Communications

Through its ever growing web presence, NCTA communicates with the world about the coal industry and with NCTA member companies - linking potential customers to its members and linking its members to other useful Web sites throughout the Internet. A "Members Only" section provides detailed member contact information, valuable updates on current subcommittee initiatives, a railcar leasing marketplace and other items of interest exclusively to NCTA members. The conference archives date back to 2004, creating a virtual library of information on energy and transportation issues. The semi-annual Coal Transporter magazine focuses on getting to know people in the industry, as well as informing NCTA members and the coal industry as a whole of new

and relevant events occurring within the organization.

Membership in NCTA is a sound business decision with a solid return on investment and we look forward to serving you. A member company of the National Coal Transportation Association is not just another utility, coal supplier, rail equipment supplier, or coal related services organization. It is part of a tradition of excellence that through affiliation with NCTA, it signals exceptional commitment and obligation to the market, its customers and to the public.

#### **Annual Dues**

The annual dues for membership in NCTA are \$1,250.00 payable in January of each year.

#### Application for Membership

All entities or persons desiring membership in the association should apply using the online application or contacting the NCTA for a membership application. The application will include the name, principal business activity and business address of the applicant and the full contact information for the applicant's proposed Designated Representative. Application forms, along with payment of the annual dues, should be returned to the Executive Director of the Association.

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# LOOKING BACK: Fall Meeting 2007

By Pat Scherzinger

The historic Brown Palace Hotel was the backdrop for the 33rd Annual Fall Meeting and Conference held September 10 to 12 in Denver, Colorado.

he theme of this year's conference was "Potpourri," a reflection of the wide variety of issues facing the coal industry today that were addressed in the general sessions.

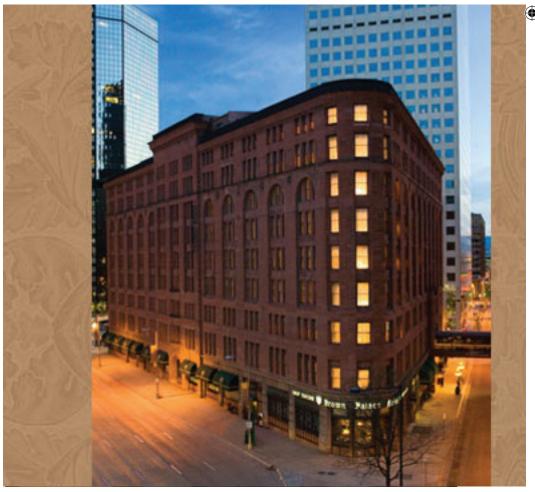
The NCTA traditionally strives to present both sides of issues and the audience was not disappointed with the diverse perspectives of the speakers on such hot topics as STB oversight, pending rail legislation, rail operations, and the inroads of renewables in the energy mix. Overriding the differences of opinion on specific issues was the recognition that coal is a valuable and necessary resource and to achieve energy independence, coal must continue to play a major part in power generation. In a special luncheon hosted by Rio Tinto Energy America, Montana Governor Brian Schweitzer laid out his thoughts on coal's role in building a bridge to the new energy future.

The evening receptions were lively affairs with the traditional iced shrimp on hand and roving platters of tasty tidbits threading their way among the 280 conference attendees and their guests. There were plenty of new people to meet as well as old friends to catch up with and engage in an amusing repartee. For you Texans, that's French for "shoot the bull." It seems that there is never enough time to say hello to everyone before people head out for dinner.

At the business meeting, NCTA President Bryan Bashore presented his annual report to the membership which highlighted the events and accomplishments

of the association over the preceding 12-month period. The full report can be downloaded from the NCTA Web site. The members voted to re-elect Dave Laffere (Kansas City Light & Power Co.), Bob Neff (Ameren), and Jack Reid (Seminole Electric) to serve three-year terms on the Board of Directors. In other news, Jim Orchard (Rio Tinto) was elected by the Board of Directors to serve the remaining year of Bill Wallace's term, who resigned in order to focus on new job responsibilities.





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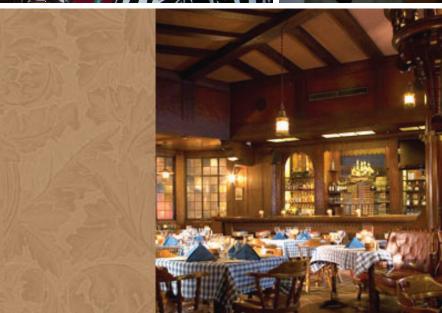
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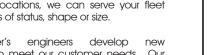
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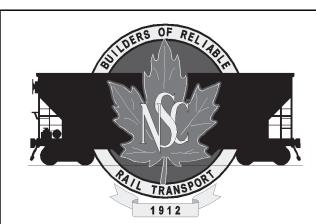
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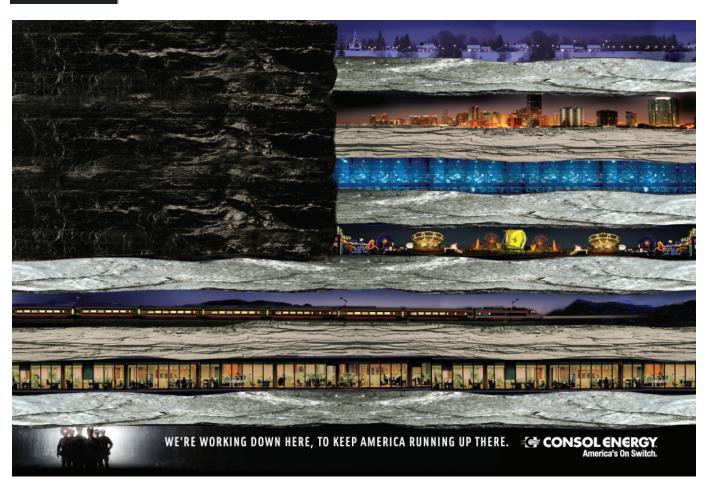


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#### **NEW** TECHNOLOGY



### A "normal day" on the railroad is anything but as the first revenue ECP train operates under FRA Waiver

fter more than a year in planning and after nearly 15 years in development by the industry's brake suppliers, Norfolk Southern Railroad (NS) operated the first train equipped with Electronically Controlled Pneumatic (ECP) brakes in revenue service under the FRA waiver.

"It really makes a difference to the engineers and to a lesser degree the conductor," said Jim Forrester, manager of equipment planning and business development for the NS' Coal Business Group. "They're the ones that can really tell the difference."

NS reports being pleased with the operation so far, saying that the train operates "precisely the way it was supposed to" which "enabled a lot of people to get some rest."

NS commissioned the new train, built at Freight Car America's Roanoke facility on Oct. 11 in coal service between mines located in Southwestern Pennsylvania and a Keystone Generating Station in Shelocta, Penn. The train comprises three locomotive and 115 cars. NS said more ECP trains are in its future, and the Burlington Northern Santa Fe Railway (BNSF) hopes to have its first train in service late 2007.

FRA Administrator Joseph Boardman, a longtime ECP advocate, encouraged other railroads to increase their involvement in advancing the technology.

"These railroads understand using ECP brake technology can bring significant safety and business benefits, and I encourage other railroads to follow their lead," Boardman said.

In March, the FRA issued waivers to NS and BNSF that permit the railroads to install ECP brakes on trains traveling up to 3,500 miles — more than double the current maximum distance — and make fewer routine brake inspection stops than federal regulations currently require.

"Since ECP brake technology provides continual electronic self-diagnostic system checks that inform train crews when maintenance is required, the need to stop for routine brake tests becomes unnecessary," Boardman said.





# Service ECP Train

By Jason Connell

In September, the FRA issued a proposed rule based on the provisions of the waiver designed to further promote the deployment of ECP brakes on more trains. Boardman said that an intermodal container train equipped with ECP brakes originating from a West Coast port could operate all the way to Chicago without stopping, except for refueling and crew changes. Similarly, ECP brake-equipped coal trains are expected to make quicker deliveries from western coal fields to eastern and southern power plants because stopping for routine brake tests would be unnecessary.

To further ensure the safety of ECPequipped trains, the waiver and proposed rule include several conditions such as requirements that the railroad clearly define a process for rectifying brake problems discovered en route, ensuring that ECP brake inspections are only performed by qualified mechanical inspectors, and providing appropriate training to train crew members.

The brakes improve train control and reduce the risk of derailments, according to the FRA.

"ECP brakes are to trains what anti-lock brakes are to automobiles—control," Boardman said. "It offers a quantum improvement in rail safety."

The system provides improved train braking and can reduce stopping distances up to 60 percent, he said.

#### **ECP Development Timeline**

**1994** First ECP Pilot Trains Placed in Service for Coal and Intermodal

**1998** Quebec Cartier Mining
Begins Operating ECP in
Regular Captive Service

2000 Southern Company operates first ECP Trains on CSX using Echelon PLT-22 power line modem (basis for current AAR Specs)

2001 South African Railways
(Spoornet) Begins First
revenue operation with PLT22 and wire line distributed
power

**2005** Australia's Queensland Rail begins standalone ECP op eration in Hunter Valley

**2006** FRA Released Industry Wide ECP Study

**2007** FRA Grants Waivers to BNSF and NS to Operate ECP Trains

2007 1st ECP Trains in Regular Revenue Service Under the Waiver



#### **NEW** TECHNOLOGY



In contrast to conventional air brake systems, which operate sequentially from one rail car to the next, ECP technology applies the brakes uniformly and instantaneously on every rail car in a train. For this reason, ECP brakes lead to better train control, shorter stopping distances and a lower risk of derailments.

Visually, ECP systems add several new components to a freight car. In addition to the traditional air brake hose, a new wired interconnection cable is added along with conduit that runs the length of the car. A junction box ties the ECP system to the wire line and a car control

"Since ECP brake technology provides continual electronic self-diagnostic system checks that inform train crews when maintenance is required, the need to stop for routine brake tests becomes unnecessary," *Joseph Boardman* 

device operates the brakes on the car as well as serves as a car identifier. This equipment is located near where the current control valve resides. For standalone systems, the conventional pneumatic service portion is replaced with an ECP device; on overlay systems both pneumatic portions are used, but an interface connector is added between the pipe bracket and the service portion. All configurations continue to use the standard AB pipe bracket.

The two main manufacturers of the

technology, Wabtec Corporation and New York Air Brake (NYAB), both offer various configurations dependent upon customer requirements. In general, NYAB's offering combines the ECP operating portion and the car control device into one package and places the Car Identification module into the Junction box. Wabtec offers three separate boxes: a simplified junction box, combined car identification and control device (CCID) and a lightweight, standalone operating portion.

Standalone and overlay configurations are both available and each has its



distinct operating advantages. Overlay systems can still be used in standard pneumatic service because they retain the conventional pneumatic control portions; standalone configurations can only be used in ECP mode and are not compatible with conventional braking. Some believe an overlay approach is better because it allows for interchangeability between systems. Others believe that standalone equipment is the way to go because it forces operators to keep the cars together so that the ECP system has a much better chance of being operated. Norfolk Southern elected to go with a standalone system.

So, how did it feel to be the first?

"Because it is so new, and in some ways very, very different to have electronic components on a freight car, is very unusual," Forrester said. "What you felt was, I hope nothing goes wrong – that's what everybody was thinking about."

Everyone involved appears to be pleased with how things have gone so far. NS remains positive about the benefits ECP provides but acknowledges that it will take time for the industry to fully embrace ECP.

With ECP "you're applying the brakes to everything simultaneously and instantaneously," which results in a much smoother operation. That results in things like being "able to stop a train on a hill and restart it more quickly". Engineers "will be able to stop a train more safely with less distance." NS also predicts the system will help save wheels as well.

Despite its clear benefits, NS can't predict when ECP will achieve mass adoption.

"Right now in this application, every single component of equipment that comes in contact with these cars has to be special," Forrester says. "The crews and the conductors and mechanical people have to be specially trained. It's a long way away from becoming the norm and widespread. If you have a pure ECP train set, you cannot move it unless you have all these other ECP equipped components, so it becomes very, very highly specialized in the pilot phase."

Clearly, this is something that all rail-roads and suppliers will be working to change. ▲



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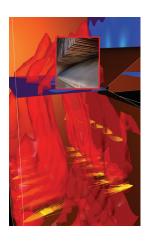
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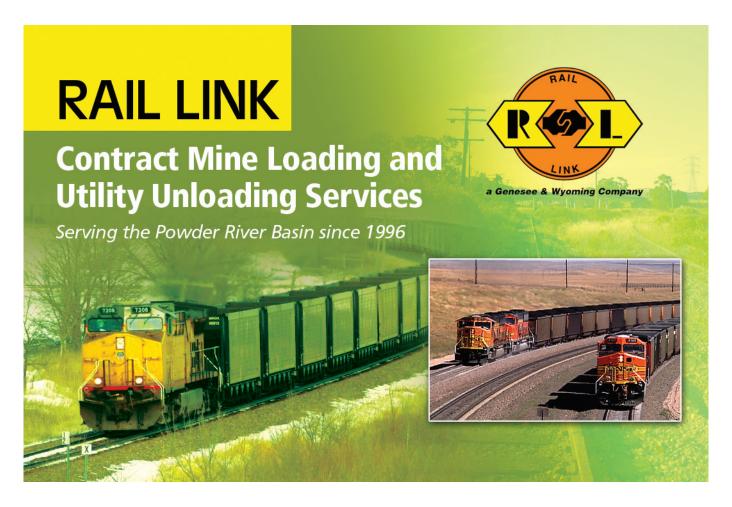
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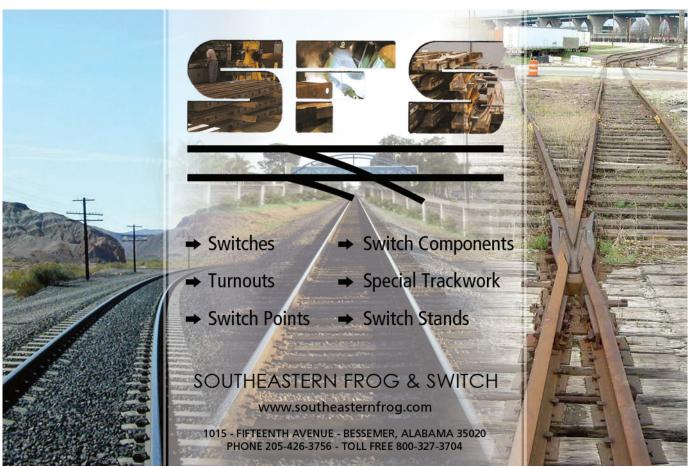
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# Hey Al Gore, We Want a Refund!

