

UNITED STATES OF AMERICA
SURFACE TRANSPORTATION BOARD

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HEARING

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IN THE MATTER OF: :
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ARKANSAS ELECTRIC COOPERATIVE : Finance Docket
CORPORATION - PETITION FOR : No. 35305
DECLARATORY ORDER :
:

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Thursday,
July 29, 2010

Surface Transportation Board
Suite 120
395 E Street, S.W.

Washington, D.C.

The above-entitled matter came on
for hearing, pursuant to notice, at 9:30 a.m.

BEFORE:

DANIEL ELLIOTT	Chairperson
FRANCIS MULVEY	Vice Chairperson
CHARLES NOTTINGHAM	Commissioner

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ALSO PRESENT:

GREGORY C. FOX, BNSF

STEVE SHARP, AECC

SAMUEL M. SIPE, JR., BNSF

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1 P-R-O-C-E-E-D-I-N-G-S

2 9:30 A.M.

3 CHAIRMAN ELLIOTT: Good morning.

4 Welcome. The Board has convened a hearing
5 today in the case of Arkansas Electric
6 Cooperative Corporation, Petition for
7 Declaratory Order in Finance Docket 35305.

8 This has drawn a great deal of
9 interest and as a result we have panels of
10 participants who will be speaking today. A
11 list of participants, together with their
12 allotted times was issued by the Board in our
13 July 21, 2010 decision in this case and is
14 available at the back of the hearing room.

15 Before we begin with
16 presentations, I wanted to cover a few
17 procedural matters. We've asked each party to
18 present their comments as they deem
19 appropriate, but participants should be
20 prepared to answer questions from the Board
21 after the allotted time.

22 We have read the pleadings and

1 evidence submitted into the record and while
2 there is no reason to repeat every point, we
3 hope that you will focus on drawing our
4 attention to those aspects you believe are
5 most salient.

6 Speakers, please note that the
7 timing lights are in front of me. You will
8 see a yellow light when you have one minute
9 remaining and a red light when your time has
10 expired. The yellow one-minute light will be
11 accompanied by a single chime. The red light
12 signifying that your time has expired will be
13 accompanied by two chimes. Please keep to the
14 time you have been allotted. When you see the
15 red light and hear the double chime, please
16 finish your thought and take a seat.

17 In addition, just as a reminder to
18 everyone to please turn off your cell phones.
19 Now we will proceed.

20 Any opening statements?

21 VICE CHAIRMAN MULVEY: Briefly, I
22 would say it's a very important hearing we're

1 going to have today. We have some very
2 detailed presentations, very technical
3 presentations. Many consultant-verified
4 statements and studies have been submitted and
5 it's obvious that a lot of time and effort has
6 gone into -- has been spent on this issue by
7 both the railroad and by the shippers.

8 One issue that I hope that will be
9 further fleshed out during this hearing is the
10 IDV.2 standard itself in terms of how it was
11 developed, what it measures, how it can be
12 verified regarding its accuracy and integrity.
13 I hope that the parties will address this
14 thoroughly in their presentations and in the
15 responses to questions from the Board. Thank
16 you.

17 CHAIRMAN ELLIOTT: Thank you, Vice
18 Chairman Mulvey.

19 Anything else?

20 COMMISSIONER NOTTINGHAM: I have
21 no opening statement.

22 CHAIRMAN ELLIOTT: I have none

1 either. So we will proceed. We will call up
2 the first panel which is the Government Panel,
3 United States Department of Transportation.

4 You may proceed, Ms. Smith, and
5 you have five minutes.

6 MR. SMITH: Thank you, Chairman
7 Elliott, Vice Chairman Mulvey, Commissioner
8 Nottingham, my name is Paul Samuel Smith.
9 Again, it's my distinct privilege to represent
10 the United States Department of
11 Transportation.

12 With me is Dr. Ted Sussman from
13 the Department's Volpe Center in
14 Massachusetts. I brought him not to make a
15 presentation, but to answer any questions you
16 might have of a technical nature. He is an
17 expert in rail ballast and track geometry. He
18 was very closely involved in those portions of
19 the Department's submissions on that subject.
20 And I would be utterly at sea if I tried to
21 answer any technical questions of the kind the
22 Vice Chairman might be interested in.

1 I want to leave you today with a
2 few main points. The first one, indeed as the
3 Doctor will get into, if necessary, is that
4 coal dust is a particularly pernicious fouling
5 agent. It is not a garden variety dust or a
6 fouling agent. It has its own particular
7 characteristics, particularly when wet. It is
8 something that poses a particularly
9 substantive problem to the stability of rail
10 ballast and although there has been some doubt
11 raised on the record, we don't want here to be
12 any doubt that from the FRA's perspective and
13 from the DOT's perspective it is a real
14 substantive problem that must be dealt with.

15 Having said that, it is also the
16 case that from a safety perspective there is
17 more than one way to deal with it. There is
18 indeed maintenance, accelerated maintenance,
19 expanded maintenance, and that has been going
20 on in the Powder River Basin since
21 approximately 2005 anyway. There are also
22 other methods, containment-type methods, that

1 stop it from being released in the first
2 place.

3 From a safety perspective, from a
4 compliance with FRA ballast standards
5 perspective, either will do and we want to
6 make sure that you recognize that there are
7 multiple choices and indeed other countries,
8 other shippers, railroads, government agencies
9 have taken different routes, have indeed, at
10 least in Australia, taken the route that we at
11 DOT prefer and that the Board has preferred,
12 usually as a positive matter and that is a
13 cooperative effort on behalf of all concerned
14 and not just the railroads, not just the
15 shippers. Those parties have an identify of
16 interest, so that that kind of alignment
17 provides the best incentives, we think, for
18 progress, particularly of a cost effective
19 nature. In an adversarial proceeding,
20 unfortunately, there is most often a winner
21 and a loser and it's much more difficult to
22 get cooperation in that context.

1 In this case, of course, BNSF's
2 tariff rule has put the containment option
3 before you, and as a result under Section 49
4 USC 10702, that must meet the standard of
5 reasonableness. Reasonableness, in this case,
6 means that you must be satisfied with the bona
7 fides of the methodology chosen by BNSF to
8 arrive at its emission limits. And there are
9 of course, two different ones for different
10 lines. And the results can be anticipated
11 from having met those limits.

12 We do not take a position on those
13 highly technical matters, but we think that
14 that's what the law requires. We do believe
15 it is certainly appropriate for the shippers
16 to load their shipments in a manner that every
17 other shipper does, to our knowledge at least,
18 and that is so that it stays in the transport
19 car, either because in other cases it has its
20 own inherent value or because there could be
21 operational or safety problems if it gets out.

22 I want to just leave you with one

1 last point and that is that FRA will continue
2 to oversee the safety of the operations in the
3 Powder River Basin and elsewhere. And I left
4 with you a copy of the Preliminary National
5 Rail Plan. It's a public document and I'll
6 leave one here for the record and provide you
7 with an electronic copy if you like.

8 On page four, there is a graphic,
9 Figure 1, and it shows traffic density,
10 traffic volume. And you'll notice right in
11 the center is the bright red. It's the
12 highest volume traffic corridor in the
13 country. It's coming from the Powder River
14 Basin and it meets up with other lines after
15 that. So this is an extremely important line
16 for energy purposes and every other.

17 Thank you very much and I stand
18 ready to answer your questions of a
19 nontechnical nature. Dr. Sussman is here for
20 those. Thank you.

21 CHAIRMAN ELLIOTT: Thank you very
22 much, Mr. Smith. We really appreciate you

1 coming here today and providing your
2 expertise.

3 One question I have and it's more
4 of a broad question and it might go to the
5 Doctor, with respect to in 2005, we have these
6 derailments which were quite serious and the
7 allegation is that it was as a result of --
8 partially as a result of coal dust. And I
9 guess my question is it only happened, from my
10 understanding in 2005. Why all these years,
11 for hundreds of years, coal cars have been
12 running without any type of containment? And
13 why, all of sudden in 2005, has it become such
14 a big issue? If any of you had such a thought
15 on why that is the case?

16 MR. SMITH: I could speculate
17 about volumes and such, but prefer not,
18 perhaps.

19 Dr. Sussman has a thought?

20 DR. SUSSMAN: For the most part, I
21 think the Powder River Basin has come into
22 large use because of regulations on the

1 quality of coal used and that has concentrated
2 the source of coal to the Powder River Basin.
3 But I think BNSF would be better to answer the
4 direct questions of the volumes on those
5 lines.

6 CHAIRMAN ELLIOTT: Thank you. And
7 one other question, with respect -- you
8 mentioned cooperative efforts which I always
9 encourage. Have there been anything similar
10 to a cooperative effort on issues of this
11 nature, maybe at the FRA or DOT before?

12 MR. SMITH: Not DOT or FRA to my
13 knowledge and I think I would have learned of
14 that in the process somewhere in this
15 proceeding about coal dust. Of course, in the
16 record there's references to cooperative
17 endeavors either at one point or it's still
18 on-going perhaps with different railroads or
19 different places, but that's all I know about
20 this particular subject.

21 CHAIRMAN ELLIOTT: Thank you.
22 Vice Chairman?

1 VICE CHAIRMAN MULVEY: About the
2 coal dust, isn't it true that Powder River
3 Basin coal is different from Appalachian coal
4 or Illinois coal and the dust is finer coming
5 off the trains in the Powder River Basin?

6 MR. SMITH: My knowledge is
7 limited to a very basic level and that is it
8 different in terms of the energy that it
9 produces and in terms of what is emitted when
10 it is burned, but beyond that, perhaps Dr.
11 Sussman knows.

12 VICE CHAIRMAN MULVEY: Dr.
13 Sussman?

14 DR. SUSSMAN: I believe there is a
15 difference in the amount of dust. It is a
16 finer dust. It's more prevalent.

17 VICE CHAIRMAN MULVEY: We had some
18 examples the other day. We were looking at
19 the Powder River Basin coal in a test tube and
20 Appalachian coal and clearly the Powder River
21 Basin coal did seem finer than the Appalachian
22 coal.

1 I want to make a small point on
2 this graph since it's been very, very
3 contentious about here. This graph of the
4 forecast of traffic volumes is based upon the
5 Freight Analytic Forecast, is it not?

6 MR. SMITH: I believe that's the
7 case and that is not just rail traffic. That
8 is all

9 --

10 VICE CHAIRMAN MULVEY: But are you
11 aware also that we did a study here at the STB
12 by Christiansen and Associates which was done
13 subsequent to this and really questioned the
14 accuracy of this flow, especially given the
15 turndown of the economy that's occurred since
16 this was first developed as well as some of
17 the other projections with regard to coal
18 traffic that were made by the DOE?

19 MR. SMITH: There's no question
20 that the economy has had an effect on pre-
21 recession projections. This particular
22 graphic is drawn from information that is

1 listed as 2002, but I've been assured that at
2 least with respect to Powder River Basin coal
3 volumes, those have not declined at all.
4 There has been some reduction, again, recently
5 with the recession, but in terms of the
6 relative dimensions, this is still the
7 largest, heaviest volume rail line in the
8 continent of the world.

9 VICE CHAIRMAN MULVEY: One
10 question for Dr. Sussman on this issue of the
11 IDV.2. Are you familiar with what that stands
12 for, how it was developed? Is it parts per
13 million? What is it measuring? And are you
14 confident in the techniques that were used to
15 develop these measures?

16 MR. SMITH: I don't think that Dr.
17 Sussman is. He has reviewed the verified
18 statements and so forth, but that's the extent
19 of his knowledge at this point.

20 DR. SUSSMAN: I don't have any
21 knowledge other than what's in the record.

22 VICE CHAIRMAN MULVEY: Well, it's

1 a proprietary program I gather, but it makes
2 it hard to evaluate whether or not it's
3 appropriate. But we'll develop that later.

4 DR. SUSSMAN: Thank you.

5 CHAIRMAN ELLIOTT: Thank you, Vice
6 Chairman.

7 Commissioner?

8 COMMISSIONER NOTTINGHAM: Thank
9 you, Mr. Chairman.

10 Mr. Smith, thank you for being
11 with us today. It's always good to have
12 someone from the Department before us. Just
13 a couple of questions, if I could. One of the
14 advantages of having the Department
15 participate is we can perhaps learn something
16 about how other modes of transportation handle
17 issues such as spillage, loss of cargo and
18 steps, reasonable or unreasonable, to prevent
19 spillage and loss of cargo.

20 Can you help educate us? Are
21 there other modes who have taken steps or do
22 take steps routinely to prevent cargo from

1 being spilled or lost during transit? I can
2 just think of, for example, as a customer
3 occasionally my private and sometimes on
4 business capacity of the commercial airlines,
5 if I were to arrive and try to check in a
6 shopping bag that was ripped and leaking
7 clothing or other material at the counter, I
8 probably wouldn't be able to check that bag.
9 That's sort of a -- that may sound like a very
10 pedestrian example, but can you help fill us
11 in?

12 We know that a lot of coal, for
13 example, moves by barge, truck. Have those
14 sectors and modes been able to contain routine
15 spillage?

16 MR. SMITH: Other than, of course,
17 hazardous materials which are very heavily
18 regulated in terms of their packaging and so
19 forth to prevent that from happening, the only
20 other comparable mode of transport of which I
21 am aware, although you mentioned barges, they
22 go down the riverways, they are not covered,

1 but they're not -- unless they actually,
2 unfortunately, have an accident, they're not
3 subject to the kind of jostling that rail
4 motions subject their traffic to.

5 The only other remotely comparable
6 transport mode that I'm aware of is the large
7 dump trucks which, of course, in recent years
8 have had to have covers installed to prevent
9 loose shipments of gravel or coal perhaps and
10 for short distances and so forth which
11 historically was not the case, but has been in
12 the last decade or so. But beyond that, there
13 isn't a problem that I'm aware of with more or
14 less consistent spillage simply because the
15 shippers and the receivers would have a real
16 problem if there was. Now again, for 100
17 years it hasn't been the case with coal and
18 I'm not exactly sure why it is that it has
19 just been accepted as a byproduct of coal
20 transport for so long.

21 COMMISSIONER NOTTINGHAM: So in
22 your professional opinion, would you say it is

1 unusual or the opposite? Does it fall within
2 the norm for common carriers or a common
3 carrier to routinely or to have routinely
4 allowed for the spillage, routine spillage or
5 routine loss of common carrier cargo?

6 MR. SMITH: I don't know of any
7 other instance where that's happened across
8 any mode.

9 COMMISSIONER NOTTINGHAM: Do you
10 have any testimony for us about just the
11 reasonableness of a common carrier wanting to
12 adopt, if it were the case, and we'll explore
13 this later today, I certainly will, if a
14 common carrier wanted to adopt a no-cargo lost
15 policy, would that generally sound reasonable
16 or unreasonable, basically, you pay us to
17 deliver stuff, whatever that stuff might be.
18 We'll guarantee to the best efforts we can
19 that all the stuff you ordered you'll actually
20 get. We won't lose any of it on the way.
21 Does that sound reasonable to you or
22 unreasonable?

1 MR. SMITH: I think as a general
2 proposition that's probably reasonable. I
3 think it's probably the norm, as I said, in
4 other modes of transport, and even in this
5 mode for more or less every other type of
6 shipment that there is.

7 Now obviously, given the
8 extraordinary volumes of the coal traffic and
9 the unit trains and the distances they travel,
10 a lot more than your standard concerns or
11 standard logistics would be required to ensure
12 that that happens. And of course, the nature
13 of the cargo itself is not quite powder, but
14 it's quite granular. So it's not pre-packaged
15 in any way like ore in an enclosed container
16 like a box car or a grain car or something.
17 You would have to go about especially with the
18 backdrop of nothing at all like that with coal
19 transport by rail, you'd have to maybe not
20 invent the wheel, but you have to bring it
21 over from other contexts herein, as an
22 extraordinarily important traffic.

1 COMMISSIONER NOTTINGHAM: The
2 point you make about all other commodities
3 moving basically in a manner that prevents the
4 routine spillage or loss of that commodity, I
5 think that's an important point. It seems to
6 me that the Department has a good sense of the
7 history of freight transportation, that it
8 probably, I don't know this from personal
9 observation, but I'm surmising that perhaps
10 every other commodity today moves in a no
11 spill, no routine spill manner, somewhere
12 along the line historically, actually made
13 some adjustments or made some car standard
14 adjustments to get to that state. I'm
15 guessing that when railroading first started
16 in the 1800s, you probably had a lot of stuff
17 moving in pretty simple cars, exposed, open,
18 spillage, loss of grain or grain damage, for
19 example.

20 And over the years, the industry
21 has been working with its customers, seems to
22 have adopted ways to ensure that those, all of

1 those other commodities actually get to their
2 endpoint destination without routine spillage
3 or loss. And presumably those railroads and
4 their customers have had to absorb over the
5 years, the costs of those technology
6 improvements, those container improvements.

7 What happened to coal to make that
8 the exception?

9 MR. SMITH: I'm personally not
10 enough of an historian for that. As we
11 recognize in our position papers, we're not
12 aware of this happening anywhere else and we
13 don't know why it happened for so long with
14 coal. Obviously, circumstances have changed.
15 We now recognize it's not just a low value
16 commodity that has no consequences when it
17 does get out in volume, especially. And
18 perhaps that's part of the reason. That it
19 didn't appear on anybody's radar screen, if
20 you will, for decades. People didn't
21 recognize it for what it actually was, at
22 least in certain circumstances. That's all I

1 can speculate about.

2 COMMISSIONER NOTTINGHAM: And I
3 know we'll hear some conflicting as we often
4 do and it's one of the good purposes of a
5 hearing, so we'll hear some conflicting
6 arguments about the relative hazards or
7 negative externalities of coal dust. Some of
8 the submissions to us indicate or argue that
9 it's somewhat benign or it can be addressed
10 with just simple routine maintenance. Other
11 testimony told us it's a much more serious
12 problem.

13 Putting that aside, even if we
14 were to stipulate just for the moment that
15 coal dust was benign, that it had no harmful
16 effects on anything, couldn't --
17 hypothetically, I'll just ask you, couldn't a
18 common carrier be within the realm of
19 reasonableness by saying we want to guarantee
20 that all the cargo you asked to be shipped to
21 you actually gets to you, even if it's cotton
22 candy or peanuts or coal or widgets that we

1 won't drop it along the way?

2 MR. SMITH: I see kind of
3 countervailing strains in that. The first is
4 yes, of course, that makes sense. The second
5 is under the legal standard of reasonableness,
6 the cost benefit analysis that ones goes to
7 determine what's reasonable, it may be very
8 expensive to prevent cotton candy from falling
9 out of an open rail car, but if there are no
10 implications for operations or safety or
11 something like that which again perhaps is why
12 coal dust has been left as it has been for so
13 long, then how reasonable is it to enforce a
14 containment strategy of one sort or another.
15 It would be more expensive and not reach the
16 level, because there's no benefit to attain.
17 If there's no consequence for the cotton candy
18 or whatever coming out of the car, then what
19 is the benefit to closing it except for again
20 this kind of common sense principle that, of
21 course, whatever it is that's being shipped
22 should stay in the car in the first place. I

1 think that's a fall out of the reasonableness
2 test and the adversarial proceeding that
3 brings it to you today and other occasions.

4 COMMISSIONER NOTTINGHAM: Okay.
5 I'm not sure if that passes my leaking luggage
6 at the airline counter test.

7 MR. SMITH: Clearly, there's no
8 security question about the leaking luggage
9 these days. The reality is --

10 COMMISSIONER NOTTINGHAM: That
11 would be an airline or maybe a TSA kind of
12 policy as opposed to a DOT nationwide standard
13 that thou shall not bring leaking luggage
14 aboard your carry ons or something.

15 I'll wrap up in a second, Mr.
16 Chairman. Thank you for your forbearance.

17 Have you had a chance, what we
18 really have at issue here today when we boil
19 down what brought this hearing together is, of
20 course, a tariff, a specific tariff that was
21 drafted and opposed by the BNSF.

22 Have you had a chance to look at

1 that tariff and the terms that touch on coal
2 dust?

3 MR. SMITH: I know that there are
4 quantitative limits, one for each of the two
5 lines that are at issue and I know that they
6 are designed according to BNSF to prevent the
7 emissions that were very, very high level of
8 the emissions, but beyond that, that's why Dr.
9 Sussman and others provide the content of our
10 statement, and why even then to make sure that
11 you knew that as far as we are concerned, coal
12 dust is indeed quite pernicious. We couldn't,
13 and don't, take a position on the scientific
14 bona fides of those particular limits.

15 COMMISSIONER NOTTINGHAM: If I
16 were to sort of simplify down or strip down to
17 sort of layman's English the terms of the
18 tariff and describe it as follows: your coal
19 car's rail customer better not leak
20 significant coal dust or else. And if that
21 phrase were put in the tariff, would you not
22 have some sympathy with the rail customer's

1 concern well, what does "or else" mean? In
2 other words, coal dust has been falling off of
3 rail cars for hundreds of years and now we're
4 being told, the rail customer is being told
5 stop it or else.

6 As you look around the different
7 modes and there are all kinds of requirements
8 about transport including the examples I
9 raised about commercial aviation, there are
10 certain things you can do or can't do to make
11 yourself eligible to actually board a
12 commercial flight, but usually you're told
13 somewhere in specific terms what those terms
14 are and what those repercussions are.

15 Do you have anything to say about
16 sort of the reasonableness of the rail
17 customer's expectation that they actually be
18 told in advance of entering into a commercial
19 relationship what the essential terms and
20 conditions are in some detail?

21 MR. SMITH: Indeed, the shippers
22 have raised that. It is a very legitimate

1 question. In its rebuttal filing, BNSF seemed
2 to put a different emphasis on the standards
3 themselves and how -- and what it is going to
4 use them for. It's a tool. It's a prod. And
5 they just want, according to the rebuttal
6 statement, to begin to see some progress to
7 deal with this problem on the containment side
8 and they are going to accept good faith
9 effort, so it was to me, an added element of
10 flexibility, perhaps because the standard is -
11 - even the IDV is a new term and the standard
12 is new and as you said, it's been going on for
13 decades without anybody paying much attention
14 to it.

15 And so it may be that it's a
16 recognition that a hard edge standard maybe
17 isn't appropriate at this time, but I'll
18 certainly leave that to them, but yes, the
19 shippers certainly have a legitimate point to
20 know to the extent that they can or BNSF can
21 tell them the "or else." And that is, I
22 think, a legitimate part of your inquiry as to

1 whether the overall rule is reasonable because
2 if the rule is not going to be enforced, then
3 why bother in the first place?

4 COMMISSIONER NOTTINGHAM: Thank
5 you. I have no further questions at this
6 time.

7 VICE CHAIRMAN MULVEY: Just a bit
8 of a follow up on the question that
9 Commissioner Nottingham had raised earlier and
10 that is whether or not there's any other modes
11 of transportation where this problem exists.
12 And what comes to my mind is that there has
13 been a problem with fugitive dust in the past
14 from trucks carrying municipal solid waste to
15 landfills. And I believe that those problems
16 have been addressed by local municipalities
17 putting restrictions on the trucks and
18 requiring the trucks be covered in such a way
19 that they avoid putting out fugitive dust.
20 But I believe that's a local issue and
21 therefore does not involve interstate commerce
22 usually and so therefore the Department was

1 not involved.

2 Do you know anything about that
3 issue, that particular issue?

4 MR. SMITH: I do not. I don't
5 believe the Department -- I agree with you, I
6 don't believe the Department was involved. I
7 can't say definitively it was not. It sounds
8 to me more like either strictly a local matter
9 or possibly within some kind of -- possibly
10 within some kind of overall program or
11 guidance from EPA or another environmental
12 agency on the federal level.

13 VICE CHAIRMAN MULVEY: Or perhaps
14 state environmental agencies.

15 MR. SMITH: Indeed.

16 VICE CHAIRMAN MULVEY: The other
17 thing is, and this is an interesting issue
18 because the shipper and the loader are not the
19 same individuals or the same firms here, the
20 shippers are, in fact, the utilities. The
21 loaders are the coal mining companies. Have
22 you looked at that as a problem and how that

1 could be addressed? After all, some of the
2 proposals for correcting this, spraying of
3 surfactants or loading the car in such a way
4 as to lessen the likelihood of dust emanating
5 from the cars, would be the responsibility of
6 the coal companies doing this, and yet the
7 penalty goes to the shipper who has very
8 little control over what the coal company
9 does.

10 Do you have any views on that?

11 MR. SMITH: The mine owners have
12 been conspicuous by their absence in this
13 proceeding and that may be because -- it may
14 be because that again traditionally all
15 they've ever done is load the cars more or
16 less, I guess, a standardized chute. I know
17 that they have been more recently involved in
18 changing the profile, if you will, of the
19 coal.

20 Obviously, to the extent that
21 there would be some kind of containment
22 strategy, whether it's surfactant spraying or

1 coal car covers of some sort, that changes to
2 some extent the logistics of the loading. And
3 depending on what it is, the unloading,
4 possibly the burning of the coal, I don't know
5 what surfactants do to the characteristics of
6 the burn, whether they do anything to the
7 inside of the cars that are used, if they're,
8 in fact, made to keep the coal in the car,
9 then I wonder what that does to tipping them
10 over when you get to the utility. It's just
11 not going to hold several tons, obviously.

12 I just wonder -- that's part of
13 the inquiry here that I'm not familiar with
14 that maybe somebody has addressed that in the
15 record and it may just be that the coal,
16 excuse me, the mine owners will certainly be
17 cooperating with their customers. And they
18 recognize their customers for the most part
19 are quite some distance away, but as to who is
20 to bear what part of the -- of a corrective
21 measure and the cost of that again, the
22 containment obviously has to be at the mine if

1 that's the route that is going there. If it's
2 after-the-fact maintenance, then that just
3 occurs elsewhere on the line.

4 VICE CHAIRMAN MULVEY: Thank you.

5 CHAIRMAN ELLIOTT: Thank you, Vice
6 Chairman. Thank you very much, Mr. Smith and
7 Dr. Sussman. We greatly appreciate you taking
8 the time to come and help us out in this very
9 complicated and interesting case. You're free
10 to go.

11 MR. SMITH: Thank you very much.

12 CHAIRMAN ELLIOTT: Next, we'll
13 call up the second panel which are the
14 carriers, BNSF and Union Pacific.

15 We'll have BNSF start out. You'll
16 have 30 minutes. And it looks like later on
17 10 minutes on rebuttal.

18 MR. WEICHER: Thank you, Mr.
19 Chairman.

20 My name is Rick Weicher from BNSF
21 Railway. There are three of us that are going
22 to make statements on behalf of BNSF and to

1 some extent some interplay. On my left is Mr.
2 Greg Fox, our Vice President of
3 Transportation, who will explain why the coal
4 dust problem in the Powder River Basin must be
5 addressed by keeping coal in the cars and not
6 performing after-the-fact maintenance. Mr.
7 Sipe, on my right, will address the legal
8 framework for assessing the shippers' claim
9 that our coal dust standards are unreasonable,
10 and also summarize some of the evidence that
11 supports our challenged standards and some of
12 the issues that have just been raised about
13 the development of our standards. And I will
14 address some of the issues about how we
15 anticipate achieving compliance with these
16 rules and our efforts in that regard if this
17 rule is permitted to go into effect.

18 As we've described in extensive
19 evidence, we are asking the Board to conclude
20 three things. It is necessary to keep coal
21 dust from blowing off loaded cars in transit.
22 That's important for a lot of good reasons.

1 Second, we believe as the operating railroad,
2 we have the authority to issue rules such as
3 at issue here that promote safety,
4 reliability, and efficiency, and do something
5 as fundamental as say the commodity should
6 stay in the car. Third, we ask that the Board
7 conclude that these standards which have been
8 the product of years of research and work are
9 not unreasonable as they stand today.

10 I'll turn it over to Mr. Fox to
11 describe the background.

12 MR. FOX: Very good. Good
13 morning. I am Greg Fox. I'm the Vice
14 President of Transportation at BNSF. My team
15 is accountable from that perspective for our
16 train network, the operation of our train
17 network. Just prior to this position I was
18 the Vice President of Engineering. My team at
19 that time had accountability for the
20 maintenance and reliability of our physical
21 infrastructure and I was in that role in 2005
22 at the time of the back-to-back train

1 derailments on the joint line. And I played
2 a key role in the extraordinary recovery
3 efforts that we put in place after that
4 incident.

5 I therefore speak about coal dust
6 from both the perspective of track maintenance
7 and the trains that run across that track.
8 And clearly, based on my experience, coal dust
9 cannot be allowed to continue to be deposited
10 along the right of way.

11 Coal dust compromises the strength
12 and integrity of the track structure and
13 frankly it puts at risk the transportation
14 services in a critical part of the overall
15 nation's energy supply chain. Shippers must
16 be required to take the measures necessary to
17 keep coal dust in the cars.

18 The evidence in this case shows
19 beyond really any question that coal dust
20 falling along the right of way on the joint
21 line is extensive. As you can see from these
22 photos, coal dust fouling is not confined to

1 a specific location. Coal dust is found all
2 along the joint line.

3 Witnesses have also explained that
4 coal dust is not confined to the coal -- to
5 the joint line alone. There's a very high
6 volume of coal traffic on lines leading out of
7 joint line. And extensive coal dust deposits
8 have been found along these lines as well.
9 Coal dust has been found along BNSF right of
10 way as far as 500 miles from the joint line.

11 There also can be no question that
12 coal dust comes off the top of loaded coal
13 cars in large quantities as shown on this
14 short video clip.

15 (Pause.)

16 This photo shows the top of a
17 loaded coal car and the effect that wind
18 erosion has on the load. Coal blown off of
19 the car, along with coal blowing off of the
20 thousands of other loaded coal cars on the
21 joint line is deposited along the right of way
22 and ultimately makes it way into the ballast

1 section.

2 Coal dust emissions on the joint
3 line were manageable in the early years when
4 transportation volumes were relatively low,
5 but the joint line has become, as indicated
6 earlier, the most dense rail corridor in the
7 world. As many as 70 loaded coal trains move
8 on the joint line each day. BNSF estimates
9 that up to 500 pounds of coal may be lost from
10 the top of each car. We assume that each of
11 those 70 trains has 120 cars. That adds up to
12 over 2,000 tons of coal dust deposited on the
13 joint line every day.

14 BNSF became concerned about coal
15 dust as volumes increased. And after our
16 initial study of the problem in 2003 and 2004
17 we concluded that measures needed to be taken
18 to address the coal dust emissions.

19 We accelerated our study of coal
20 dust after the May 2005 back-to-back
21 derailments and after five years of
22 cooperative study, the evidence is

1 overwhelming that it's time to take action.
2 It's time to keep coal dust in the car. In my
3 personal opinion, doing nothing is not
4 acceptable.