By Steve Milloy

A British judge ruled on the eve of Al Gore co-winning the Nobel Peace Prize that students forced to watch "An Inconvenient Truth" must be warned of the film's factual errors. But would there be any science at all left in Gore's "truth" if these errors and their progeny were excised?

inutes of non-science filler dominate the opening sequence — images of the Gore farm, Earth from space, Gore giving his slideshow and the 2000 election controversy. Gore then links Hurricane Katrina with global warming. But the judge ruled that was erroneous, so the Katrina scenes would wind up on the cutting-room floor. Another 12 minutes of filler go by images of Gore in his limo, more Earth photos, a Mark Twain quote, and Gore memories — until about the 16:30 minute mark, when, according to the judge, Al Gore erroneously links receding glaciers — specifically Mt. Kilimanjaro with global warming.

The Mt. Kilimanjaro error commences an almost 10-minute stretch of problematic footage, the bulk of which contains Gore's presentation of the crucial issue in the global warming controversy — whether increasing levels of atmospheric carbon dioxide drive global temperatures higher. As the judge ruled that the Antarctic ice core data presented in the film "do not establish what Mr. Gore asserts," this inconvenient untruth also needs to go. [Note to readers: A video debate between Al Gore and climatologists on this point produced by me can be viewed by visiting http://youtube.com/ watch?v=XDI2NVTYRXU]

After still more filler footage about Winston Churchill, the 2000 election,

and rising insurance claims from natural disasters, Gore spends about 35 seconds on how the drying of Lake Chad is due to global warming. The judge ruled that this claim wasn't supported by the scientific evidence.

More filler leads to a 30-second clip about how global warming is causing polar bears to drown because they have to swim greater distances to find sea ice on which to rest. The judge ruled however, that the polar bears in question had actually drowned because of a particularly violent storm.



On the heels of that error, Gore launches into a 3-minute "explanation" of how global warming will shut down the Gulf Stream and send Europe into an ice age. The judge ruled that this was an impossibility.

Two minutes of ominous footage — casting Presidents Reagan and George H.W. Bush, and Sen. James Inhofe (R-OK) in a creepy light and expressing Gore's frustration with getting his alarmist message out — precede a more-than-9-minute stretch that would need to be cut.

In this lengthy footage, Gore again tries to link global warming with discrete events including coral reef bleaching, the melting of Greenland, catastrophic sea level rise, Antarctic melting and more. But like Hurricane Katrina, these events also shouldn't be linked with global warming.

Based on the judge's ruling, the footage that ought to be excised adds up to about 25 minutes or so out of the 98-minute film. What's left is largely Gore personal drama and cinematic fluff that has nothing to do with the science of climate change.

It should also be pointed out that Gore makes other notable factual misstatements in the film that don't help his or his film's credibility.

He says in the film that polio has been "cured," implying that we can cure "global warming." While a preventative polio vaccine does exist, there is no "cure" for polio.

Gore attempts to smear his critics by likening them to the tobacco industry. In spotlighting a magazine advertisement proclaiming that "more doctors smoke Camel than any other brand," he states that the ad was published after





the Surgeon General's 1964 report on smoking and lung cancer. But the ad is actually from 1947 — 17 years before the report.

Gore also says in the film that 2005 is the hottest year on record. But NASA data actually show that 1934 was the hottest year on record in the U.S. — 2005 is not even in the top 10.

Perhaps worse than the film's errors is their origin. The BBC reported that Gore knew the film presented incorrect information but took no corrective steps because he didn't want to spotlight any uncertainties in the scientific data that may fuel opponents of global warming alarmism.

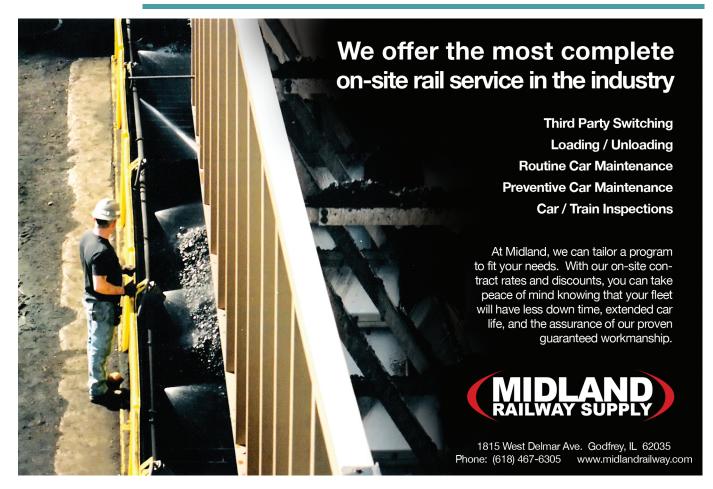
"An Inconvenient Truth" grossed about \$50 million at the box office and millions more in DVD and book sales. Gore charges as much as \$175,000 for an in-person presentation of his slide show that forms the basis for the film.

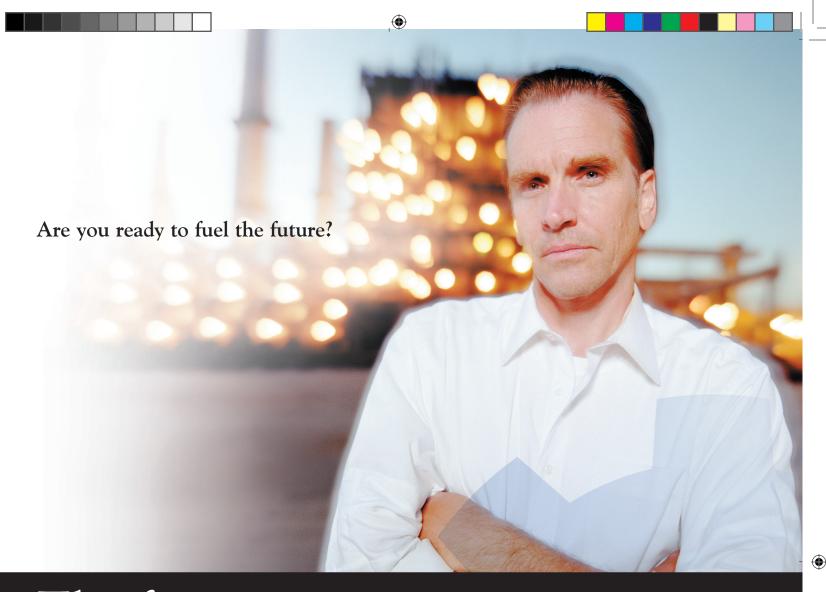


The controversial movie "An Inconvenient Truth"

Considering that a key 25 percent of "An Inconvenient Truth" is not true — and perhaps intentionally so — it seems only fair that Gore offer a refund to moviegoers, DVD/book purchasers and speaking sponsors. Where are the class action lawyers when you need them?

Steven Milloy publishes JunkScience. com and DemandDebate.com. He is a junk science expert and advocate of free enterprise and an adjunct scholar at the Competitive Enterprise Institute.





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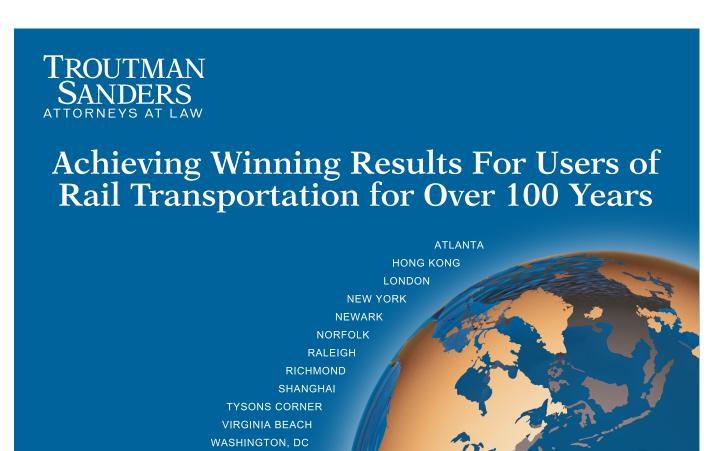
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This is not to say that we don't face a serious problem. But the problem is political. Because of the mistaken idea that governments can and must do something about climate, pressures are building that have the potential of distorting energy policies in a way that will severely damage national economies, decrease standards of living, and increase poverty. This misdirection of resources will adversely affect human health and welfare in industrialized nations, and even more in developing nations. Thus it could well lead to increased social tensions within nations and conflict between them.

If not for this economic and political damage, one might consider the present concern about climate change nothing more than just another environmentalist fad, like the Alar apple scare or the global cooling fears of the 1970s. Given that so much is at stake, how-ever, it is essential that people better understand the issue.

#### Man-Made Warming?

The most fundamental question is scientific: Is the observed warming of the past 30 years due to natural causes or are human activities a main or even a contributing factor?

At first glance, it is quite plausible that humans could be responsible for warming the cli-mate. After all, the burning of fossil fuels to generate energy releases large quantities of carbon dioxide into the atmosphere. The CO2 level has been increasing steadily since the beginning of the industrial revolution and is now 35 percent higher than it was 200 years ago. Also, we know from direct measurements that CO2 is a "greenhouse gas" which strongly absorbs infrared (heat) radiation. So the idea that burning fossil fuels causes an enhanced "greenhouse effect" needs to be taken seriously.

But in seeking to understand recent warming, we also have to consider the natural factors that have regularly warmed the climate prior to the industrial revolution and, indeed, prior to any human presence on the earth. After all, the geological record shows a persistent 1,500-year cycle of warming and cooling extending back at least one million years. In identifying the burning of fossil fuels as the chief cause of warming today,

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many politicians and environmental activists simply appeal to a so-called "scientific consensus." There are two things wrong with this. First, there is no such consensus: An increasing number of climate scientists are raising serious questions about the political rush to judgment on this issue. For example, the widely touted "consensus" of 2,500 scientists on the United Nations Intergovernmental Panel on Climate Change (IPCC) is an illusion: Most of the panelists have no scientific qualifications, and many of the others object to some part of the IPCC's report. The Associated Press reported recently that only 52 climate scientists contributed to the report's "Summary for Policymakers."

Likewise, only about a dozen members of the governing board voted on the "consensus statement" on climate change by the American Meteorological Society (AMS). Rank and file AMS scientists never had a say, which is why so many of them are now openly rebelling. Estimates of skepticism within the AMS regarding man-made global warming are well over 50 percent.

The second reason not to rely on a "scientific consensus" in these matters is that this is not how science works. After all, scientific advances customarily come from a minority of scientists who challenge the majority view—or even just a single person (think of Galileo or Einstein). Science proceeds by the scientific method and draws conclusions based on evidence, not on a show of hands.

But aren't glaciers melting? Isn't sea ice shrinking? Yes, but that's not proof for human-caused warming. Any kind of warming, whether natural or human-caused, will melt ice. To assert that melting glaciers prove human causation is just bad logic. What about the fact that carbon dioxide levels are increasing at the same time temperatures are rising? That's an interesting correlation; but as every scientist knows, correlation is not causation. During much of the last century the climate was cooling while CO2 levels were rising. And we should note that the climate has not warmed in the past eight years, even though greenhouse gas levels have increased rapidly.

What about the fact—as cited by, among others, those who produced the IPCC report—that every major greenhouse computer model (there are two dozen or so) shows a large temperature increase due to human burning of fossil fuels? Fortunately, there is a scientific way of testing these models to see whether current warming is due to a man-made greenhouse effect. It involves comparing the actual or observed pattern of warming with the warming pattern predicted by or calculated from the models. Essentially, we try to see if the "finger-prints" match—"fingerprints" meaning the rates of warming at different latitudes and altitudes.

For instance, theoretically, greenhouse warming in the tropics should register at increasingly high rates as one moves from the surface of the earth up into the atmosphere, peaking at about six miles above the earth's surface. At that point, the level should be greater than at the surface by about a factor of three and quite pronounced, according to all the computer models. In reality, however, there is no increase at all. In fact, the data

from balloon-borne radiosondes show the very opposite: a slight decrease in warming over the equator.

The fact that the observed and predicted patterns of warming don't match indicates that the man-made greenhouse contribution to current temperature change is insignificant. This fact emerges from data and graphs collected in the Climate Change Science Program Report 1.1, published by the federal government in April 2006 (see www.climatescience.gov/Library/sap/sap1-1/finalreport/default.htm). It is remarkable and puzzling that few have noticed this disparity between observed and predicted patterns of warming and drawn the obvious scientific conclusion.

What explains why greenhouse computer models predict temperature trends that are so much larger than those observed? The answer lies in the proper evaluation of feedback within the models. Remember that in addition to carbon dioxide, the real atmosphere contains water vapor, the most powerful greenhouse gas. Every one of the climate models calculates a significant positive feedback from water vapor—i.e., a feedback that amplifies the warming effect of the CO2 increase by an average factor of two or three. But it is quite possible that the water vapor feedback is negative rather than positive and thereby reduces the effect of increased CO2.

There are several ways this might occur. For example, when increased CO2 produces a warming of the ocean, a higher rate of evaporation might lead to more humidity and cloudiness (provided the atmosphere contains a sufficient number of cloud condensation nuclei). These low clouds reflect incoming solar radiation back into space and thereby cool the earth. Climate researchers have discovered other possible feedbacks and are busy evaluating which ones enhance and which diminish the effect of increasing CO2.

#### **Natural Causes of Warming**

A quite different question, but scientifically interesting, has to do with the natural factors influencing climate. This is a big topic about which much has been written. Natural factors include continental drift and mountain-building, changes in the Earth's orbit, volcanic eruptions, and solar variability. Different factors operate on different time scales. But on a time scale important for human experience—a scale of decades, let's say—solar variability may be the most important.

Solar influence can manifest itself in different ways: fluctuations of solar irradiance (total energy), which has been measured in satellites and related to the sunspot cycle; variability of the ultraviolet portion of the solar spectrum, which in turn affects the amount of ozone in the stratosphere; and variations in the solar wind that modulate the intensity of cosmic rays (which, upon impact into the earth's atmosphere, produce cloud condensation nuclei, affecting cloudiness and thus climate). Scientists have been able to trace the impact of the sun on past climate using proxy data (since thermometers are relatively modern). A conventional proxy for temperature is the ratio of the heavy isotope of oxygen, Oxygen-18, to the most common form, Oxygen-16.

#### **GLOBAL** WARMING

A paper published in Nature in 2001 describes the Oxygen-18 data (reflecting temperature) from a stalagmite in a cave in Oman, covering a period of over 3,000 years. It also shows corresponding Carbon-14 data, which are directly related to the intensity of cosmic rays striking the earth's atmosphere. One sees there a remarkably detailed correlation, almost on a year-by-year basis. While such research cannot establish the detailed mechanism of climate change, the causal connection is quite clear: Since the stalagmite temperature cannot affect the sun, it is the sun that affects climate.

#### **Policy Consequences**

If this line of reasoning is correct, human-caused increases in the CO2 level are quite insignificant to climate change. Natural causes of climate change, for their part, cannot be controlled by man. They are unstoppable. Several policy consequences would follow from this simple fact:

- Regulation of CO2 emissions is pointless and even counterproductive, in that no matter what kind of mitigation scheme is used, such regulation is hugely expensive.
- The development of non-fossil fuel energy sources, like ethanol and hydrogen, might be counterproductive, given that they have to be manufactured, often with the investment of great amounts of ordinary energy. Nor do they offer much reduction in oil imports.
- Wind power and solar power become less attractive, being uneconomic and requiring huge subsidies.
- Substituting natural gas for coal in electricity generation makes less sense for the same reasons.

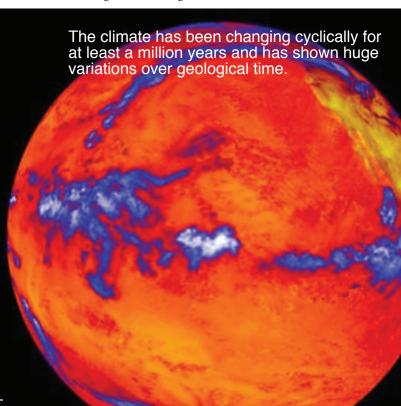
None of this is intended to argue against energy conservation. On the contrary, conserving energy reduces waste, saves money, and lowers energy prices—irrespective of what one may believe about global warming.

#### Science vs. Hysteria

You will note that this has been a rational discussion. We asked the important question of whether there is appreciable manmade warming today. We presented evidence that indicates there is not, thereby suggesting that attempts by governments to control green-house-gas emissions are pointless and unwise. Nevertheless, we have state governors calling for CO2 emissions limits on cars; we have city mayors calling for mandatory CO2 controls; we have the Supreme Court declaring CO2 a pollutant that may have to be regulated; we have every industrialized nation (with the exception of the U.S. and Australia) signed on to the Kyoto Protocol; and we have ongoing international demands for even more stringent controls when Kyoto expires in 2012. What's going on here?

To begin, perhaps even some of the advocates of these antiwarming policies are not so serious about them, as seen in a feature of the Kyoto Protocol called the Clean Development Mechanism, which allows a CO2 emitter—i.e., an energy user—to support a fanciful CO2 reduction scheme in developing nations in exchange for the right to keep on emitting CO2 un-abated. "Emission trading" among those countries that have ratified Kyoto allows for the sale of certificates of unused emission quotas. In many cases, the initial quota was simply given away by governments to power companies and other entities, which in turn collect a windfall fee from consumers. All of this has become a huge financial racket that could someday make the UN's "Oil for Food" scandal in Iraq seem minor by comparison. Even more fraudulent, these schemes do not reduce total CO2 emissions—not even in theory.

It is also worth noting that tens of thousands of interested persons benefit directly from the global warming scare—at the expense of the ordinary consumer. Environmental organizations globally, such as Greenpeace, the Sierra Club, and the Environmental Defense Fund, have raked in billions of dollars. Multi-billion-dollar government subsidies for useless mitigation









schemes are large and growing. Emission trading programs will soon reach the \$100 billion a year level, with large fees paid to brokers and those who operate the scams. In other words, many people have discovered they can benefit from climate scares and have formed an entrenched interest. Of course, there are also many sincere believers in an impending global warming catastrophe, spurred on in their fears by the growing number of one-sided books, movies, and media coverage.

The irony is that a slightly warmer climate with more carbon dioxide is in many ways beneficial rather than damaging. Economic studies have demonstrated that a modest warming and higher CO2 levels will increase GNP and raise standards of living, primarily by improving agriculture and forestry. It's a well-known fact that CO2 is plant food and essential to the growth of crops and trees—and ultimately to the well-being of animals and humans.

You wouldn't know it from Al Gore's An Inconvenient Truth, but there are many upsides to global warming: Northern homes could save on heating fuel. Canadian farmers could harvest bumper crops. Greenland may become awash in cod and oil riches. Shippers could count on an Arctic shortcut between the Atlantic and Pacific. Forests may expand.

Mongolia could become an economic superpower. This is all speculative, even a little facetious. But still, might there be a silver lining for the frigid regions of Canada and Russia? "It's not that there won't be bad things happening in those countries," economics professor Robert O. Mendelsohn of the Yale School of Forestry & Environmental Studies says. "But the idea is that they will get such large gains, especially in agriculture, that they will be bigger than the losses." Mendelsohn has looked at how gross domestic product around the world would be affected under different warming scenarios through 2100. Canada and Russia tend to come out as clear gainers, as does much of

northern Europe and Mongolia, largely be-cause of projected increases in agricultural production.

To repeat a point made at the beginning: Climate has been changing cyclically for at least a million years and has shown huge variations over geological time. Human beings have adapted well, and will continue to do so.

The nations of the world face many difficult problems. Many have societal problems like poverty, disease, lack of sanitation, and shortage of clean water. There are grave security problems arising from global terrorism and the proliferation of nuclear weapons. Any of these problems are vastly more important than the imaginary problem of man-made global warming. It is a great shame that so many of our resources are being diverted from real problems to this non-problem. Perhaps in ten or 20 years this will become apparent to everyone, particularly if the climate should stop warming (as it has for eight years now) or even begin to cool.

We can only trust that reason will prevail in the face of an onslaught of propaganda like Al Gore's movie and despite the incessant misinformation generated by the media. Today, the imposed costs are still modest, and mostly hidden in taxes and in charges for electricity and motor fuels. If the scaremongers have their way, these costs will become enormous. But I believe that sound science and good sense will prevail in the face of irrational and scientifically baseless climate fears.  $\blacktriangle$ 

S. Fred Singer is professor emeritus of environmental sciences at the University of Virginia, a distinguished research professor at George Mason University, and president of the Science and Environmental Policy Project. Dr. Singer has written or edited over a dozen books and mono-graphs, including, most recently, Unstoppable Global Warming: Every 1,500 Years.

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36 | COAL TRANSPORTER



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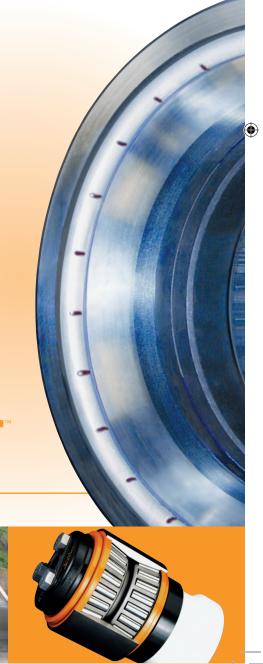
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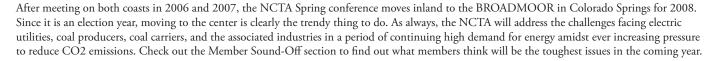
#### **UPCOMING MEETING / CONFERENCE**





## GENERAL SPRING CON

April 20 - April 23



Located on 3,000 lush acres at the foot of Pikes Peak, the BROADMOOR is the longest-running consecutive winner of both the AAA Five-Diamond and the Mobil Travel Guide Five-Star awards. While at the conference, railroad lovers and history buffs should consider a trip on the Manitou and Pikes Peak Railway while in the area. For 114 years, the world's highest cog railroad and highest train in the United States has taken passengers to the 14,110-foot summit of Pikes Peak. It was on Pike's Peak in 1893 that Katherine Lee Bates was inspired by the "spacious skies" and "purple mountain majesties" to write the poem that later became America the Beautiful. In another piece of rail history, it is said that Teddy Roosevelt (a featured speaker at the NCTA's 2006 Fall Conference) was on a trip on Colorado Springs & Cripple Creek District Railway in the Gold Camp Road area when he commenting on the view with the words, "This is the ride that bankrupts the English language."

The conference will open with a reception Sunday evening. The NCTA is pleased to host dinner at the picturesque Cheyenne Lodge on Monday evening after the annual golf tournament. Tuesday morning will be a plenary session with special breakout sessions on Tuesday afternoon. Tuesday evening will be available for business meetings and hosted dinners. Wednesday morning will again be a plenary session with the closing of the conference at or before noon on Wednesday.

Sunday, April 20

5:30 - 6:30 p.m.

Monday, April 21 8 - 11 a.m.

12:30 - 5:30p.m.

7 - 9:30p.m.

Tuesday, April 22 7 - 7:30 a.m.

7:30 a.m. - Noon

1:30 - 4:30pm

Wednesday, April 23

7 - 7:30 a.m. 7:30 a.m. - Noon Welcoming Reception

NCTA Board of Directors Meeting Golf Tournament - East Course

Dinner - Cheyenne Lodge

Continental Breakfast - Rocky Mountain Foyer General Session - Rocky Mountain C and D

Lunch by Individual Arrangement

Breakout Sessions and Working Groups - Rocky Mountain A and B

Continental Breakfast - Rocky Mountain Foyer General Session - Rocky Mountain C and D



#### **UPCOMING MEETING / CONFERENCE**

#### REGISTRATION

Registration is required for each attendee at the NCTA Spring Meeting. The fee is \$480.00 for attendees representing a member company and \$635.00 for all other attendees when registering prior to March 28, 2008. After March 28, an additional \$50 fee will apply for all late registrants. All registrations by a nonmember company for more than three individuals will be registered at the member rate. There will be an additional fee of \$85.00 for spouses and guests attending the dinner on Monday evening. Due to the generous donations of our golf sponsers, the fee to participate in the 13th Annual NCTA Golf Tournament is only \$90.00. There is no other fee for spouses/guests at any other NCTA function. A name badge will be provided and it is requested that it be worn for all scheduled functions. Online Registration is available through the Spring 2008 Conference page on the NCTA Web site: http://www.nationalcoaltransportation.org/events/spring2008

#### ACCOMMODATIONS

The BROADMOOR. Mention you will be staying there and you will get an instant reaction that combines recognition and admiration with maybe an uncontainable pinch of jealousy thrown in. Like a celebrity with no last name, the Broadmoor is exclusive, inimitable and the only one of its kind. This resort has it all, including a storied history dating back to the late 1800s. This sprawling resort at the foot of the Rocky Mountains started life as a casino in 1891. When it was transformed into a grand hotel, it was intended to be one of the finest in the country. European and Oriental influences played heavily into its design and an Old World feel remains. The property is anchored by Cheyenne Lake and has three golf courses: the original Broadmoor Nine (which later added another nine) by Donald Ross, a second course designed by Robert Trent Jones, Jr. and a third by Ed Seay and Arnold Palmer. The 600 guestrooms and 100 suites are located in the historic Main Building and the West Tower; the latter have balconies overlooking the golf course, many with great mountain and lake views. There is an 11,000-square-foot infinity edge swimming pool at the north end of the lake, an outdoor lap pool with mountain views and an indoor pool set beneath a stained glass skylight. Top-notch resort facilities include The Spa at the Broadmoor and The Broadmoor Tennis Complex, with seven plexi-cushion courts including one stadium court and two courts covered by an illuminated heated bubble during the winter. Additional amenities include bicycle rentals, stables, paddleboats and walking trails. The Broadmoor is located at 1 Lake Ave., Colorado Springs, CO 80906.

**RESERVATIONS** 

**ROOM RATES PER DAY** 

Telephone: 1-800-634-7711 Single/Double Room \$185.00/day

Room rates are European plan and do not include lodging, city and state taxes of 9.4% or the resort fee of \$14 per day. The block cutoff date for guaranteed reservations is March 28 with reservations accepted subject to availability after this date. Please make reservations early for this popular venue. The NCTA rate is available for three days before and three days after our conference, subject to availability. Check-in time is 4 p.m. Check-out time is 12 p.m.





#### **UPCOMING MEETING / CONFERENCE**

#### **NATIONAL COAL TRANSPORTATION ASSOCIATION**

#### CONFERENCES WITH CHARACTER



2008 SPRING GENERAL CONFERENCE THE BROADMOOR, COLORADO SPRINGS	S, COLORADO, APRIL 20-23, 2008					
REGISTRATION FORM	SOCIATION					
NAME						
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	(\$530.00 after 3/28/08)  (\$685.00 after 3/28/08) *see below for quantity discount					
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My average score is Rental Clubs No Yes (Left) (Right)     Free. CHEYENNE LODGE DINNER for conference REGISTRANT.   \$85.00 each CHEYENNE LODGE GUEST DINNER Guest Name(s)						
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CANCELLATIONS The NCTA cancellation policy requires all requests to be in writing (fax is acceptable). There will be no refunds for cancellations made after March 28, 2008 and for registrants who fail to attend the conference, with extraordinary circumstances being the exception. Canceling registrants may always send a substitute attendee.						
* Nonmember companies registering at least three attendees at the nonmember rate can register additional attendees at the lower member rate of \$480 through 3/28/08 and \$530 thereafter. Contact the NCTA for a discount code for use for online registration.						