5 Shippers have argued that BNSF
6 should be required to deal with coal dust
7 through expanded maintenance after the coal
8 has escaped from the cars. This is an
9 irresponsible position for them to take. This
10 slide shows a cross section of railroad track
11 or road bed. The principal purpose of the
12 ballast section you see here is to anchor the
13 track and provide resistance to the movement
14 of ties and rail. Also, the ballast section
15 bears and distributes the applied load of the
16 train dissipating that pressure to the
17 subgrade and the earth below.

18 Finally, the ballast section is
19 accountable for drainage, providing drainage.
20 We also use it to facilitate track maintenance
21 and surface, the relationship between the
22 rails.

1 As indicated earlier, coal dust is
2 one of the worst fouling agents of the ballast
3 section. Studies by the University of
4 Illinois and my own experience show that its
5 characteristics make it particularly dangerous
6 for track stability, even in small quantities.

7 Sheer strength is a component, a
8 key component of ballast performance. Sheer
9 strength occurs when friction is created, when
10 one piece of ballast contacts or interlocks
11 with another piece of ballast. Sheer strength
12 is the characteristics of compacted ballast
13 that allow the ballast section to distribute
14 that applied load of the train to the subgrade
15 below.

16 As you can see on this slide, when
17 coal dust fills the voids between the
18 individual ballast pieces, friction is lost,
19 sheer strength is lost and the support for
20 ties and rails is adversely impacted. This
21 leads to deviations in surface or the
22 relationship of the rails to one another and

1 if left unattended to, can result in service
2 interruptions.

3 This situation only gets worse
4 when coal dust gets wet.

5 Routine maintenance cannot deal
6 with the large quantities of coal dust along
7 the joint line. One of BNSF's engineering
8 consultants recently estimated that more than
9 1.8 million tons of coal are deposited along
10 the right of way on the joint line, not
11 counting the coal that's already in the
12 ballast section.

13 In 2008, BNSF did a very limited
14 clean up of coal dust around waterways and we
15 removed over 300 rail cars of coal dust; 1.58
16 million tons as shown on the chart would
17 equate to 14,000 rail cars of coal dust that
18 needs to be removed from the joint line,
19 obviously, an extreme condition.

20 Given the high level of coal
21 traffic on the joint line, it's not surprising
22 that coal dust accumulates far too rapidly for

1 routine maintenance to keep up with it.

2 Here's a picture taken in May of 2007 of a
3 section of the joint line that was constructed
4 in the fall of 2006. From this, you can see
5 rapid accumulation of coal dust.

6 Coal dust also does not accumulate
7 only in visible deposits along the right of
8 way. It also accumulates inside the ballast
9 section. This photo shows coal dust finds
10 being removed or extracted from the ballast
11 section by an undercutter which cleans the
12 ballast.

13 We are currently undercutting
14 track on the joint line at least two times,
15 more frequently than what would be required
16 under non-coal dust conditions. Even with
17 this extraordinary amount of maintenance, it's
18 not enough. Coal dust, even in small amounts,
19 poses a real threat to the integrity of the
20 ballast section and track stability. After-
21 the-fact maintenance is absolutely not the
22 answer here. Coal dust deposits are too

1 voluminous and widespread. Maintenance will
2 never be as effective as keeping the coal dust
3 in the cars to begin with.

4 Coal dust accumulates in the
5 ballast section are not always possible to
6 detect, thus making it very difficult to know
7 when and where to do corrective maintenance.
8 As you can see from this photo, the ballast
9 appears to be clean, often has coal dust
10 beneath the surface.

11 At the end of the day, with the
12 right confluence of events and with coal dust
13 in the ballast section, there's a very real
14 risk of a service interruption taking place.
15 That's a risk that BNSF is not willing to
16 take.

17 When maintenance activity takes
18 place and takes tracks out of service,
19 particularly on lines outside of the joint
20 line where we don't have double track or
21 triple track or four main track capability, in
22 those single track locations we hold trains or

1 maintenance windows several hours or in some
2 cases we reroute trains around those
3 maintenance windows.

4 This map shows the lengthy reroute
5 of coal trains that were destined for the
6 Memphis Gateway. We were rerouting trains
7 around an extended maintenance window near
8 Lincoln, Nebraska adding several hundred miles
9 to the route of these trains, just to make
10 time available to address coal dust caused
11 maintenance.

12 Our engineers estimate that as
13 much as 80 percent of the loaders and the
14 maintenance windows on the Powder River Basin
15 are driven by coal dust. After-the-fact
16 maintenance also does nothing to address the
17 effects of coal dust that's blown off the
18 railroad right of way. This photo appeared
19 recently in a Nebraska newspaper of a local
20 organic farm that was severely impacted by
21 coal dust washed onto the farm. Expanded
22 maintenance would do nothing to eliminate the

1 nuisance caused by coal dust.

2 BNSF's concerns about reliability
3 are clearly not hypothetical. Coal dust was
4 absolutely a contributing factor in the back-
5 to-back 2005 derailments on the joint line.
6 We have expanded our efforts to deal with coal
7 dust since then, but again, given the high
8 rate of coal dust deposits, the uncertainty
9 with which accumulations occur and the risk
10 that ballast fouling may go undetected, it is
11 not possible to eliminate the risk of another
12 service interruption.

13 At the end of the day, BNSF is not
14 willing to take that risk and the potential
15 threat to the supply chain. The best place
16 for coal dust is in the rail car. There's no
17 other line of business where we allow the
18 product that we're transporting to fall off
19 the car. Thank you.

20 MR. SIPE: Good morning, I'm Sam
21 Sipe. As Mr. Fox explained, BNSF has
22 concluded after extensive study that after-

1 the-fact maintenance is not a responsible way
2 to address the actual and potential problems
3 created by coal dust emissions. In
4 particular, after-the-fact maintenance does
5 not, in BNSF's view, provides efficient
6 production against the risk of service
7 disruption.

8 Sound regulatory policy teaches
9 that when it is feasible to eliminate a
10 serious risk, measures that are not unduly
11 costly, preventive measures should be taken.
12 Contingency planning to address potentially
13 devastating occurrences such as the recent
14 Gulf oil spill should not be ignored simply
15 because the risk of occurrence is perceived to
16 be low.

17 The risk of a serious coal supply
18 chain disruption may seem low because we
19 haven't had one for five years, but we all
20 know that disruptions in the coal supply chain
21 are not beyond the realm of possibility
22 because we lived through one such disruption.

1 And the Board noted that and established its
2 redact in part as a response to that.

3 The precautionary principles
4 spelled out by Professors Calt and Mitchell in
5 BNSF's rebuttal evidence represents a
6 formalization of the common sense adage
7 "better safe than sorry." BNSF's efforts to
8 foreclose the possibility of an unacceptable
9 event resulting from coal dust contamination
10 is prudent and affordable.

11 As explained by Professors Calt
12 and Mitchell, under the precautionary
13 principle, the only relevant question about
14 costs is whether the costs associated with the
15 preventive measures are unduly high. I
16 apologize for the feedback here. I'm not sure
17 what's causing it.

18 The evidence in this case chose
19 that costs clearly are not unduly high. One
20 option for containment that has been discussed
21 is surfactant application and for illustrative
22 purposes in our evidence we took a look at the

1 potential impact of surfactant application on
2 costs. In fact, it would have a negligible
3 impact on the delivered price of coal and in
4 fact, the impact of surfactant application is
5 regularly dwarfed by the impact of changing
6 coal prices at the mines.

7 Even if surfactant application
8 costs somewhat more than enhanced maintenance
9 which is not what the record shows here, the
10 incremental cost of surfactant application
11 would be an even lower percentage of delivered
12 cost.

13 Any attempt to perform cost-
14 benefit analysis would be misleading in this
15 case. Professors Calt and Mitchell explain
16 that a comparison of the costs of two
17 alternatives only makes sense where the two
18 alternatives are equally effective and Mr.
19 Smith, I believe, suggest to you that in his
20 view the alternatives of containment and
21 after-the-fact maintenance may be equally
22 effective. But in fact, the record here

1 demonstrates that that is not the case.

2 After-the-fact maintenance can't eliminate the
3 risk of ballast destabilization and track
4 failure caused by undetected coal dust
5 fouling.

6 Prevention of coal dust fouling requires that
7 you keep the coal in the car.

8 So in this case, a comparison of
9 the equally effective alternatives really
10 isn't available because they're not equally
11 effective. The precautionary principle teaches
12 that keeping the coal dust in the car is the
13 appropriate course to pursue and sound
14 regulatory policy.

15 Turning to the reasonableness of
16 BNSF's coal dust standards, there are two
17 guiding legal principles. First, railroads
18 have the authority to adopt operating rules to
19 promote safe and efficient transportation. In
20 reviewing an operating rule, the Board's role
21 is not to second guess the railroad's
22 determination, but rather to satisfy itself

1 that there is a valid basis for the operating
2 rule.

3 Second, shippers are responsible
4 for securing their freight and rail cars so
5 that the freight does not escape from the cars
6 and damage railroad property.

7 Measured against these standards, BNSF's dust
8 monitoring and load profiling rules are
9 reasonable means to achieve the goal of
10 significantly reduced coal dust emissions.

11 Now most of the comments about
12 BNSF's coal dust emissions standards addressed
13 BNSF's methods for monitoring coal dust
14 emissions. And it was BNSF's adoption of a
15 performance-based standard set out in the
16 tariff rule rather than an activity-based
17 standard, that is, a mandated method for
18 reducing coal dust emissions led to the
19 adoption of coal dust monitoring.

20 Mr. Weicher will explain that BNSF
21 adopted a performance standard to give coal
22 shippers the flexibility to adopt dust

1 curtailment measures of their own choosing.
2 The adoption of a performance standard makes
3 it necessary for BNSF to implement a
4 monitoring plan to make sure that coal dust is
5 being kept in the cars.

6 There is nothing particularly
7 novel or complicated about the monitoring
8 system that BNSF has set up. In fact, BNSF's
9 monitoring system is based on track side
10 monitors and coal dust sensors and it's
11 similar to dust monitoring systems established
12 in Australia and also the State of Virginia.

13 BNSF's dust monitors measure the
14 level of dust emitted by passing trains. Coal
15 dusting is episodic and not all trains that
16 dust on their journey will dust as they pass
17 the track-side monitor, but the monitor
18 functions almost like a traffic cop, and the
19 goal is to encourage the adoption of dust
20 suppression measures that will be effective
21 throughout the route of movement.

22 The IDV.2 standard which Vice

1 Chairman Mulvey indicated an interest in at
2 the outset here, is a measure of the relative
3 dust in the air as the train passes the track
4 side monitor. And I will describe in light of
5 Vice Chairman Mulvey's question very, very
6 briefly the derivation of the standard.

7 The surfactant monitoring system
8 that BNSF has employs dust sensors that
9 collect particles of dust that enter a chamber
10 where they're subjected to a photographic
11 process that translates to an electronic
12 signal. That electronic signal is relayed
13 directly to the computers of BNSF's
14 consultant, Simpson Weather Associates in
15 Charlottesville, Virginia. And it's the
16 intensity of the electronic signal that forms
17 the underpinning of the IDV.2 standard.

18 The standard was derived by
19 collecting two years' worth of dust data
20 through these monitors and totaling up the total
21 dust units captured by the monitors over that
22 period.

1 We then calculated a standard
2 which applied to individual trains would
3 determine how much the dust could be reduced
4 if it did not exceed a particular level of
5 dust as measured by IDV.2.

6 BNSF is determined that compliance
7 with the IDV.2 standard will reduce coal dust
8 emissions by about 85 percent. And by the
9 way, the 2 in IDV.2 refers to the fact that
10 it's a revised standard, the second version
11 which takes account of dust emitted by lead
12 and trailing locomotives as the train passed
13 the dust sensor. In other words, we eliminate
14 those in the IDV.2 calculation.

15 The shippers raise a number of
16 issues with respect to BNSF's use of the
17 electronic dust monitors which are referred to
18 as e-samplers. But the manufacturer of that
19 equipment has specifically approved the way
20 BNSF is using the dust monitors. BNSF is
21 using the best equipment currently available
22 to monitor coal dust. None of the parties to

1 this proceeding has suggested a superior
2 alternative exists. If an improved monitoring
3 device is developed, BNSF will be receptive to
4 adopting it. But there's no reason to delay
5 implementation of monitoring with the
6 technology that's currently available.

7 There's plenty of evidence that
8 BNSF's coal dust emissions standards can be
9 met through a combination of load profiling
10 and surfactant application. Coal dust can be
11 reduced by loading coal to a more aerodynamic
12 profile as illustrated in this slide on the
13 right hand side. BNSF estimates that coal
14 dust can be reduced by about 15 percent
15 through proper load profiling. And in fact,
16 that process is currently in place in the
17 Powder River Basin, although we have learned
18 that simply using the profiling chute that has
19 been designed for this process is not
20 sufficient. The people operating the
21 equipment have to be trained and have to do
22 the job carefully to make sure the benefits of

1 load profiling are realized.

2 Although shippers are free to
3 choose how they will restrain coal dust
4 emissions, surfactant application has proven
5 to be a viable approach as it is a method
6 that's already used in Canada and Virginia to
7 reduce coal dust emissions. Queensland
8 Railroad in Australia is preparing to
9 implement an extensive surfactant regime in
10 the near future. Surfactants work by forming
11 a crust over the loaded coal that keeps the
12 coal dust in the car during transit.

13 The video clip here shows
14 surfactants being applied to a Powder River
15 Basin train. The still picture in this slide
16 shows the Chinese surfactant application
17 process. And as we noted in Mr. Bobb's
18 rebuttal statement, he was informed by the
19 Chinese that they had adopted surfactant
20 application not as an environmental measure,
21 which as you may know they're not particularly
22 noted for, but actually as a means of saving

1 money by keeping coal dust in the car. And
2 there is a value to the shippers there.

3 Thank you.

4 MR. WEICHER: Thank you. Chairman
5 Elliott, Vice Chairman Mulvey, and
6 Commissioner Nottingham for the opportunity to
7 address this issue and air this thing out. We
8 know this is somewhat novel and unusual, but
9 very important and very important to a vital
10 part of our economy.

11 After studying this coal dust
12 problem for several years, BNSF concluded that
13 the best approach to curtailing coal dust was
14 to establish a performance-based standard that
15 established a specific limit on coal dust
16 emissions from loaded trains and left the
17 decision to each shipper and its mine agent
18 how best to meet that standard.

19 As was alluded today, the
20 relationship between the parties here are a
21 bit complex. We have no direct contract for
22 shipment of coal with mines as you've probably

1 heard. We have tariffs and contracts with
2 shippers who are usually utilities and so the
3 utilities, to our knowledge, have arrangements
4 with the mines for the loading and so forth.
5 Those parties own the coal. We do not own the
6 coal. They transfer ownership somewhere in
7 the shipment. The vast majority of things
8 that move today are in shipper-owned
9 equipment. We do own some equipment, but the
10 vast majority is theirs. And we concluded
11 that these decisions, what actions should be
12 taken would be best sorted out by those
13 parties, they have the coal, they have the
14 boilers, they have the mines, how best to do
15 it.

16 Embedded in this process, there is
17 -- we haven't talked much about it, but there
18 is an element of an activity-based standard.
19 That's the profiling, the chute monitoring,
20 which has been widely adopted and widely
21 accepted and doesn't seem to be in
22 controversy.

1 We are not aware of any shipper in
2 this proceeding that suggested they would have
3 preferred we made an activity-based standard
4 as a general rule such as putting on a topper.
5 And I want to address one thing that was
6 alluded to and we can come back to it, in
7 terms of cooperative effort. We had 10, 12
8 forums over 2 to 3 years, lots of shippers
9 participated, lots of mine people came.
10 Ultimately, it's our responsibility to address
11 this.

12 We have the railroad and we're in
13 charge of the joint line with that other
14 railroad that operates on it as well, but
15 under a long-established agreement that we'll
16 come back to, we're the responsible party for
17 this as the railroad. So we went forward to
18 set a standard to let the mines and utilities
19 work out the best way to adapt to.

20 We think it's the best way to go
21 because we're not in a position to choose the
22 type of chemical surfactant to use for a

1 particular coal. We've obviously done a great
2 deal of testing and shared this information
3 and we think there's an incentive here for
4 those parties to work out the most efficient
5 and best way to do it.

6 After the May 2005 derailments,
7 many shippers raised concerns about the
8 reliability of coal transportation in the
9 Powder River Basin. They realized it was of
10 critical importance to make this a reliable
11 and efficient source of coal with an efficient
12 and reliable transportation network. They
13 even convinced the Federal Energy Regulatory
14 Commission which obviously, to our knowledge,
15 does not have jurisdiction over coal
16 transportation, you do, to convene a hearing
17 to consider all liability issues. BNSF and
18 many other parties testified at that hearing.

19 The somewhat laid back attitude of
20 some of the shippers to this problem today and
21 this evidence, is a great contrast to the
22 crisis atmosphere that existed during that

1 period.

2 The STB was involved in addressing
3 this crisis by establishing a Rail Energy
4 Transportation Advisory Committee where the
5 Board specifically acknowledged that it "views
6 the reliability of the nation's energy supply
7 as crucial to this nation's economic and
8 national security." That's a quote from your
9 order setting that up. We participate in that
10 effort to this day as do many parties.

11 Shippers now seem to ask -- the
12 shippers opposing and we're working with many
13 shippers who are not parties to this, that you
14 ignore these reliability issues. We think
15 that that would not be responsible to accept
16 a short-sighted desire to minimize cost to
17 curtail coal dust emissions. Something must
18 be done now to keep the cars in the -- to keep
19 the coal in the cars loaded like every other
20 commodity.

21 We decided to establish our coal
22 dust standards as a rule that would be

1 generally applicable to our shippers,
2 remembering that we are talking about common
3 carrier shippers here. The vast bulk of our
4 coal moves through contracts which are not
5 part of this proceeding which may or may not
6 incorporate as we work with those shippers.

7 Should I continue or do you want -
8 - we'd be happy to respond to questions.

9 CHAIRMAN ELLIOTT: You have ten
10 more minutes on rebuttal and then we will
11 actually go to Union Pacific now and then
12 we'll have questions after.

13 MR. WEICHER: That's fine.

14 MS. RINN: Good morning, Chairman
15 Elliott, Vice Chairman Mulvey, and
16 Commissioner Nottingham. It's an honor to
17 appear before you this morning to discuss coal
18 dust rules.

19 I'm Louise Anne Rinn, Associate
20 General Counsel for Union Pacific Railroad.
21 And I'm accompanied by Joe Rebein who is also
22 representing Union Pacific who is in the

1 audience.

2 The Board now has the benefit of a
3 very extensive record with vigorous and
4 divergent comments. In accordance with your
5 notice, UP wishes to focus on three points in
6 my comments.

7 First, preventing deposits of coal
8 dust on the joint line and UP's coal corridor
9 is the best way to assure reliable, safe, and
10 efficient transportation.

11 Second, coal customers play a
12 critical role in prevention because railroads
13 cannot directly prevent coal dust deposits.

14 And finally, mutually beneficial
15 collaboration to achieve prevention will be
16 advanced only if railroads are allowed to
17 adopt reasonable coal prevention rules.

18 Accordingly, in the interest of
19 facilitating discussion between UP and its
20 customers on how to deal with coal dust, we
21 urge you to reject the request that you find
22 the BNSF rules unreasonable or otherwise

1 unduly restrict their application.

2 Turning to my first point that
3 coal dust prevention is the best strategy for
4 reliable and safe service. We have consensus
5 on at least two points, I think, on the
6 record. And that is that coal dust is a
7 dangerous fouling agent in ballast. And the
8 second is that ballast integrity is essential
9 to reliable and safe railroad transportation,
10 particularly on high density corridors.

11 The difference is between those
12 parties who claim that it is sufficient for
13 railroads to just keep cleaning it up and
14 those who conclude that preventing coal dust
15 from escaping cars in the first place is the
16 only sustainable way to ensure reliable and
17 safe transportation. UP is convinced that
18 prevention is superior.

19 I begin by asking that you keep in
20 mind that those who ship no coal, still have
21 a real stake in the outcome of this
22 proceeding. Coal dust removal -- could you

1 pass the clicker or if you could advance to
2 the next slide, please?

3 Coal dust removal disrupts service
4 to shippers who do not ship coal and who do
5 take responsibility for loading their freight
6 so that it stays within the cars or
7 containers. The diagram illustrates the UP
8 coal corridor from the end of the joint line
9 through Nebraska and into Kansas. The yellow
10 boxes show the train count by train type in
11 2007 before the recession dropped our volume.
12 And you can see that once you get to OpFallons
13 and go east, that our coal customers, yes, a
14 very high density flow, share a corridor, a
15 high-density corridor that had a lot of
16 traffic that is not coal. For example, North
17 Platte to Gibbon in 2007 averaged 140 trains
18 a day which is roughly one every 10 minutes.
19 And almost half of those, 65, did not
20 transport coal. They transported grain, auto,
21 auto parts, intermodal, beer, lettuce, and
22 those customers shared the track with the

1 track that the coal customers are moving over.
2 They should not have their shipments delayed
3 and their cars slowed down because they have
4 to wait for us to clean up after coal
5 customers.

6 In addition, coal dust presents
7 risk of right of way fires and it's not
8 welcomed by land owners whose property is
9 beyond the right of way, certainly not the
10 organic gardener who is adjacent to BNSF.
11 Their interests are best served if coal
12 remains in the cars and is not left behind to
13 be cleaned up later.

14 But they aren't the ones who
15 benefit from prevention. Coal shippers also
16 will benefit because if the coal remains in
17 the cars, they get all of the coal that they
18 paid for to burn at destination. And
19 substantial and wide-ranging ballast, bridge,
20 and switch maintenance curfews and slow orders
21 to remove coal dust are eliminated as well as
22 the associated delay to their trains.

1 Now the opponents of the BNSF
2 rules say that there's more coal dust to be
3 maintaining because the volume of PRB coal has
4 grown and they imply that this is an
5 unavoidable and a simple linear relationship.
6 I beg to differ.

7 They overlook that the sheer
8 volume of PRB coal has multiplied the need for
9 coal dust removal and that that volume also
10 increases the cost of disruption.

11 And Chairman Elliott, I think that
12 this may partly answer a question you had
13 raised earlier, why did this suddenly become
14 a manifest problem in 2005 when UP at least
15 has been transporting coal out of the Powder
16 River Basin since 1984?

17 If we could go to the next slide,
18 please.

19 More coal trains required more
20 track. On the slide, the red lines show where
21 single track became double track, double track
22 became triple track, and even quadruple track

1 in order to meet the demand. As the number of
2 tracks increased, in response to an increase
3 in the volume, the amount of coal dust that
4 would be caught instead of blowing off into
5 the high plains also increased and the amount
6 of track to be maintained also increased. And
7 as more trains were running on parallel
8 tracks, that increased the number of passing
9 trains. It is clear that passing train
10 episodes are high dusting events. So that
11 means that when you had a train that was going
12 down a single main line and it would pass a
13 standing train on a siding, it would only emit
14 the normal amount of dust, if any, at that
15 particular location. But when you have two
16 trains passing each other, that creates enough
17 turbulence that more coal dust is, in fact,
18 being emitted.

19 So I suggest to you that this is
20 not a linear relationship. Whether it is
21 geometric, I don't know if it can be proved,
22 but I do not believe that it is a linear

1 relationship.

2 And one other factor departing
3 from my prepared remarks. We also found in
4 2005 that this was at the end of a prolonged
5 and very severe drought, the worst drought in
6 that part of Wyoming in more than 100 years.
7 And subsequent research by Dr. Tutuma has
8 indicated that coal dust is particularly
9 prone, that if it's been dry and you suddenly
10 inundate it with water, that its physical
11 characteristics make it go from solid to
12 plastic to liquid in a very dramatic fashion.
13 And we did have a major blizzard at the end of
14 April of 2005 that was sufficient to shut down
15 the highways so that the coal mines were
16 closed, followed by rain, followed by in the
17 week before the two derailments which were on
18 a Saturday and a Sunday. There was a blizzard
19 followed by rain and that weekend is when the
20 joint line literally started falling apart.

21 Not only is there, I suggest, a
22 more than linear relationship with volume in

1 coal dust, but there's greater disruption with
2 more volume. More coal trains means more
3 re-crews, greater locomotive idle time, and
4 longer cycle times for cars because trains are
5 delayed by the coal dust maintenance. Adding
6 track maintenance increases the coal dust
7 problem. It does not solve the problem. Only
8 prevention reduces the coal dust problem.

9 So in summary, prevention
10 preserves service to all and presents less
11 risk of property damage and personal injury as
12 a result of derailments.

13 My second point is that coal
14 shippers play a critical role in preventing
15 coal dust. Coal shippers own the coal. Coal
16 shippers own the cars that the coal is loaded
17 in to. The mines own the infrastructure that
18 loads the coal and in addition, they are
19 equipped when coal shippers request them to,
20 as some currently do, to add a suppressant to
21 control coal dust at destination or they will
22 add a de-icing agent in order to prevent coal

1 from freezing in cold weather or certain
2 customers have them add soda ash to deal with
3 the sulfuric acid problem. So they are, in
4 fact, equipped to do treatment after the
5 loading of the coal.

6 In contrast, the railroads lack
7 legal status to apply a foreign substance or
8 equipment like a car cover to the shipper's
9 property. The railroads also lack the legal
10 status to construct and operate a spray or
11 compression device on the mine's property. We
12 can't just unilaterally go in there and do
13 something about it. We would need permission
14 and authority.

15 The clearest proof that any
16 prevention method is beyond the direct control
17 of the railroad is that all of the tests have
18 required the willing participation of coal
19 shippers and one or more of the mines.

20 And my last point is that mutually
21 beneficial collaboration to achieve prevention
22 will be advanced only if railroads are allowed

1 to adopt reasonable coal dust prevention
2 rules. While prevention is the best strategy
3 for dealing with the amount of coal dust
4 associated with the SPRB coal, and coal
5 shippers are best situated to implement
6 prevention, this proceeding provides ample
7 proof that left to their own preferences, the
8 shippers will not change their behavior. This
9 is not a moral criticism, it's a recognition
10 of inertia.

11 Allowing the coal dust prevention
12 tariff rules to become effective will
13 facilitate constructive discussions between
14 the railroads and their respective customers
15 on how to deal with the dust. As Dennis Duffy
16 likes to say, "you want to find the problem
17 before it finds you." And we want to find a
18 solution that works for both us and our
19 customers.

20 Such discussions offer real
21 opportunities for the collaborative
22 development of alternative prevention methods

1 such as compression or car covers. It is
2 notable that the BNSF rule proposed do not
3 require a particular method because they, in
4 fact, do provide for that opportunity to
5 explore and try to develop the most cost
6 effective and lower cost opportunities.

7 But if the Board were to decide
8 that BNSF may not establish these rules
9 regarding coal dust dispersion that would
10 freeze shipper and producer cooperation and
11 the research and development of alternatives.
12 For example, we are planning a test to begin
13 in September for a mechanical compression
14 device. That requires the participation of
15 the mine and at least two coal shippers in
16 addition to BNSF, UP, and the vendors. All of
17 the participants are contributing cash or in-
18 kind resources or both. And we, of course,
19 will be sharing the data with each other.

20 But if there is no possibility
21 that future shipments of coal must comply with
22 the coal dust prevention rule, then what

1 incentive does a shipper or a mine have to
2 participate with us? And what ability do we
3 have to try to develop the most effective
4 prevention method by ourselves.

5 That is why ICTA recognizes that
6 railroads must be able to establish tariff
7 rules regarding the terms and conditions for
8 the transportation they provide. Rail
9 transportation is a chain of shippers,
10 receivers, ports, and terminals and connecting
11 railroads to move freight from an origin to a
12 destination. Each link depends on the others
13 to do so safely, efficiently and reliably.
14 Only the rail carrier, however, has a common
15 carrier responsibility for that chain. In
16 addition, we have common carrier
17 responsibilities and contractual
18 responsibilities for other chains that
19 frequently share some of the very same
20 resources.

21 Therefore, the rail carrier is in
22 the best position to encourage behaviors that

1 optimize the rail network and safety and
2 discourage behaviors that disrupt service or
3 are otherwise inefficient or unsafe. So the
4 railroad must be allowed to set reasonable
5 terms under 10702.

6 I submit that the Board should
7 allow the BNSF tariff rules to become
8 effective because they have not been shown to
9 be unreasonable and because we think that they
10 will clearly promote safe and reliable
11 transportation. Thank you for your attention.

12 CHAIRMAN ELLIOTT: Thank you for
13 your testimony. A couple quick questions
14 regarding I guess the interplay between UP and
15 BNSF on this line. And this is directed to
16 Union Pacific. If, hypothetically, we find
17 this tariff to be reasonable, would Union
18 Pacific also have an identical tariff at that
19 point? Would they follow the same guidelines
20 as BNSF with respect to the suppression of
21 coal from these open cars?

22 MS. RINN: No, for two reasons.

1 First of all, the BNSF has promulgated an
2 operating rule which applies to Union Pacific
3 which is materially the same as the joint line
4 tariff item. So we have already encouraged
5 our customers to comply with the BNSF rule,
6 but we have not adopted the same rule. We
7 have also undertaken to begin to compile the
8 same research on our lines because one of the
9 things we have learned from the BNSF work is
10 that if you were to adopt an IDV standard that
11 it needs to be location specific. For
12 example, the IDV standard that they have on
13 the joint line is 300 whereas the IDV standard
14 that they have on their Black Hills
15 subdivision I think is 154.

16 So we are in the beginning stages
17 of getting to develop the data by putting a
18 TSM on the South Morrell and we would have to
19 develop the data.

20 But beyond that, we are frankly
21 waiting to see what this Board is going to say
22 and that will influence our behavior and we're

1 also thinking that this gets into pricing
2 issues which I tend to not share. In fact,
3 not tend, I do not share with the other
4 railroad about how we would approach our
5 customers in terms of encouraging them to
6 engage in the behavior that we want them to
7 do.

8 CHAIRMAN ELLIOTT: And then just
9 as a follow up, what percentage of the traffic
10 on the joint line does UP carry of the coal
11 traffic?

12 MS. RINN: Currently, I think it
13 is a 48-52 split, but we have a higher share
14 of the cost of the joint line. Our share is
15 60 percent because all of our trains come in
16 from the south and leave from the south, and
17 the costs are split on a car mile basis.