## Prevent Coal Train Dust Losses with Ecofab's Flexible Cover Technology™





Ecofab, a world leader in covering bulk materials in railcars, has developed a new technology railcar covering system specifically to suit hopper and gondola railcars in US coal operations. This Flexible Cover Technology ™ will allow fully automatic loading and unloading of railcars without any delay to train operations. The system will work equally well with bottom dump or rotary dump facilities.

Flexible Cover Technology™ will eliminate coal dust losses from both loaded and empty railcars, and will ensure the delivered quantity and quality of coal with no added water, snow or ice.

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#### NCTA COMMITTEE UPDATE



#### **EASTERN** LOGISTICS & PLANNING

The Eastern L & P committee had two meetings in 2007. The first meeting focused on the future of the coal markets. John Hanou of Hill & Associates gave the committee his view of the future during the spring meeting in Raleigh Durham. To enhance discussions of the topics of concern to the committee, the NCTA sponsored a consultant to facilitate the use of an Audience Response System (ARS), which allows audience members to respond anonymously to questions posed by the facilitator. The responses are available immediately in the form of a bar chart.

For the fall meeting in Charleston, WV, the committee focused on how the railroads and coal consumers had worked together to improve cycle time and service. The CSXT gave a presentation on how much impact the loader and unloader of coal have on the train cycle time. Norfolk Southern and Detroit Edison gave a presentation on how they had worked together to improve the dwell times in the Monroe Power Plant and the dwell time in the Norfolk Southern sidings into Monroe Power Plant.

The ARS was used again in the fall meeting. The ARS use was broken into two segments, future coal consumption and education. There were 13 questions in part one and 17 questions in part two. The part two questions were further enhanced with the use of GoogleEarth. Through the use of dual computers and projectors when a question or answer referred to a specific site, the GoogleEarth view of the site was flashed immediately on the screen, enhancing the discussions even more.

The Eastern L & P will continue to have at least one presentation on how coal producers or coal users are working together with the transportation providers to improve service. The committee plans to continue use of ARS, GoogleEarth and other innovative methods to enhance discussion and to educate the coal transportation community.

#### **OPERATIONS** & MAINTENANCE

The O&M committee is gathering information from fleet owners concerning their wheel history and wear patterns so that the committee can form accurate recommendations for submission to the WABL Committee at its March 2008 meeting. O&M needs the help of members to participate and to provide their data to Carmen Sparks (with Luminant), who will compile the data and will not disclose private information.

The O&M meeting for 2008 will be at Bay Harbor, Mich. The committee looks forward to seeing everyone there for what should shape up to be a very informative meeting as well as a fun time. Plans are in place to feature speakers to discuss the ECP brakes coming into service, and its progression thus far on existing trains now operating. There will also be updates on the paperless billing. The committee plans to have a preview of the agenda in place by March 1, 2008. If you have any topics you would like to discuss or speakers you would like to hear, please inform Rich Kotan (with Omaha Public Power District) as soon as possible.

During the first quarter of 2008, the site selection committee will be making its recommendations for the 2009 O&M meeting site.



The committee has special thanks. First, to Dr. Dennis Buda (with Detroit Edison) for his help in the NCTA and the rail industry and to wish him the best in his new position. Also, Gayle Tenbrink (with TrinityRail ) for her efforts and insight as she serves on the AAR Rules and Arbitration committee. The O&M would like to thank the NCTA Board, the NCTA membership and all industry friends for their support.

O&M welcomes John Casto of First Energy and Harry Mullins of Southern Co. to the O&M Board.

NCTA has been represented by Tom Canter in the ballast fouling meetings -- for updates, please contact Tom.

#### **WESTERN** LOGISTICS & PLANNING

This committee has busy since May 2007. The committee's Rapid Response Team, chaired by Ron Hankins, monitors PRB rail movements and events that could potentially impact production and deliveries. The Rapid Response Team holds monthly Powder River Basin Assessment Meetings, which is a chance for members to discuss any issues related to the coal and railroad forecast for the upcoming month and issues and events

#### **NCTA** COMMITTEE UPDATE

that may impact production and deliveries.

The last Western L&P Committee meeting was held July 31, 2007 at the Airport Holiday Inn in Denver, Colo. The meeting was well attended, with over 60 participants. Something new at the meeting was a presentation by a producer, covering projects at their facilities that are improving the loading process. Those interested in viewing the presentations from the meeting can check it out on the NCTA Web site.

The next meeting of the Western L&P Committee will be scheduled for February, 2008. For the new year, the committee has many goals set out to achieve. First, to investigate changes to Coal Forecasting Process to improve nomination process for over the counter transactions tons. Next, to continue to actively participate in the Ballast Fouling Initiative, to use a subcommittee consisting of Western L&P committee participants to develop agendas for L&P meetings and to work with the railroads on ways to maximize loadings in the Powder River Basin.

All committee update information was provided by the chairmen of each committee.



#### NCTA WELCOMES ITS NEWEST MEMBERS!

The Board of Directors of the National Coal Transportation Association is pleased to announce that the applications for membership in NCTA of the following coal industry participants were approved. They join NCTA's existing member companies working every day through NCTA to foster the cooperation needed to resolve issues faced by coal consumers, coal producers, transporters, rail equipment manufacturers and coal services companies.

A complete list of NCTA member companies can be found on NCTA Web site:

www.nationalcoaltransportation. org/membership/members.html

3M Mining and Minerals

Miller Bros. Coal, LLC

**Shur-Co Railway Solutions** 

**Structural Composites of Indiana** 

McConway & Torley

Zinkan Enterprises, Inc



McConway & Torley, LLC







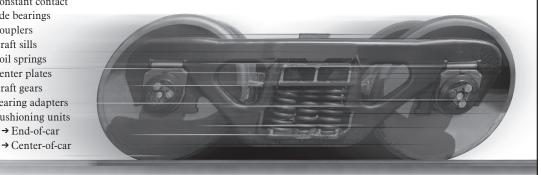




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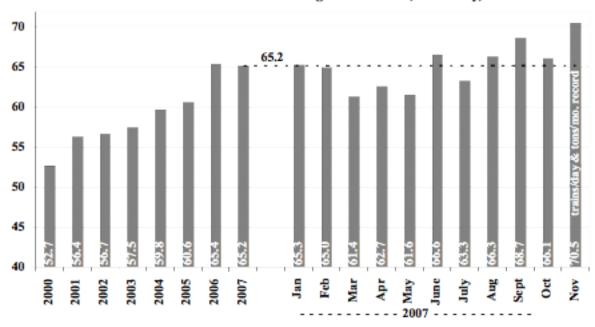
- Wheels, curved-plate, heat-treated
- Roller bearings





## STATS AT A GLANCE

#### Powder River Basin Joint Line Loading Performance (Trains/Day)



#### AVERAGE TRAIN SPEED - COAL UNIT\*

	CSX	NS	BN	<u>UP</u>
2003 YEAR AVG.	16.2	15.6	20.2	22.7
2004 YEAR AVG.	15.8	15.2	18.7	21.9
2005 YEAR AVG.	15.1	15.0	19.2	20.9
2006 YEAR AVG.	15.3	15.2	18.1	20.8
2007 YEAR AVG.	16.6	15.7	19.1	20.3
5-0 ct	17.2	15.9	20.0	20.8
12-0 ct	16.8	16.2	19.6	20.0
19-0 ct	16.7	15.6	18.7	20.2
26-0 ct	16.6	15.5	20.4	19.6
2-Nov	16.0	16.4	20.2	21.6
9-Nov	16.7	16.9	20.7	21.3
16-Nov	17.3	16.2	20.1	21.6
23-Nov	16.7	16.4	20.2	22.5

While average coal train speeds are higher on the wide open spaces of the western railroads, the eastern carriers have been more succesful in reestablishing and then improving train speeds over 2003 operating levels.



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*TieTek LLC*, subsidiary of North American Technologies Group Inc (NATG), has emerged as the world leader in the engineered composite railroad tie market. The Company's tie installations have proliferated throughout leading railroads in the United States and internationally.

*TieTek* ties have been under test at the TTCl rail test center in Pueblo, CO, for 10 years, and have seen over 1.5 billion ton miles of heavy load traffic, without any significant wear or plate cutting. The Union Pacific Railroad has been a major supporter of installing this technology and is aware of its value and benefits in rail operating and maintenance cost management.

TieTek also has installations in numerous mining and industrial applications throughout the US and internationally. TieTek ties are winning favor due to their extraordinary long life which creates exceptional value. Compared to competitive alternatives, TieTek's engineered product performs exceptionally well where heavy load and wet environments are encountered and especially where industry or government seeks a much more environmentally attractive alternative.

Additionally, Chicago Transit Authority, a leader in the transit rail industry, awarded **TieTek** a contract to supply over 63,000 crossties for the Chicago Transit Authority Blue Line Replacement Tie Project.

Alex Rankin, NATG's Chief Executive Officer said, "The supply agreement with the Chicago Transit Authority confirms the value proposition of the company's engineered composite ties for transit applications."

Unlike other ties made with alternative materials of construction (wood, concrete, steel), **TieTek's** composite crossties do not require cast-in fastening systems or unique installation equipment. In addition, concrete tie systems have been found to require significant maintenance during the life of the ties, particularly in heavy load, wet and muddy service.

TieTek(TM) uses patented technology to process recycled plastics, discarded tires, and other materials to manufacture an engineered composite product that is longer lasting and an environmentally benign alternative to hardwood, concrete and steel. Our ties have met or surpassed rigorous testing and performance evaluation methods, and have fully met or exceeded all performance criteria presented. TieTek ties bring innovative thinking, and "Green Technology" to track management. Railroads can realize Maintenance of Way and track performance improvements, while decreasing downtime and lowering track maintenance costs by using TieTek's proven, innovative, and long-lasting composite ties.

Please visit TieTek's web site or call to discuss your application. We are a proven heavy load alternative, and our performance can potentially reduce your life cycle cost for your rail support infrastructure. We are committed to the mining and metals industry, and look forward to serving you.

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Plant Location: 429 S. Memory Lane Marshall, TX 75670 Contact Information: sales@tietek.com











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Discharge® cars and now the revolutionary
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A. Stucki Company

ADA-ES, Inc.

AIG Rail Services, Inc.

**AKJ Industries** 

Alliance Coal, LLC

**Alliant Energy** 

Alpha Natural Resources

AmerenEnergy Services

American Electric Power

**Amsted Rail** 

Aquila, Inc.

Arch Coal Sales Company, Inc.

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Columbus Steel Castings Co.

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CONSOL Energy, Inc.

**Constellation Energy** 

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Company

Consumers Energy Company

CPMG, Inc.

**CPS Energy** 

**Dairyland Power Cooperative** 

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DTE Rail Services, Inc.

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Energy Ventures Analysis, Inc.

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Exponent. Inc.

FirstEnergy Corporation

First Union Rail Corporation

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Foundation Coal

Freightcar America

**GATX Rail** 

**GE Rail Services** 

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**Grand River Dam Authority** 

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Platte River Power Authority

Portland General Electric Company

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Rail Link, Inc.

Railroad Financial Corporation

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Sierra Pacific Resources

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SKF-Roller Bearing Industries

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Standard Steel

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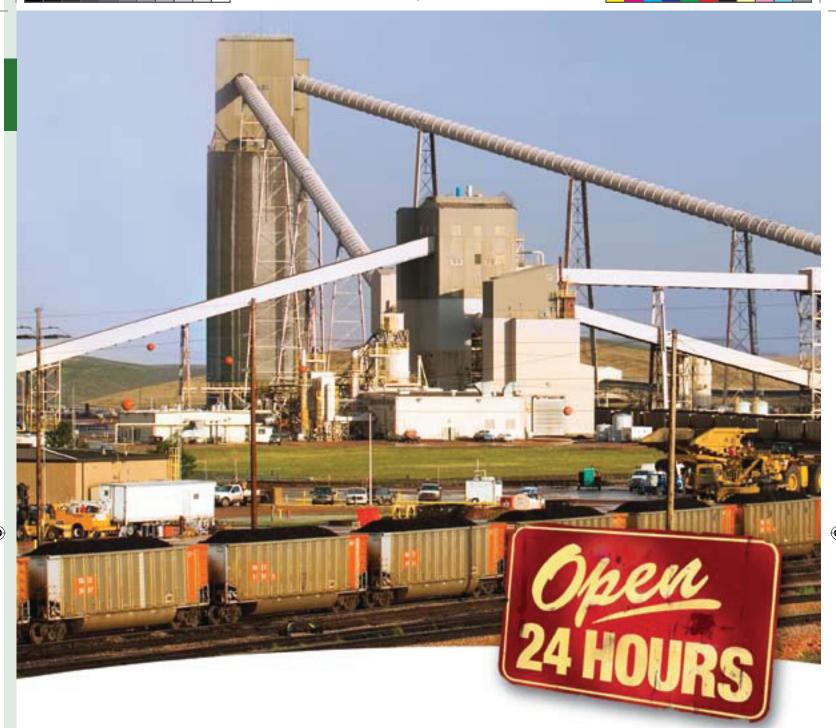
Western Fuels Association, Inc.

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**Xcel Energy** 

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### UNDERSTANDING STRESSES IN RAILSART 2 of 2

By Jude Igwemezie, Ph.D., P.Eng





Part 1 of this article examined the contact and dynamic stresses generated by the wheel/rail contact loading environment. Part 2 examines the stress cycle at any point on the running surface of the rail as the wheel approaches it.

tress in the railhead changes as the wheel traverses any point on the running surface. As the wheel approaches, the stress at point A (see Figure 1) is tensile, due to track uplift. At about 41 inches from this point, the stress reverses and becomes compressive. Both of these stresses arise from rail bending, alone. When the wheel is about 1/4 inch from this point, the stress reverses to become tensile, again, and exceeds the yield strength of the railhead material.

Von Mises

371128
334015
296902
2259790
222677
185564
148451
111338
74225.6
37112.8
0

Max Stress = 246 ksi

Figure 1. Von Mises stress distribution from two-point contact.