18 CHAIRMAN ELLIOTT: That would
19 bring me to BNSF, if Union Pacific isn't
20 exactly on board with the tariff that's been
21 proposed here, wouldn't that almost make it at
22 that point inherently unreasonable if UP is

1 running across with 48 percent of their trains
2 without the surfactant going, wouldn't the
3 coal dust being blown off their trains at that
4 point and until there's some kind of joint
5 decision between the railroads, wouldn't there
6 be a problem here with the coal dust blowing
7 off the Union Pacific if it wasn't in place
8 simultaneously with BNSF?

9 MR. WEICHER: If I may address
10 this, the rule -- we had a slide on the
11 operating rule that we have in place. The
12 relationship between Union Pacific and BNSF is
13 governed by a joint operating agreement,
14 approved by the predecessor. It has its own
15 system of remedies including were there to be
16 an issue, arbitration, enforcement or
17 whatever, were it to come to that. There's
18 more of a problem of if we don't get going
19 having a smaller number of shall we say free
20 riders because -- excuse me, a larger number
21 of free riders, because no one starts because
22 there's no rule. The operating rule with

1 Union Pacific which we anticipate over time,
2 this is an incremental process, also be
3 effected, we don't know that will be faster or
4 slower than with our customers.

5 The majority of our customers,
6 well over the majority are not subject to this
7 tariff rule other than by incorporation
8 through our contracts and I will also not go
9 into the details of those contracts, but as
10 you know, the vast -- well over 60 to 70
11 percent -- excuse me, over 75 -- I don't want
12 to get too precise here, but you've seen
13 before you some of the common carrier moves we
14 have. They are the far minority. They're
15 less than 20 percent. This is being
16 implemented through our contracts and will be
17 in effect.

18 How Union Pacific does it with its
19 customers is not our concern. Obviously,
20 we're talking about some of the same mines and
21 some of the same big utilities and customers.
22 The lead customer in this complaint is not

1 really a BNSF customer. We are having some
2 dealings with them, which is to say no, we
3 believe it's just as likely if this rule goes
4 into effect and far more likely and really the
5 only way it gets into effect over time in an
6 iterative process through our various
7 customers.

8 MS. RINN: And if I could clarify,
9 please, Chairman Elliott?

10 CHAIRMAN ELLIOTT: Sure.

11 MS. RINN: I am not saying that UP
12 is going to tell our customers you can blow it
13 off and ignore the BNSF rules.

14 CHAIRMAN ELLIOTT: Okay.

15 MS. RINN: How we approach our
16 customers to encourage them to, in fact,
17 comply with that rule is a matter that we are
18 going to be working out in customer to
19 customer interactions. And to a certain
20 extent we can't. One, we aren't going to
21 reveal that in front of our competitor. And
22 secondly, it's hard for us to formulate

1 exactly how we might do that until we know the
2 results of this proceeding. But we are
3 shoulder by shoulder with the BNSF in
4 believing that prevention is, in fact, in the
5 best interest for all stakeholders on the
6 joint line.

7 MR. WEICHER: May we put up the
8 operating rule, Chairman? It's one slide.

9 CHAIRMAN ELLIOTT: That's fine.

10 MR. WEICHER: This is not an
11 attempt to take more time from the parts we
12 didn't cover.

13 CHAIRMAN ELLIOTT: You're not on
14 the clock now. You're okay.

15 MR. WEICHER: This is published
16 pursuant to the STB-ICC approved joint
17 operating agreement. You'll notice the first
18 words "as soon as practicable." We know this
19 is a haul here to get this thing done,
20 although it could move very quickly within the
21 next year or two, but it is not automatic.
22 And the "as soon as practicable" is an

1 explicit acknowledgement of the complex
2 relationships we're all facing here.

3 It is our responsibility, we
4 believe, that is BNSF Railway, as the lead
5 operator, dispatcher, maintainer, of this
6 vital facility to shall we say manage this
7 process. But our vehicle with the other
8 carrier is an operating rule with its own
9 separate enforcement mechanism.

10 CHAIRMAN ELLIOTT: That's actually
11 very helpful. Thank you.

12 And just one other question I had
13 with respect to the compliance and this is to
14 BNSF. As I see the compliance method, you
15 have these machines that monitor what type of
16 coal dust comes off the trains and you use a
17 traffic cop analogy and that some trains will
18 blow off the dust and go over the number and
19 some may not.

20 Wouldn't it be, I guess, using the
21 term of the statute, more reasonable, if you
22 had I guess an activity-base safed harbor

1 where say coal shippers would put the
2 surfactant on it and that in itself was
3 sufficient enough to pass the tariff as
4 opposed to this monitoring system that may not
5 be entirely consistent?

6 MR. WEICHER: I would argue that
7 it is not necessarily more reasonable. Some
8 parties may say it's less reasonable because
9 we were compelling activity. However, having
10 said that we are perfectly willing to do that.
11 We are quite open and I will just say without
12 getting into particular things, you can
13 imagine us having a discussion like this with
14 a contract customer.

15 If the Chairman is suggesting
16 something along the lines of should there be
17 or could there be or would we publish or amend
18 to say there would be a presumption that if
19 you used one of the approved surfactants, you
20 were in compliance, certainly. We are not
21 close to that. For a given period of time
22 this is going to be an evolving process, two

1 to three years. You did it right and it
2 worked, certainly.

3 I would flip it around a little
4 bit, it would be just as reasonable to say all
5 the coal should be in the car, forget about
6 this measuring thing, if it's too complicated.
7 But in terms of what you were saying, would an
8 activity be a reasonable substitute? Not
9 taking away, we don't think we should take
10 away that option for the shipper to find
11 another way, whether they want to explore
12 compaction of covers or something else,
13 certainly.

14 MR. FOX: I guess the only thing I
15 would add to that over the last five years
16 we've been in active dialogue with our
17 shippers through a variety of forums. At the
18 end of the day they told us they wanted a
19 choice. They wanted the choice in terms of
20 how to comply and that's why we thought the
21 performance-based standard was a reasonable
22 start.

1 CHAIRMAN ELLIOTT: And my thought
2 would be that there wouldn't be -- you could
3 have an activity-based safe harbor, but also
4 still have the measuring to encourage possible
5 economic discovery of what is most efficient.
6 That is good to hear that you would be open to
7 that.

8 Vice Chairman Mulvey?

9 VICE CHAIRMAN MULVEY: Thank you,
10 Chairman Elliott.

11 The accidents that occurred in the
12 PRB were five years ago now and I assume that
13 quite a bit of coal dust has escaped from cars
14 over the last five years even with the
15 maintenance. So coal dust builds up. I'm
16 sure that the weather in Wyoming has been cold
17 since then and there has been rainfall again.

18 The shippers have argued that the
19 problem with the Powder River Basin were due
20 largely to construction problems, maintenance
21 problems, inadequate maintenance problems,
22 some ties that were not as good as other ties,

1 also to blocked drains and the fairly unusual
2 weather pattern that developed. But there
3 hasn't been an accident since. Doesn't that
4 speak to the issue that perhaps it was not
5 coal dust that caused these accidents, but
6 rather somewhat unique problems with both the
7 structure and maintenance before that and
8 weather?

9 MR. FOX: Well, clearly, no
10 derailments is a good thing. And our overall
11 network service interruptions due to
12 derailments are down across all categories.

13 The two derailments, the back to
14 back derailments in May, we believe, were
15 caused by a confluence of events that was
16 included, coal dust, absolutely, positively
17 included coal dust, as well as significant
18 precipitation and spring frost coming out of
19 the ground at the same time.

20 We have increased our maintenance
21 since then. We've doubled our undercutting
22 and we think that's appropriate. All that

1 said, there is still coal dust in the ballast
2 section on the joint line. And at the end of
3 the day, as long as that coal dust is in the
4 ballast section there's still a risk of a
5 service interruption with the right confluence
6 of events. We're going to work hard to
7 prevent that, but there's a real risk of a
8 service interruption and a disruption to the
9 supply chain is present today.

10 VICE CHAIRMAN MULVEY: It is true
11 that up to now there has not been another
12 derailment due to the fouling of the ballast
13 because of coal dust because of your
14 maintenance activities, in part anyway.

15 MR. FOX: That is true.

16 VICE CHAIRMAN MULVEY: You
17 mentioned about and showed the picture of that
18 organic farm and when I buy organic vegetables
19 I have different assumptions about what that
20 meant.

21 (Laughter.)

22 That's a little disturbing because

1 we talk about the shippers, the coal mines and
2 we talk about the railroads, the carriers who
3 are all affected by this. But clearly,
4 there's also impacts on farmers operations
5 along the rights of way and there's quite a
6 bit of that I would think, and animals that
7 could be exposed to some of this dust as well.

8 So we know that coal dust is
9 probably toxic if ingested or inhaled or what
10 have you and certainly not healthy. Has the
11 EPA ever gotten involved in this issue? Have
12 they weighed in saying this is an
13 environmental problem and that there ought to
14 be something done to limit the amount of coal
15 dust in the atmosphere?

16 MR. WEICHER: Well, the Wyoming
17 DEQ has expressed interest in this issue in a
18 general manner. The EPA, to our knowledge,
19 regulates actually dust at the mine in the
20 loading process and/or at the utility, excuse
21 me, at the utility. But the answer to your
22 question directly is no, insofar as our

1 transportation.

2 We are very much aware of the
3 larger societal and I would call them
4 externalities involved in this. This is an
5 operating rule dealing with the railroad, we
6 think, and have discussed with our customers
7 and the mines that this would be a very, very
8 rational thing for the private sector to work
9 towards compliance of dealing with the problem
10 that could have much broader impact beyond our
11 narrow right of way and their mine. And we
12 think that's the right way to go.

13 Having said that, this is a rule
14 directed at dealing with these coal cars on
15 our railroad, but we're not mindful of a
16 broader Big E out there.

17 MR. SIPE: I was just going to
18 mention that I believe our evidence, our
19 opening evidence references recently adopted
20 EPA rules related to stationary coal sources.
21 So far, and this I think is the thrust of Mr.
22 Weicher's comment, we don't know what's coming

1 down the road. So far, they haven't been
2 looking at mobile sources of coal dust.

3 One could imagine that might be a
4 concern down the road.

5 VICE CHAIRMAN MULVEY: Thank you.
6 It was referenced before that this represents
7 some sort of negative externality. A
8 characteristic of negative externalities is
9 that they don't have a ready market and that
10 market solutions tend not to work for
11 externalities and that is why the Government
12 gets involved when there are negative
13 externalities or external dis-economies. That
14 would suggest, of course, that perhaps there
15 is a role for the EPA, whether it be the
16 federal EPA or the Wyoming Department of
17 Environmental Quality.

18 MR. WEICHER: If I may, Vice
19 Chairman, we are not suggesting that
20 ourselves, but I would say you're quite right
21 in terms of the externalities. This issue,
22 this sort of circular issue, oh just maintain

1 the right of way more, do more maintenance.
2 It's obvious that there is nothing that we can
3 do about that farmer or the animals or the
4 general ambience, to be honest.

5 VICE CHAIRMAN MULVEY: There are
6 also data that have been gathered by BNSF that
7 indicate that while coal is a major
8 constituent of ballast contamination, other
9 contaminants are also present including dirt,
10 other debris, et cetera, and here we are out
11 in Wyoming where the weather is hot and dry in
12 the summer. There are strong winds and of
13 course, a lot of this dirt and other debris
14 can get into the ballast as well.

15 If you put this tariff in place,
16 it would not take care of the problems caused
17 by other contaminants and you would still have
18 the need to clean the ballast periodically, et
19 cetera. So does this really replace or does
20 it really reduce very much the need to clean
21 the ballast? I know you said it's about twice
22 as common, but I think the weather out there

1 is also unusual as well as the fact of this
2 coal dust.

3 MR. FOX: Our testimony clearly
4 outlines the significant amount of science
5 that we put up against determining that coal
6 dust is the number one foulant of the ballast
7 section on the joint line. I think that's
8 well documented in our testimony.

9 As I said earlier, for a 400
10 million gross ton railroad, the joint line
11 again is the heaviest railroad in the nation,
12 400 million gross tons travel across that
13 railroad every year. That requires a 10 to 15
14 year undercutting cycle to remove ballast,
15 broken down ballast, dirt, dirt that gets in
16 from blowing events, those kind of things.
17 And now we're on at least twice that cycle.

18 We've got one location on the
19 joint line, Knock O Bridge (phonetic) which is
20 at a key junction into one of the mines. We
21 cleaned coal dust there a year and a half ago,
22 taken out the entire 24 inches of ballast off

1 that bridge and we're going to be back there
2 again in less than two years to do it again.
3 So again, the amount of coal dust is time
4 staggering.

5 VICE CHAIRMAN MULVEY: One other
6 question for this round. I know you've
7 employed consultants to look at this and
8 engineering firms, et cetera and so has the
9 other side. I don't mean to disparage the
10 work of these consultants. I think a lot of
11 us have done consulting at one time or
12 another. It is also true, however, I find
13 very few consultants who will say well, while
14 this party paid for me, I'm afraid my results
15 do not agree with its position. And so
16 typically consultant reports tend to verify
17 what the party paying for them wishes to hear
18 or the reports don't get presented.

19 Was there any attempt at what I
20 would call an unbiased group or the university
21 researchers, or whether it be the National
22 Academy of Sciences Transportation Research

1 Board -- has any, what I would call objective,
2 unpaid for, groups looked into this problem of
3 the coal dust and made any findings? Or have
4 there been any meta analysis -- meta analysis
5 is when you gather a whole bunch of disparate
6 analyses and see if you find common threads -
7 - as to what the overall truth might be?

8 MR. SIPE: If I may try this one,
9 Vice Chairman Mulvey? I think there is a
10 distinction between some of the consultants in
11 this proceeding which is we are relying very
12 substantially for purposes of this proceeding
13 which is in the nature of litigation, upon
14 people whom BNSF retained in the real world to
15 try to solve a real world problem.

16 In fact, the person from Simpson
17 Weather Associates, Mr. David Emmett was
18 retained by BNSF because we understood that he
19 was the foremost coal dust expert available.
20 He had worked with NS on dealing with their
21 problems in Virginia. So he got in this thing
22 not to support a position, but to help us find

1 an answer to a problem.

2 Now given that he thought he found
3 an answer or an approach to the problem it's
4 not very surprising that he would come into
5 this contested proceeding and support the
6 results that he achieved when he was under
7 contract to solve the problem. So I think
8 there's a distinction.

9 To my knowledge, there has not
10 been the sort of fully independent, academic
11 enterprise although the professor from the
12 University of Illinois, Dr. Tutumbo, BNSF did
13 fund some of his work, but I believe he views
14 himself as an impartial academic who was
15 studying this coal dust issue for academic
16 reasons. And I would say he's sort of in the
17 same camp as Dr. Emmett, that is, he did the
18 work to try to come up with some answers to
19 what seemed to be a problem, and now in the
20 context of this contested proceeding, he's not
21 backing away from the conclusions that he
22 previously found.

1 MS. RINN: And if I could
2 volunteer, in our opening evidence we put in
3 the testimony of an engineer by the name of
4 Mollesky. He works for a nonprofit
5 organization. They have done a great deal of
6 work involving coal dust and other airborne
7 emissions including for the Powder River Basin
8 mines, including studies for the Government.
9 And it was a very different process working
10 with them than most of the consultants we had
11 worked with because it was peer reviewed in
12 his organization and had to be approved.

13 And if you'll notice it's not in a
14 typical format. So this is not your typical
15 litigating consultant. And basically, the
16 gist of his testimony was that he thought that
17 the mechanisms and the process that BNSF was
18 using for its IDV standard made sense to him.

19 VICE CHAIRMAN MULVEY: Well,
20 that's good to hear and I do recall reading
21 the testimony submitted referring to him and
22 I was following up on that. And I was just

1 asking the question as to whether or not there
2 were other peer reviewed -- very often
3 research that even when it's done for private
4 firms, there's also work that gets published.
5 University professors interested in tenure try
6 to get their things published in reputable
7 journals that are peer reviewed. And there
8 are cases where it's been peer reviewed at
9 least by the organization he or she works for.

10 Is there a list of any journal
11 articles that you are aware of, whether it be
12 in the environmental literature, the economics
13 literature, or the transportation literature
14 that addresses this issue and comes up with
15 findings? I can address this also to the
16 shippers on the other side, that there is this
17 evidence out there that we ought to be aware
18 of, it would be very, very helpful to the
19 Board.

20 MR. WEICHER: We'll certainly
21 pursue that. And as I said, these experts
22 have developed these standards. We were going

1 down this path two to three years ago, two or
2 three years before we had any idea that there
3 would be this proceeding and we'll continue to
4 keep the Board advised.

5 VICE CHAIRMAN MULVEY: Thank you.

6 CHAIRMAN ELLIOTT: Commissioner?

7 (Pause.)

8 VICE CHAIRMAN MULVEY: As you can
9 see this is not particularly a technically
10 oriented group.

11 (Laughter.)

12 COMMISSIONER NOTTINGHAM: Sorry
13 about that. My light wasn't going on. It
14 worked earlier, but these -- we're still
15 working the sound system. I did want to
16 mention it may help -- maybe I should not say
17 this now, but I deactivated mine by pushing
18 the button so I wouldn't distract my
19 colleagues or you if I were to ruffle papers
20 and I was going to suggest that everyone adopt
21 that, but maybe I shouldn't, because look what
22 it resulted in.

1 A couple of questions, Mr. Fox,
2 thank you. Your testimony was very
3 interesting. A lot of interesting numbers.
4 Did I hear you correctly, you said that
5 approximately 500 pounds of coal dust are lost
6 per car on average, based on your experience
7 and your observations or your staff's
8 observations?

9 MR. FOX: Our field studies have
10 shown that the range is 250 to 700 pounds are
11 lost from the top of the car. Obviously, we
12 took the mid of that range with the 500
13 estimate.

14 COMMISSIONER NOTTINGHAM: And you
15 further stated that approximately 2,000 tons
16 of coal are lost each day if you look at the
17 traffic volume?

18 MR. FOX: And the math there was
19 clearly 70 loaded coal trains a day between
20 BNSF and UP, assume an average of 120 cars a
21 train. You do that math out at the 500 pounds
22 and up to 2,000 tons of coal are lost on the

1 joint line and other rail lines every day.

2 COMMISSIONER NOTTINGHAM: And we
3 saw some statement in the -- I forget which
4 panel has mentioned this that \$30 a ton is
5 sort of a typical or not unusual rate for
6 delivered ton of coal? Do I see that correct?
7 I know that can vary.

8 MR. FOX: That was delivered cost.
9 Freight, plus the cost of the coal.

10 COMMISSIONER NOTTINGHAM: Okay,
11 and Ms. Rinn, thank you. You helped us by
12 reminding us that one of the concerns here is
13 to make sure that shippers get all the coal
14 that they pay for, if I paraphrase what you
15 said.

16 MS. RINN: Yes.

17 COMMISSIONER NOTTINGHAM: It seems
18 to me we've got a lot of -- and also, you
19 helped us understand that the coal was, of
20 course, paid by the shipper based on the
21 volume and weight at the beginning of the
22 journey, at the mine. So basically we now

1 know and I guess people have known for a long
2 time that shippers are not getting a
3 significant amount of the coal that they paid
4 for.

5 Have the railroads or either of
6 the two railroads here before us today taken
7 measures to reach out and communicate with
8 customers to try to offer rebates or refunds
9 or credits or some other -- if you factor, if
10 it's a 365 day a year operation based on my
11 understanding of the Powder River Basin, 2,000
12 tons lots a day, it starts to add up to be
13 real money.

14 Can each of the railroads speak to
15 that question?

16 MR. WEICHER: I don't necessarily
17 want to refer to any particular detailed
18 discussions, but clearly the issue, from our
19 standpoint, the value of the coal being lost
20 should be an incentive on its own to the
21 customer. There's a little bit of a dynamic
22 here. There have been issues of whether who

1 is really harmed more, us from our parochial
2 standpoint by the impact on our railroad or
3 the nuisance this causes to us.

4 We do not view ourselves as being
5 responsible for the loss of the coal. We
6 think that is the customer's responsibility
7 and we would think that would be their own
8 incentive to address it.

9 COMMISSIONER NOTTINGHAM: Now Mr.
10 Weicher, I did take note that you did say that
11 it is the railroad's -- and you said "our" so
12 I wrote "the railroad's" -- responsibility to
13 address this situation. So how do you
14 reconcile that statement with your statement
15 a minute ago that the railroad is not
16 responsible for commodities that are lost
17 during rail transportation?

18 MR. WEICHER: I think I should
19 differentiate. BNSF is the primary operator
20 of the jointly owned line, it's the party
21 responsible for the actual implementation of
22 maintenance, for the dispatching and for

1 having appropriate rules to defend the
2 integrity of that asset, that vital national
3 asset.

4 That makes us responsible if there
5 needs to be a rule which makes it clear that
6 the coal should be in the cars, that does not
7 make putting the coal in the cars our
8 responsibility. We believe that is still at
9 core, just like for every commodity on the
10 railroad, the shipper's responsibility.

11 But we're the one that has to go
12 publish the rule, the operating rule for this
13 asset. This is not, in our mind, a loss or
14 damage situation or if we have a derailment
15 with a container full of widgets some place we
16 are responsible to the owner of that commodity
17 for damage to the widgets. We do not view
18 ourselves as responsible to the shipper for
19 the coal that is being lost because it's blown
20 off of their cars.

21 COMMISSIONER NOTTINGHAM: Putting
22 aside for the moment the question of how

1 specifically this problem should be solved, do
2 you agree at the end of the day if this
3 problem persists it is ultimately the
4 railroad's responsibility to ensure that the
5 problem does get solved?

6 MR. WEICHER: It will be
7 ultimately our responsibility to continue to
8 pursue it to protect the railroad and our
9 transportation for all of our customers.
10 There are limitations, which is why we have
11 this rule for a performance-based standard on
12 what we can do. We ultimately cannot be
13 responsible to put surfactants on the coal
14 cars or have them loaded properly because we
15 don't own the cars. We don't control the
16 mines. We don't own the coal.

17 We have to promulgate the rule.
18 This touches a bit on your enforcement
19 question, what do we do next? And that comes
20 down to if we do not have voluntary compliance
21 further action will be subject to the
22 jurisdiction of the Board, but we knew that

1 this is a problem that has to be solved. We
2 have to go down that path.

3 So in that sense we have
4 responsibility. We do not have control of the
5 many aspects of this. We can't require people
6 to ship. We have contracts, of course, for
7 people who want to ship and we have tariffs
8 for people who want to ship. So I guess I'm
9 not quite sure of your question in terms of
10 ultimate responsibility. We think this
11 problem has to be addressed and we're going to
12 continue to move forward to address it insofar
13 as the railroad and what we can do and then
14 publishing rules for the other parties of the
15 transactions.

16 COMMISSIONER NOTTINGHAM: Perhaps
17 my question was overly complex. What I meant
18 to get at is every day, all over the country,
19 railroads are in the business of inspecting
20 cars and making sure that cars are safe and
21 are compliant with railroad requirements
22 before they head out on to the railroad right

1 of way and throughout the system of interstate
2 railways. Rail cars can be pulled or moved,
3 detailed, the whole host of different options
4 and remedies.

5 Isn't that basically the railroad
6 industry's, if not best, perhaps last course
7 of action if a negative situation is posing
8 risks of various sorts that we've heard about
9 today continues to persist, that you have the
10 option to deny service?

11 MR. FOX: Given our mutual
12 interest, we do expect the customers will
13 comply with the operating rule and I think
14 over the last five years we clearly
15 demonstrated a willingness to work with a
16 variety of stakeholders along those lines. So
17 we talked about good faith effort here. At
18 the end of the day effort will go a long way,
19 I believe, in terms of what our ultimate
20 decision is.

21 MR. WEICHER: And to answer your
22 question, if I may, on the theoretical, legal,

1 regulatory sense, yes. It is ultimately our
2 responsibility. If we have a piece of
3 equipment that has a faulty bearing that does
4 not comply with national rules for safety, it
5 is our responsibility to look for it, set the
6 car out. If we have an overloaded car of coal
7 or of any commodity of coal, coiled steel, we
8 have an obligation to look for that, inspect,
9 and do something about it. We have an
10 obligation to comply with a variety of FAR
11 rules for the safety of our employees, for the
12 integrity of equipment. We have to keep track
13 to standards. Those are all our
14 responsibilities.

15 We have not threatened anybody
16 with anything here. Back to your "or else"
17 question. We recognize, for example, if I
18 may, we have rules that say if a car is
19 overloaded, we can set it out, charge the
20 shipper for the set out and have it offloaded
21 or whatever. Some rules, we have lots of
22 rules for blocking and bracing that don't

1 necessarily we expect them to be complied
2 with. They don't necessarily say exactly what
3 happens if the car isn't done right, if that
4 situation is recurring, we might publish such
5 a rule.

6 Have we thought about such things
7 here? Of course. Would that be subject to
8 your continuing jurisdiction? Insofar as it
9 didn't come through a contract, but it came
10 through a common carrier publication to come
11 back to you which is why we think that issue
12 that rolls around in the background is
13 premature. We think the rule itself that says
14 the coal should be in the car is clearly
15 reasonable where we do propose some remedy
16 that was questionable as to common carrier
17 shippers, you clearly have jurisdiction over
18 that and it's in fact on the customer.

19 COMMISSIONER NOTTINGHAM: Mr.
20 Weicher, or any of the panelists, this seems
21 to me to be, broadly speaking, putting aside
22 the technical nuances of coal dust and its

1 various characteristics and attributes, this
2 is not really a new issue, is it, in its
3 broadest terms? The AAR has an entire
4 structure of technical committees that are
5 comprised of my understanding of car owners
6 and sometimes shippers and certainly railroads
7 to deal with all kinds of challenges related
8 to rail cars and necessary improvements and
9 technological improvements. And at the end of
10 the day we often get visits, I'm sure my
11 colleagues do too about some of the
12 participants on those technical committees who
13 don't work for the railroads and don't always
14 feel they have an equal vote when the votes
15 get counted, but that's for a reason because
16 at the end of the day, as I understand it, the
17 railroad is ultimately responsible for what
18 happens on the railroad and the railroad right
19 of way and you've got to make decisions, but
20 that's an effort to at least get input in an
21 informed way and give people typically some
22 time line whereby change or a new standard

1 will be adopted. And this has gone on for
2 hundreds of times over the years as I
3 understand.

4 What's the problem here? Why
5 hasn't the system worked related to coal cars?
6 I'm just having trouble. Help me understand.
7 Every other commodity has had its cars
8 altered, adjusted, improved, standards
9 imposed. And then there's this mysterious
10 coal car situation that somehow has slipped
11 through the cracks, no pun intended.
12 What's going on here?

13 MS. RINN: If I may, this is not
14 about the car design. This is about loading
15 practices. And both the AAR open top loading
16 rules indicates those are minimum standards.
17 They're not the only standard. They're the
18 minimum standard that has to be complied with.

19 They also incorporate the uniform
20 freight classification rules. I think Rule 27
21 that basically it says here's the principle.
22 Shippers are responsible for loading the

1 freight so that it can move safely and not
2 cause any property damage. I mean that's the
3 principle.

4 It then recognizes that carriers,
5 specific carriers, dealing with their
6 particular circumstances, have the ability to
7 adopt a particular rule and apparently,
8 because let's face it, CSX and NS have been
9 transporting substantial quantities of coal
10 long before UP was a major coal player. They
11 apparently haven't run into this circumstance
12 and haven't felt a need to do it.

13 We were not aware that we had this
14 problem with coal dust until the events of
15 2005.

16 COMMISSIONER NOTTINGHAM: Mr. Fox,
17 you helped us understand a little bit more of
18 the details of how the railroad, how your
19 railroad actually goes in and removes the --
20 periodically removes the coal dust from your
21 track bed. What do you do with it when you
22 remove it? Where does it end up going? And

1 it looks like you were putting some of it back
2 on rail cars. Can you help us understand that
3 a little better?

4 MR. FOX: It's a combination of
5 both. Oftentimes, we'll load in rail cars and
6 take it to a disposal site. Other times,
7 frankly, we put it on to the right of way
8 roads well away from the track structure.

9 COMMISSIONER NOTTINGHAM: And you
10 bring it to disposal sites for -- are those
11 regulated? Are those for unsafe materials?
12 What type of sites are those?

13 MR. FOX: I can't answer that. I
14 know we take them up to North Dakota and I
15 assume it's a facility that can handle that
16 type of commodity.

17 COMMISSIONER NOTTINGHAM: But you
18 also load, you actually sort of in an odd way,
19 but out of necessity, it sounds like you're in
20 the business of originating train loads of
21 coal, it sounds like.

22 MR. FOX: Again, in 2008, we had a

1 specific effort around coal on the right of
2 way around stream beds and water ways. That
3 was 300 car loads of coal taken out of those
4 water ways on the joint line and those were
5 hauled --

6 COMMISSIONER NOTTINGHAM: And so
7 when you originate coal loads, how high do you
8 load the coal up in the rail cars? Here's a
9 great example to understand it. Maybe a best
10 practice. When you have a chance to control
11 the source and the loading and everything else
12 to do it, do you stack it above the height of
13 the actual rail car?

14 MR. FOX: I can't answer that.

15 COMMISSIONER NOTTINGHAM: Would
16 you be -- it would help -- Mr. Chairman, with
17 your permission, can we ask that the record --
18 if it would be possible to address -- that
19 question be addressed? I think it would be
20 important to know whether a railroad that
21 originates train loads of coal actually has a
22 practice of stacking the coal above the height

1 of the rail car, if they have another practice
2 that seems to possibly work better to reduce
3 the release of coal.

4 MR. WEICHER: We're certainly
5 looking into what happened with these -- this
6 is a somewhat unusual situation for us. We
7 have no mines and we buy no coal. So we're
8 not in the business. But we will follow up
9 with that.

10 If I could, Commissioner
11 Nottingham, briefly on your prior question --

12 COMMISSIONER NOTTINGHAM: Before
13 we leave that completely and I don't want to
14 pretend to be an expert on all the dynamics of
15 rail cars and coal heights, but I'm guessing
16 when your maintenance people, your
17 professionals were asked -- were told that
18 their job was to get rid of this coal and put
19 it in rail cars, that they probably didn't
20 fill the rail cars up above the height of the
21 rail cars themselves with coal. Because if
22 your job is to actually get the coal off the

1 railroad right away and make sure it doesn't
2 blow away, you probably don't load it above
3 the rim of the rail car. But I look forward
4 to the record getting clarified there. It
5 does kind of beg the obvious question why do
6 you load rail cars above, with a material
7 that's known to blow away above the rim of the
8 car?

9 MR. FOX: As LouAnne mentioned
10 earlier, we are going to -- we have a pilot of
11 some new compaction technology that will start
12 next month on the joint line.

13 COMMISSIONER NOTTINGHAM: I guess
14 I should rephrase the question. You're not
15 actually loading the commercial, every day
16 mine practice, I should say why do you allow
17 your customers to load material? Because I
18 don't think you allow your grain customers to
19 load their grain in a way that routinely blows
20 away or any of your merchandise or your flat
21 screen TVs come into LA/Long Beach or your
22 cases of wine or the beer we heard about.

1 MR. WEICHER: To some extent this
2 is a product, the situation of the growing
3 coal shipments and the nature of the loading
4 has probably evolved from everyone's attempt
5 to seek efficiency. Obviously, the more coal
6 you can get in a car in a certain length of
7 train, the more utility you can get from the
8 expensive equipment the shipper buys, the
9 train's crew and the locomotives can haul more
10 coal in the train. There's a balance here.
11 There's no question there was a lot of
12 pressure in recent years to be as efficient as
13 possible. Trains got longer, loads got
14 longer.

15 Having said that, that doesn't
16 eliminate the need for proper loading. And
17 tying into that prior concept, we have now
18 found ourselves in a unique situation in the
19 Powder River Basin that requires great
20 scrutiny, tighter rules on how this coal is
21 loaded here which could be different than
22 what's happened nationally.

1 The coals are different, it just
2 came out, some different questions, so it may
3 not be the same for NS, CSX or whatever. But
4 here, we see this as a real problem for this
5 source.

6 COMMISSIONER NOTTINGHAM: Mr.
7 Weicher, is your client, is BNSF -- your
8 company, are you basically -- have you adopted
9 -- is this part of the adoption of a no spill?
10 You used the phrase earlier for a reason, but
11 sort of a no spill policy? Are you going to
12 be applying this across the board to all your
13 customers over a reasonably -- in a reasonable
14 time period?

15 I guess I will say practices look,
16 tend to look less reasonable. That doesn't
17 mean that they're unreasonable, but they tend
18 to look on the scale of extreme
19 unreasonableness to extreme reasonableness,
20 they tend to look less reasonable if they're
21 applied to some shippers and not others who
22 are similarly situated.

1 MR. WEICHER: We clearly have a
2 policy of pursuing this compliance through the
3 Powder River Basin. We've extended it. We
4 have the north route. We have standards going
5 in there. We are looking at it very closely
6 in New Mexico.

7 If you mean in terms of customers,
8 in general, for all commodities, well, you
9 know, it's made us much more acutely aware of
10 gosh, commodities should stay in the cars,
11 whether it's caustic soda, chlorine, wood
12 chips. It doesn't have to be something
13 hazardous. Plywood things shouldn't roll off.
14 We're smart sensitive to that. But more
15 related to coal shippers, we are looking at it
16 on a broad basis and as some of the slides
17 show, the coal dust problem isn't limited to
18 just this section of railroad.

19 Having said that, what makes this
20 unique and unique for this particular stretch
21 of railroad with its 22, 24 mines is probably
22 the largest single concentrated source of coal

1 certainly in the United States, maybe in the
2 world, and therefore by addressing this
3 problem at its source we are really coming to
4 grips with something unique that is very
5 focused. But we're looking at it across our
6 system on coal.

7 MS. RINN: We have certainly, as
8 situations have come to our attention, where
9 the loading practices are not consistent with
10 keeping the freight in the car, we have taken
11 action. For example, we adopted a netting
12 requirement for wood chips. We have
13 previously adopted, I think in the last five
14 years, a requirement for soda ash customers to
15 make sure that they're not leaving loose soda
16 ash on the outside of the car, because we
17 found that the soda ash which is a caustic was
18 interacting and it was throwing off our signal
19 system, so we finally said we can't have this.
20 You need to do it.

21 So when we become aware of a
22 situation that is causing us a problem, we are

1 prepared and they have been adopting rules
2 that are necessary, but I think as Mr. Smith
3 indicated for the Department of
4 Transportation, most customers have an
5 incentive to load the freight to stay in the
6 car because it's their right, so they already
7 have an economic incentive and I think that
8 most people are trying to do the same thing.

9 So what we're probably dealing
10 with are the exceptions, not the norms, but
11 there was just a different practice for coal
12 and for whatever reason we are learning that
13 the consequences are much more significant
14 than anybody assumed when at least we began
15 moving coal out of the Powder River Basin in
16 1984.

17 COMMISSIONER NOTTINGHAM: Mr.
18 Chairman, I'll wind up in a second. One or
19 two more questions, if I could.

20 Mr. Fox and maybe Mr. Weicher can
21 help with this as well, you've described it in
22 very detailed words the expenses and the costs

1 and the processes that are required to remove
2 coal dust from the railroad right of way. How
3 are those maintenance and they sound like
4 increased costs. They're not the same costs
5 you have on your southern tier line going
6 west, east-west through Arizona, for example.
7 The costs are somewhat unique, extra
8 maintenance costs unique to the Powder River
9 Basin. How are those costs recouped and
10 accounted for as you look at your rate
11 structure to all of your customers? Are they
12 uniquely targeted and applied to the rates of
13 electric utilities who ship coal? Or should
14 grain farmers, who also share some of the same
15 track, down track, should they be a little bit
16 concerned that they're paying a little more
17 because of this problem?

18 MR. WEICHER: We think all of our
19 customers should be concerned about the
20 possibility of increased costs across the
21 whole system and affecting both service
22 reliability and cost for other shippers.

1 Having said that, we don't make
2 cost-based rates. Clearly, costs are a huge
3 part of the regulatory structure and when we
4 have upon occasion had a rate case even on
5 coal before this Board, you know, the costs
6 are very, very important to justifying those
7 rates. But that's not where they come from.
8 We do not have direct flow throughs or cost
9 nexus for the maintenance on particular
10 shipments.

11 Clearly, we look at costs
12 internally when we consider rates because our
13 goal is to have margin and to have revenue in
14 excess of costs, not speaking now in terms of
15 the SAC because that's -- we're business and
16 what we're in. But there is to some extent we
17 almost view it from our standpoint that this
18 growing problem in the last few years has been
19 shifting additional and anticipated costs on
20 our company through a growing problem coming
21 from the coal dust coming off of the cars.
22 That is not to say that we don't fully

1 recognize that and we've seen this thread in
2 some of the documentation that if we save
3 money by not having to do excess maintenance,
4 what should happen about that?

5 You have -- what happens in our
6 contracts happens in our contracts and when
7 the contract is in effect that's not an issue
8 for the Board with all due respect. And of
9 course, if it isn't in a contract, they have
10 their remedies, as we well know, to approach
11 the Board for the general or specific level of
12 rates for a specific customer.

13 COMMISSIONER NOTTINGHAM: That's
14 all I have for now.

15 CHAIRMAN ELLIOTT: Thank you very
16 much. Do you have any more?

17 VICE CHAIRMAN MULVEY: Yes, a
18 couple more questions. Again, I said I'm
19 interested in this IDV.2 issue. And why
20 doesn't the railroad release to the shippers
21 the computer code that produces these values
22 so that they can verify, they can see how it's

1 being calculated?

2 There's also some concern that
3 maybe the IDV.2 values don't really correspond
4 very well to the amount of coal dust in the
5 ballast when you see the stuff blowing off the
6 tops, but it may blow past the ballast and be
7 doing more harm to the countryside than to the
8 ballast per se. So how do we know that
9 there's a correspondence between the amounts
10 coming off the trains as measured by these
11 receptors which I believe, by the way, are not
12 nearly -- the receptors tend to be some number
13 of feet away from the rights of way, so again,
14 you would expect to get a heck of a lot more
15 of the coal dust not fouling the ballast, but
16 rather be fouling the environment near the
17 ballast?

18 And I guess the final part of that
19 is do you have any idea what percentage of the
20 coal dust -- you mentioned 500 pounds of day
21 gets blown off a car, 500 pounds per car,
22 rather. How much of that goes into the

1 ballast and how much of that goes into the
2 general environment? Is there any way of
3 calculating that?

4 MR. WEICHER: Do you want to start
5 with that?

6 MR. FOX: I've seen no
7 calculations of that percentage.

8 VICE CHAIRMAN MULVEY: The
9 calculation that is being done by the
10 receptors, is a receptor that is 60 feet from
11 the right of way?

12 MR. FOX: It is off the track,
13 yes.

14 VICE CHAIRMAN MULVEY: So we don't
15 know whether or not it's measuring what's off
16 the track or what's going down to the ballast.
17 We know that it's not 500 pounds a day per car
18 going into the ballast that's being blown off,
19 but that's dispersed all over the place.

20 MR. WEICHER: So it may be on
21 those farms.

22 VICE CHAIRMAN MULVEY: May be on

1 those farms.

2 MR. FOX: Five hundred pounds was
3 calculated using a different method than the
4 IDV.

5 VICE CHAIRMAN MULVEY: Oh, it was.

6 MR. FOX: IDV is a point measuring
7 device at one location.

8 VICE CHAIRMAN MULVEY: And so that
9 does not measure at all the amount.

10 MR. FOX: It does tell you the
11 train dust.

12 VICE CHAIRMAN MULVEY: Okay.

13 MR. WEICHER: Your question about
14 the computer code. We don't own the code.
15 This is sort of like -- we don't own Minitab.
16 We don't own Excel.

17 Having said that, data can be
18 available, but there is an issue of where we
19 hired someone who had a proprietary system two
20 or three years before this litigation and we
21 don't have the right to necessarily give that
22 system to somebody else. It's something we

1 bought.

2 VICE CHAIRMAN MULVEY: It's
3 proprietary?

4 MR. WEICHER: Yes, it's
5 proprietary.

6 VICE CHAIRMAN MULVEY: You showed
7 a slide of China using surfactant and I assume
8 that's nationwide in all of their mines
9 perhaps. But what do the Canadians do? We
10 have the two western railroads, the CN and CP.
11 Do they have any processes in place and what
12 about the short lines? I know the eastern
13 railroads also had this problem, but to a
14 lesser extent because of the nature of the
15 dust, but has anybody else taken the tariff
16 route that BN is proposing?

17 MR. FOX: The Canadian Pacific
18 does treat their coal. The Norfolk Southern
19 treats some of their metallurgical coal as
20 well and there's coal that's being treated in
21 the Powder River Basin, as we speak, for
22 select customers.

1 VICE CHAIRMAN MULVEY: But no one
2 else has taken the tariff route that BNSF has?

3 MR. WEICHER: Well, I believe
4 there's some form of CP item, but frankly, I
5 don't think we -- we don't necessarily know
6 the commercial relationship between that
7 railroad and that customer. Two thirds of our
8 tonnage is actually -- actually more than two
9 thirds, moving through contracts that will be
10 reflecting this by the end of next year, but
11 that won't necessarily show up in a tariff.
12 It will presumably, without getting into
13 details of this, it's kind of mirrored what
14 we're trying to do here in some respects, and
15 similarly, I don't think we can speak
16 authoritatively to how the other railroads
17 have implemented per se.

18 If we had a precedence
19 specifically of a rule that had been ruled on
20 somewhere, we would show it to you.

21 VICE CHAIRMAN MULVEY: You also
22 noted that the railroads' rates are based on

1 costs. We now have demand-based pricing, yet
2 on the other hand there are things like the
3 fuel surcharge issue where a cost factor was
4 applied to the demand-based rates. The case
5 here is one that also seems to relate to cost.
6 And some of the shippers feel that the rates
7 that they're paying already account for
8 maintenance and that these maintenance costs
9 are picked up in their rates, and this would
10 involve a sort of double dipping or charging
11 again for the same service. The cost of
12 maintaining the track is already in the rate.
13 Now there's going to be an additional cost on
14 top of that. How do you respond to that
15 charge that this could become something of a
16 profit center as they might have also done
17 with the fuel surcharges?

18 MR. WEICHER: We have a relentless
19 drive in our company to improve productivity,
20 lower costs, improve efficiency. That
21 ultimately gets reflected in the nature of the
22 business we're in and our market based rates.

1 It does not mean that there is some sort of
2 automatic pass through.

3 If you take the flip of what you
4 said, if, for example, hypothetically, we
5 tried to impose some sort of charge to apply
6 a surfactant, there's packed into that
7 question, into that hypothetical, a couple of
8 things. We can't do that. We don't have the
9 right to. It's not our coal and so forth.
10 But trying to mirror your surcharge question,
11 were we to do that, you'd have jurisdiction
12 over that charge, how ever it fit into rates
13 or not. You have jurisdiction over the basic
14 rates we publish if someone thinks they're too
15 high. We don't think we owe a customer
16 something for clarifying and confirming a duty
17 to keep a commodity in the car, including if
18 the fact that that were to be done were to
19 reduce our costs.

20 VICE CHAIRMAN MULVEY: One last
21 question. Some of the shippers have pointed
22 out that spraying surfactant leaves a sticky

1 residue and since shippers are the ones who
2 own the cars, they're concerned that that
3 sticky residue, et cetera, could ultimately do
4 damage to the cars.

5 We talked about what the railroads
6 are willing to trade off in terms of safe
7 harbors and all of that, but would the
8 railroads be willing to absorb the cost of
9 repairs on shipper cars that might be caused
10 by the use of surfactants to keep the coal
11 dust down?

12 MR. WEICHER: We believe that the
13 responsibility to keep the coal in the car is
14 the shippers'. One of the reasons we have
15 gone to a performance based, as opposed to an
16 activity based standard is we are not
17 mandating. We are open to if a shipper wants
18 to say does this comply with, presumably will
19 go that way, but we don't want either to
20 accept that liability or to have that control
21 over someone else's car and equipment.

22 We believe the tests are showing

1 and have shown in the experience and in other
2 countries and other parts of the world, we
3 know that this can be done and we think it can
4 be done safely. Having said that it should
5 ultimately we think be the shippers'
6 prerogative to control that process.

7 VICE CHAIRMAN MULVEY: Thank you.

8 COMMISSIONER NOTTINGHAM: Thank
9 you, Mr. Chairman.

10 Mr. Weicher, I want to make sure I
11 understand the sort of proper alignment of
12 responsibility and accountability here. You
13 just said, if I heard you a minute ago in
14 responding to Vice Chairman Mulvey's question,
15 that the railroad, if I heard you, is not
16 responsible for this coal dust leakage.

17 Help me though. When you accept a
18 rail car onto your system and transport it, at
19 that point you become responsible for the safe
20 transport and for getting what the shipper has
21 paid for delivered to the ultimate
22 destination, are you not?

1 MR. WEICHER: Yes, we are.

2 COMMISSIONER NOTTINGHAM: And you
3 have a very strong, and I think often
4 reinforced by this Board in our process, the
5 tool to protect you from unreasonable risk in
6 that responsibility sharing because you have
7 the right to inspect the car and refuse to put
8 it onto your system, correct? If there's a
9 problem with leakage or safety, for example,
10 if a grain car shows up and the door is broken
11 or hanging loose and grain is leaking out,
12 your people are trained to actually take that
13 and put it aside and refuse service, correct?

14 MR. WEICHER: Right, if it's not
15 properly handled, yes.

16 COMMISSIONER NOTTINGHAM: And I
17 won't even go into the whole -- all the
18 hypotheticals regarding hazmats and of course,
19 you will refuse, your people will refuse and
20 understandably so to move a chemical car if it
21 was leaking.

22 So putting aside what the right

1 solution is here, ultimately, do you agree
2 that once the rail cars are moving along and
3 being accepted and placed and accepted by the
4 railroad and moving on the railroad right of
5 way, the railroad is responsible for any
6 leakage that occurs?

7 MR. WEICHER: We are not
8 responsible for the consequences of the
9 leakage or the leakage if a loading rule
10 hasn't been complied with or if the equipment
11 is defective. The relationship between the
12 railroad and its customer and the loading
13 entity is multi-party and is multi-faceted.
14 We're not responsible for the supply of the
15 equipment for coal in the vast predominance.
16 We have some equipment we supply, but that's
17 the nature of the industry.

18 A car maker makes that car to
19 industry standards, federal FRA standards,
20 often that have been promulgated through the
21 AAR. We have a variety of responsibilities to
22 inspect, to deal with equipment that is

1 improper and take it out.

2 If we are the cause of a
3 derailment, God forbid, then we are
4 responsible, in general, for the commodity and
5 the damage from that derailment. Our
6 responsibility in this situation includes, as
7 the operator of the joint line, to have the
8 rules in place that we think are appropriate
9 for this unique territory and if implied in
10 this question is it some point to properly
11 enforce them, certainly.

12 I guess the resistance is that we
13 are not quite -- I believe the legal doctrine
14 was *res ipsa loquitur*, or whatever it is. The
15 fact that we take a car and it's good at the
16 beginning, if it's a car of widgets or
17 chemicals or something, doesn't make us
18 universally responsible for the effects of
19 improper equipment or defects in the
20 equipment. There's a multi-party relationship
21 there. I don't want to get into finger
22 pointing. So it's very complex.

1 But I think our role here is we've
2 got a problem here and we're managing this
3 joint line, a vital national asset, and we see
4 this problem. And it's time to do something
5 and it's time to say it's a big source here.
6 Coal is coming off the top of these cars.
7 Let's tighten up the rules.

8 MR. SIPE: If I understand
9 Commissioner Nottingham's question correctly,
10 I think what we're saying through this rule is
11 we don't want to start down the right of way
12 with a coal car that's going to leak.

13 COMMISSIONER NOTTINGHAM: Well,
14 Mr. Sipe, that's a very worthy intention, but
15 with all due respect, your clients and other
16 railroads seem to have been doing this for
17 hundreds of years, so that aspirational goal
18 seems to be falling a little short.

19 MR. WEICHER: We clearly are in a
20 process of continuous improvement and if -- we
21 would have to acknowledge this is a problem
22 that has grown and it wasn't recognized in the

1 past.

2 We probably share some of the
3 blame both for not recognizing it at a given
4 time or not acting sooner, more aggressively
5 with our customers. 2005 was a huge wake up
6 realizing what had happened in a dry
7 environment and the confluence of events. And
8 we want to move forward to address it.

9 MR. SIPE: And the Board has
10 recognized in comparable situations the fact
11 that a particular approach has not been
12 pursued in the past, doesn't make it
13 unreasonable when you decide that
14 circumstances are such that it's now time to
15 adopt this approach.

16 The North American Freight Car
17 case, the Board decided in 2007, specifically
18 stood for that proposition and others as well.

19 The way the world is today, BNSF
20 has come to a judgment that we no longer want
21 to start down the road with these coal cars
22 that are going to have dust blowing out of

1 them.

2 COMMISSIONER NOTTINGHAM: And I
3 certainly don't quarrel with that statement.
4 Basically, from the vantage point of this one
5 solitary Commissioner, I believe that the
6 railroad industry has all the tools it needs
7 to solve this problem and I certainly hope you
8 do it in the way that's collaborative, as
9 collaborative as practicable and gives people
10 some notice. And of course there's a lot of
11 money involved in car design and loading
12 techniques and relationships with coal mines
13 that are of business significance and a
14 relationship with utilities. But with all due
15 respect, I think multiple parties here are
16 breathing a lot more nuance into this
17 situation than is necessary.

18 It seems to me this is a pretty
19 simple problem to solve. Obviously some
20 solutions will cost more than others, but the
21 railroad industry has figured out a way to
22 solve 99.9 percent of all the other commodity

1 leakage and loss problems over the years. I'm
2 highly confident you can see to it this one
3 gets solved and maybe I'm just missing
4 something. This is not the proverbial rocket
5 science.

6 Coal is being loaded well above
7 the rim of rail cars in windy, bumpy terrain
8 and surprise, surprise, some of it is blowing
9 out and surprise, surprise, it's causing some
10 negative externalities. And surprise,
11 surprise, pardon my sarcasm, the railroad
12 industry has decided that that's probably not
13 a good thing and we should probably adopt more
14 of a no spill policy.

15 I'll wind up, but Mr. Weicher, you
16 mentioned contracts and I understand some of
17 this is sensitive, but you did say that you
18 would expect that in the near future, over the
19 next year or so, if I heard you correctly,
20 your contracts with your coal customers will,
21 in fact, mirror the tariff that's at issue
22 today.

1 What caught my attention with that
2 is in a contract we usually see on the few
3 occasions that we get an opportunity to see in
4 the course of our work rail contracts, which
5 is not too often. Terms -- but in other
6 business transactions, contracts tend to be
7 looked at by lawyers, especially if they're
8 new, involving the types of contracts,
9 involving the types of money involved here.
10 And the terms and conditions and sanctions or
11 penalties or consequences are usually pretty
12 well spelled out so the parties know exactly
13 what they're getting into, what they're being
14 held responsible for and what the penalty, for
15 lack of a better word, would be if they don't
16 meet that responsibility.

17 With all due respect, when I read
18 the tariff at issue here, it doesn't read like
19 a contract, perhaps it doesn't have to. It's
20 a tariff, not a contract. But it's rather
21 open ended. I used the expression earlier
22 about the "meet this standard or else" is kind

1 of my way of dumbing down the tariff.

2 Do you have any sympathy or can
3 you understand why your customers might sort
4 of want a clarification on what do you mean by
5 the "or else"? Basically, this is the only --
6 presumably parties either don't want a
7 contract or can't reach a contract, so they're
8 going to do business by tariff. And there's
9 this pretty important provision that seems to
10 hint at possible negative ramifications to a
11 railroad customer if they don't meet a
12 standard, but those consequences are not
13 explained.

14 MR. WEICHER: The rule doesn't say
15 "or else".

16 COMMISSIONER NOTTINGHAM: It just
17 says meet this standard, right?

18 MR. WEICHER: Yes, it does. And
19 it does not say any particular remedy.
20 There's a complex series of things going on
21 here and there's a certain issue of who is the
22 free rider and where.

1 Our contracts, without going into
2 detail, as a general proposition, we have
3 rules like that. We have a big rule book.
4 Every contract we have doesn't spell out every
5 single rule. It might hypothetically
6 incorporate rules for a given period of time.
7 Contracts have a term. They roll over. They
8 are renewed. Things happen, a corporation
9 changes, lot of people don't sign up for a
10 blank check.

11 So I'm trying to describe the sort
12 of why this will be a gradual implementation.

13
14 By the same token, we don't think
15 there's anything unreasonable about the rule
16 that says you'll keep the coal in the car.
17 Okay, we stop there. We didn't say precisely
18 what the consequence would be or whether there
19 could be a charge some day because we
20 recognize if we do that or publish another
21 thing, that will be subject to your
22 jurisdiction. We don't think the shippers

1 should be cavalier that we're going to ignore
2 the rule or not pursue appropriate enforcement
3 eventually. But depending upon what it was it
4 will not be without oversight. Again, we're
5 talking about the common carrier.

6 COMMISSIONER NOTTINGHAM: I just
7 want to say the tariff was drafted in a way to
8 try to avoid STB jurisdiction?

9 MR. WEICHER: Absolutely not. The
10 tariff was drafted in a way to try to
11 encourage where some of this discussion
12 started at the beginning of the morning, with
13 voluntary cooperation, with cooperative
14 cooperation, and to parallel our efforts in
15 our contracts to negotiate and implement
16 appropriate phases and timing and
17 implementation.

18 We know the Board has jurisdiction
19 over the rule and we know the Board will have
20 jurisdiction over enforcement mechanisms that
21 we may implement or pursue or publish as this
22 goes forward. We fully respect that.

1 As to the common carrier shippers,
2 as distinguished from the contract shippers,
3 of course, I don't think it's right. It's
4 premature. We haven't threatened anybody with
5 anything. We have said it's time to act.
6 It's time to get a standard. It's time to
7 have a rule that the coal stays in the car.
8 The rule could say all of the coal. It
9 doesn't. It leaves leeway to this measuring
10 process to get to a reasonable element of
11 compliance as quickly as we can.

12 COMMISSIONER NOTTINGHAM: So your
13 customers, in looking at the tariff provision,
14 have several interpretations they can arrive
15 at, that this is just an aspirational
16 statement of an aspiration objective that has
17 no teeth to it whatsoever and can be ignored
18 for all intents and purposes. That's not
19 really consistent with the spirit of the
20 testimony.

21 You said frequently today, all of
22 you, that this is a problem that should not be

1 ignored and can't be ignored. Or they could
2 surmise that the railroad will either raise
3 rates to address this problem or charge some
4 type of penalty or refuse service. Is that
5 basically the menu --

6 MR. WEICHER: I don't want to
7 leave that implication. This is an operating
8 rule. This is a serious rule. We expect it
9 to be complied with and we will have to
10 enforce it in due course.

11 COMMISSIONER NOTTINGHAM: With
12 serious consequences, correct?

13 MR. WEICHER: Yes. But that's not
14 going to happen tomorrow. We haven't
15 threatened anybody with a charge. I hate to
16 say this, we don't want the money. We don't
17 want to have to treat the coal cars. We don't
18 want a surcharge for it. We don't want higher
19 rates for it. We want an efficient, reliable
20 plan that operates with the coal staying in
21 the cars. And that is our goal and that is
22 what we will continue to pursue.

1 If voluntary compliance doesn't
2 evolve, if, for example, this rule were not
3 allowed to go into effect, we think the STB
4 would share the responsibility to some extent
5 for not addressing this problem. That's not
6 intended to be a challenge. That's just the
7 reality. We take the responsibility for
8 enforcing it and for your oversight of when
9 enforcement eventually comes.

10 But having said that, operating
11 rules do need to be enforced. This doesn't
12 now have the force and effect of federal law
13 that an FRA rule for a grab bar or a wheel-
14 bearing standard. It's an operating rule
15 being mirrored in a common carrier tariff rule
16 that the coal should stay in the cars. And
17 we're committed to that and we're dedicated to
18 that. It's not about the money.

19 MS. RINN: If I may, it's the sort
20 of rule that you need to have nearly universal
21 compliance with, but it's also something
22 where, I think, Mr. Weicher has indicated

1 earlier this is an evolving situation. We're
2 in a transitional mode. And it is sometimes
3 valuable to begin with here is a standard of
4 conduct we need you to -- a behavior, we need
5 you to partake in. And you educate and you
6 encourage with the idea that you will lead to
7 a rule that becomes mandatory. And during
8 that period of time as you see compliance,
9 voluntary compliance or lack of voluntary
10 compliance, you can then gauge and design, let
11 us say the incentive mechanism, whether you're
12 going to use an encouragement, whether you're
13 going to be doing a discouragement, based on
14 what the response is. And sometimes it's
15 just -- it's better to wait and get more
16 information so that you can adjust that to
17 what the voluntary compliance is.

18 So I can certainly understand that
19 if I were a shipper, that they would like to
20 have the consequences spelled out much more
21 clearly in black and white. Looking at it
22 from the point of view as somebody who advises

1 my clients on either in a contract or a common
2 carrier, how do you get a customer to change
3 their behavior in a certain way? There are
4 times when patience and a dialogue are helpful
5 in coming up with what is the best solution.

6 So while I certainly did not
7 consult with my colleagues in Fort Worth about
8 how they did it, what they did made sense to
9 me. I could understand the logic of it. But
10 I can also understand the logic of others
11 looking at it and saying well, if you mean it
12 why don't you say what the consequences are?

13 I think it underscores the fact
14 that we recognize we're in a symbiotic
15 relationship with our customers where we need
16 to have a collaborative dialogue to get us to
17 where we want to be.

18 COMMISSIONER NOTTINGHAM: Ms.
19 Rinn, and I'll wrap up, I recognize we're not
20 talking today about a tariff that was created
21 by your railroad, so maybe you're a better
22 person to ask about this, slightly less

1 partial. Is this type of tariff, in your
2 view, a preferred alternative to sending a
3 letter, a polite letter to all your coal
4 customers that on X date in the future, if
5 there's not an industry collaboratively
6 agreed-upon solution, the railroad will have
7 no alternative but to begin taking protective
8 actions that could include and then listing,
9 include not loading, not allowing rail cars
10 loaded above the rim of the car, requiring all
11 loads, all the solutions, blunt as some might
12 be, that we've heard about today, but we
13 haven't heard much actually about not,
14 arguably, these rail cars could be looked at
15 as being overloaded since they're routinely
16 spilling coal, just sort of stop the
17 overloading by not letting it get above the
18 rim.

19 Would that be another way to get
20 at this? Do you see this tariff as sort of an
21 alternative to sending out that letter which
22 I realize would not always be received well by

1 customers either, but at some point, the
2 railroad is responsible for what happens on
3 railroad right of way and needs to protect
4 itself and the one tool that I think you have
5 that's pretty clear is you don't have to
6 accept overloaded cars that are spilling
7 stuff.

8 MS. RINN: That is correct. And
9 one example we cited on another safety rule
10 that we conducted, we found that we were
11 having a lot of derailments because the axles
12 were failing on these cars because not only do
13 they carry a lot of freight, they put more
14 miles on than any other population of cars.

15 After we investigated those
16 incidents and what we thought was leading to
17 it, we identified requirements in terms of
18 inspection, and requiring that new components
19 be installed as opposed to just a recycled
20 component. And we basically engaged in
21 education by telling our customers this is
22 what we were seeing and that we were going

1 that way.

2 We then published what we
3 considered to be what we said were guidelines.
4 We are recommending that you follow these
5 practices. And we indicated that after a
6 certain period of time, we expected to adopt
7 that and make that a mandatory rule.

8 Well, we did transition that over
9 a matter of years during that period of time.
10 We basically got compliance with it and I
11 believe that we ended up not having to say "or
12 else" in the rule because to be quite frank,
13 if there is, in fact, a derailment now and it
14 goes to failure of a component because they
15 didn't follow what we have in the rules, we're
16 going to say here's the bill. And so we
17 didn't need to get there.

18 Perhaps this will -- I don't know
19 that we could get into that situation, but
20 it's one of those things where you kind of,
21 you learn and you work with it over time. But
22 if, in fact, we'll see as we develop the

1 information and figure out how we want to do
2 it, if our customers tell us we want to have
3 an "or else", we'll come up with an "or else."

4 COMMISSIONER NOTTINGHAM: Ms.
5 Rinn, with all due respect, you're not really
6 here today saying that the best solution to
7 this is to come up with a risk-sharing
8 proposal or rule that helps to assign
9 liability once a train wreck has happened and
10 an accident has happened. Surely we can do a
11 little better than that.

12 MS. RINN: No, that was a somewhat
13 similar situation, but not analogous, no. We
14 are not looking for that. As I said, we are
15 into prevention. We want the coal to stay in
16 the car. And there are mechanisms that
17 encourage and there are mechanisms that
18 discourage and you may need to do a
19 combination. So that's why we are interested
20 as we get a better idea, do we do a
21 performance-based standard? Do we do an
22 activity-based standard?