When the wheel is directly over point A, the stress is reversed and becomes compressive, again, exceeding the yield strength of the railhead material. As the wheel passes point A, the stress cycle that was just described happens again, in reverse.

This means that the rail at point A will have undergone a three-stage stress cycle — ranging from tension-compression / tension-compression-tension (in which the yield strength of

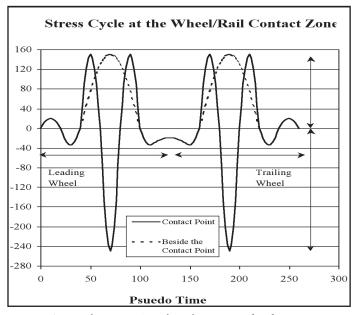


Figure 2. Stress cycle at Point A on the rail running surface from two-point contact loading.



the railhead is exceeded) / compression-tension — under the action of one wheel (see Figure 2). One-quarter inch to the side of point A (beside the contact band), the stress value is less severe. Nevertheless, two reversing stress cycles shown with the dashed lines— tension-compression / tension (in which the yield strength of the railhead is exceeded) / compression-tension — are generated.

#### **Residual Stress**

Problems associated with internal stresses (also referred to as residual stresses), which are introduced during the making of rails, have been evident for the past two decades. The fact that few derailments have been attributed to them stems more from a lack of understanding of the phenomenon than from its absence in the cause of derailments. The primary interest in residual stresses, thus far, has been related to heat-affected zones, such as weld locations and areas within the railhead. Manufacturing and heat-treating processes that are used to produce head-hardened rail with improved properties (while maintaining geometrical tolerances) often produce residual stress in excess of acceptable values.

Rail manufacturers, today, are required to produce rail with a greater depth of hardness in the railhead, while maintaining a ductile web and base — all while keeping residual stresses



Figure 3. Rail containing high residual stress.

low. This can be difficult to achieve, but it is essential in order to avoid residual stress-related rail failures and derailments. Research (1) into the manufacturing process and rail residual stress phenomena has shown that:

— Rail manufacturing processes control the residual stress pattern in the rail, but roller straightener settings can modify or completely alter these stress patterns.

#### **UNDERSTANDING STRESSES IN RAILS**

- Roller straighteners can cause weakening of the rail web and fracture of the rail base. The damage is such that the toughness that would otherwise arise through the use of alloys is mitigated.
- Rails that contain stress intensities (due to residual stress) that are greater than the rail fracture toughness will fracture readily along the web (see Figure 3), whereas rails with residual stress intensities that are less than the rail fracture toughness will not readily allow catastrophic crack propagation.
- Stresses that can cause rail to fail catastrophically are located in the rail head and base; they have a longitudinal orientation.
- A plastic zone of up to 5 millimeters in depth is formed in the railhead during roller straightening.
- As the rail wears, the danger of catastrophic failure from residual stresses is reduced.
- Work hardening of material in the railhead redistributes the residual stresses, generating lower stress intensities within the rail web.

The development of standards, tests and quality control methods to control residual stresses in rails has led to improved specifications.

#### **Thermal Stresses**

Thermal stresses are generated by the difference between the ambient temperature and the rail laying temperature. Stresses that arise from uniform temperature change are considered axial. They heat or cool the rail uniformly. Stresses that arise from temperature variations in the rail (as the sun heats one side of the rail, then the other) can cause rail lateral bending. When combined with wheel loads, thermal stresses can be high enough to cause a pull-apart rail fracture. In some instances, such as during cold snaps, thermal stresses, alone, can cause a rail pull-apart. Figure 4 shows the thermal force generated in different rails as a result of temperature change from the neutral (rail laying) temperature.

Rail defects that result from fatigue or originate at inclusions can propagate under cyclic loading from trains. These types of defects, in combination with residual, thermal and dynamic stresses, can cause brittle fracturing of rails. Rail fracture requires an energy input, which is typically delivered by defective wheels or a rapid temperature change (cold snap). In North America, rail fractures predominately occur during cold snaps at the beginning of the winter months when tensile stresses approach one-half of the yield stress of the rail.

The Association of American Railroads (AAR) incorporated standards for acceptable sizes of wheel defects in Interchange Rule No. 41. These standards are based on the geometric size and nature of the defect on the running surface of the wheel. There are, however, an infinite number of possible wheel defects, which change in size and shape as the train rolls along. The

#### **(**

#### **UNDERSTANDING STRESSES IN RAILS**

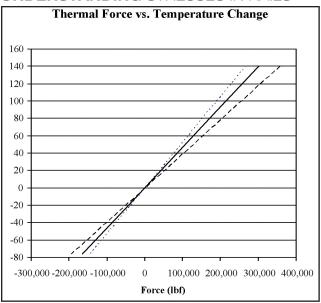


Figure 4. Thermal force generated in different rails as a function of the difference between ambient temperature and rail laying (neutral) temperature.

magnitude and duration of the impact load resulting from these wheel defects is speed-dependent. Within recent years, an extensive network of Wheel Impact Load Detectors has been used by the major freight (and passenger) railways to identify wheels that generate high-impact loads.

Research into rail fracture resistance (2) and work to define the critical dynamic fracture load as a function of rail fracture toughness; defect size, location and orientation; rail ambient temperature; and residual stresses determined that:

- Defects such as vertical split heads, pipe web, head/web separations and horizontal split heads do not readily cause rail to fracture under impact loads. (This is due to a lack of crack opening forces.)
- Railhead transverse or detail-type defects, resulting from improper wheel/rail profiles and contact, readily produce rail fracture.
- Under impact load, a stiffer and heavier rail will attract a higher percentage of the dynamic loading, but will not fracture more or less readily than a smaller and flexible rail (3).
- The location, size and orientation of the defect, as well as tensile (thermal) forces and residual stress, are critical parameters in determining the rail fracture load. When a defect reaches a critical size, it will cause a pull-apart under tensile thermal stresses regardless of whether the rail is new or worn.

Rail wear is a result of friction and stresses generated by wheel/rail contact. In tangent track, wear is produced by tractions, friction and vehicle hunting. On the high rail in curves, wear is produced by traction, creepage and flange forces. On the low-rail, wear is produced by lateral friction and traction and spin creepage from the wheels. Wear can be reduced with proper

lubrication on curves and maintenance of gauge to reduce hunting.

Rail profile grinding generates "artificial" wear in which rail surface material that has plastically deformed and developed micro-cracks is removed. Rail grinding also controls the formation of transverse defects or contact fatigue damage.

#### Rail Stresses and Head Wear

As Part 1 of this article shows, the stresses in rails are concentrated in the area of the applied load (as shown in Figure 1). Figure 5 illustrates how stresses in the low rail of a curve vary with head wear under load. As illustrated, stresses are concentrated in the railhead; the stresses across the rest of the rail section, where bending stresses dominate, are minimal. In the example with most wear (extreme left), the "green" band has traversed the thickness of the head of the rail. At this level of wear, the stresses would be expected to lead to the formation of vertical splits in the railhead. The angled "purple" band running from the top left to bottom right of each contour in this illustration is the neutral axis under the combined loading.

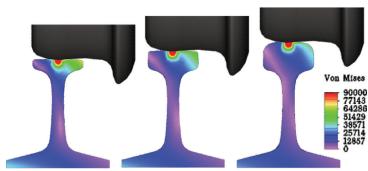


Figure 5. Variation of von Mises stress in the low rail with head wear.

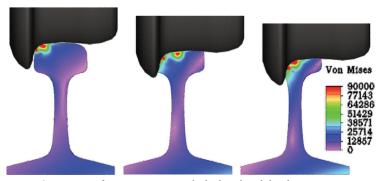


Figure 6. Variation of von Mises stress in the high rail with head wear.

Similarly, the variation of stress in the high rail with wear under combined loading is shown in Figure 6. Again, the stresses in the head of the rail change with head wear, but the rest of the rail section, where bending stresses dominate, is not affected. Contrary to expectations, there is not a significant change in the bending stresses at the base of the rail. The angled "purple" band running from the top right to the bottom left of each



contour in this illustration is the neutral axis under the combined loading. Figures 5 and 6 show that the dominant stresses in rail under wheel loading is much more dependent on the amount of material left in the head of the rail than on the amount in the gross section of the rail.

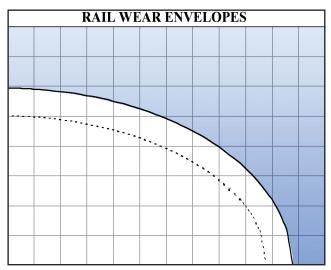


Figure 7. Rail wear envelopes.

#### **Rail Wear Limits**

The information provided in Parts 1 and 2 of this article, thus far, is merely a means to an end. That end is the rail wear limit — the point at which the useful life of the rail is exhausted. In heavy-haul operations, the rails are used with tie spacings between 19 and 24 inches. At these spacings, most rail sections behave more like deep beams than like beams under flexure (bending). As a result, contact stresses govern what happens to the rail. The response of the rail to the wheel loads depends to a large extent on the reaction provided by the supporting ties, ballast and subgrade. This complex interaction produces wear on the top of both rails, as well as on the gauge face of the high rail.

The rate of rail wear is also dependent on the strength of the rail and its response to wheel loads. Field testing must be done on curves of varying degrees in order to determine rail rotation, the wheel/rail contact point, flange forces, vertical and lateral forces, and the effect of lubrication on rail movement and stresses in order to effectively establish wear limits.

Using the information gathered from the field, structural analysis of the track system must then be performed to evaluate the stresses in different rail sections at various stages of wear. From the results of the stress analysis, wear envelopes (see Figure 7) are developed for premium and standard carbon rails. Each graph reflects the loading to the rail and the strength of the rail head material. Wear limits will be different from railroad to railroad because of differences in rail types, tie and fastening systems, maintenance practices, wheel loadings and even operating procedures.

Stresses in rails are very complex. Axle loads, vehicle behavior, track conditions, rail profiles and residual and thermal stresses in

#### **UNDERSTANDING STRESSES IN RAILS**

the rail all play a role. But contact stresses dominate all other stresses, and often represent the initiation point of contact fatigue damage to the rail. This is exacerbated by the passage of each wheel, which creates several stress cycles that add to the cumulative fatigue damage that is done to the rail. The magnitude of these stresses is dependent on the track system, wheel/rail contact, top-of-rail friction and the thickness of material left in the head of the rail. But no matter how you slice it, the rail investment cannot be properly managed without understanding its stress environment.

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Dr. Jude Igwemezie is President of Applied Rail Research Technologies (ARRT), Inc.

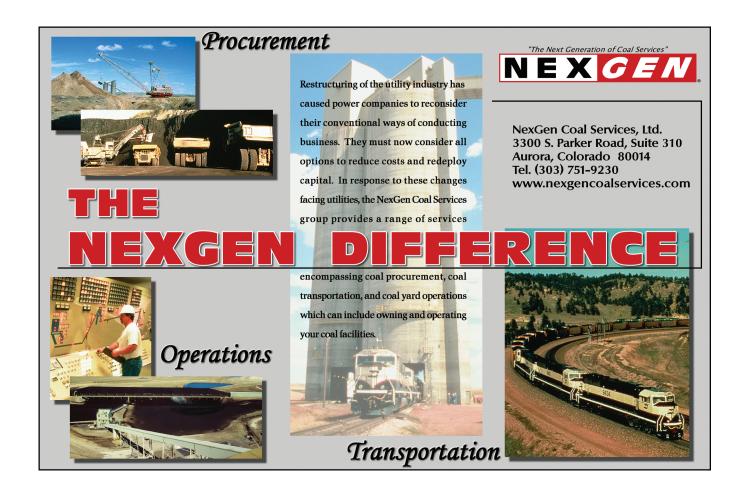


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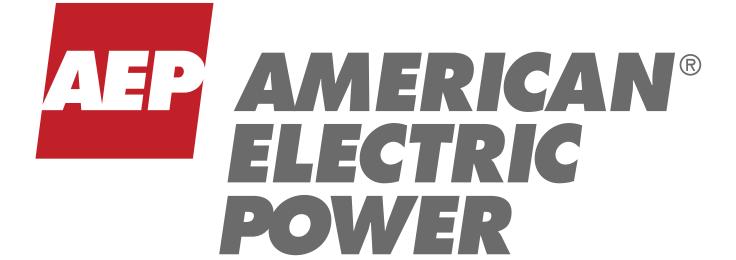
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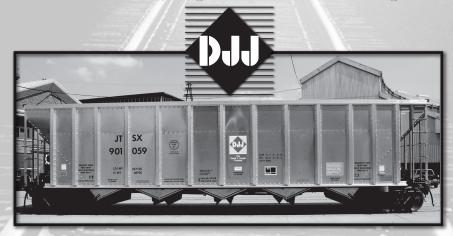
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#### **NCTA / REFLECTIONS**

# AN UNCONVENTIONAL MAN RON BOESEN

onald Boesen didn't grow up in coal town America. The mornings in Waterloo, Iowa weren't filled with a flurry of men heading out to the coal trains, years later to be replaced by their sons and grandsons. Nope, Boesen was a trendsetter, and he was the first in his family to work with railroads and coal.

"Most people thought that once coal wasn't used to heat homes, it was no longer used for anything," Boesen said.

"It's interesting because as you go through your working lifetime, you work on many, many different things, different projects, and so many of them never go anywhere. This one not only went somewhere, but it was a huge success and it was the way that we had envisioned it and even greater than we had envisioned it."

- Ron Boesen on the Powder River Basin project

Not only was Boesen a man who walked his own trail, but he was also in love. In 1963 he married his high school sweetheart, Barbara. The two met at the local Root Beer stand when he was a sophomore in high school and she was a freshman. The romance lasted through Boesen's graduation from high school, and the two were sure to never be apart for too long. Boesen was also the first in his family to go to college, and he graduated from Iowa State University with a degree in industrial administration. After graduation, his first job with the Rock Island Railroad introduced him to the transportation of coal.

Five years later, his second job with the "Chicago Northwestern Railway" (C&NW) in the Energy Marketing area found him heavily involved with coal and the fledgling Powder River Basin (PRB) project.

In the late '60s, the C&NW viewed the Montana PRB as the place to enter the basin. That soon changed to Wyoming, and the project quickly gained legs in spite of the reluctance of the president of the C&NW. Boesen became involved in working and watching as the largest railroad project in over a century began to unfold.

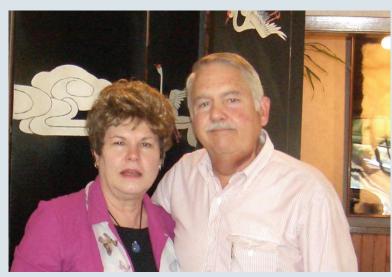
"I thought it was fantastic, an opportunity to participate in history being made," he said.

While at the railroad he didn't see any track laid, but throughout the rest of his career he would watch the project unfold. In 1984, almost 15 years after the project started, the C&NW moved their first train out of the Powder River Basin.

"It's interesting because as you go through your working lifetime, you work on many, many different projects, and so many of them never go anywhere. This one not only went somewhere, but it was a huge success," he said of the project. "It turned out even greater then we had envisioned it."

#### **Moving Trucks**

With Boesen either looking for more job satisfaction, wanting to do something new or leaving companies that folded, he moved around the country 14 times in his married life. He always make sure he loved going to work each and every single morning.



Ron Boesen and his wife, Barbara. The two will be celebrating their 45th wedding anniversary later this year.



"When it got to a point where I didn't want to work for them anymore, I moved onto a different company," he said. "As a moved across to a variety of companies, I always had good positions and I always had good money so I didn't complain."

With four children in tow, moving proved to be an added challenge to parenting. Boesen remembers a particularly difficult move for his children, to Tulsa, Okla., when his three eldest children, Jon, Betsy and Ben, were all in high school. "They went into a new school and they had to prove themselves all over again," he said.

His outlook on the moves was that they were necessary to put food on the table and a roof over their heads after some companies went out of business. The children ended up fitting into their new environment just fine, and have friends all over the country, he said. In fact, the moves changed their lives and the family tree. The three eldest children went to Oklahoma State and two married Oklahoma natives. The baby of the family, Sharon, went to Colorado State and married a native Coloradan.

"If we hadn't moved, would that have happened?" Boesen said. "Probably not. Now we are blessed with 12 grandkids."

After six-and-a-half years with the C&NW, Boesen left to enter the coal industry as vice president of sales for the Midland Coal Company in Illinois, a division of ASARCO.

"At 4 million tons annually, it was a great little company that was small enough for the president, vice president of operations and myself to make decisions from a phone booth and move forward," Boesen said of his experience.

From Midland, Boesen went to Cities Service Co., Getty Mining Co., Cyprus Mining Co. and then on to NERCO -- only to be taken over by Rio Tinto when it started Kennecott Energy Co in 1993.

#### **Today**

In Boesen's 18 years with NERCO/Kennecott, he helped start and name Venture Fuels in 1987 as a partnership between NERCO and Midwest Energy Resources. In this, he marketed and moved coal from the Powder River Basin to the Great Lakes, selling coal to a variety of customers. Boesen and his colleagues had no idea if the plan was going to work, but went full-force forward. Today, the 20year partnership continues between Rio Tinto Energy America and Midwest Energy Resources Co.

Boesen retired in 2003 from Kennecott Energy Company, and today he provides consulting services in Energy and Transportation under the name "Cactus Consulting." He and his wife Barbara live in Highlands Ranch, Colo. with their newest challenge: a Schnoodle puppy named Gus. They are looking forward to their 45th wedding anniversary later this year.

#### **NCTA / REFLECTIONS**







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### **NCTA Board of Directors News**

The Board of Directors of the National Coal Transportation Association is pleased to announce the election of new officers for 2008. Bob Neff of Ameren was elected to serve as NCTA President. Betsy Monseu of Foundation Coal will serve as Vice-President and Karen Kollmann of Wisconsin Public Service is the new Secretary. Don Rowlett of Oklahoma Gas and Electric continues as Treasurer. Mike Rayphole of Peabody was also elected to fill the remaining seven month term of former NCTA President Bryan Bashore. Also on the board are Susan Comensky of Southern Company, Dave Laffere of Kansas City Light & Power Co, Kevin Larkin of Alliance Coal, Jim Orchard of Rio Tinto Energy America, and Wm. Jack Reid of Seminole Electric.





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### **NCTA MEMBER** SOUND-OFF

The Coal Transporter asked NCTA members to offer their opinions on a current topic in the coal industry.

What do you think will be the biggest challenge facing the North American coal industry in 2008?

The biggest challenge is overcoming the perception that all coal is dirty and that there should be no new coal plants in the US. Clean coal technology must be developed quickly to overcome the current trend of shutting proposed coal plants.

- Kim Elliott, RTEA

I believe that the largest challenge facing the North American coal industry is opposition to coal fired power generating facilities by ecological extremists who believe that global warming is directly (only) related to these types of plants. I believe that it will be very tough to get approval from regulatory agencies for permits to build new facilities due to pressure that various groups such as these will exert politically.

Everyone who has an interest in coal transportation should rally together and come up with a unified plan to combat bad press such as previously noted.

- John Jennings – Lexair, Inc.

The coal industries biggest challenge will be how the industry responds to the new safety regulations that will be more adamantly enforced.

- John Hull, Peabody COALSALES, LLC

I think the biggest challenge facing the coal industry in 2008 is the ability to make changes in the industry. Due to financing and its long history, the coal industry seems to be hesitant when it comes to change, even when the change is positive. Even people within the coal industry agree that change is hard to come by. Until this changes, it will be difficult for the industry to grow to it greatest potential.

- Dana Wallace, Structural Composites of Indiana, Inc.

Anyway, I guess that I'd say that the public's and media's poor understanding of the business, its central role in the U.S. economy, and the lack of viable alternatives to coal fired generation are our biggest problem (even though that's three). Education on these issues is critical, but it won't be an easy affort.

- Casey J. Kaptur, Pincock, Allen & Holt

I think the biggest challenge facing the coal industry in 2008 will be legislation or regulations coming out of a new administration in Washington D.C. Democrats are not friendly

to coal and will push against coal fired power plants, both existing and new units. Cost implications will not matter. A political agenda is all that will matter.

- Mike Kelly, Freight Car America

The biggest challenge for the coal industry in 2008 will be environmental opposition to new plants. The nation needs to expand power generation capacity to keep up with growing demand and the environmental movement is opposed to new coal plants. CO2 capture and sequestration is just in its early stages of development and cannot be viewed as a commercially viable technology for new plants. The main argument against new coal plants is that they emit too much CO2. The industry is probably 10 years away from being able to capture and store CO2 effectively, but the nation cannot wait this long to build new generation capacity. This dilemma will make it difficult for new coal plants to be permitted and built in time to avoid a power shortage.

- Jonathan S. Barr, ADA-ES

Slowing/stopping the negative perception being fueled by the "scientific experts" and "Capital Hill politicians" that using fossil fuels (mainly coal) for generation of electricity is causing global warming.

- Jerry Daseler - Carpenter Creek, LLC

Maybe coal dust suppression resolution that is fair to all parties. Coal loadings and transportation velocities to meet the coal demands. Rail car usage and the best mix for the individual power companies. Cars necessary for Limestone delivery, which I want to and can help solve.

- Darrell Dial - Global One

I believe the biggest challenge facing the North American coal industry in 2008 is public awareness of the (personal) financial implications of impending environmental legislation.

Depending on the regulatory outcome of the "carbon tax" legislation many believe is imminent, a fundamental shift in the coal industry is likely. Based on the numbers I have seen, the coal fired electric plants would loose their competitive edge to gas units causing a dramatic shift toward natural gas and away from coal. While some may argue the numbers, suggesting the



"tax" would cause natural gas prices to increase reestablishing the former balance between plant types, there can be no doubt that it will decrease the financial efficiency of coal generation, increasing the cost of electricity to the consumer. However, I don't believe the general public understands how this will affect their electric bill.

With over 50% of this countries electric generation coming from coal fired units, increasing the cost to anywhere near current gas prices will create an unprecedented increase in the cost of electricity. Those pressing for environmental legislative changes have failed to provide this information to the consumer. When environmental advocates have provided cost estimates they have been significantly lower than the industries estimates. In addition the have duped the public into believing the cost will be absorbed by "big business", in the form of electric utilities, coal suppliers and railroads. Those in "the business" or any business for that matter know that is not how it works.

For too long our industry has been afraid to tell the facts, afraid of getting rolled over by the environmental machine. But as utilities we can and should tell the truth because we have nothing to gain regardless of the outcome. Cost increases quite simple get passed along to the customer. However, if we continue to hide, if we continue to do little or nothing to educate the public, we in the coal industry will get crushed by the machine. We will look back nostalgically to when coal was king and the economic electric generation of choice.

#### - Jared Wicklund, Empire District Electric Company

Pending carbon regulations that is unclear at this time is causing a lot of uncertainity in the coal market place and is curtailing growth as evidenced by the number of coal projects that have been canceled or delayed.

#### - Randy Thomure, Trinity Rail

The biggest challenge with long-term implications in 2008 will be to fight the mis-information about coal being spread by some environmental groups, some in the government and the media.

The biggest challenge with immediate implications in 2008 will be to find an economical and reliable supply of coal to our power plants.

- Steve Sharp, AECC

If you have a topic you'd like NCTA members to sound off on or would like to add your opinion, please E-mail Christiana Lilly at christiana@martonickpublications.com.

#### Calendar of Events

#### February 2008

Winter Board of Directors Meeting Jacksonville, Florida

#### February 2008

Western Logistics and Planning Committee Meeting Dallas. Texas

#### **April 20 to 23, 2008**

Spring General Conference The Broadmoor, Colorado Springs, Colorado

#### **June 15 to 19, 2008**

Operations and Maintenance Conference Inn at Bay Harbor, Bay Harbor, Michigan

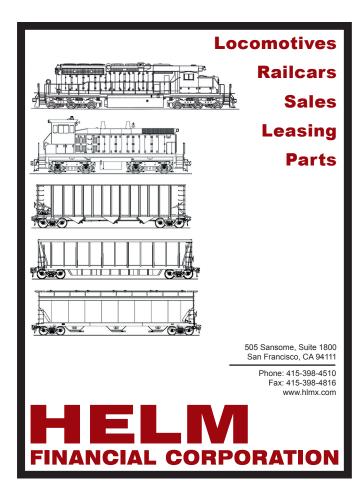
#### **September 8 to 10, 2008**

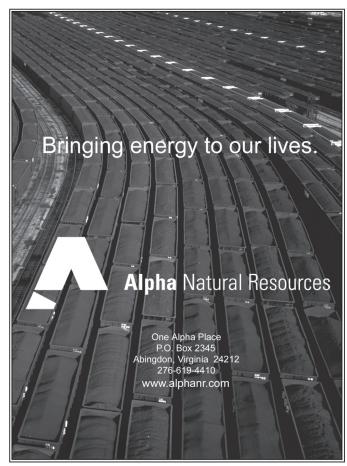
Thirty-Fourth Annual Business Meeting and General Conference Westin Tabor Center, Denver, Colorado

#### **April 12 to 15, 2009**

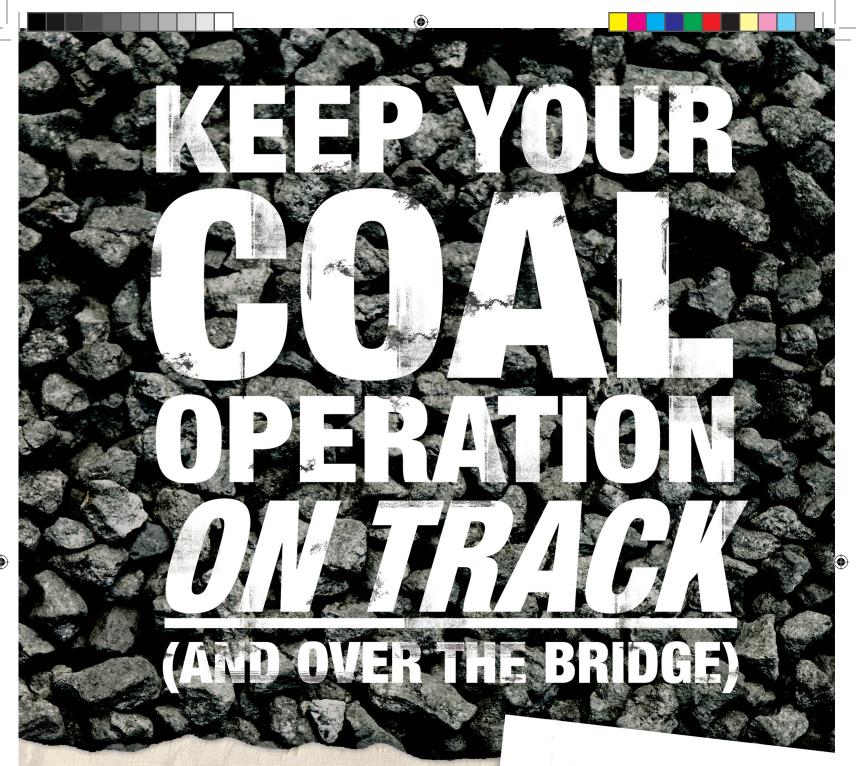
Spring General Conference Gaylord Opryland Hotel, Nashville, Tennessee











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### FRA UPDATE:

### New Brake System Starts its Engine

By Ashley Mihlebach

#### New Challenges for the FRA

The expected benefits of ECP braking technology appear to justify the investment, however there are also new problems that arise in its implementation. The challenge is threefold:

- 1) How to equitably distribute the ECP brake benefits and conversion costs that fall unevenly between the freight railroads and private car owners
- 2) How to focus ECP brake conversion on the particular types of trains and corridors that would most benefit from the technology without disrupting capacity-constrained rail freight operations.
- 3) How to manage the operating mix of ECP brake and non-ECP brake cars and locomotives during a lengthy conversion process.