1 We are going to be in a dialogue
2 with our customers about what they think. Now
3 we're not going to take necessarily a vote,
4 but we're going to find out what they believe
5 would work and what their concerns are as
6 we're trying to develop this. But if we can
7 get there by voluntary compliance, we're all
8 for that because we think that that's part of
9 a collaborative relationship and we hate to be
10 in a situation where you have to dictate, but
11 sometimes that's what you have to do.

12 COMMISSIONER NOTTINGHAM: Thank
13 you, I have no further questions for this
14 panel.

15 CHAIRMAN ELLIOTT: Thank you very
16 much. We appreciate your time and we'll see
17 BNSF in a little while.

18 (Pause.)

19 Why don't we, since this has gone
20 a little longer than we thought, why don't we
21 take a little break and come back around
22 12:30. That will give people a chance to get

1 situated and do what they need to do.

2 All right, thank you.

3 (Whereupon, at 12:05 p.m., the
4 hearing was recessed, to reconvene at 12:30
5 p.m.)

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19 A F T E R N O O N S E S S I O N

20 12:37 P.M.

21 CHAIRMAN ELLIOTT: Welcome back,

22 everyone. We will continue the hearing with

1 the third panel, the shipper interests. And
2 we'll start with Arkansas Electric Cooperative
3 Corporation. You have 30 minutes and you will
4 have then ten minutes on rebuttal.

5 MR. VON SALZEN: Thank you very
6 much, Mr. Chairman. I'm Eric Von Salzen on
7 behalf of Arkansas Electric Cooperative
8 Corporation. With me is Steve Sharp, AECC's
9 principal engineer of fuels and civil and we
10 will divide our 30 minutes.

11 On behalf of AECC, and I'm sure I
12 expressed the sentiments of the other shipper
13 parties as well, we thank the Board for
14 commencing this proceeding to consider the
15 reasonableness of the BNSF's coal dust tariff.
16 As a result of this proceeding, a great deal
17 of information has come to light about
18 maintenance and operating practices on these
19 lines and the extent that fugitive coal plays
20 a role in those matters.

21 What we have learned leads to the
22 conclusion that BNSF's coal dust tariff is not

1 merely unnecessary, it would, in fact, be
2 counterproductive. It would increase the risk
3 of disruption to service on the joint line,
4 not reduce it.

5 In this argument, I intend to
6 address the following three issues. Can I be
7 heard?

8 CHAIRMAN ELLIOTT: You're fine.

9 MR. VON SALZEN: Okay, first, the
10 evidence shows that airborne coal dust which
11 is what is measured by BNSF's track monitors
12 is not principally what fouls the ballast.
13 The fugitive coal that falls onto the track is
14 substantially caused by the railroad's own
15 operating practices and maintenance practices.
16 Spraying toppers on coal cars won't affect
17 that process.

18 Second, I intend to discuss
19 briefly the two derailments in 2005 which BNSF
20 repeatedly holds up as justification for its
21 coal dust tariff, but which were not caused by
22 coal dust.

1 Third, coal dust is not what
2 threatens the safe and reliable operation of
3 the joint line. What does threaten the safe
4 and reliable operation of the joint line is
5 inadequate maintenance. If the Board approves
6 the coal dust tariff that will lead the BNSF
7 to reduce what it considers excessive
8 maintenance efforts on the joint line. That's
9 what threatens repetition of the events of
10 2005, not the existence of coal dust.

11 Starting then first with the issue
12 of airborne coal dust, BNSF says that it can't
13 tell in advance whether a particular coal
14 train will violate its coal dust standards or
15 not. Coal dust deposition, BNSF claims,
16 depends on complex relationships among a
17 number of factors. So rather than trying to
18 figure out what causes some trains to generate
19 excessive dust while others don't, BNSF wants
20 to impose requirements that in effect would
21 compel all shippers to spray surfactants on
22 all coal cars.

1 Now that's a red flag right there.
2 If BNSF can't figure out what it is about a
3 particular train that will cause an excessive
4 coal dust reading in the monitoring system,
5 then perhaps BNSF doesn't really have an
6 adequate understanding of what the problem is
7 that it's trying to address.

8 I'd like to quote the great
9 Justice Frankfurter who said "putting the
10 wrong question is not likely to beget right
11 answers, even in law." And I would add, even
12 in railroads.

13 BNSF focuses its attention on
14 airborne dust and what it measures is dust
15 that remains airborne when it reaches the
16 monitor 60 feet away from the train track.
17 Based on a detailed analysis of BNSF's own
18 dust fall data, AECC has shown that such
19 airborne dust accounts only for on the order
20 of 10 percent of the coal that actually lands
21 on the ballast. You didn't hear that this
22 morning, but it's in the record.

1 Where does the rest of the coal
2 dust that lands on the ballast come from?
3 During the early stages of this proceeding,
4 BNSF's witnesses acknowledged that the
5 deposition of coal dust is particularly found
6 on bridges and switches. But BNSF has
7 scrupulously avoided any consideration of the
8 reasons why. Fugitive coal deposition would
9 follow the pattern that its own witnesses had
10 observed. And I believe they mentioned it
11 this morning.

12 Thanks to the analysis that AECC
13 has provided in this case based on BNSF's own
14 evidence, we now know a lot more about what
15 causes fugitive coal to be deposited under the
16 joint line track in the pattern BNSF's
17 witnesses have described. We know that to a
18 substantial extent fugitive coal that
19 accumulates on switches and bridges isn't the
20 airborne dust that's picked up by the track
21 side monitors 60 feet from the track. Rather
22 much of it is coal that is shaken out of the

1 cars by vibration as the train passes over
2 rough track or over track where the modulus,
3 the stiffness of the track, changes. That's
4 one reason why you find a lot of coal dust and
5 coal at switches and bridges, because that's
6 where vibrations arise from changes in track
7 modulus as the track goes on and off the
8 bridge or over a switch. And BNSF has not
9 taken adequate steps to mitigate the effect of
10 such modulus changes.

11 AECC's evidence also shows a
12 deposition of fugitive coal is caused, in
13 part, by BNSF's own poor maintenance practices
14 on switch frogs which has been documented
15 extensively and photographic evidence supplied
16 by the railroads. One of BNSF's own videos
17 shows vibration as each car passes over a
18 switch with minimal other emissions from that
19 train.

20 AECC has documented for the Board
21 the fact that BNSF's own dust fall monitors,
22 and these are the dust fall monitors, not the

1 ones that are at mile post 90.2, I think.
2 These are the ones that actually measure the
3 dust as it falls on to the ground. They show
4 much higher accumulations of coal dust on the
5 descending sides of big sags. By big sags, we
6 mean sustained and pronounced descent followed
7 by a pronounced ascent. These are typically
8 places where the line makes a perpendicular
9 crossing of a valley.

10 The evidence documents an apparent
11 operating practice of running trains fast down
12 the descending side of big sags. One of the
13 videos BNSF cites as an example of high coal
14 dust emissions, in fact, shows a train running
15 down the descending side of a big sag at 50
16 miles an hour. Even the new table of coal
17 dust accumulation, which is in BNSF's
18 rebuttal, shows that much more coal
19 accumulates on the descending sides of big
20 sags than on the ascending sides of the same
21 big sags and elsewhere.

22 Running trains down the descending

1 side of big sags at high speeds generates much
2 of the fugitive coal that is at issue in this
3 case. The same topographic features that
4 create the opposing slopes of the big sags
5 also tend to move water to the low point. In
6 other words, if you're crossing a valley, you
7 tend to find water at the bottom of the
8 valley. And where you find the water, you
9 tend to find the bridges.

10 On the joint line, AECC's evidence
11 has highlighted how the bridges that BNSF
12 identifies as focal points of fugitive coal
13 accumulation are primarily those near the
14 bottoms of big sags. So in addition to high
15 downhill operating speeds, and the resulting
16 amplification of modulus changes at the
17 bridge, AEC has also identified so-called
18 slack action as an apparent causal factor in
19 the deposition of fugitive coal on bridges.

20 A single PRB coal train can easily
21 have 19,000 or more tons of coal in rail cars
22 between the locomotives at the head end and

1 the DPU at the trailing end. At the bottom of
2 the big sag, the train is basically
3 transitioning between a breaking mode to a
4 pulling mode, to move the train up the
5 following ascent. During this transition, an
6 individual car can move freely for a short
7 distance until it imparts an accelerating
8 motion to the next car in the train. This
9 process of repeated shock wave propagates
10 through the train.

11 AECC has identified in the record
12 a BNSF video that shows a mild slack action
13 incident as well as statements from BNSF's own
14 experts to the effect that slack action
15 redistributes the coal within a rail car and
16 photographic evidence that appears to show
17 clumps of coal, not airborne coal dust, clumps
18 of coal spilled out of a rail car on a bridge.

19 The evidence indicates that slack
20 action is a factor in at least some of the
21 deposition of fugitive coal within BNSF's
22 jurisdiction.

1 The evidence identified by AECC in
2 this area, and I've only summarized a small
3 portion of it, but I hope to hit the
4 highlights, the evidence shows (1) most of the
5 fugitive coal on the roadbed results from
6 processes other than the aerial suspension of
7 coal dust measured by BNSF's monitoring
8 system. Only on the order of 10 percent of
9 the coal dust that lands on the ballast comes
10 from the airborne coal dust.

11 Second, most of the fugitive coal
12 deposited on the track is the result of
13 actions largely or entirely under the control
14 of BNSF as the operator of the line and as the
15 party responsible for maintaining the line,
16 maintaining the switch frogs, maintaining the
17 areas of modulus change, training the crews
18 regarding high-speed operation down descending
19 slopes, and various other methods to minimize
20 slack action.

21 BNSF is trying to hold shippers responsible
22 for actions and circumstances BNSF itself

1 controls.

2 Third, these actions and
3 circumstances would undermine the
4 effectiveness of chemical toppers even if they
5 were applied. BNSF's own evidence shows that
6 high operating speeds and the redistribution
7 of coal in the car can compromise
8 significantly the effectiveness of chemical
9 surfactants. It's not what the toppers are
10 designed to do. They're not designed to hold
11 clumps of coal from being vibrated out of the
12 car by a train that's going 50 miles an hour
13 down a slope and then its slack action as it
14 goes up. The surfactants are intended to keep
15 dust from drifting off.

16 BNSF is focusing on the wrong
17 issue. Airborne coal dust is not what fouls
18 the ballast. BNSF's tariff doesn't address
19 the coal that falls onto the ballast and that
20 it therefore cannot significantly reduce coal
21 depositions.

22 Secondly, I'd like to turn briefly

1 to the 2005 derailments which BNSF cites as a
2 justification for its tariff. BNSF,
3 throughout this lengthy proceeding, has
4 presented no real proof that coal dust caused
5 the derailments. They repeatedly said so in
6 conclusory statements over and over again. Of
7 course, coal dust caused the derailment, but
8 they provided no analysis to how those
9 accidents occurred and how coal dust
10 supposedly contributed to them happening.

11 AECC has presented evidence.

12 First, we presented the evidence of Douglas
13 DeBerg, an independent railroad transportation
14 consultant with over 40 years' experience in
15 track construction and maintenance, who
16 inspected the derailment sites and reviewed
17 relevant documents produced in discovery. He
18 concluded that coal dust did not cause the
19 derailments. Poor maintenance and inspection
20 practices by BNSF caused them. He describes
21 his reasoning in detail.

22 We presented another witness,

1 Michael Nelson, who provided additional
2 support insights into the causes of the
3 derailment, based on the analysis of documents
4 produced by BNSF and UP in discovery. He
5 found that in 2003, UP learned that BNSF had
6 been deferring maintenance on the joint line.
7 UP encouraged, I choose my word carefully,
8 BNSF to change its practices. BNSF did
9 increase maintenance in 2004, but not enough
10 to prevent the derailments, when several years
11 of drought in the area -- we heard about that
12 this morning -- ended with the return of more
13 normal precipitation in the spring of 2005.

14 Mr. Nelson examined records of
15 communications between BNSF, train
16 dispatchers, and train crews at the time of
17 the derailments. They're classified highly
18 confidential and besides they use a lot of
19 salty language, so I'm not going to quote them
20 for you, but in essence, what they show, and
21 they are part of the record in this case, is
22 that rough track had been reported at the

1 location where the UP train was later to
2 derail. The crew was sent to fix the
3 condition. They reported it had been fixed.
4 The site was tested with a helper locomotive
5 and then the first train over that stretch
6 over that track derailed.

7 As Mr. Nelson said, under these
8 circumstances it is difficult to imagine how
9 a rational person could ascribe this
10 derailment of coal dust rather than inadequate
11 maintenance practices. Whatever the original
12 source of the rough track may have been, BNSF
13 had forewarning of the problem and ample
14 opportunity to remedy it before the passage of
15 the UP train.

16 At the other site, Mr. Nelson
17 found that it had been scheduled for
18 undercutting in 2004, but this was not done.
19 As Mr. Nelson said, as is the case with the UP
20 derailment, BNSF knew in advance there was a
21 problem. Its references to coal dust did not
22 alter the fact that it failed to perform

1 maintenance it knew was needed.

2 There's a lot more evidence like
3 this in the record, but I want to focus on
4 evidence from BNSF about where coal dust gets
5 deposited on the track. Because although
6 BNSF's rhetoric would lead you to think that
7 the entire joint line is covered with coal
8 dust, in fact, their evidence shows that much
9 more coal dust is deposited in certain
10 locations than in others. BNSF's own data,
11 including the dust bowl jars and the CRA
12 assessment that was presented in rebuttal,
13 show that the coal dust accumulations on the
14 downhill sides of big sags are much higher
15 than they are on the uphill sides. This is
16 confirmed in BNSF's final evidence in this
17 subject of chart of dust bowl concentrations
18 on page 4 of Mr. Emmett's rebuttal verified
19 statement which I commend to your attention.

20 This is significant because each
21 derailment occurred on the uphill side of a
22 big sag. How could coal dust be the cause of

1 the derailments if the derailments occurred
2 where coal dust accumulations are near or at
3 their lowest level?

4 Before the derailments BNSF was
5 already beginning to develop plans to impose
6 dust suppression obligations on PRB coal
7 shippers. When the derailments occurred, it
8 is apparent that BNSF decided to use those
9 derailments to strengthen its rhetoric against
10 coal dust and obscure the fact that BNSF had
11 deferred maintenance to the point the only
12 thing keeping substantial portions of the
13 joint line infrastructure stable was a lengthy
14 drought in eastern Wyoming which ended in the
15 spring of 2005. And when rainfall returned to
16 near normal levels, the derailments happened.

17 The third point I want to stress
18 is that coal dust is not the problem.
19 Inadequate maintenance is the potential
20 problem. For the last five years we have not
21 had a derailment on the joint line because
22 BNSF picked up the pace on maintenance of that

1 line, so we have not had a derailment so far.
2 But BNSF desperately wants to cut back on its
3 maintenance expenses, failing to recognize --
4 and we saw these statistics from DOT this
5 morning -- this is the highest density rail
6 line in this country and perhaps in the world.

7 And it has grown at a phenomenal
8 rate. From 1984, 76 million tons to 2008, 375
9 million tons of traffic on that line. A huge
10 volume of traffic. A three and four tracked
11 line -- there's a train that goes by I think
12 every 12 minutes. It's an incredible growth
13 of traffic. And of course, with that level of
14 traffic you need a high level of maintenance
15 effort because it's the traffic over the line
16 that makes the rails wear out, ties wear out
17 and particularly, it stresses the ballast,
18 causes ballast to break down and requires
19 undercutting track surfacing and so forth.

20 One of the most striking things
21 about the testimony, and I think this is in
22 BNSF reply testimony, is to read the testimony

1 of Mr. Slogett, General Director of
2 Maintenance at BNSF; and Mr. Smith, General
3 Superintendent of Transportation for the
4 central region, who talk about the fact that
5 they are just barely now keeping up with the
6 maintenance requirements on this line.

7 They're talking about having 14 months of work
8 to do in only 7 to 10 months of working season
9 to do it in. They're talking about inspectors
10 being 40 percent overtime at times.

11 BNSF is barely keeping up with the
12 maintenance demands on this line and they
13 desperately want to be relieved of those
14 requirements that come with the blessings of
15 all of the revenues that they get from all of
16 the traffic. And they think that by getting
17 this Board to approve their coal dust tariff
18 they'll be able to save tens of millions of
19 dollars in maintenance efforts every year.

20 If they do that, it's what they
21 did prior to 2003, and we know where that
22 resulted in 2005. Coal dust is not the

1 problem. Maintenance is the problem. The
2 last thing in the world for this Board to do
3 is to encourage BNSF to believe that they can
4 go back to the bad old days and cut back on
5 their maintenance efforts.

6 Thank you. Mr. Sharp will now
7 address the Board.

8 MR. SHARP: Thank you. I'd like
9 to follow on from Mr. Von Salzen's last point
10 and respond to BNSF's assertion that coal
11 shippers must be forced by BNSF and its tariff
12 to act responsibly with respect to coal dust.

13 The fact is that PRB coal shippers
14 have made tremendous investments to enhance
15 the efficiency of coal transportation, such as
16 purchasing aluminum car fleets and
17 constructing longer unloading facilities at
18 our power plants to support longer trains.

19 I think even BNSF acknowledges
20 that coal shippers have improved the
21 maintenance of coal cars which reduces coal
22 lost through the sides and bottoms of those

1 cars. We've adopted the profiling of the top
2 of the coal surface as recommended by BNSF and
3 as it's been revised and certainly may be
4 revised again, we are happy to work with the
5 mines and try to accommodate that and
6 accomplish what coal dust reductions may come
7 from that.

8 Many shippers have changed over to
9 the use of larger coal sizes which is also
10 believed to reduce fugitive coal dust. From
11 Day 1 as a coal user, AECC has willingly
12 invested substantial resources to improve
13 productivity and lower the railroads' overall
14 cost of transporting the coal we use. But we
15 and other coal shippers oppose the BNSF tariff
16 for two reasons. First, as discussed by Mr.
17 Von Salzen, coal shippers do not want to
18 provide BNSF an excuse to cut back on the
19 maintenance of the joint line. We believe
20 that's where the real risk of service
21 disruption lies.

22 Second, coal shippers don't want

1 to waste money, either ours or anyone else's.
2 We do not believe that spraying toppers on
3 coal cars is the prudent way to address the
4 coal dust issue.

5 We urge the Board to reaffirm the
6 principle that minimizing overall costs is the
7 central objective and reaffirm BNSF's
8 statutory duty to maintain the performance
9 capabilities of its infrastructure. If the
10 Board does so, this will provide a sound
11 framework within which shippers and carriers
12 can work cooperatively towards solutions that
13 minimize total resource costs.

14 AECC, like other coal shippers, is
15 ready to participate in reasonable efforts to
16 improve the efficiency and reliability of the
17 joint line, including reducing fugitive coal
18 dust. Coal shippers have does so already as
19 I've mentioned. It is possible that cost-
20 effective measures can be developed to reduce
21 fugitive coal dust, including changes in
22 operating and maintenance practices of BNSF

1 and UP, and through identifying what causes
2 some trains to generate a lot of airborne coal
3 dust.

4 AECC favors cooperative and
5 voluntary action by railroads and shippers
6 towards that end. But the BNSF coal dust
7 tariff takes this down a dead-end road.
8 Spraying surfactants on tops of coal cars will
9 not prevent coal dust from being deposited on
10 the track, but it will encourage BNSF to do
11 what it desperately wants to do, cut down on
12 the expense of maintaining this extremely
13 high-density rail line. The continuation of
14 safe and reliable rail service on the joint
15 line would be fostered by disapproving BNSF's
16 coal dust tariff. It would also be a good
17 first step towards starting a cooperative
18 process among coal shippers, mines, and
19 railroads to improve the maintenance of the
20 joint line.

21 Thank you.

22 MR. VON SALZEN: We are done. I

1 guess we are the first party to use less than
2 our allotted time.

3 CHAIRMAN ELLIOTT: I will
4 congratulate you. That might be an all time
5 first. Thank you very much for your
6 presentation.

7 And now we will have a
8 presentation from the Western Coal Traffic
9 League. And you have ten minutes.

10 MR. LeSEUR: Thank you, Mr.
11 Chairman. My name is John LeSeur. I'm
12 appearing here today on behalf of the Western
13 Coal Traffic League. The Coal League is an
14 organization of utilities that ship coal mined
15 west of Mississippi River. Currently the Coal
16 League membership transports approximately 140
17 million tons of coal annually.

18 The Coal League appears here in
19 support of AECC's request that the Board find
20 BNSF's proposed coal dust standards constitute
21 an unreasonable practice. The Coal League,
22 along with a group called the Concerned

1 Captive Coal Shippers, has submitted extensive
2 evidence in support of a finding by this Board
3 that the tariff is unreasonable.

4 I'm going to refer to the filing
5 jointly made by the Coal League and the
6 Concerned Captive Coal Shippers as the Coal
7 Shippers' filings since that's the terminology
8 that is used to describe ourselves in our
9 filings.

10 One of the points that BN made
11 repeatedly in its written comments to the
12 Board was the proposed IDV standards are
13 supported by sound science. And Coal Shippers
14 put in substantial evidence supported by a
15 number of experts demonstrating that the
16 proposed coal dust standards are not supported
17 by sound science. And what I'd like to do in
18 the time allotted to me today is to hit some
19 of the high points in our testimony.

20 First of all, what we're talking
21 about here are two BNSF tariff items and they
22 both provide, effective October 1, 2010, coal

1 shippers transporting PRB coal trains over the
2 joint line or the Black Hills line need to
3 meet specified IDV.2 standards, the cap on the
4 joint line is 300 IDV units. And the cap on
5 the Black Hills subdivision is 245 units.

6 Returning to our theme of sound
7 science, we believe the first principle of
8 sound science is that if a party is going to
9 be making studies and proposing standards that
10 the folks that are impacted by that should be
11 able to replicate the study procedures,
12 replicate the study results, understand how
13 the calculations are made from a number of
14 purposes. One, to see whether they are any
15 good, the second, possibly to restate them.
16 And the BN's calculations all reside in a
17 computer program put together by one of its
18 consultants. The IDV standard is one that BN
19 made up. It doesn't exist anywhere except on
20 this computer program.

21 In discovery, in this case, Coal
22 Shippers asked BN to produce the program. BN

1 refused to do it. Without the program, we
2 can't replicate what BN is doing. We can't
3 understand it. Our experts can't critique it.
4 We certainly can't restate it. As one of our
5 experts noted, what we're dealing with here is
6 a classic black box. And we submit that in a
7 case involving potentially expenditure of
8 hundreds of millions of dollars in compliance
9 costs, it's unreasonable for BN to refuse to
10 turn the program over and certainly if we
11 don't have it, we can't share it with you.
12 And the Board also can't figure out what this
13 IDV standard is all about.

14 We would point out an analogous
15 context in cases where computer programs are
16 used to generate evidence. The Board has
17 consistently ruled that if a computer program
18 was introduced, the other side needs to turn
19 over the program so that opposing sides can
20 review the data and review the answers.

21 Now the next sound science point
22 I'd like to hit on is a basic point. That is,

1 sound science requires use of study data
2 suitable for its intended purpose. The
3 principle input data in BNSF's Black Box IDV
4 calculations is E Sampler data. The E
5 Samplers are located a mile point 90.7 on the
6 joint line and mile post 558 on the Black
7 Hills subdivision.

8 The asserted purpose, according to
9 BN of the E Sampler data is to measure
10 accurately coal dust deposited in the ballast
11 by each passing train. And as our evidence
12 demonstrates, the E Sampler data is simply not
13 suitable for this purpose for three principle
14 reasons. First, the E Samplers are located at
15 a minimum 60 feet from passing trains.
16 They're not measuring coal dust getting
17 deposited in the ballast.

18 Secondly, the E Samplers, as
19 they're set up, measure all particulates in
20 the air when the air is being sampled. It
21 could be dirt. It could be diesel soot. It
22 could be bugs. It could be other

1 particulates. But it's not just coal dust, if
2 there's any coal dust there.

3 And third, the E Sampler output
4 used by BNSF is not being developed correctly.
5 The E Samplers that BNSF has purchased can
6 measure particulate concentrations using two
7 methods, a laser light scatter approach or a
8 gravimetric filter approach. It's generally
9 recognized, it's actually universally
10 recognized by experts in the field that when
11 you're measuring particulates using lasers,
12 you may not get accurate results because of
13 limitations in the technology.

14 On the other hand, experts in the
15 field all recognize that if you measure
16 particulate emissions using filters, you will
17 get accurate answers. So for example, EPA, in
18 most of their air monitoring, uses the filter
19 approach. And these E Samplers, the purpose
20 of the filter is to provide a check or
21 reference standard to make sure the laser
22 results are accurate. Now BNSF isn't using

1 the filters, claims it's not necessary to do
2 so. BNSF has presented no studies
3 demonstrating when they're measuring
4 particulate emissions in the Powder River
5 Basin that the laser methodology will produce
6 accurate results and don't need to use
7 filters.

8 Coal Shippers, on the other hand,
9 presented extensive evidence primarily through
10 Dr. Mark Vis, one of the nation's leading
11 experts on coal dust emissions demonstrating
12 it's absolutely essential if you're going to
13 use data from one of these lasers, that you
14 check, the data against a known reference. If
15 you don't do it, you have no idea what you're
16 getting out and basically, there's no way in
17 the world to determine whether the data itself
18 is accurate or not.

19 The last sound science point we'd
20 like to make involves BNSF's so-called
21 variability analysis. BNSF performed a number
22 of what they called side-by-side tests where

1 they put two E Samplers next to each other in
2 order to attempt to measure a common
3 particulate emission. Sometimes they had a
4 common air intake and basically they would
5 have these side-by-side tests. They would
6 develop IDVs. They're basically trying to see
7 whether the same two machines would produce
8 the same answers. And what they found was in
9 most cases they weren't. They could produce
10 wildly different answers. For example, you
11 could have in one of these side-by-side tests,
12 one E Sampler, when you take the output from
13 that, run it through the IDV formula, produce
14 an IDV to 50, you take the second parity
15 sampler and produce an IDV that's 10 times
16 higher. It's roughly equivalent to a police
17 officer having two speed guns in his hand and
18 a car going down the road, one registers the
19 car is going 20 miles per hour, the other
20 register is going 120 and you really don't
21 know which one is correct.

22 To address these variability

1 results, BN attempted to run a regression of
2 approximately 400 side-by-side pairs. And
3 based upon this regression the BN concluded
4 that if the IDV is 300 or higher, there's a 95
5 percent chance that the IDV actually being --
6 the train actually possesses is above 134.

7 The variability analysis is
8 severely flawed. Our experts have put in a
9 substantial amount of evidence. Our basic
10 problems are again, you're using an IDV
11 formula. We don't understand what ties into
12 the regression. The data going into the IDV
13 calculations is unsuitable. We also took a
14 pretty close look at the data pairs BN was
15 using and while most of this data is stamped
16 confidential or highly confidential, our
17 experts concluded from a statistical
18 standpoint the vast majority of paired data
19 that BN was using is not suitable for this
20 purpose. There's a number of other problems
21 with BNS regressions, our experts discuss in
22 their testimony.

1 So from the Coal League's
2 perspective focusing exclusively on the IDV
3 standard, we submit the Board shouldn't
4 approve it for three reasons. One, the
5 underlying program wasn't turned over. Two,
6 the input data going into it. It's severely
7 flawed. And three, BNSF's variability
8 analysis also was done in a very nonscientific
9 manner. Thank you.

10 CHAIRMAN ELLIOTT: Thank you very
11 much, Mr. LeSeur. And now we will hear from
12 the Concerned Captive Coal Shippers.

13 Mr. Loftus, you have ten minutes.

14 MR. LOFTUS: Thank you, Mr.
15 Chairman. My name is Michael Loftus. It's my
16 privilege to appear this afternoon on behalf
17 of the Concerned Captive Coal Shippers, the
18 members of which appear on the projector
19 before you. Each of these companies is a
20 large consumer of coal and relies upon rail
21 transportation to move that coal to their
22 power plants.

1 I would ask you to note that
2 several of these entities are eastern
3 utilities and are involved in this proceeding
4 because of their concern about the
5 implications for their traffic if the Board
6 were to approve the proposed tariff items at
7 issue in this proceeding.

8 I intend to focus primarily on one
9 area of the evidence and arguments submitted
10 by the Coal Shippers and that has to do with
11 the comparison of the costs of dealing with
12 coal dust through spraying all PRB coal
13 traffic as opposed to through traditional
14 maintenance. But first, I would like to show
15 a very brief video clip and you saw this
16 morning a clip from BN or two that showed a
17 lot of dust blowing off of trains on the joint
18 line in the Powder River Basin. There you see
19 a train that is not emitting any visible dust.
20 This came to us in the form of production in
21 discovery by BNSF. We submitted this along
22 with several other clips of similar scenes in

1 our rebuttal evidence.

2 We also submitted a number of
3 photographs that we had taken at various
4 stages over the joint line and I'd like to
5 just flip through those quickly to show you
6 that although you might, based upon what you
7 heard, think that the entire joint line is
8 covered with black dust, as you go through
9 these at various mile posts throughout the
10 joint line, you see what appears to be clean
11 ballast in otherwise good condition.

12 Returning to the point that I want
13 to focus on, namely comparative costs, the
14 Coal Shippers have developed an extensive
15 analysis of the costs of dealing with coal
16 dust through traditional maintenance
17 techniques and we are talking about costs here
18 in our estimation. This case, we believe, is
19 largely about BNSF's efforts to shift
20 maintenance costs on to its coal customers.
21 The costs for spraying coal trains originated
22 in the PRB as we have calculated them, are

1 multiples of BNSF's costs to deal with coal
2 dust through maintenance procedures such as
3 vacuuming, shoulder cleaning, and ballast
4 undercutting. The actual numbers which are
5 confidential, appear in Coal Shippers'
6 rebuttal argument at page five, among other
7 places.

8 From a public policy perspective,
9 the Board should find unreasonable a tariff
10 requirement that seeks to deal with coal dust
11 at a significantly greater cost to shippers
12 and to society at large, than BNSF's costs to
13 deal with coal dust through normal maintenance
14 activities.

15 Applicable Agency and Court
16 precedent support the Board's consideration of
17 the economic efficiency of a tariff-imposed
18 requirement such as those at issue here.

19 DOT, as you know, has affirmed the
20 principle that coal dust should be dealt with
21 in the most cost-effective way. And it also,
22 as I read it, accepts either maintenance or

1 spraying as an acceptable manner of
2 maintaining the ballast in a safe and
3 satisfactory condition.