Source: The FRA ECP Brake System for Freight Service Fina Report by Booz Allen and Hamilton, August 2006

he railroad industry might be changing, but the technology behind it hasn't – until now. Throughout 2008, the Federal Railroad Administration (FRA) will continue implementing the new electronically controlled pneumatic (ECP) brake technology that has revolutionized railway safety.

ECP brakes are a relatively new technology that could eventually replace the conventional air brake system currently used on freight trains, which had its origins in the 19th century research of George Westinghouse.

"If Westinghouse came back from the dead and walked by, he would recognize all the components," said Jim Forrester of the Norfolk Southern Railroad (NS). "Air hoses and brake valves, pistons and brake shoes were the same well over 100 years ago."

Forrester is the manager of equipment planning and the business developer for the Coal Business Group for the NS, the first to run a train in revenue service equipped with ECP brakes. The run at Emerald Mine followed those conducted by the Burlington Northern Santa Fe Railway (BNSF), which ran tests from 1995 to 2002 on four taconite train sets. Tests were also run in South Africa and Canada on self-contained railroads.

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#### The First Step to Implementation

Joseph H. Boardman, the administrator of the FRA, said he intends to issue a proposal of new rules that will revise the federal brake system safety standards, encouraging railroads to invest in the new technology.

The first train equipped with the new, safer brake technology began hauling coal on Oct. 11 in southwestern Pennsylvania under the waiver approved by the FRA. The waiver, announced on March 29, allowed BNSF and NS to install ECP brake systems on trains to demonstrate the safety of the technology. BNSF Railway also received waiver approval.

"These railroads understand using ECP brake technology can bring significant safety and business benefits, and I encourage other railroads to follow their lead," Boardman said.

Under the waiver, the railroads tested the ECP brakes on container-only trains from west coast ports to Chicago and on trains carrying coal from the Powder River Basin fields in Wyoming to southern and eastern power plants.

The FRA placed several conditions on the waiver approval, including requirements that the railroads clearly define a process for handling brake problems discovered en route; ensure that ECP brake inspections be performed by qualified individuals; and provide appropriate training to crew members. The waiver ensures that proper safeguards will be in place and will permit FRA to gather extensive data that could be used in developing its proposed rulemaking. FRA also will carefully monitor the railroad's compliance with the waiver using unannounced inspections of trains subject to the waiver.

To further ensure the safety of ECP-equipped trains, the waiver and proposed rule include several conditions such as requirements that the railroad clearly define a process for rectifying brake problems discovered en route; ensuring that ECP brake inspections are only performed by qualified mechanical inspectors; and providing appropriate training to train crew members.

#### Newer, Safer Technology

The ECP brakes are the most significant development in railroad brake technology since the 1870s, Boardman said in an FRA press release. Current problems such as derailments caused by suddenly applying the emergency brake, as well as runaway trains caused by loss of brake air pressure, could be eliminated when using ECP brakes. The brake technology can also shorten train stopping distances up to 60 percent.



"These railroads understand using ECP brake technology can bring significant safety and business benefits, and I encourage other railroads to follow their lead."

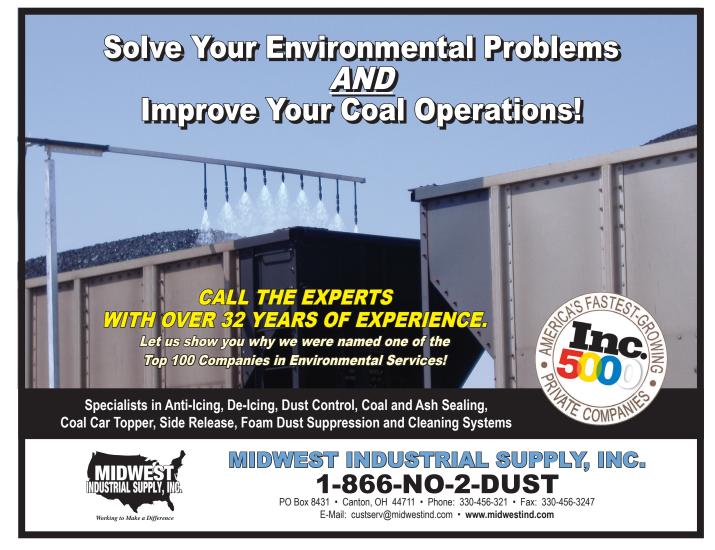
- Joseph H. Boardman, administrator of the Federal Railroad Administration

Trains equipped with ECP brakes can travel with fewer stops since the new brakes can also perform electronic health checks of the brakes to identify maintenance needs. Under the FRA waiver, the trains can now travel up to 3,500 miles without stopping to undergo certain routine brake inspections, more than double the distance currently allowed by federal regulations. This would positively affect transportation of goods because deliveries would be made much quicker and it would help reduce congestion on America's rail system, Boardman said.

With the present system, freight train cars brake individually at the speed of the air pressure moving from car to car, along trains that are often well over a mile in length. This contributes to excessive in-train forces, challenges with handling trains, longer stopping distances, and safety risks of prematurely depleting air brake reservoirs. These problems are greatly reduced when using ECP brakes, during which all cars brake simultaneously.

In 2005, 14 percent of train accidents on the main line track were caused by human error involving improper train handling or misuse of the automatic braking system. ECP brakes would give locomotive engineers better control over their trains and prevent many potential accidents.

"It is time for the railroad industry to embrace new train braking technology and prevent some of the accidents that are happening now," Boardman said. "Rail safety can be improved and better brakes are part of the solution."





## THE RAILROAD-SHIPPERS TRANSPORTATION ADVISORY COUNCIL

#### Twelve Years of RSTAC and counting

By Christiana Lilly

he Railroad-Shipper Transportation Advisory Council (RSTAC) was created in 1995 by Congress when the ICC was replaced by the Surface Transportation Board. The council serves as an advisory council to the STB to ensure that the voices of small shipping and rail companies are heard. The council's 15 appointed members consist of senior officials representing both large and small shippers and railroads.

"The strength of RSTAC is that we are a diverse group of rail advocates and executives across the nation who really love rail-roading," said Connie Thede, 2007 chair of RSTAC.

The diversity of the members allows discussions of rail issues from all points of view, large and small shippers and large and small railroads. Council meetings are private and allow each member to express their personal opinions on what can be very controversial issues rather than being influences by their individual company or industry views, which typically happen in public forums, making it a very unique council, Thede said. This way, the members are able to step back from the issue and look at how it will affect the industry as a whole. With the consensus the council reaches, in the past it has given advice on various matters to the Surface Transportation Board chairman, the Secretary of Transportation, the Senate Committee on Commerce, Science and Transportation, and the House Transportation and Infrastructure Committee.

"We have taken positions on some significant issues in the past and there's obviously some that we can't agree on because of our diversity, but at least we can have a discussion about them from all points of view, not just trying to foster individual views," Thede said.

Originally, RSTAC was created solely for the means of protecting small shippers and railroads. However, RSTAC recognizes that in order to supply the needs of the small rail and shipping companies, it is necessary to look at the industry from a national perspective.

"In order to help protect the small shippers and railroads you have to look beyond just that, you have to make sure you have a healthy railroad in the future to make sure the small shippers and railroads survive," she said.

During meetings, the council reviews surveys that were distributed to companies, in which the companies voiced their concerns, in areas such as infrastructure, capacity constraints, costs, moving forward and the future of the railroad industry. "Rail is a very efficient method of moving freight, has less impact on the environment due to its fuel usage and allows for moving far more freight across the nation, with less people, less fuel and at a lower cost. In order to meet capacity needs of the future it is imperative that the rail infrastructure remains sound" - Connie Thede, chair of RSTAC

A prominent issue that the council is dealing with right now is the industry's infrastructure and its ability to meet the demands of the future. The US Department of Transportation estimates that the demand for rail freight transportation will increase 88 percent by 2035, according to an AAR study. This does not take into consideration any modal shifts in the future.

"Rail is a very efficient method of moving freight, has less impact on the environment due to its fuel usage and allows for moving far more freight across the nation, with less people, less fuel and at a lower cost. In order to meet capacity needs of the future it is imperative that the rail infrastructure remains sound," Thede said.

In a recent position paper, the council stated that approximately 80 percent of capital expenditures are going towards sustaining the industry's existing capacity rather than toward expansion. The arising solution is investment tax credit, which has had a mixed reception. Thede said many coal shippers don't agree with the idea of investment tax credit, but that "it's very important that we support anything that will help build capacity and infrastructure." \$148 billion will be needed to carry this out, according to the AAR study, and most of the money will have to come from the Class I railroads. The tax credits will provide the additional incentive to make these much needed investments.

Thede is wrapping up her second and last term as an RSTAC council member and second year as chair, and she sees a promising future for RSTAC. One of their goals is to create an electronic version of the council's surveys to ensure a faster, more efficient means of allowing companies to voice their opinions and concerns.

"It's been a tremendous experience and I think the council gets stronger and more involved every year with a strong desire to get things done. I will miss the experience when my term expires." she said.



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## THE RAIL CONSUMER ASSISTANCE PROGRAM O Awith Mel Clemmens

Another one of the Surface Transportation Board's helping hand to the industry is the Rail Consumer Assistance Program, which allows companies to file complaints. In the past two years, the program has dealt with 221 complaints and in the past three quarters has already dealt with 72 problems. Mel Clemens, Office of Compliance and Enforcement, has kindly answered many common questions that people have when dealing with the program.

#### We note that there is an area on the Surface Transportation Board's Web site under Rail Consumers entitled Consumer Assistance. When was this established and what is its primary purpose?

I established the program in 2000, as a national outreach program available to any rail shipper nationwide as a means to contact us on service issues that they may be experiencing with a particular rail carrier. The program is not commodity specific and access the program is accomplished by toll-free telephone, by fax, or through our Web site.

### Is there any charge for submitting a complaint or issue through this tool?

There are no fees imposed for using the program. The program is service oriented so complaints filed must relate to service issues with a particular rail carrier.

## What types of issues do the Office of Compliance and Consumer Assistance deal with? Are there any items that cannot be brought before the OCCA?

Since its inception in 2000, the program has successfully handled more than 650 consumer matters, including issues with rates and other charges; car supply and service issues; claims for damages and related services; employee concerns; community issues; and many others.

## Once I submit my issue or concern what happens with it? What is the timeframe for each activity? How will I be kept informed of its progress?

We ask the complainant to tell us if they are comfortable having us contact the serving rail carrier on their behalf. If they say yes, we will have the matter before the serving rail carrier with in two to four hours of our receiving it. We will respond to the complainant to that effect. In terms of what limitations apply on complaints clearly we cannot become involved in rates matters and we cannot opine on behalf of the board as to any actions the board might take in a particular circumstance.

#### Can my information be kept confidential if I choose?

There is no place on the form to indicate this other than in comments.

### How can I be assured sensitive issues will not be made public?

With respect to confidentiality, we ask the complainant to tell us if they are comfortable having us interface with their serving carrier on their behalf. Basically the program is intended to facilitate communications between railroads and their customers. And it has been quite effective as indicated by the numbers of complaints we have handled as noted on our Web site.

## Upon review of the Web site, I see that there are quarterly reports developed on submissions. It does not appear that there are any submissions from coal shippers. Do you have any opinions as to why coal shippers do not seem to utilize the program?

We have no control over who chooses to bring their rail service issue to us unless it is that, as noted above, we are unable to become involved in rate issues. We do have a hand-out that we use at shipper conferences and which could be made available to you in order to edify your members.

## Do you track the percentage of resolution results achieved through this process and if so, what is that typical percentage?

We post the Rail Consumer information on our Web site with respect to the number of matters handled, but don't calculate percentages. We do provide the chairman with an OCCA activity report monthly in addition to what we post on the Web site.  $\blacktriangle$ 

Still have questions? The Rail Consumer Assistance Unit can be contacted a number of ways.

Toll Free Phone: (866) 254-1792

Fax: (202) 245-0462

Mail: Rail Consumer Assistance Unit

c/o Office of Compliance and Consumer Assistance

Surface Transportation Board 395 E Street SW, Suite 1188 Washington, DC 20423-0001

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Web site: Click on the Rail Consumer button on the

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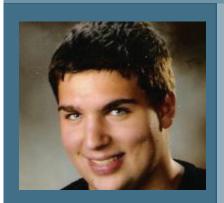
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### **(**

# SCHOLARSHIP ANNOUNCEMENTS

By Christiana Lilly

Four students were awarded the National Coal Transportation Association's At Large Scholarship, a scholarship for children of employees of NCTA member companies.



### **Matthew Madl**

School: Michigan Technological University Major: Electrical engineering

Madl, 21, is a native of Green Bay, WI. His father works for Wisconsin Public Service, and after two summers of working in the gas side of the company, Madl got the opportunity to try his hand at transmission.

"I got to deal with the engineering and I got to feel a little bit of what they did and it seemed pretty interesting," he said of his experience.

"I always enjoyed the concept of working with electrical; it's one of those jobs that's more theory than it really is anything else."

Madl plans to graduate in spring 2008, and hopes to get a job with a transmission generation facility. With the scholarship, he will be able to make up for the costs of living as a college student



### **Justin Henshaw**

School: University of Wyoming Major: Mechanical Engineering

Henshaw, 23, was raised in Gillette, WY, the heart of the Powder River Basin. He grew up watching trains carrying coal in and out of Gillette, but he aspires to take to the skies. When Henshaw graduates in May 2008, he will be going to flight school to be in the Air Force and train with European and NATO forces. After serving, he hopes to get a master's degree

and eventually work at Lockheed Martin or Boeing.

The NCTA scholarship will give him "one less thing to worry about," he said, and will enable him to purchase items to help him in school. He is currently working on his senior design project, in which he is designing a wheelchair to meet the needs of a 13-year-old boy that suffers from Shaken Baby Syndrome, leaving him blind and without motor or vocal skills.

"It kind of touched my heart and decided I was going to help him as best I can," Henshaw said.



### Kyle Eitel

School: Colorado State University Major: Civil Engineering

Eitel, 22, was born and raised in Craig, CO and has been following in his father's footsteps – well, most of them anyway. His father works at Rio Tinto Energy America as a driller, which opened up the opportunity for an internship last summe in mining engineering.

but he'd been a big part of why I've been going there and why I'm interested in Rio Tinto," he said.

This is the second time that Eitel has won the scholarship, which will help him finish his degree in civil engineering. He plans to graduate in fall 2008



### **Daniel Molzahn**

School: University of Wisconsin Madison Major: Electrical Engineering and Mathematics

Molzahn also hails from Green Bay, WI and has spent four of his summers interning at Wisconsin Public Service, where his father works. His father also studied electrical engineering, and Molzahn believes he is one of the reasons he got interested in power electronics.

"I definitely want to do more research than out in the field," he said, hoping to translate his future into becoming a professor or a part of the National Lab System.

After graduation in spring 2008, Molzahn plans to attend graduate school and in the future, pursue a PhD. As a financially independent student, the scholarship will allow him to spend less time with an on campus job and more time with school.

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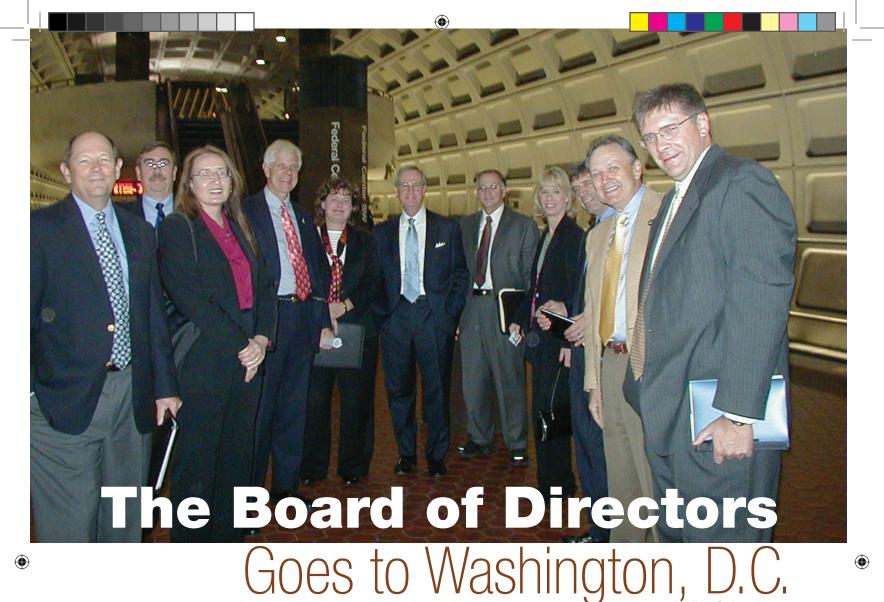








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he NCTA Board of Directors held its annual meeting in Washington D.C. at the L'Enfant Plaza Hotel the evening of Nov. 13. Earlier in the day, the Board and its guests met with representatives of the Association of American Railroads, including Executive Director Ed Hamberger, in their Washington headquarters. A wide variety of topics were discussed including current train loading statistics, the export coal market, common environmental concerns and initiatives, locomotive emissions, ECP brakes, GPS monitoring equipment and roadside detectors. The group was also updated on Amtrak's labor negotiations and the potential for a strike which may affect freight service.

Following the meeting with the AAR, the NCTA hosted a luncheon for a group of Washington-based experts representing interests focused on coal and rail transportation issues. Each guest provided an update on the current events and initiatives from their perspective. The "Big Cheese" luncheon, as it is known among the regular invitees, provides a unique opportunity for both the NCTA and its guests to get a fairly complete picture of the hottest topics of the day.

After lunch, the NCTA traveled to the Surface Transportation Board's offices for a meeting with STB Chairman Charles

"Chip" Nottingham, Vice-Chairman Doug Buttrey and other members of their staff. A wide range of topics were discussed. Some of the more notable topics included 1) investigation of the statutory difference between contracts and tariffs as they relate to rail regulation at the STB; 2) the national study on rail competition and the role of Christensen Associates in the process; 3) the Rail Energy Transportation Advisory Committee, which will provide advice and guidance to the Board and participate as a forum for the discussion of emerging issues regarding the railroad transportation of energy resources; 4) the calculation of Railroad cost of capital with hearings scheduled for Dec. 4; and 5) revamped large and small case resolution procedures.

By Pat Scherzinger

After a brief walk and one coal train sighting on the CSX tracks that run through DC, the group arrived at the Department of Energy, where it met with representatives from the Office of Fossil Energy. Also in attendance were our friends from the Energy Information Administration, who had heard the NCTA was in town. Discussions centered on recent academic research on environmental issues, perspectives on carbon sequestration and the status of clean coal program spending.

On Wednesday, the NCTA had another busy day of meetings



starting with the staff director for the House Subcommittee on Railroads of the House Committee on Transportation and Infrastructure. This committee is chaired by Rep. Oberstar of Minnesota, who is a sponsor of the HR 2125 Railroad Competition and Service Improvement Act. This subcommittee is integrally involved in the drafting and shepherding of this legislation. While the NCTA does not lobby on behalf of legislation, it does stand ready to provide information and education to lawmakers.

The group then hit the metro for a trip to Arlington, Va. to the National Rural Electric Cooperative Association, where it met with its CEO Glenn English, a former member of Congress and also the current chair of Consumers United for Rail Equity (CURE). He has been highly visible on captive rail issues on behalf of his constituency and an active supporter of the proposed legislation on rail competition. At recent hearings of the Subcommittee on Surface Transportation & Merchant Marine, he called for reform of the Surface Transportation Board.

Back in Washington, the NCTA made its first visit to the American Waterways Council, where it received updates on plans and funding efforts for the highest priority projects on the inland waterway system.

The final two stops of the trip were in the Russell Senate office building on Capitol Hill. Although Senator Mike Enzi, R-Wyo., was delayed by business on the Senate floor, his staff met with the NCTA to discuss the current mood in Washington on CO2 and issues on the ground in the PRB. Following this



meeting, the group closed out its Washington journey face-to-face with Sen. James Inhofe, R-Okla. Sen. Inhofe, currently in his third term, is the former chair of the Environment and Public Works Committee (now, the ranking Republican) and is a senior member of the Armed Services Committee. He is a strong advocate of energy supply and a more measured national environmental policy regarding energy production. He told the group that although the pressure is building to pass some form of legislation related to global warming, there is also an increasing awareness of the economic impact of an energy future that does not include North America's low cost coal resources.



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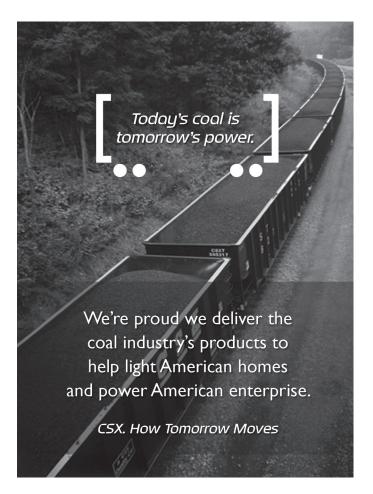
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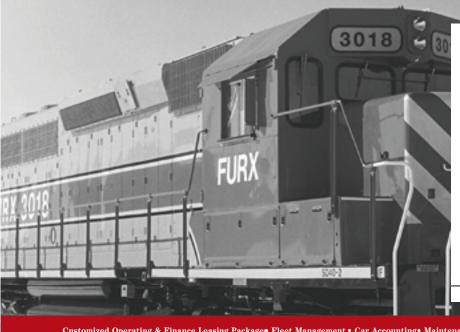


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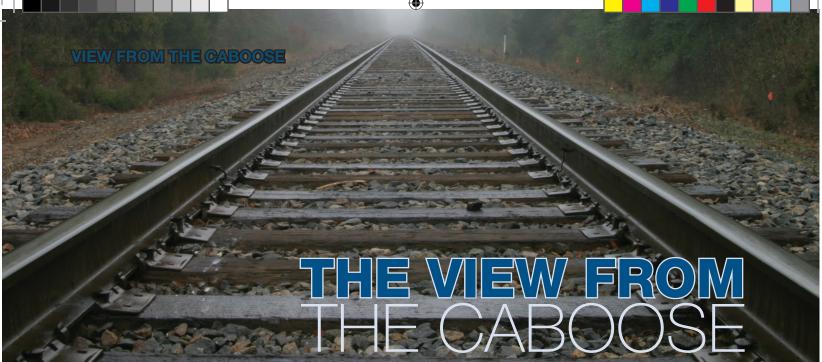
AFS provides all procurement of natural gas on both the wholesale and retail level to over 925,000 customers in the Ameren UE, Ameren Energy Generating Company, Ameren CILCO and AmerenIP territories. AFS is also currently working to develop coal bed methane (CBM) projects as well.

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## **By Pete Moss & Ann Thrawsite**

**Ann:** Hey Pete! It was great seeing you at the Brown Palace in Denver for the NCTA Fall Conference. I hear you stayed in the Eisenhower Suite again. Do you stay in that room so you can blame any damage on Ike, since he used to hit a golf ball around in there?

**Pete:** Don't be silly Ann. You know how much I love history, so I'm always happy to get inspiration from one of its great leaders. Besides, I'm busier than a coal miner on Christmas Eve when I'm at these events, so there is no time to be bouncing anything off the walls.

**Ann:** It was wonderful reconnecting with some old friends like Darrell Dial from Global One, Mark Pettibone from Miller Bros. Coal and Ken Brockway from FL&P.

**Pete:** As always, it is great to see good friends, especially when there isn't a bad penny in the bunch.

Ann: I hear there is plenty of history at the Broadmoor where the NCTA will be having its spring meeting in 2008. Our current president had his fortieth birthday party there back in '86 – woke up less than perky, had his morning run and then set out on a new path in life that ultimately led him to the White House. I hear the views of the Rocky Mountains are awe inspiring and the contrast with the endless plains to the East is something to see. It must have been some morning run for him to decide change his ways; although his wife jokes it was the bar bill from the night before! I'm sure the NCTA won't have any trouble getting together yet another top slate of speakers for a conference at the Broadmoor.

**Pete:** That birthday party was at the Broadmoor? You are a wee bit of a history buff yourself with all your stories. If history serves, you will be right about the spring conference speakers. The speakers at the Brown Palace sure came with a broad range of opinions. It was interesting to see the attendees' reactions to the speeches. I know folks get exercised when someone's

perspective seems one-sided to them, but we need to remember that we are all in this together. There are enough irrational forces lining up against coal utilization that we need to cooperate amongst ourselves to get problems solved while keeping the favorable economics of coal intact.

**Ann:** You're right about that Pete. The global warming debate is one area where the solution can clearly be more catastrophic than the problem if some folks get their way. I keep up on this stuff and I'm confused half the time. I can imagine how John Q. Public feels.

**Pete:** If education is the key, then I guess we must continue to do our part by attending NCTA events (like that's tough duty, lol)! I may suggest that the NCTA also start a mini-library for info. I hear the "Great Global Warming Swindle" is out on DVD and there is another DVD called "Global Warming or Global Governance?" that looks at how some solutions would result in the US surrendering control of its economy to non-elected global entities.

**Ann:** That last one sounds like something my brother would get into. He thinks everything is about economics. Me? I'm more of a "Veronica Mars" fan when it comes to popping in a DVD.

**Pete:** Hopefully, we can all be as smart as Veronica when it comes to figuring this all out. If other members have ideas on what information should be on hand for folks to reference, I wish they would start e-mailing me. If it weren't for you Ann, I'd think my inbox was broken. See you at the Broadmoor!

### **WRITE TO PETE:**

Have something to say to Pete?

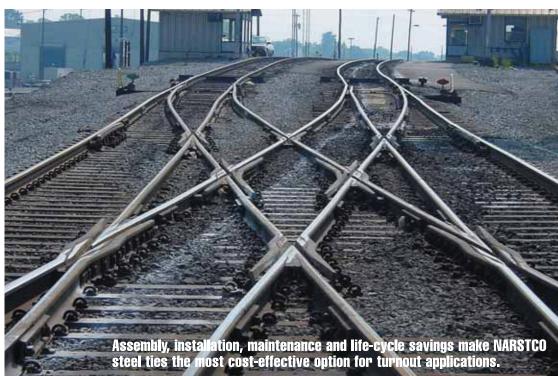
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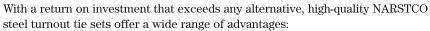




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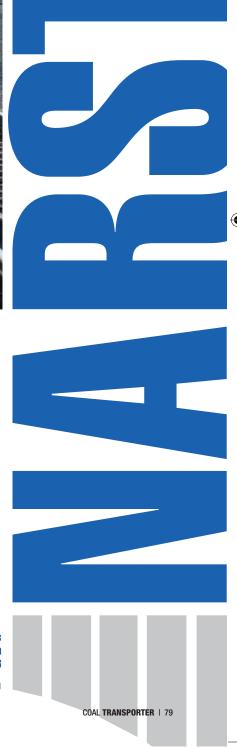
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AKJ funded independent research to evaluate additives to improve side release products. This decision was made as use of an effective side release product is one of the most important facets of an effective freeze conditioning program.

# RESULTS:

- Shear force and viscosity testing showed that the FreeFlow SR-300 was vastly superior to products containing calcium chloride and significantly better than diethylene glycol based products.
- FreeFlow additive provides a substantial improvement in results and the application rate is almost halved! This was seen in every case where products containing the FreeFlow additive package were compared to the same materials without the additive package.

Contact AKJ Industries TODAY and start using our technologies to save you money and enhance railcar unloading efficiency!



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# AIG Rail Services, Inc. GROWING WITH YOU

A staff of rail industry veterans has recently joined AIG Rail Services to enhance our ability to serve the rail transportation community. We are committed to providing competitive leasing products and services to North America's vital coal industry.

We welcome the opportunity to speak with you about your rail car leasing needs.

For more information, contact Tim Johnson, Vice President Freight Car Leasing, at 312.559.4805, or tim.johnson@aig.com.



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The approval and funding of all transactions are subject to AIG CEF's business, credit and legal approval