4 Coal Shippers and BNSF have both presented
5 calculations, but they are substantially
6 different.

7 I'd like to focus first on the
8 cost of spraying, but I'll say that as to both
9 types of costs, the spraying costs and the
10 maintenance costs the Coal Shippers have
11 relied primarily on materials obtained in
12 discovery from BNSF. BNSF, by contrast, has
13 backed away from the materials they produced
14 in discovery, and utilized a number of new,
15 and we believe arbitrary, assumptions about
16 costs that have, not surprisingly,
17 substantially increased the amount of their
18 cost estimates.

19 For the cost of spraying, Coal
20 Shippers' expert relied on an extensive
21 analysis of the cost of spraying coal
22 throughout the basin that was produced by BNSF

1 in discovery. And that was not developed for
2 litigation purposes. BNSF and UP have based
3 their costs of spraying on what I would
4 describe as guesstimates from their employees
5 for which no support has been provided when
6 you review their testimony.

7 Turning to maintenance of way
8 costs, Coal Shippers have again relied
9 primarily on analyses of coal dust related
10 maintenance costs obtained from BNSF in
11 discovery. BNSF disavows those studies and
12 utilizes a number of new, arbitrary
13 assumptions.

14 It is widely acknowledged that
15 ballast contains other ballast contaminants
16 such as breakdown of ballast and concrete
17 ties, dirt, brake shoe dust, traction sand,
18 etcetera. It was striking to me this morning
19 that the railroad panel completed their
20 prepared remarks without any mention of any
21 contaminant other than coal dust. It was not
22 until Vice Chairman Mulvey asked a question

1 that there was an acknowledgement that there
2 are other contaminants in the ballast.

3 One of BNSF's own witnesses stated
4 and I quote, "to assess the impact of coal
5 dust in ballast, it is also important to know
6 what other contaminants are present and the
7 amount of the other contaminants." That's Van
8 Hook reply verified statement at page 11.

9 Yet, BNSF has not submitted any
10 comprehensive analysis of the amount of
11 different contaminants in the ballast of its
12 PRB lines, nor has BNSF analyzed the rate of
13 accumulation of other ballast contaminants.
14 Instead, BNSF simply assumes that all
15 additional coal dust-related maintenance is
16 caused solely by coal dust and that all these
17 other contaminants don't have any contributory
18 effect and share in the causal element.

19 I'd like to close by addressing
20 briefly the precautionary principle. Now
21 first, BNSF only introduced this concept in
22 its rebuttal testimony. As a result, we have

1 not had an opportunity and there is no
2 responsive expert testimony addressing the
3 point.

4 If you review the rebuttal
5 statement of Calt and Mitchell, a few things
6 are very clear immediately. First, they
7 accept as gospel virtually every single
8 element of BNSF's evidence and reject
9 uniformly all opposing evidence. The most
10 critical fact that they assume is that the
11 maintenance option is incapable of assuring
12 safe and satisfactory ballast condition. We
13 believe that is simply incorrect and that
14 because maintenance is capable of maintaining
15 a safe condition, that the Board must consider
16 the relative cost and when it does so, it
17 should find the standards unreasonable. Thank
18 you.

19 CHAIRMAN ELLIOTT: Thank you, Mr.
20 Loftus.

21 Now we'll hear from the National
22 Coal Transportation Association. Mr. Wilcox,

1 you have ten minutes.

2 MR. WILCOX: Thank you, Mr.
3 Chairman, Mr. Vice Chairman, Commissioner
4 Nottingham. This hearing testimony, as was
5 NCTA's written statement, is presented on
6 behalf of the NCTA's Board of Directors. The
7 Executive Director of NCTA, Mr. Tom Canter,
8 who I think you all know, familiar with, is
9 here at the hearing in attendance.

10 NCTA is a broad-based association
11 of coal industry stakeholders based in Denver.
12 It has 140 members and they include virtually
13 all of the parties of record in this
14 proceeding, including the Petitioner, AECC.

15 NCTA's participation in this
16 proceeding is limited in scope and purpose
17 which is the inclusion of facts related to the
18 coal ballast issue and also relevant aspects
19 of a NCTA-sponsored scientific study on coal
20 dust suppression into the record of this
21 proceeding.

22 NCTA's written submissions

1 describes how since 1973 NCTA has served the
2 role of an educational organization, a
3 facilitator of solutions of coal
4 transportation issues, west and east. And its
5 efforts have included all stakeholders
6 including Class 1 railroads.

7 NCTA has been involved in the
8 overall coal dust issue from the beginning
9 when it actively worked with BNSF, UP, and
10 NCTA members to deal with the impacts and
11 aftermath of the joint line derailments. And
12 also BNSF, I think in the person of Mr. Fox,
13 first announced that BNSF was exploring coal
14 dust suppressants on coal cars at NCTA's
15 annual meeting in the fall of 2005.

16 When BNSF announced in 2006 its
17 intention to formally adopt the performance
18 standard requiring 85 percent of coal dust
19 emissions from coal cars to be eliminated
20 mostly through chemical spraying, this is the
21 IDV 300, the beta version of the current IDV.2
22 standard, doubts and concerns among NCTA's

1 members and also BNSF's decision to stop
2 participating actively in a joint effort with
3 NCTA led NCTA to eventually commission an
4 independent study of the coal dust issue by
5 Exponent, Inc. And the study was funded by
6 NCTA members and the final study was submitted
7 in August 2009 entitled "Rail Car Loss and
8 Effectiveness."

9 In its final form, the study
10 scientifically evaluated the performance of a
11 variety of dust suppressant sprays and in
12 doing so also evaluated and analyzed the coal
13 dust monitoring methods BNSF had employed
14 along the joint line to enforce the standard.

15 NCTA produced the Exponent study
16 to parties in the discovery phase of the
17 proceeding and has attached key portions of it
18 to NCTA's written statement to add to the
19 record of this proceeding.

20 I'm going to highlight three basic
21 points from the written statement. First,
22 NCTA is, was and is, keenly aware of the

1 significant cost shifting, legal, and public
2 policy issues associated with BNSF's proposed
3 standard. And its original study scope
4 included some of those issues, particularly
5 the cost and benefits of various means of
6 controlling coal dust ballast fouling.

7 However, as our statement
8 explains, primarily due to budgetary
9 constraints and because NCTA's goal was to
10 contribute to an industry solution to the
11 overall ballast problem, NCTA narrowly focused
12 Exponent's efforts on some small pieces of the
13 overall issue and that included the testing
14 ability of the chemical sprays to contain the
15 coal dust and critiquing BNSF's methods.

16 Second, based on data from field
17 tests of a limited number of coal trains, the
18 study did conclude that the tested
19 suppressants, I think there were nine or ten
20 of them that were tested did, in fact, control
21 coal dust blowing off of coal cars with
22 varying degrees of success. However, the

1 study also concluded that even if the 85
2 percent goal was met for a particular train
3 test, that didn't necessarily mean that that
4 correlated with compliance with BNSF's
5 standard due to this IDV.2 300 standard due to
6 monitoring problems and data deficiencies.

7 Third, the Exponent study
8 identified in the second part of its mission,
9 limited mission, which was to critique the
10 methods BNSF was proposing to enforce
11 compliance, its standards that Mr. LeSeur
12 talked about. It raised numerous concerns and
13 questions about the methods and devices BNSF
14 was using to measure the enforcement of its
15 proposed standard of the TSM array that
16 they're using along mile post 90.7 and the
17 various collecting devices.

18 These concerns which were put in
19 the initial report of BNSF have been repeated
20 and elaborated on by Dr. Vis in his verified
21 statements submitted on behalf of WCTL and
22 Captive Coal Shippers.

1 In conclusion, while necessarily
2 limited in scope and purpose, NCTA believes
3 that the Exponent study nevertheless does
4 provide the Board with some relevant and
5 useful information about the effectiveness or
6 non-effectiveness of using chemical sprays to
7 actually control the loss of coal dust. And
8 it also provides the Board with a summary,
9 well, more than that, but a discussion of the
10 issues and concerns identified by Exponent for
11 NCTA concerning the means by which BNSF would
12 attempt to accurately and reliably measure and
13 enforce its standard.

14 One final point in response to a
15 statement by Vice Chairman Mulvey on the
16 objectivity of experts, I would note that
17 Exponent was hired at a time when this
18 proceeding was not underway and NCTA is
19 traditionally a non-adversarial association.
20 And so I do believe that it's not a study
21 prepared in anticipation of litigation, so I
22 think it is afforded a degree of objectivity,

1 a little more than if it was. Thank you.

2 CHAIRMAN ELLIOTT: Thank you, Mr.
3 Wilcox. You also get a gold star for beating
4 the clock.

5 Now we will hear from the American
6 Public Power Association, Edison Electric
7 Institute, National Rural Electric Cooperative
8 Association.

9 Mr. McBride, you have ten minutes.

10 MR. McBRIDE: Thank you, Mr.
11 Chairman, Mr. Vice Chairman, and Board Member
12 Nottingham. I do want to start by saying that
13 it probably bears reminding everyone that we
14 are the best customers of the railroads. Mr.
15 Rose is quoted in the record as admitting that
16 coal was their most profitable commodity.
17 We've been accused of being dumpers,
18 litterers, and trespassers in this record, and
19 I think it's important from a legal standpoint
20 to realize that our traffic is on the railroad
21 lines by their consent. And therefore, we
22 cannot be in legal violation under any of

1 those doctrines.

2 Board Member Nottingham, you asked
3 a very important series of questions this
4 morning, you wanted some commentary on how it
5 was that the coal cars got to the point where
6 coal was coming off or spilling from the cars.
7 It occurred to me that you might benefit from
8 a little bit of history here as to how this
9 all came about.

10 In the 1990s, as you all know, the
11 railroads went through a series of mergers.
12 Some of them were not very successful from an
13 operational standpoint. Wall Street was not
14 happy. Wall Street put a lot of pressure on
15 the railroad boards and CEOs to cut back on
16 their capital expenditures. Some of the
17 railroads resisted better than others.

18 BN and Mr. Krebs tried to resist,
19 but those pressures applied to this whole
20 industry. And at the same time the economy
21 was booming and coal demand was increasing.
22 And my clients, and everyone up here's

1 clients, wanted as much as coal as they could
2 get, especially from the PRB because it's the
3 clean air compliant coal of choice.

4 And as a result, by 2003 to 2004,
5 as I think you all know, there were capacity
6 constraints in the Powder River Basin. The
7 railroads were in a very happy situation.
8 Rates were going up. That's not the object of
9 much of today's discussion, but they had more
10 demand than they had supply for their
11 transportation. Everyone wanted to move as
12 much coal as they could move. The railroads
13 dictated the loading requirements. The
14 railroads even imposed a four hour rule to
15 load a train of as many as 135 cars. If you
16 think about it, that's not very much time.

17 And as a result, it's not surprising that coal
18 would be out over the tops of the cars, on the
19 sills of the cars, over the sides of the cars.

20 You also heard acknowledgement on
21 the record earlier today from BNSF that some
22 of these cars are the railroad's cars. And

1 more coal, in many cases, is coming out of the
2 bottom of the cars than out of the tops
3 because the railroads are not doing as good a
4 job of maintaining some of those cars as we do
5 of ours. We have to maintain our cars
6 according to their standards.

7 So we got to this situation
8 because of a whole confluence of events.
9 People learned from them when those
10 derailments occurred. The loading profiles
11 are better. You heard about that. UP is
12 talking about mechanical suppression. BN
13 didn't do adequate maintenance because it was
14 moving all the coal trains that it could move.
15 You've heard a lot of evidence about that. I
16 don't think there's any question about it.
17 And the FRA, in its studies of what caused
18 those derailments, blamed inadequate welds,
19 too wide gauge, inadequate maintenance,
20 inadequate inspections. There's no doubt
21 about it. That's what your sister agency
22 concluded. I'm surprised they did not come

1 here and testify about them, but that's what
2 happened.

3 Everybody is moving on from there,
4 but BN is trying to blame its customers for
5 the problems that it itself created on its own
6 property. That's what happened.

7 Now, even older history which I
8 think is terribly important for you to know,
9 and forgive my voice, I've been ill. But I
10 got up for this because I realize that we're
11 reliving a little bit of history here. Thirty
12 some years ago, the railroads tried to refuse
13 to carry our nuclear materials. And the ICC
14 stepped up to the plate and said you can't do
15 that. And the 6th Circuit affirmed in the
16 Akron-Canton case that you've seen cited in
17 the record and agreed with the D.C. Circuit
18 that the ICC should defer to its sister
19 agencies including the DOT and accept the FAA-
20 DOT positions on safety as establishing both
21 an inner and outer limit on its safety
22 jurisdiction. That was relying on the D.C.

1 Circuit's opinion in the Delta Airlines case.

2 Then we got to the D.C. Circuit
3 after the railroads tried to impose special
4 train service on us. They said we're not
5 carrying your nuclear materials unless we can
6 impose special train service which the D.C.
7 Circuit noted in the decision of Conrail v.
8 ICC. It's cited in the record at 646 F.2d at
9 642. And I would urge you to read both of
10 these decisions. The first one I cited,
11 Akron-Canton, 611 F.2d at 1162. Please read
12 especially Conrail v. ICC, 646 F.2d at 642.

13 The Court of Appeals went on at
14 great length about the law here. It noted
15 that DOT and in that case the Nuclear
16 Regulatory Commission, had not required
17 special train service. It adhered to the
18 ruling of the 6th Circuit that I've just
19 described to you which followed an earlier
20 D.C. Circuit rule. And it said that when DOT
21 and NRC did not require special tariff service
22 in that case, a presumption arises that

1 expenditures for safety measures not specified
2 by those agencies are unnecessary and fail to
3 satisfy the criteria of reasonableness. That
4 discussion is around page 648.

5 It goes on. The Court held that a
6 particular safety measure must produce
7 benefits commensurate with its cost and be
8 economic in order to be reasonable under the
9 statute. Later, the Court said there was a
10 presumption, it concluded, against special
11 train service arising from both the DOT-NRC
12 regulations and they believed that the
13 Commission should have taken those regulations
14 into account.

15 And the Court finally concluded
16 that the railroads failed to present concrete
17 evidence that safety benefits accruing from
18 special train service would be significant
19 enough to match its high cost. It's this case
20 all over again.

21 It reminds me of a story about a
22 wonderful old lawyer named Charlie McCarthy

1 who used to practice here. He was General
2 Counsel of the TVA before then. He once told
3 me about a farmer in Tennessee in the '30s who
4 used to represent -- a lawyer who represented
5 farmers in Tennessee in the '30s whose mules
6 were being taken by Courts under the Doctrine
7 of Replevin because they couldn't pay their
8 loans. And one week he was in defending a
9 farmer whose mule was going to be taken and
10 the Judge ruled against him and in favor of
11 the lender. And the next week he was back
12 again representing another farmer. He made
13 the same argument all over again and the Judge
14 said, "Sir, weren't you in here last week
15 making the same argument against replevin?"
16 He said "oh, yes, sir, but that was a spotted
17 mule case." See, in other words, any case can
18 be distinguished slightly on its facts.

19 But the radioactive materials
20 case, if you will, are the spotted mute cases.
21 The law is under the doctrine of
22 reasonableness under the act that you may not

1 uphold a railroad safety standard that FRA or
2 DOT have not imposed on the railroads unless
3 it's reasonable. And its benefits have to be
4 in excess of its costs. And I put a bunch of
5 questions into the record with my opening file
6 and I would urge you to think about this case
7 in this sense. If this standard that BN was
8 proposing was a proposal in a notice and
9 comment rulemaking proceeding, would you three
10 be comfortable with adopting this standard and
11 asking the Court of Appeals to uphold what you
12 did?

13 We don't even know where the
14 standard came from. You've heard a lot of
15 evidence about that already on this panel.
16 But you couldn't do that. You don't have the
17 program. You don't have the data. You don't
18 know if it's reliable. So you couldn't defend
19 it. And I think that the special train
20 service case that I've cited to you and the
21 earlier Akron-Canton case stand for the
22 proposition that you have a duty to require

1 the railroads to overcome a presumption
2 against additional safety precautions when
3 they seek to impose those kinds of costs on
4 us. And they haven't met that burden. It is
5 their burden. They've tried to argue in their
6 papers, oh, that it's our burden because we're
7 the petitioner. Well, they've asked for
8 declaratory relief along with Arkansas
9 Electric.

10 Or because we're asking that this
11 be declared an unreasonableness practice. No,
12 the D.C. Circuit held in Conrail v. ICC case
13 it is their burden when they seek to impose
14 additional precautions on us to justify those
15 standards and they can't do it when they won't
16 bring in the program, when they won't produce
17 reliable data, when the data they've produced
18 is suspect, when we don't even know what we're
19 measuring.

20 So I would ask you, I would urge
21 you to think hard about whether this is the
22 right way to go about this, to have a

1 monopolist put in its tariff what the standard
2 will be and then tell you to trust them when
3 they're trying to shift their costs on to us.
4 That's what they're trying to do here. It's
5 not reasonable. It's not right. And you're
6 the only people who stand in the way of
7 keeping them doing that and we urge you to do
8 that. Thank you very much, Mr. Chair.

9 CHAIRMAN ELLIOTT: Thank you, Mr.
10 McBride. Thank you, panel. Now I think we'll
11 have a few questions here. I don't know
12 exactly how you want to answer because
13 obviously I just encourage you not to give the
14 same answers since you have so many clients
15 represented here today. But it sounds like
16 you're a little organized in your
17 presentation.

18 My first question is earlier in
19 the proceeding I was asking Mr. Weicher from
20 BNSF if they were willing to do an activity
21 based standard here which would be I think
22 largely surfactants and let's say

1 hypothetically we found this to be
2 unreasonable. They put in an activity based
3 standard say a surfactant at a sufficient
4 level and then that would be enough. And if
5 you do that, there wouldn't be any need for
6 enforcement because you've satisfied what's
7 required in that instance.

8 Would that hypothetical appease
9 the shippers in this instance?

10 MR. VON SALZEN: I'll try a shot
11 at that.

12 CHAIRMAN ELLIOTT: Sure.

13 MR. VON SALZEN: Speaking, I think
14 at least for my client, no, it would not,
15 because the activity that would be mandated or
16 would be an option is still not going to solve
17 the problem. It's still going to be a waste
18 of money and the practical effect of what BNSF
19 is seeking to impose here is to require
20 everybody to use surfactants. They say it's
21 a performance-based standard, but the fact of
22 the matter is the only way that anybody is

1 going to be able to satisfy BNSF, and they
2 made this quite clear, if you send a train
3 past their monitoring site and the bells and
4 whistles go off, they're going to take you
5 aside in the back room and tell you you've got
6 to spray. That's how they enforce it. And so
7 I don't see that it would make any benefit
8 whatsoever.

9 CHAIRMAN ELLIOTT: In hearing your
10 answer, I think the hypothetical would assuage
11 you with respect to the compliance and the
12 enforcement issues, but what you're saying is
13 that the unreasonable part in that situation
14 would be just the fact that spraying
15 surfactants would not be reasonable in itself
16 just because it just wouldn't be effective.

17 MR. VON SALZEN: It wouldn't be
18 effective and also you have to recognize that
19 according to BNSF's own data only 14 percent
20 of the trains that pass their monitoring site
21 are in violation of their standard, and yet
22 they have a program here that's intended to

1 require all the cars on all the trains to be
2 sprayed.

3 CHAIRMAN ELLIOTT: What I've
4 struggled with here is BNSF has imposed this
5 tariff and based on the science that I'm
6 hearing from the shippers with respect to
7 surfactants and whether or not coal dust is
8 such a pernicious -- has such a pernicious
9 effect on the ballast, what I'm concerned
10 about is why are we here if the science is not
11 accurate? I mean why would BNSF be doing this
12 other than that they felt that this was a
13 reasonable thing to do?

14 Is there something I'm missing
15 here that there's a reason otherwise that
16 they're doing this that you can surmise?

17 Mr. Loftus?

18 MR. LOFTUS: Mr. Chairman, they
19 spent a lot of money on maintenance as well
20 they should because they haul a tremendous
21 amount of coal over these tracks and they make
22 a huge amount of money in doing it. But

1 they'd like to stop paying so much for
2 maintenance and they'd like to simplify their
3 physical maintenance operations and shift
4 those costs to the coal shippers themselves.
5 That's why they have a very strong financial
6 and operational motive to do it, regardless of
7 the merits of their proposal itself.

8 CHAIRMAN ELLIOTT: So if I'm
9 following your reasoning, they would be
10 shifting the cost by requiring the surfactants
11 to be put on and then that would decrease
12 maintenance and that's the thought why we're
13 here today?

14 MR. LOFTUS: From my perspective.

15 CHAIRMAN ELLIOTT: And I'm just --

16 MR. McBRIDE: May I respond just a
17 little further to that?

18 CHAIRMAN ELLIOTT: Sure.

19 MR. McBRIDE: There's a principle
20 in good regulation, seems to me, and it's
21 applicable in good business too. And that is
22 the person who benefits ought to be the one

1 who bears the cost. You've got an asymmetry
2 here where the monopolist is trying through
3 his tariff to impose on the customer costs
4 that the monopolist then won't have to bear
5 and it will benefit from.

6 Now let's just analogize for a
7 minute to something the three of you, I think,
8 in your statute are acutely aware of, PTC.
9 Congress is imposing a requirement that the
10 railroads put on PTC on a good bit of their
11 networks. That's still in flux, of course,
12 and still being argued about, but the
13 railroads are arguing that the costs are
14 something like ten times the benefits. They
15 have a great incentive to either get the cost
16 down or try to show that they're right, that
17 the benefits don't equal the costs when
18 they're bearing those costs.

19 They have no incentive here to get
20 the costs of spraying down or otherwise
21 control the dust, whether it's through
22 profiling, mechanical suppression, as UP

1 talked about, reducing the amount of coal in
2 the car, Board Member Nottingham, whatever it
3 may be, because we end up bearing those costs.

4 You should be very concerned here
5 that the people who are trying to benefit from
6 this are not the people who are willing to
7 bear the costs.

8 CHAIRMAN ELLIOTT: And I guess my
9 last point on this line of questions is with
10 respect to my first question about the
11 hypothetical and the answer being the
12 surfactant is the unreasonable part.

13 It seems to follow then that if
14 they're using it to save on maintenance that
15 the surfactant actually is having an effect in
16 decreasing the maintenance. I mean it still
17 seems like there is some reason behind what
18 they're doing here. If they are using the
19 surfactant, it's cutting down on what they're
20 trying to do with the coal dust and the
21 maintenance, that there is some reason behind
22 that.

1 Do you care to respond to that?
2 It would probably be good because it addresses
3 what you said.

4 MR. VON SALZEN: It's the issue
5 that I was trying to stress. I think when
6 they started all of this, BNSF may very well
7 have believed that they would get a big bang
8 for our buck in terms of reducing maintenance
9 expenses. But the fact of the matter is the
10 evidence we've analyzed it as evidence from
11 BNSF itself that most of the fugitive coal
12 that falls onto the track and fouls the
13 ballast isn't the airborne stuff that would be
14 prevented by the surfactant so you end up
15 wasting our money.

16 I mean the fear is, the fear on
17 our side is BNSF may very well believe stuff
18 that isn't true. That may be the answer to
19 your earlier question. They may believe it,
20 and they may cut back on their maintenance
21 because they say oh, the coal dust is gone.
22 Now we don't have to resurface. We don't have

1 to clean our ballast as often as we used to.
2 And they're going to turn out to be wrong.
3 Most of the coal dust, most of the fugitive
4 coal is still going to be there. And the
5 other contaminants which they didn't mention
6 at all this morning, they're going to be
7 there. And we're going to get 2005 all over.

8 CHAIRMAN ELLIOTT: I'm following
9 what you're saying. The disconnect is not in
10 the logic that you're putting forward. Your
11 view is the disconnect is more with the
12 science is what I'm hearing.

13 MR. VON SALZEN: We're all of us
14 imperfect and BNSF is a human institution. I
15 think they're mistaken. I don't think they're
16 evil. I think they're mistaken, but their
17 mistakes could lead to terrible consequences.

18 CHAIRMAN ELLIOTT: Just on another
19 line of questions, with respect to the cost
20 benefit analysis that I saw kind of in the
21 various filings. My only concern about the
22 cost benefit analysis was its failure to take

1 into consideration the pass-through
2 constraints with respect to maintenance. Is
3 there any reason why that wasn't taken into
4 consideration or I know it was said you
5 couldn't evaluate those numbers and come up
6 with something. But is that everyone's
7 position in this matter, that that wasn't
8 possible?

9 MR. LOFTUS: If I may address it
10 first?

11 CHAIRMAN ELLIOTT: Sure.

12 MR. LOFTUS: There are two reasons
13 it was not included. Number one, it is not a
14 maintenance expenditure and a maintenance cost
15 in that traditional sense. Obviously, when
16 you must perform maintenance on a line, it is
17 not available for other use, or at least
18 during the window the maintenance is being
19 performed and so on. It has been ever thus
20 and always will be.

21 And so it's just a normal operating
22 consideration in operating a railroad.

1 Now there's another reason and
2 that is that the carrier, BNSF, did not submit
3 any comprehensive analysis of what the costs
4 actually were. It had some very generalized
5 plugged numbers in, but they were not well
6 defended. And in fact, if you look at the
7 rebuttal filing, when as part of their
8 precautionary principal shift, they decided,
9 they'd say it would really be hard to try and
10 figure out how much that would cost and it
11 would be hard to figure out how much of any
12 given maintenance window was really
13 attributable to the coal dust. Instead of,
14 all the other ballast contaminants or whatever
15 might be involved in making the -- in
16 performing the maintenance and so on. So they
17 themselves acknowledge that -- it's hardly
18 clear what those quote capacity costs are.

19 MR. McBRIDE: Mr. Chairman, it's
20 also the case since 2008, coal demand is down,
21 and I believe there's excess capacity out
22 there.

1 CHAIRMAN ELLIOTT: And my last
2 question, I've heard the term cooperative
3 effort kind of bandied about in this
4 proceeding. Do the shippers see any benefit
5 in some type of cooperative effort here to
6 reach a solution and if so, if there's any
7 suggestions, that would be nice to hear also.

8 MR. McBRIDE: I'll be happy to
9 take a crack at that first, because in each of
10 my filings I mentioned to you that there are
11 voluntary efforts ongoing between the shippers
12 and the carriers and the mines here. There
13 have been several meetings. I think BNSF
14 alluded to some of them this morning.

15 People have been talking to them.
16 Some people have been talking to them. Some
17 people have been spraying. People are making
18 their own choices in these matters. We don't
19 discourage those. We encourage those.

20 This has been a cooperative
21 venture in the Powder River Basin, as Mr.
22 Sharp earlier mentioned, for a long, long

1 time. You have the AAR committees and rules,
2 which I think the Board Members asked about
3 this morning, where the cars are designed in
4 accordance with specs that people at least get
5 to talk about, even if the railroads are the
6 only ones that get to decide.

7 We load in accordance with their
8 requirements or their dictates. We work with
9 the mines on how things are loaded. And as
10 I've said to you and volunteered that some
11 people are spraying and they don't want to be
12 interfered with in doing that. They want to
13 help work this out.

14 I think that if I were in your
15 shoes, I'd wait for a while here and keep this
16 open and see whether any of these things that
17 are ongoing might actually be more productive
18 than just letting BNSF bring down the hammer
19 on us as of October 1 or whatever and say thou
20 shalt do it the way we want you to do it.

21 We all have a stake in this and I
22 frankly think it's inappropriate for the party

1 that gets to publish the tariff to tell
2 everybody else how to do it. That's why
3 you're here.

4 MR. WILCOX: Let me add here.
5 NCTA was part of a collaborative effort with
6 its members and UP to a lesser extent. But
7 BNSF, when the derailments occurred and the
8 immediate aftermath, there were several
9 committees set up, which are described in our
10 filing, to talk about the ballast fouling
11 issue in terms of not just spraying, but in
12 terms of other measures that can be taken,
13 some of the mechanical measures that have been
14 discussed here in terms of profiling and cars
15 and things like that. But those discussions
16 sort of trailed off around the 2006 time frame
17 when BNSF announced its first IDV standard
18 which was very heavily emphasized on using
19 suppressants. And that put, for want of a
20 better term, a chill on the discussions and
21 then with the amount of stakeholders, it's
22 hard to get a consensus in the first place, so

1 you had NCTA members who were actively
2 involved in the discussions about a variety of
3 measures were not excited about specifically
4 focusing on suppressants.

5 But Mr. McBride is correct. BNSF,
6 to its credit, did participate in the Exponent
7 study by helping set up the trains that were
8 used in the on-road testing. They were part
9 of that study. And testing is occurring
10 today. So it's ongoing, but of course, NCTA
11 would welcome a more collaborative effort to
12 have an industry solution.

13 MR. LeSEUR: I would say on the
14 part of the Western Coal Traffic League, the
15 Coal League first got involved in this when
16 the president of the League sent a letter to
17 the BN and the UP, we saw this tariff coming
18 and we said perhaps we could discuss, rather
19 than having something rammed down our throat
20 and encroach where both the cost and the
21 benefits might be shared.

22 As I recall, we received no

1 response from the BN and the UP said they
2 couldn't talk because we'd be violating anti-
3 trust laws. So the olive branch that we
4 extended didn't go very far.

5 CHAIRMAN ELLIOTT: Thank you very
6 much.

7 Commissioner Nottingham?

8 COMMISSIONER NOTTINGHAM: Thank
9 you, Mr. Chairman.

10 I guess if I could quickly go down
11 the panel and see if we can find some common
12 ground, something that we can all agree on and
13 if we can't, so be it. But would each of you
14 be willing to stipulate, based on what we've
15 heard today and the record and the history and
16 your and your clients' experience in this
17 matter, can you stipulate that significant
18 quantities of coal are being routinely spilled
19 by the railroads and that this causes a number
20 of negative externalities, including the fact
21 that less than 100 percent of the coal that's
22 paid for actually gets delivered, and other

1 negative things that happen including what we
2 saw today about the organic farm and those
3 kinds of negative externalities? Can I get a
4 yes or no to that suggested stipulation?

5 MR. VON SALZEN: I'd have to say
6 no to that suggested stipulation. I'd be
7 happy to elaborate on that.

8 COMMISSIONER NOTTINGHAM: Please,
9 briefly. Which aspect, that there are not
10 significant quantities being spilled by the
11 railroads or there are not significant
12 externalities?

13 MR. VON SALZEN: The issue --
14 there's no doubt, look, let me take the
15 organic farm, okay? Coal that leaves the
16 Powder River Basin travels on average around
17 1100 miles to its destination. BNSF has been
18 able to find one organic farmer to complain
19 about the adverse effects of coal being blown
20 off a coal car onto an organic farm. Now I
21 have great sympathy for the organic farmer and
22 the organic farmer's customers. But that is

1 not a significant problem.

2 COMMISSIONER NOTTINGHAM: Just so
3 I'm clear, you're not prepared to stipulate
4 that there are a range of negative
5 externalities related to routine coal spillage
6 off of railroad cars?

7 MR. VON SALZEN: The externalities
8 are not, but coal getting into the ballast is
9 a contaminant and it is something that costs
10 money, railroad's money to deal with.

11 COMMISSIONER NOTTINGHAM: It's not
12 a positive externality, but you're not
13 prepared to say that it's a negative
14 externality?

15 MR. VON SALZEN: It's a negative,
16 but the question is what do you do about it?

17 COMMISSIONER NOTTINGHAM: So it is
18 a negative. And then do you take issue with
19 the stipulation I proposed about that
20 routinely coal is being spilled out of rail
21 cars?

22 MR. VON SALZEN: By various

1 mechanisms including actions by the railroad -
2 -

3 COMMISSIONER NOTTINGHAM: No, I
4 wasn't getting into causation. Thank you.

5 Mr. Sharp, can you take a crack at
6 that, that two-point stipulation? Would you
7 agree that significant quantities of coal are
8 routinely spilled by the railroads and that
9 that spillage produces a range of negative
10 externalities including the fact that your
11 company and others don't actually get all the
12 coal they pay for?

13 MR. SHARP: Well, as part of my
14 concern, Commissioner --

15 COMMISSIONER NOTTINGHAM: You
16 don't have to answer it. If you can say it's
17 too tough a question or too sensitive, yes,
18 no, or can't answer.

19 MR. SHARP: I'll just say very
20 briefly, it gets into what you define as
21 significant. There's certainly some coal that
22 leaves the rail cars on its 1200 mile journey

1 to our power plant.

2 COMMISSIONER NOTTINGHAM: So we
3 heard earlier today 2,000 tons lost every day.
4 Is that, in your business, if you had to
5 report to your colleagues that you had lost
6 2,000 tons of coal today, would that be
7 significant?

8 MR. SHARP: That would depend on
9 how much coal I was shipping that day.

10 COMMISSIONER NOTTINGHAM: You're
11 bigger than I thought. I knew you were big,
12 but that's impressive.

13 MR. SHARP: There again, this is a
14 hypothetical. We have over the period of time
15 we've been shipping coal out of PRB since
16 1978. Over this period of time we have on
17 several occasions looked at is the small
18 amount of coal that leaves the cars in the
19 form of dust or gets shaken out on rough
20 patches or hills or whatever, a problem? We
21 have compared the weights that we get after
22 the coal is loaded, it's weighed on a scale

1 and that's the basis on which we pay for the
2 coal. When the coal arrives at our power
3 plant, and is off-loaded and fed into the
4 plant, it's measured on a belt scale and then
5 we, from time to time, perform as accurate an
6 assessment of our coal piles as we can. And
7 we've compared those numbers. We cannot find
8 anywhere that we're losing a significant
9 amount of coal. In fact, in some cases when
10 we've done those studies, we show we received
11 more coal than they shipped us.

12 COMMISSIONER NOTTINGHAM: That
13 does underscore a worry I have about
14 overloading of coal cars. We'll get to that
15 later. So you're saying you're not prepared
16 to stipulate that this really is a problem of
17 the spillage, that there is spillage but
18 whether or not it's a significant problem
19 you're not ready to say yes to that?

20 MR. SHARP: Correct.

21 COMMISSIONER NOTTINGHAM: That's
22 fair. Mr. LeSeur?

1 MR. LeSEUR: We address this issue
2 in our filing in terms of how much coal is
3 coming out of the cars. We've heard
4 statements say from BN about how much they
5 think is coming out. To the best of our
6 knowledge, BN really hasn't done a meaningful
7 study on this issue. And we pointed out some
8 of the flaws in some of the studies they have
9 used.

10 Utilities keep pretty good track
11 of how much coal they're getting. And some
12 utilities have prepared studies. And we
13 introduced that evidence into the record. I
14 would point specifically to page 16 of Mr.
15 Crowley's rebuttal statement. Unfortunately,
16 all the numbers we have are stamped "highly
17 confidential" and "confidential", so we can't
18 publicly disclose them.

19 COMMISSIONER NOTTINGHAM: In the
20 interest of time, I didn't mean this to be --
21 it really was meant to be a pretty simple yes
22 or no --

1 MR. LeSEUR: The answer to your
2 question and how much we think is coming out
3 of the cars is on this page I just referenced.

4 COMMISSIONER NOTTINGHAM: Okay, so
5 is it your opinion that this is a problem, a
6 significant problem or not? In other words,
7 are routinely significant amounts of coal
8 being spilled out of rail cars? And the
9 second part of that is does that create a
10 range of negative externalities?

11 MR. LeSEUR: If you use BNSF's
12 number of 500 tons or whatever that number was
13 as significant, then our position would be the
14 amount coming out is not significant based
15 upon the evidence that we put into the record
16 in terms of an externality. I'm not even sure
17 I know what the definition of an externality
18 is, but there's no question that we understand
19 that coal dust along with other things gets
20 into the ballast.

21 COMMISSIONER NOTTINGHAM: Okay,
22 thanks.

1 Mr. Loftus?

2 MR. LOFTUS: We filed the same
3 testimony that Mr. LeSeur has just referred
4 to. It was a joint filing by the two groups
5 and I would give the same answer.

6 COMMISSIONER NOTTINGHAM: But
7 there is not clearly a problem, not clearly
8 causing negative externalities?

9 MR. LOFTUS: We certainly don't
10 agree with what BNSF has claimed as the
11 magnitude and as to the externalities, I,
12 myself, am a little fuzzy on exactly what they
13 are and there is certainly -- I didn't see any
14 farmers appearing in this case complaining
15 about coal dust on their lands. That's not to
16 say that it's not a problem of some nature,
17 but I haven't seen anything in the record
18 that's meaningful.

19 COMMISSIONER NOTTINGHAM: Mr.
20 Wilcox?

21 MR. WILCOX: Well, NCTA did not
22 submit any evidence on this. However, I think

1 we would agree that current industry practice
2 allows coal to spill out of rail cars. That's
3 not posited if it's not cleaned up out of the
4 ballast and the extent to which it extends
5 into negative externalities, I don't think, in
6 fact, NCTA has an opinion on that.

7 COMMISSIONER NOTTINGHAM: Okay.

8 Mr. McBride?

9 MR. McBRIDE: Mr. Nottingham, a
10 coal shipper who has been following this as we
11 go today, sent me an email to answer your
12 question. He said that Mr. Fox mentioned that
13 750 pounds were lost at the high end of the
14 range which would be 0.3 percent of 120 tons
15 of lading in the car. What is reasonable to
16 manage 0.3 percent shrink? So I think the
17 answer to your stipulation is not significant.

18 COMMISSIONER NOTTINGHAM: Okay,
19 thanks. Are any of you aware of any requests
20 to the Board, I'm not aware of any, for the
21 Board to mediate this problem? I think the
22 Chairman touched on the possibility of

1 alternative dispute resolution. I'm not aware
2 of anybody, but if anybody is aware speak now.
3 It just seems to me that part of what we have
4 here is I'll say a trust issue. That's not a
5 new thing for this Board to hear and it's not
6 trivial and I don't mean to trivialize it.
7 Trust is incredibly important, especially when
8 business relationships involve tens and
9 hundreds of million dollars a year.

10 But maybe Mr. McBride, I'll ask
11 you, if we were to have a mediation and we
12 were to get the railroads to sign a proverbial
13 blood oath, enforceable, to be inspected and
14 monitored by neutral experts that your clients
15 could approve of, that the railroads would
16 guarantee that they would maintain all current
17 efforts plus add with inflation or other
18 adjustment, current maintenance efforts along
19 that right of way, that they truly are,
20 honestly, interested in trying to adopt a "no
21 spill" and a "we guarantee the customer that
22 they get what they ordered" policy? Would

1 that put us on the path, do you think, of some
2 resolution to this?

3 MR. McBRIDE: Well, I don't know
4 about the last part about you get what you
5 ordered part, because I'm not sure what that
6 would require. But I want the record to note
7 that I filed a petition for mediation recently
8 in Docket 35302 with BNSF in another matter.
9 So we're perfectly in favor of Board mediation
10 when the parties are willing. I've used it in
11 other respects as well. I think it's a highly
12 commendable part of your process. You have to
13 have willing parties.

14 But I think I've indicated that
15 there are members of the groups that I
16 represent who have been part of discussions
17 with the railroads over all these many years
18 on all kinds of PRB matters and on these
19 matters in more recent years I think those
20 people would much prefer to see a
21 collaborative process than this kind of
22 process. And so I suspect there wouldn't be

1 unanimity on this, but I think there would be
2 a number of people in the industries that I
3 represent who would applaud you for doing
4 that.

5 COMMISSIONER NOTTINGHAM: So would
6 you say that one way or another we or someone
7 could extract an enforceable agreement that
8 would be able to be monitored that the
9 railroads would not cut back on maintenance
10 along these rail corridors at issue, that that
11 would go a long way towards resolving sort of
12 what I'll call the trust problem here?

13 MR. McBRIDE: Yes, and we'd have
14 to make sure that that tariff didn't go into
15 effect on October 1. With those two
16 conditions, I think people would be prepared
17 to have a neutral party preside over these
18 discussions and see if we couldn't get
19 somewhere. We haven't had that. We'd welcome
20 that.

21 COMMISSIONER NOTTINGHAM: Okay.
22 Mr. Von Salzen, you mentioned that railroad

1 operations are basically the major cause of --
2 I wrote "the problem," but I realize you're
3 not quite ready to stipulate that it's a
4 problem, that of coal spillage.

5 If it's railroad operations, why
6 don't we hear about other commodities being
7 spilled? Are you saying that railroads
8 operate their trains dramatically differently
9 when they're carrying coal versus when they're
10 carrying other commodities?

11 MR. VON SALZEN: I honestly don't
12 know about other commodities. One of the
13 things that I think we have to bear in mind is
14 coal is a commodity that is carried in open
15 top cars and has been forever.

16 COMMISSIONER NOTTINGHAM: We are
17 becoming increasingly painfully aware of that.
18 Thank you.

19 MR. VON SALZEN: And the same
20 document, the same tariff document that is at
21 issue here on a different page, BNSF requires
22 that the shippers tender them open top cars.

1 That's the kind of car that has been approved
2 through an AAR process and so forth and so on,
3 far beyond the scope of what AECC and BNSF
4 might agree on. So you start from the
5 proposition that at least for coal, you're
6 going to transport it for good, logistical and
7 economic reasons that the whole industry seems
8 to agree with. You're going to transport it
9 in open top cars.

10 It is inevitable with that
11 technology you're going to have some loss.
12 You're not going to have a zero spillage
13 standard. You can't meet zero spillage
14 standard under that approach. You can have a
15 reduced spillage standard. And we're already
16 making substantial progress in that regard
17 with respect to profiling the top of the coal
18 pile, with respect to having better
19 maintenance on the cars themselves so that
20 there aren't seams that coal or dust can slip
21 out of, so for bottom dump cars, the doors are
22 fitting more tightly, using number three coal

1 instead of number two coal.

2 COMMISSIONER NOTTINGHAM: I think
3 I get the gist of your answer, thanks.

4 MR. VON SALZEN: All of that is
5 progress towards the goal that you're talking
6 about.

7 COMMISSIONER NOTTINGHAM: I just
8 wanted it to be clearly understood and you
9 have helped clarify that it's not just
10 railroad operations. You're not saying that
11 it's only railroad operations and behavior
12 like speed. Are you basically saying today
13 that the railroads are going too fast, that
14 they need to slow down?

15 MR. VON SALZEN: Certainly, in
16 certain locations and certain instances,
17 they're clearly going too fast and there's at
18 least one video in this record that shows
19 that. You can see it dramatically. And the
20 fact that -- again, it's BNSF's evidence, that
21 most of the coal dust in the ballast is on the
22 descending side of big sags has got to reflect

1 the way that the trains are operating in that
2 area. There's no other reason why you would
3 have that pattern of coal deposition along the
4 line.

5 COMMISSIONER NOTTINGHAM: It
6 couldn't be the fact that the coal is piled
7 way above the height of the car and then
8 you're going downhill and the wind blows.

9 MR. VON SALZEN: It's not supposed
10 to be piled way above the top. It says --

11 COMMISSIONER NOTTINGHAM: Why is
12 almost every picture we've seen today shows
13 coal piled above the edge of the rail car?

14 MR. VON SALZEN: It's not way
15 above. When it's properly profiled it doesn't
16 -- I mean it's not -- the cars that you've
17 seen in these pictures, I don't think anybody
18 has claimed any of those cars are overloaded.
19 It's the way those cars are intended to be
20 loaded and intended to be used, so that you
21 get an economic level of product into the car
22 that's been designed by the railroad and power

1 industry acting together.

2 COMMISSIONER NOTTINGHAM: I want
3 to get to the question of harm. I think it
4 was touched on by Mr. Weicher earlier.
5 Where's the harm here? Have any of you had to
6 pay a fine or had a rail car detained or held
7 back? What's been the injury caused by this
8 tariff? I'll let anybody who would like to
9 speak.

10 MR. McBRIDE: Some of the shippers
11 are paying for surfactants because they've
12 felt some obligation to do that because of the
13 back room conversations that have gone on.
14 I'm not going to say that they were required
15 to, but I think they felt in order to stay in
16 good graces with the railroad that serves them
17 that they should cooperate. They haven't
18 necessarily been eager to do so, but they've
19 been spending a fair degree of money to do
20 that.

21 I've estimated, you saw BNSF
22 estimated today 20 cents a ton. I've seen

1 estimates higher than that as much as 25 or 30
2 cents a ton, but even at 20 cents a ton,
3 you've got people spending millions and
4 millions of dollars for somebody else's
5 benefit. And BN hasn't offered to reimburse
6 those expenses, so that's certainly a harm.

7 COMMISSIONER NOTTINGHAM: Anybody
8 else want to speak to harm?

9 MR. LeSEUR: Yes, I would say at
10 this point the tariff hasn't gone into effect
11 and so there haven't been any specific
12 compliances costs associated with the tariff
13 itself because it hasn't gone into effect yet
14 and obviously what our clients are concerned
15 about, among other things, are the costs that
16 they have to incur in order to attempt to
17 comply with this tariff. That's addressed in
18 our testimony, the range of expenses that we
19 think are out there.

20 The other thing that's costs
21 incurred is this proceeding, to be quite
22 honest with you.

1 MR. McBRIDE: There's one other
2 thing, Mr. Nottingham.

3 COMMISSIONER NOTTINGHAM: Was
4 requested by the parties.

5 MR. McBRIDE: True, but if you
6 noticed in the video that Mr. Loftus showed,
7 the BN train was not overloaded. That coal
8 was a little above the sill of the car, eight
9 in the middle as I looked at it, but well
10 below the sill of the car at either end. It
11 was flat at the top which is clearly a product
12 of the way the car is loaded. And what's
13 happened is I tried to recount for you in the
14 history of this, is people were jamming in
15 every ton of coal every pound of coal they
16 could get in the car back in 2003, '04, '05,
17 even afterwards, you know, because we were
18 well short of coal after those derailments.
19 I'm sure you recall the circumstances. People
20 have cut back. There is less coal going into
21 the cars in order to try to accommodate the
22 profiling. That's an expense that the

1 shippers bear for the most part because
2 whether they pay for their own equipment and
3 get less use out of it or pay for the
4 railroads' use of the railroads' equipment,
5 they're paying for more turns to get the same
6 coal delivered.

7 COMMISSIONER NOTTINGHAM: Mr.
8 McBride, do you believe the railroads stand to
9 profit if they can squeeze more coal onto all
10 their rail cars?

11 MR. McBRIDE: I think that's why
12 they did it up until 2005. And then, I think
13 they may have realized the error of their
14 ways. And yes, it would be to everyone's
15 benefit, if we could put more coal in the cars
16 now, ours, theirs, the coal companies. But
17 everybody has learned from the mistakes that
18 led up to 2005 and we're taking the hit, but
19 I don't think the railroads are taking the hit
20 because they end up transporting the same
21 amount of coal and more trains.

22 COMMISSIONER NOTTINGHAM: I'm just

1 wondering maybe that helps me understand why
2 I haven't heard any party today advocate for
3 reducing the volume of coal in each car as a
4 way to get at this problem. It seems that
5 obviously that goes against all the parties'
6 immediate financial interests.

7 Possibly, it could make good
8 public policy, but it doesn't behoove any
9 party here today to actually advocate for
10 that.

11 MR. McBRIDE: Well, not quite.
12 That was true up until 2005. That's what I'm
13 trying to tell you and even into 2006 when
14 people were desperate to get every pound of
15 coal they could get delivered, but I think
16 today, as I understand it, and some of this is
17 done by the mines. I don't represent them.
18 Others here may be able to comment on this,
19 but as I understand it, people have been doing
20 better profiling, reducing the amount of coal
21 in the cars.

22 And I think the video Mr. Loftus

1 demonstrated that to you. There wasn't coal
2 sitting on the sills of that car. We can go
3 back to the video, if you want to look at it.
4 That car was clean, whereas I've seen pictures
5 of coal cars with coal on the sills. This is
6 probably back in the '03 to '06 or '07 period
7 when people would jam in every pound of coal
8 they could. I don't think that's going on any
9 more. I think people are being somewhat more
10 careful. But do realize that it's still the
11 railroads that demand that these trains be
12 loaded in four hours and inevitably, I'm sure
13 some coal doesn't get into the car.

14 We are at the mercy of the coal
15 mines and the railroads here. We don't load
16 these trains.

17 COMMISSIONER NOTTINGHAM: I
18 appreciate the history lesson, Mr. McBride,
19 that was helpful and I certainly picked up at
20 least a few kernels in there. And I won't go
21 on and on about the history, but there's, of
22 course, a pretty important ICC and STB history

1 related to the joint line, too, right? This
2 is a joint line because of the ICC?

3 MR. McBRIDE: Absolutely.

4 COMMISSIONER NOTTINGHAM: And we
5 also, in more recent years, the STB actually
6 has approved the construction of a third line,
7 called the DM&E, fought very valiantly in the
8 Courts, our lawyers to prevail over all kinds
9 of arguments, including arguments that the
10 mere concept of moving more coal through our
11 society was an inherent evil and should
12 therefore -- construction should be stopped.
13 Fortunately, we prevailed.

14 So we have a lot at stake here,
15 our Agency. We're not just a mere observer or
16 -- we have made this line competitive. We
17 have helped make it work to the extent it's
18 worked all these years with the two major
19 railroads operating. We've approved the
20 construction of a third line to go in.

21 So if it takes, in my humble
22 opinion, if it takes a little bit of mediation

1 or involvement by this Board to address some
2 of the trust issue, guarantee that the line
3 continues to get maintained, but also ensure
4 that the railroads involved can guarantee that
5 what they promised will be delivered to their
6 customers gets delivered and that they don't
7 spill the commodity along the way, I think to
8 me that's pretty doable. And I hope that we
9 can continue to play a positive role in that
10 regard.

11 I guess that touches on my last
12 question which is just, Mr. McBride, at the
13 risk of picking on you, but you have a good
14 way of getting to answers fairly quickly, so
15 I'll stick with you. If the railroad just
16 decided to adopt -- put aside the safety
17 arguments and the -- I know it's hard to, but
18 and -- but if a railroad just wanted to say
19 look, we're adopting a new business
20 plan/principle that involves two key
21 components. One is no spillage. There's a
22 lot of negative news out in the world about

1 spillage of energy-related products recently.
2 I can think of a whole host of very reasonable
3 reasons why a business would want to decide to
4 adopt a no spillage policy when it comes to
5 raw energy materials. And on top of that the
6 second prong in the railroad policy could be
7 that they want to guarantee that their
8 customers as close to 100 percent as
9 reasonably possible of what they paid for
10 delivered. And that this no spillage policy
11 goes in that vein as well.

12 Help me understand how that would
13 be unreasonable? Now granted, you don't find
14 what I just said in the tariff at issue here.
15 So work with me on that.

16 MR. McBRIDE: First of all,
17 remember that the guy who loads the car may be
18 responsible for the spillage. The tariff
19 under your paradigm arguably extends to the
20 coal mines and I don't think you have
21 authority over them necessarily here. Maybe
22 you do, but --

1 COMMISSIONER NOTTINGHAM: I'm
2 saying once it leaves the mine.

3 MR. McBRIDE: Okay, once it leaves
4 the mine, fair enough. I still think that
5 it's unreasonable, but could be worked through
6 in collaborative discussion and here's why
7 it's unreasonable just to impose it. First of
8 all, as Mr. Von Salzen indicated, the tariff
9 requires open top cars. The railroads want
10 open top cars. There's discovery in the
11 record and I don't want to go into it in great
12 detail, but there's some BN internal
13 communications about acknowledging what a
14 disaster it would be if covers were required
15 on cars. Nobody in this industry believes
16 you can put covers on coal cars because if
17 you've ever been to a power plant to see how
18 the coal is unloaded, particularly in a rotary
19 unloader, you can't do it with a cover on the
20 car. It simply won't work.

21 COMMISSIONER NOTTINGHAM: And I
22 have seen that operation.

1 MR. McBRIDE: So you know what I'm
2 talking about. So covers won't do it. So
3 even if the coal is below the sill and
4 recognize that there's an economic
5 disincentive for probably all sides here, the
6 mines, the railroads and the shippers to have
7 -- to require that the coal be below the sill
8 of the car, because now we're imposing
9 inefficiencies on the most efficient coal
10 loading and handling operation in the world.
11 And I know you've been out there recently and
12 seen it. So I'm sure you know what I'm
13 talking about.

14 And the railroads were the ones
15 that imposed the four-hour loading
16 requirement. They want this to be efficient.

17 At a certain point, they might be
18 squawking if we could only put say 90 tons or
19 100 tons of coal or 110 tons of coal in a car
20 that now gets 120, because think about the
21 capacity constraints that that might start to
22 produce.

1 So this is a difficult thing to
2 just let one party impose on everybody else
3 and say no spillage, because incidental loss
4 has always been a product of this. Anybody
5 who has ever walked on a coal line knows that
6 there's a lot of things on that line besides
7 coal dust. And so again, it's hard to say yes
8 to something that sounds reasonable at first
9 blush because it's going to impose all kinds
10 of dare I say in presence of Vice Chairman
11 Mulvey, negative externalities.

12 COMMISSIONER NOTTINGHAM: Thanks.

13 And one last question. You mentioned this
14 spotted mule analogy. I guess I just would
15 propose for thought and I'm not making up a
16 judgment here, but you mentioned the
17 importance of some of our case law like the
18 Conrail case of the special train service
19 arguments and line argument. That could be
20 turned on its face though in this case,
21 couldn't it?

22 You got me thinking as you raise

1 that and it probably wasn't your intention.
2 One could probably argue that for many, many
3 years the coal industry and electric utility
4 industry has been the recipient of special
5 train status. You and only you have been able
6 to receive these trains with commodity that
7 falls out of the rail car, open, uncovered and
8 loaded above the rim of the car and after a
9 lot of time and effort and discussion and
10 dialogue and some analysis, the railroads are
11 finally coming around to the point saying wow,
12 that special train car service you've been
13 getting all these years, we kind of can't
14 provide it any more. You're going to be
15 treated like all the other rail customers and
16 be asked to keep your stuff in the car.

17 MR. McBRIDE: First of all, in the
18 special train cases, the ICC found, and the
19 evidence was irrefutable that the special
20 trains were not safer, so there was no
21 benefit. And I understand you're asking me to
22 hypothesize that there would be a benefit.

1 One of those many questions I put into my
2 opening pleading was to point out to you that
3 there are a number of other things carried in
4 open top cars that do escape from the cars.
5 They carry sand and gravel. They carry
6 various ores. They carry soda ash. They
7 carry all kinds of things.

8 So ours isn't the only thing that
9 may be leaving the car, but I understand what
10 your frustration is here. If there's a
11 simple, economic way to keep something in a
12 car, why wouldn't anybody want to do it?
13 We're paying a lot of money for the coal.
14 We're going to pay more for surfactant than we
15 are for the coal, by the way. But that's what
16 the collaborative efforts that I think people
17 have been working on for years really are best
18 designed to get to. The bottom discharge cars
19 are going to be better maintained. We may do
20 the better profiling. We may get to the
21 point, that UP gets to the point, that people
22 do mechanical suppression. Some people will

1 voluntarily spray. Maybe the cost of spraying
2 will come down. Maybe all kinds of things
3 will happen. Maybe BN will agree to bear the
4 cost since it's getting the benefit. And all
5 of a sudden maybe that would change the whole
6 conversation.

7 So I'm not opposed to trying to
8 keep the coal in the car. I'm just suggesting
9 to you that this problem is a lot more
10 complicated than just letting one party impose
11 its way on everybody else.

12 COMMISSIONER NOTTINGHAM: Thank
13 you. That's all I have for this panel.

14 CHAIRMAN ELLIOTT: Thank you,
15 Commissioner.

16 Vice Chairman Mulvey?

17 VICE CHAIRMAN MULVEY: Thank you,
18 Dan. I have a few brief questions.

19 Mike, you mentioned FRA's
20 assessment of the accidents that occurred back
21 in 2005 and you said they assigned blame, they
22 assigned cause, and there's a list of things

1 including maintenance and the like. Did they
2 also mention the coal dust at least as a
3 contributing problem or did they completely
4 ignore that?

5 MR. McBRIDE: I'm going to ask Mr.
6 Loftus or Mr. LeSeur to back me up on this,
7 but I'm relying on the analysis that they put
8 in in Appendix B of their opening pleading of
9 the FRA studies. And as I recall, coal dust
10 was not mentioned in those reports.

11 VICE CHAIRMAN MULVEY: Is that
12 your recollection also, Mr. Loftus and Mr.
13 LeSeur?

14 MR. LOFTUS: It is my
15 recollection, but I wouldn't swear to it
16 because it's a fairly lengthy appendix.

17 VICE CHAIRMAN MULVEY: I was also
18 wondering if the NTSB at the time when they
19 did their investigation of that accident,
20 since it obviously was one that met their
21 threshold regarding damage, and the NTSB does
22 investigate some railroad accidents, I was

1 wondering if they investigated that one
2 because they usually do a very thorough job
3 when they do an accident investigation.

4 MR. McBRIDE: I know they got a
5 lot of information from UP and BN. I believe
6 they also did their own, but I'm not certain
7 of it.

8 VICE CHAIRMAN MULVEY: That would
9 be worth looking at just to see whether or not
10 they also felt that coal dust was not a
11 contributing factor or in fact, if they did.

12 You might want to note that the
13 Board up here consists of two lawyers and an
14 economist and none of us are scientists or
15 engineers. And while I appreciate the fact,
16 Mr. Wilcox, the consultant that you hired did
17 the work, is an expert, I'm still always
18 concerned about whether or not the results of
19 these kinds of studies are as objective as
20 possible.

21 Commissioner Nottingham mentioned
22 the possibility of the Board doing some kind

1 of mediation on this. Another possibility
2 might be if the shippers, as a group, and the
3 railroads want to get together to fund
4 somebody like the FRA, or for that matter the
5 TRB or some other group, to do an independent
6 study and to abide by the findings of that
7 independent analysis. Is that something that
8 any of you would be comfortable with?

9 In other words, trying to find out
10 exactly what the numbers are here. On the one
11 hand, the railroads are saying the coal dust
12 is the worst possible ballast foulant, that's
13 a new word, foulant, we learned this time. On
14 the other hand, you're saying that well, only
15 a small fraction of the coal dust gets onto
16 the ballast. Most of it is dispersed. It's
17 not the principal problem. That's one
18 question that might be answered more
19 scientifically than simply employing
20 consultants.

21 Who should pay may be another
22 issue entirely. That could be a policy

1 question. But at least some of the scientific
2 disputes might be resolved through an
3 independent contractor, an independent study
4 paid for by the shippers and the railroads.
5 Does anyone want to comment on that?

6 MR. LOFTUS: Vice Chairman Mulvey,
7 my hesitation was attributable to the fact
8 that I'm here representing clients. I can't
9 respond to a question like that as to what my
10 clients would feel because I haven't discussed
11 that with them. So I can't answer.

12 VICE CHAIRMAN MULVEY: I guess the
13 Arkansas Electric Cooperative Corporation is
14 probably closest to being a client. Would
15 that kind of thing appeal to you as opposed to
16 a trade association?

17 MR. SHARP: As you said, being the
18 only client sitting here at the table, I'll
19 try to address that, but we wouldn't be
20 against considering that, but there again, I
21 mean it kind of gets into the trust factor.
22 In other words, who would this be that would

1 do this? I mean we'd have serious concern
2 about the party. I mean if it truly could
3 find someone who we would all agree would be
4 objective and would have all the scientific
5 knowledge needed to not have to just accept
6 information from one party or the other on
7 face value and try to go forward on that kind
8 of basis, we certainly would be interested in
9 looking at that concept.

10 VICE CHAIRMAN MULVEY: So can we
11 find an honest man, I suppose is the question.

12 MR. SHARP: Yes.

13 VICE CHAIRMAN MULVEY: An honest
14 engineer. I'm not going to speak for my
15 fellow lawyers, but an honest engineer anyway.

16 Mr. Von Salzen, you talked about -
17 - and this was addressed earlier, but I want
18 to follow up on it, and that is the BN, if
19 indeed this tariff was approved the result
20 could be perverse that the BN might actually
21 begin cutting maintenance rather than
22 improving it. But wouldn't that be

1 counterproductive? I mean if they cut
2 maintenance, and they realize how important
3 maintenance is, but if they cut the
4 maintenance and you had an accident, that
5 affects them. That costs them as well. It
6 means delays. It means fewer shipments. It
7 costs them money and time if they don't
8 maintain the line adequately, no?

9 MR. VON SALZEN: Absolutely
10 correct, but they've done it before. It may
11 be short sighted, but it's very clear, I think
12 particularly if you look at their reply
13 evidence, the testimony of Mr. Sloggett, Mr.
14 Smith, Mr. Van Hook, they are committed to the
15 idea that if they can get the shippers to put
16 surfactants on top of the coal, they can cut
17 back on their maintenance costs. I mean they
18 don't believe it's going to cause a disaster,
19 but they didn't believe it would cause a
20 disaster when they cut back in the early 2000s
21 either. But we believe that the objective
22 evidence shows that that is indeed what would

1 happen if they cut back on the maintenance.

2 If they didn't cut back on the maintenance,
3 then they wouldn't have any benefit from
4 imposing this tariff on us.

5 VICE CHAIRMAN MULVEY: Anybody
6 else? Interesting that BN was the railroad,
7 as somebody mentioned here, when the railroad
8 was under Mr. Krebs', Matt Rose's predecessor,
9 that they kept up their investment in the
10 infrastructure probably as much, if not more,
11 than any other Class 1 railroad. And so it's
12 interesting that you feel they might cut back
13 maintenance.

14 MR. McBRIDE: Vice Chairman
15 Mulvey, I acknowledged that Mr. Krebs was the
16 one who resisted the most when I recounted
17 that history for you, but even he fell behind
18 in the Powder River Basin.

19 VICE CHAIRMAN MULVEY: Thank you.
20 What about the tradeoff between the cost of
21 surfactant and the railroads allege that these
22 cause them to lose 500 pounds of coal for each

1 car and the amounts were 14,000 rail cars of
2 coal a year? That seems to be a lot of money
3 worth of coal. What about the tradeoff
4 between the cost of that coal and keeping that
5 coal in the cars, versus the cost of the
6 surfactant, assuming the surfactant would
7 seriously reduce the amount of coal that was
8 lost?

9 MR. VON SALZEN: Vice Chairman,
10 there's actually an analysis of that very
11 question in AECC's filing. I believe it's in
12 the rebuttal filing and it shows that the
13 tradeoff between the cost of the surfactant,
14 the amount of coal that you actually lose, you
15 can't put in quite as much coal in the car
16 because you have to take into account the
17 weight of the surfactant, if you can imagine
18 such a thing so small, and you run it through,
19 it comes out almost an exact wash. You don't
20 get any benefit out of retaining that tiny
21 additional amount of coal.

22 I should say that analysis uses

1 225 pounds of coal loss, not 500, which is
2 from a study that was put into the record by
3 UP and the difference between the 225 and the
4 500 is that the BNSF study failed to take
5 account of the fact that there's water loss
6 during the course of the trip and so it
7 overstates the amount of coal loss.

8 As Mr. Sharp said earlier, from
9 actual real world experience, it's kind of
10 hard to find any measurable effect in terms of
11 the actual loss of coal.

12 MR. McBRIDE: Vice Chairman
13 Mulvey, if we can use BNSF's own data from its
14 PowerPoint this morning, using Mr. Fox's
15 average of 500 pounds per car, which I think
16 is too high for the reasons Mr. Von Salzen
17 just indicated, but let's give them their
18 average for purposes of the analysis. That's
19 a quarter of a ton. They said \$30 a ton,
20 that's \$7.50 worth of coal. They put up a
21 figure of 20 cents per ton for surfactant, 120
22 tons in a car, that's \$24 for surfactant. You

1 spend \$24 to save at most \$7.50 worth of coal.
2 It's not reasonable.

3 VICE CHAIRMAN MULVEY: So the
4 tradeoff has been calculated and the benefit
5 cost ratio is not a favorable one.

6 MR. McBRIDE: That's why BNSF
7 didn't defend this case on cost benefit
8 grounds.

9 VICE CHAIRMAN MULVEY: There's
10 also the issue of the chemical that's sprayed
11 on, the chemical that's sprayed on the coal.
12 And when you burn chemicals in combination
13 with other materials, carbon materials,
14 there's always a question as to whether or not
15 there's some kind of interaction and whether
16 or not burning coal that's treated with
17 surfactant doesn't have unexpected
18 environmental consequences.

19 Has anybody looked at the problem
20 of burning the coal that's treated with
21 surfactant or is that pretty much of a benign
22 product?

1 MR. SHARP: I raised this issue
2 when we were having some of the discussions in
3 the NCTA study. AECC was one of the utilities
4 that participated in the NCTA study funded a
5 small portion of that. And I got a call from
6 a couple of surfactant suppliers and they said
7 well, what are you talking about? No one has
8 ever raised this issue. I said well, okay,
9 what chemicals are in your surfactant? And
10 they said well, that's proprietary, we can't
11 tell you.

12 VICE CHAIRMAN MULVEY: Along with
13 the model.

14 MR. SHARP: Exactly. So I said
15 okay, well, how do we know that that's not
16 going to react in the boiler? It's a very
17 complicated chemical situation and all going
18 on in a boiler. No one has to date been able
19 to correctly model that. You model it the
20 best you can, but almost every time we try
21 something new we learn, we get a result
22 different than the models indicate.

1 So the real answer is from all
2 that we've been able to ascertain is no one
3 knows. There may be negative externalities.
4 It may affect our pollution control equipment.
5 It may affect the metal in the boiler. We
6 just don't know.

7 VICE CHAIRMAN MULVEY: We always
8 get surprised. I mean just this morning it
9 was announced that McDonald's was recalling
10 all of these glasses because while they were
11 thought to be benign products that were
12 supposed to be gifts for children, it turns
13 out that they contain some very serious metals
14 which, if they were to get loose in the
15 washing machine, could in fact cause serious
16 harm to children. So we keep finding out that
17 more and more of what we do is not as benign
18 as we may first think.

19 I noticed that you were talking
20 about some of the problems with why the coal
21 comes out above and beyond the airborne dust
22 from the rattling and the shaking, et cetera,

1 and why it concentrates in certain places
2 where you're liable to get more rattling and
3 shaking and you especially mentioned the train
4 going too fast going downhill. And while I
5 appreciate that lately there's been some
6 increased capacity available because of the
7 downturn of the economy, nonetheless I believe
8 your company, in particular, has complained
9 about the failure of the railroads to deliver
10 all the coal that was needed. And wouldn't
11 reducing train speeds actually cut capacity
12 out of the PRB and create another set of
13 problems?

14 Getting those trains moving even
15 downhill as fast as possible strikes me as
16 something the coal companies and the utilities
17 would like.

18 MR. VON SALZEN: I haven't seen an
19 analysis that's obviously an issue that would
20 have to be looked at. But just on the face of
21 it, I don't see that it's necessary that the
22 overall trip time should be materially

1 impacted by simply slowing the train down on
2 the down slope for ten miles an hour or
3 whatever it would take. You'd have to do an
4 aerodynamic study, I think, to figure out how
5 much you'd have to do that.

6 What it might do is increase the
7 railroad's fuel costs, because then you'd have
8 to -- you would need more power going up the
9 up slope. I think the reason -- this is
10 speculation, but I think the reason they speed
11 down the down slope is the same reason you
12 might do it with your car to save a little bit
13 of gas on the up slope. And that might be one
14 of the countervailing costs for the railroad
15 in reducing the amount of coal dust on the
16 down sides of the big sags. That's
17 speculation.

18 VICE CHAIRMAN MULVEY: I guess
19 they can't throw it in neutral and just coast
20 down.

21 (Laughter.)

22 It's interesting to speculate

1 because the fact of the matter is it's a well-
2 used corridor, very, very heavily traveled and
3 just adding extra time for each train when
4 you've got 70 trains, 120 cars long, with the
5 required spacing distance that they have, it
6 could, in fact, cut into capacity. So that
7 would be a concern that the railroads might
8 have. You also suggested that spraying
9 surfactant would not reduce any of the coal
10 lost from rattling. Do you want to explain
11 that a little further? It would strike me
12 that a surfactant being a sticky material
13 might effectively reduce both the airborne
14 dust, as well as the lost coal from shaking.

15 MR. VON SALZEN: As I understand
16 it and there is evidence about this in the
17 record, so I'm not trying to tell you what --
18 I'm a lawyer and I don't know anything about
19 physics or anything like that, but my
20 understanding is that the surfactants that
21 they're talking about put a very thin crust on
22 the top of the coal pile in the car that is

1 supposed to be sufficient to keep very light
2 dust particles from being blown out by wind,
3 either the wind, the passage of the train or
4 actual wind going across, laterally, across
5 the track.

6 But we're talking often,
7 particularly when you're talking about slack
8 action on these down slopes, we're talking
9 about actual pieces of coal, not necessarily
10 a whole lump, but real pieces of coal and
11 they're too big to be held down by this thin
12 layer of crust as I understand it.

13 VICE CHAIRMAN MULVEY: Anybody
14 else?

15 MR. McBRIDE: Yes, I've had people
16 tell me that there's been a problem in the
17 past with the railroads maintaining some of
18 the bottom discharge cars from the doors and
19 I think the vibrations may cause some of that
20 coal to come out of poorly maintained doors.
21 Hopefully, they're on to doing better
22 maintenance there, but it's interesting that

1 they propose to put surfactant on the top of
2 the car. They didn't propose to do anything
3 about the bottom discharge when they're the
4 ones that own those cars.

5 VICE CHAIRMAN MULVEY: The cars
6 that are bottom discharge cars are basically
7 railroad-owned cars?

8 MR. McBRIDE: Correct.

9 VICE CHAIRMAN MULVEY: Most of
10 your cars are open top?

11 MR. McBRIDE: Open top.

12 VICE CHAIRMAN MULVEY: Thank you.
13 That's all I have.

14 CHAIRMAN ELLIOTT: Thank you very
15 much, Vice Chairman and thank you very much,
16 panel, for your help today. And we will call
17 our final panel, Panel 4, so Arkansas Electric
18 Cooperative, you can stay up front, as long as
19 you two can behave yourselves up there
20 together, BNSF and Arkansas Electric.

21 (Pause.)

22 Next up, we'll have BNSF on

1 rebuttal. You have ten minutes.

2 MR. WEICHER: Thank you, Chairman.
3 A lot of things have been raised. We're going
4 to try to focus on the big picture, initially,
5 of whatever time we have. We made a massive
6 record. The shippers seem to say either this
7 last panel, it's really not happening or it's
8 not a problem or it's all about the cost, the
9 shifting of cleaning it up, the money. For
10 us, it's not about that. It's about the
11 integrity of the railroad, service and
12 reliability, and the need to reliably supply
13 those stock piles and do the right thing and
14 keep the coal in the cars.

15 Initially, we've got a lot of
16 things we could address, but initially we will
17 address some of what I find frankly the most
18 obnoxious and offensive accusations in this
19 last panel about our railroad and our
20 maintenance practices and how we maintain and
21 plan to maintain this vital national asset
22 which we take with the utmost seriousness.

1 This is not just shifting around
2 minuscule amounts of cost. This is about a
3 vital national asset, so we'll defer first to
4 Mr. Fox to address some of these operating
5 accusations and then whatever time is left for
6 Q and A, you raised a lot of other things, but
7 we'll start there.

8 MR. FOX: First off, on the
9 maintenance issue, the joint line is
10 absolutely maintained at very high levels,
11 world-class levels. We utilize the best
12 railroad technology available. We utilize the
13 best equipment available, and we've got the
14 best people available to do that.

15 Our maintenance is condition-based
16 and when you've got a 400 billion gross ton
17 railroad like the joint line, we will always
18 have a high level of track maintenance on the
19 joint line. We take that responsibility very
20 seriously. That's why we're here today. At
21 the end of the day, this is all about
22 eliminating the release of one of the worst

1 fouling agents, coal dust. To infer that our
2 purpose here today is to reduce track
3 maintenance is absolutely wrong and it's
4 frankly insulting.

5 In terms of the discussion around
6 airborne dust as the issue, it's all about
7 coal falling off due to changes in track
8 modulus, switches and bridges and slack
9 action. Well, with the rate
10 load profile, the profile we talk about as a
11 bread loaf that has the right angle of repose
12 in terms of how the coal is loaded, the coal
13 will not fall off the car. In fact, it should
14 not fall off unless it's on the sill of the
15 car which would be in violation of our
16 activity-based profile standard.

17 Also, from a car design
18 perspective, we talked about bottom dump cars.
19 Bottom dump cars are 35 percent of the fleet
20 and we found through field tests that releases
21 through the bottom dump cars on average was
22 around 35 pounds. That is not the issue. The

1 majority of cars on the joint line, 65 percent
2 are rotary dump and stuff doesn't fall out of
3 rotary dump cars as they traverse switches and
4 track modulus at bridges.

5 Finally, we're in the midst of
6 doing a field test, as we speak, with
7 additional toppler technology and in this case
8 we've treated cars with topplers and then we've
9 put on train monitoring devices, devices that
10 are hung on the cars. We found that toppler in
11 that application can reduce dust by 92
12 percent. That's measured on the train. It's
13 not measured track side. So clearly airborne
14 dust is the issue here. It's not an issue of
15 dust falling due to the track modulus and
16 slack action.

17 Finally, with regards to running
18 our trains faster downhill, it's a ridiculous
19 accusation. We do not have an operating
20 practice of running trains faster downhill
21 than uphill. At the end of the day our train
22 engineers are very well trained and we have

1 very robust electronic oversight process of
2 train handling as well as speed compliance
3 that goes on 24 hours a day, 365 days a year.
4 We utilize our version of a black box on every
5 locomotive to do that kind of monitoring.

6 MR. WEICHER: A couple of basic
7 points. We think the core principle here is
8 it's not all right for the coal to spill out
9 of the car. The solution isn't to clean it
10 up.

11 Mr. McBride's suggestion,
12 referring to the old cases on special
13 handling, it's not okay for nuclear materials
14 to leak. It's not okay for chemicals to leak.
15 It's not okay for coal to spill out. We have
16 to do what we can within the realm of science
17 to advance this. The surfactants are not an
18 unproven technology. Things will get better.
19 But the rules should not be delayed. The
20 rules should go into effect. We have been
21 working cooperatively with shippers. We will
22 continue to do that. Solutions need to be

1 jointly found, but it is time to act, not to
2 defer the problem. Not to defer it as some
3 sort of stall to put this off into the future.

4 We do have an obligation to move
5 forward from BNSF's standpoint and put into
6 effect a rule that keeps the coal in the car
7 that uses the best standards we have available
8 today, not to delay. It's not okay to pick it
9 up. It wouldn't be okay for BP to pick up
10 that oil faster. It's not okay. We now know
11 much more about ballast than we did 100 years
12 ago. We know much more about coal dust. You
13 heard DOT today say it has a pernicious
14 effect. I don't think that should be in
15 serious dispute whatever the parties before
16 were willing to stipulate to, it got a little
17 confusing to me. But we will stipulate that
18 coal ballast is a pernicious effect that
19 should not go there in the first place.

20 Therefore, we think it is time to
21 move forward to put this rule in and not delay
22 it further.

1 MR. SIPE: I would like to address
2 an issue that several of the members here this
3 morning and this afternoon have expressed
4 interest in and that is what possibility is
5 there that we can reach a -- let's call it a
6 negotiated resolution of the issues presented
7 in this hearing.

8 The process that BNSF envisages,
9 and I believe from what I heard from Ms. Rinn
10 that UP envisages as well, is a process of
11 voluntary bilateral negotiations, discussions,
12 and arrangements between the railroads and
13 their individual customers as opposed to,
14 let's say, one big kumbaya under the auspices
15 of a mediator. There are a couple of very
16 compelling practical reasons why it has to be
17 done that way. First, we have a majority of
18 customers of both railroads are contract
19 customers. The contracts, as you know, are
20 typically of multiple years and duration and
21 they expire at various times. We have to deal
22 with contract customers on the coal dust as

1 the contracts expire. Because they're
2 contracts also, they're privately negotiated
3 between the railroad and the particular
4 customer. So it's really got to be a sequence
5 of bilateral negotiations for that compelling
6 commercial reason.

7 Second, there's a compelling legal
8 reason why it has to be a sequence of
9 bilateral negotiations. And that is BNSF and
10 UP are competitors on the joint line. We
11 share the facility, but we compete vigorously
12 for a lot of the traffic which by the way is
13 one of the reasons Mr. McBride's gratuitous
14 characterization of the railroad as a
15 monopolist is hogwash. We compete vigorously
16 for a lot of this traffic and we're not going
17 to get in a room together with UP and the coal
18 shippers and talk about a comprehensive
19 solution to coal dust that entails commercial
20 considerations. You can't do it.

21 One could imagine, I suppose, a proceeding
22 that got prior to anti-trust risk clearance

1 from this Agency and DOJ, but I don't see that
2 happening.

3 From the beginning, BNSF has
4 envisaged a process in which we get to the
5 point of resolving this dispute, resolving the
6 coal dust issue, as soon as practicable, by
7 working with the individual shippers as the
8 opportunity arises. The only way we're going
9 to be able to get the shippers to agree to do
10 something about the coal dust issue is if this
11 Board says we have the right to adopt rules
12 that prevent the shippers from dropping the
13 coal dust on the right of way.

14 They have to believe we have the
15 right to do what we're trying to do or they're
16 not going to sit down and talk with us.
17 They're going to play Rope-a-dope and if you
18 go back and look at their pleadings in this
19 hearing about 90 percent of what they've done
20 here is one version or another of Rope-a-dope.
21 We don't want any more Rope-a-dope. We want
22 to move forward.

1 MR. WEICHER: This whole argument
2 about cost shifting is what's really going on
3 here. It's time to implement a rule. We
4 respect the Board's jurisdiction on the
5 enforcement issues to come back if something
6 can be challenged there. But the rule says
7 the coal should stay in the car like every
8 other commodity should go into effect.

9 CHAIRMAN ELLIOTT: Thank you very
10 much, BNSF, and why don't we finish with
11 Arkansas Electric Cooperative.

12 Mr. Von Salzen, you have ten
13 minutes on rebuttal.

14 MR. VON SALZEN: Thank you. I
15 will try during my ten minutes not to be any
16 more obnoxious than necessary, any more
17 insulting than necessary. I will try not to
18 make any ridiculous arguments.

19 I think approaching this issue
20 with that kind of over-heated rhetoric is
21 probably symptomatic of the problem that we're
22 facing here.

1 There's a huge record in this
2 case. I've given you some highlights of it in
3 my 23 minutes of fame earlier this afternoon.
4 What I've told you is about evidence. It's
5 evidence in the record. Much of it is based
6 on facts provided by BNSF, almost necessarily
7 because they're the ones who have control over
8 the facts about the joint line. It's their
9 property that they operate. So we've had to
10 get the facts, the data from them. We've
11 analyzed it. It is in the record. It's very
12 well to say it's ridiculous to say that coal
13 dust falls out of trains because we're running
14 them downhill and causing slack action. It
15 may be ridiculous, but it's a fact and the
16 evidence is in the record. I think BNSF may
17 be hoping that the Board will not read the
18 record, but I have confidence, because I know
19 this Board, that you will do so.

20 It is not ridiculous. It is true.

21 I also would like to take issue
22 and umbrage at the suggestion that the coal

1 shipper community is so narrow minded, short
2 sighted, selfish and stupid, that the only way
3 that they can see reason is if you give BNSF
4 the power to force the shippers what BNSF
5 wants them to do.

6 Mr. Sharp made very clear in his
7 remarks and I'll just second them, the coal
8 shipper community has invested hundreds of
9 millions of dollars to improve the efficiency
10 of coal rail transportation. These are not
11 people who are sitting back on their hands
12 being negative. We have legitimate
13 disagreements with BNSF's theory of how things
14 work and what to do about them.

15 Saying that the only way to make
16 us act reasonably is to give BNSF a club to
17 beat us over our heads, perhaps sounds good to
18 them. It doesn't sound very reasonable to me.

19 Mr. Fox tells you that BNSF has
20 maintained to world-class standards and it's
21 insulting to suggest otherwise. As a matter
22 of fact, what we've said throughout this case

1 is that BNSF is maintaining their railroad
2 adequately. I wouldn't say world-class
3 standards. We've had some criticisms of some
4 of their aspects of maintenance over the last
5 five years, but they have been maintaining
6 their railroad and we think in a generally
7 satisfactory manner. I hope that's not an
8 insult.

9 But bear in mind, this same
10 railroad tells you that they were well
11 maintaining their railroad all the way up
12 until May 2005. That's in the record, too.
13 In fact, this railroad tells you that given
14 what they knew, they did nothing wrong. Two
15 coal trains derailed within a few minutes and
16 a few miles of each other and BNSF tells you
17 on the record, under oath, in this case they
18 did nothing wrong.

19 I think you have to look at the
20 evidence. I think you have to look at the
21 facts in this case and not just listen to the
22 rhetoric including my rhetoric by the way.

1 I'm not asking you be swayed by my golden
2 tongue oratory. But the facts are, the facts
3 are the shippers don't cause this problem.
4 The railroad causes this problem. I was
5 trying to avoid using the word "problem" as
6 Commissioner Nottingham noted. I should
7 probably call it an issue. But sure, there
8 is a maintenance issue.

9 There's a maintenance challenge
10 that has to be carried out when you have the
11 huge volume of traffic on this rail line.
12 Coal dust is one of the contaminants. It is,
13 according to the record, 29 percent by volume
14 of the contaminants in the ballast on the
15 joint line. That's what we've been talking
16 about. It's 29 percent. That leaves, if my
17 math is right, 71 percent of the contaminants
18 in that ballast we're not even talking about
19 today. And most of that coal dust does not
20 get on that ballast through being blown by the
21 winds off the tops of coal cars. It gets in
22 there through the other mechanisms that we've

1 talked about today and that are well
2 documented in the record. Thank you.

3 CHAIRMAN ELLIOTT: Thank you, Mr.
4 Von Salzen.

5 Do you have any questions?

6 VICE CHAIRMAN MULVEY: Just a
7 couple of minor questions. To the railroads,
8 Mr. McBride testified and he was seconded by
9 others, Mr. Loftus, about the FRA's study of
10 the 2005 accident. And he said that the FRA
11 found that the accident was caused by
12 maintenance issues and others, but never
13 mentioned coal dust as being part of the
14 problem.

15 Do you want to comment on that?
16 Is that your recollection of the FRA report as
17 well?

18 MR. FOX: I'll answer your quick
19 question as well that you didn't ask and did
20 the NTSB investigate.

21 VICE CHAIRMAN MULVEY: Yes, that
22 was the other part of my question.

1 MR. FOX: They did not do a formal
2 investigation.

3 VICE CHAIRMAN MULVEY: They did
4 not.

5 MR. FOX: The FRA, obviously, did
6 an investigation and at the end of the day I
7 do not recall if they concluded that coal dust
8 was a contributing factor.

9 VICE CHAIRMAN MULVEY: Shippers
10 presented evidence in their filings that they
11 monitored some trains and that some trains
12 went by full of coal, coal trains, and there
13 was virtually no coal dust coming from them.
14 And other trains went by and there was a lot
15 of recorded foulants. And that the common
16 factor was a locomotive as opposed to the fact
17 that there were coal trains.

18 Do you want to address that
19 charge, that it's not necessarily the coal
20 dust, but it's actually perhaps emissions
21 coming from the locomotives.

22 MR. WEICHER: Coal dust is clearly

1 episodic. I believe that is the term Mr. Sipe
2 used earlier this morning, but our tests
3 clearly differentiated and that's the
4 difference between the first and second
5 standard, the effects of coal dust and then
6 the effects of locomotives. Frankly, the idea
7 that all of this is coming out of the
8 locomotives seems a little preposterous as
9 well.

10 MR. FOX: There is a specific
11 diesel signal and the IDV.2 value ignores that
12 diesel signal for the locomotives at the front
13 of the train as well as the distributed power
14 at the rear of the train. That is not
15 included in the IDV values.

16 VICE CHAIRMAN MULVEY: Is it
17 possible that some of the coal dust that gets
18 in the ballast doesn't come from the top of
19 the train immediately on to the ballast, but
20 rather goes off the side and then subsequent
21 winds blow it back and the ballast? Therefore,
22 it simply begins trapping all of this coal

1 dust and that it's part of a cycle when with
2 the raised ballasts especially in a relatively
3 flat area like Wyoming, Kansas, et cetera, you
4 wind up having the winds blow it into the
5 ballast and that's where it's being deposited
6 as opposed to directly off the top of trains?

7 MR. FOX: It's definitely possible
8 that coal dust gets in that way as well as
9 from the top of the cars as well as from the
10 bottom dump. We still believe that the
11 majority is coming off the top of the cars.

12 VICE CHAIRMAN MULVEY: Would you
13 agree with that, Mr. Von Salzen, that in fact,
14 some of this coal dust could be in the
15 ballast, even though it's not coming off
16 directly and eventually gets blown back by the
17 winds and given that the railroad right of way
18 is the major mountain, if you like, going
19 across some of these very, very flat
20 territories it still gets in the ballast, but
21 maybe it's not directly from the top of the
22 train, but it gets blown back?

1 MR. VON SALZEN: I don't believe
2 there's any evidence in the record that would
3 support that speculation. It's possible, and
4 anything is possible, but I don't believe
5 there's any evidence that that is indeed the
6 case.

7 I guess I would be skeptical about
8 it, just because I think imagining just a
9 breeze blowing through the buffalo grass,
10 picking up dust and blowing it back towards
11 the track, I have a hard time imagining you'd
12 get very much movement that way. But it's
13 possible.

14 MR. SIPE: Vice Chairman Mulvey, I
15 have a recollection, perhaps faulty, but if
16 you look at UP's opening evidence I think
17 there's testimony that speaks if not to that
18 very specific issue, at least to closely
19 related issues about how dust that is dropped
20 particularly on a multi-track segment of the
21 joint line works its way into ballast, not
22 necessarily directly.

1 MR. WEICHER: We, of course,
2 welcome deep review by the Board and staff
3 that we know will be taking place on the
4 record contrary to the assertion.

5 VICE CHAIRMAN MULVEY: This again
6 is one of these matters of fact and matters of
7 scientific fact, of how things behave in the
8 environment. And as I said, neither the Board
9 Members or most of our staff or most of the
10 people testifying here really possess that
11 kind of expertise.

12 I asked the question of the last
13 panel as to whether or not they thought that
14 their members or the groups would be
15 interested in co-sponsoring, co-paying for a
16 study, perhaps even overseen by the Board
17 which it did employ, however, people were
18 noted experts, but they were not in the pay of
19 either the shippers or the railroads to answer
20 some of these scientific questions. I
21 recognize that these are contracts and you
22 have to eventually decide, but at least a lot

1 of the scientific questions might be answered
2 in such a way that both parties could accept
3 well, this is in fact, what is happening.

4 For the railroads, would the
5 railroads be in favor or support such a
6 possibility?

7 MR. WEICHER: We will work with
8 anyone, talk with anyone. We have been doing
9 that. We've been spending money on this for
10 the last three or four years. We think we
11 have to move forward. We believe we are
12 responsible to address this problem through
13 the promulgation and operating rule. We do
14 not think that we should wait. We do not,
15 however, expect to stop looking at the
16 scientific issues, expect to stop looking at
17 the best way to address it. We do not want to
18 participate in something that tries to deny
19 the problem. We want to look for solutions.
20 We're doing that, we think, with our solutions
21 that are there today. I think it's a question
22 of working with others on continuous

1 improvement, not refusing to move forward.

2 VICE CHAIRMAN MULVEY: Right, it's
3 not denying the problem. It's trying to
4 define the problem, identify the problem and
5 then what will be the best possible solutions
6 that are both cost effective and
7 environmentally effective. But I understand
8 that there are some concerns about mediation.
9 But this would not be mediation. This
10 approach would simply try to reach a
11 resolution, if you like, of the scientific
12 disputes which I think can be done with some
13 degree of objectivity. Albeit, there might
14 still be some issues that will remain
15 unresolved for whatever reason.

16 MR. SIPE: One potential benefit
17 of the safe harbor approach that was discussed
18 this morning is that we could begin solving
19 the problem right now under a safe harbor
20 approach and continue to work on the science
21 and get it better so down the road there was
22 a standard, a performance-based standard that

1 everybody could be comfortable with. But I
2 can't think of any reason why that would
3 preclude taking measures in the near term
4 under a safe harbor type approach.

5 VICE CHAIRMAN MULVEY: A safe
6 harbor approach, under that approach, then the
7 shippers would not have to pay the tariff, if
8 in fact they agree to use surfactants, if they
9 agreed to profile the cars in such a way to
10 minimize, then that would be considered to be
11 acceptable and therefore they would not have
12 to pay the extra tariff?

13 MR. WEICHER: We're not asking for
14 -- we don't want to collect money. We're not
15 asking for a tariff. We're asking for
16 implementation to begin on surfactant or
17 whatever method the shipper chooses, but the
18 safe harbor concept was if they want to and
19 people are doing this now, we need a rule to
20 make sure this momentum continues.

21 Remember, we're only talking about
22 frankly in terms of jurisdiction a fairly

1 small segment of the shipper population that
2 the rule directly applies to, but that the
3 rule should be there and we are quite open to
4 the suggestion, you and the Chairman were
5 airing out earlier today that there could be
6 a safe harbor that if they are applying is
7 taking this step that we know addresses the
8 problem. Whether it's the only way or the
9 perfect way, we are not precluding other ways
10 under the performance base.

11 We recognize that as a safe harbor
12 and science will continue to develop, and we
13 think that will get the process going of these
14 companies working together finding the most
15 cost effective efficient way to reduce the
16 dust. We think reducing the dust is where
17 this has got to come from and the coal staying
18 in the cars.

19 VICE CHAIRMAN MULVEY: One final
20 question to the group. Is that the metrics-
21 based safe harbor or not a metrics-based safe
22 harbor, that we are discussing? It's

1 basically they spray the surfactant and they
2 profile the cars as directed. But if they do
3 that and you still get unacceptable readings,
4 then you simply raise the requirements and
5 require more surfactant be sprayed or require
6 that the cars be profiled even lower?

7 MR. WEICHER: I don't think so and
8 this is a bit of an inchoate idea that sounds
9 like we're working it out, it's being
10 discussed today. And we had thought about
11 this kind of thing in the original rule. What
12 I think we envision or what we thought we
13 heard or what we are open to is we have
14 published a performance-based rule that says
15 meet this standard because we believe that
16 standard reduces 85 percent of the dust.

17 We are open to amending that rule
18 and working with our shippers that there would
19 be a presumption if you applied the known
20 surfactants, you pick which one, these tests
21 are all around here, what would work that will
22 presumptively in our mind meet compliance with

1 the performance-based standard, regardless of
2 what the readings say. We do that for two or
3 three years and let's see if everything is
4 working together.

5 We know we must do something and
6 we know it's being used around the world and
7 in this country. This is not an untried
8 thing. Let's get going on it and we will be
9 willing to say that that is the safe harbor
10 that meets our performance-based standard. I
11 think at least that's what we heard and what
12 we're open to.

13 VICE CHAIRMAN MULVEY: Thank you
14 very much.

15 CHAIRMAN ELLIOTT: Thank you, Vice
16 Chairman.

17 Commissioner?

18 COMMISSIONER NOTTINGHAM: Thank
19 you, Mr. Chairman.

20 Mr. Fox, I heard you make the
21 point that with the right load profile, spills
22 can be prevented. Is that a fair statement?

1 MR. FOX: Yes, sir.

2 COMMISSIONER NOTTINGHAM: Have
3 there been any studies on that or any data and
4 under the general sort of heading of correct
5 or right load profile, what about the scenario
6 I've described today earlier about keeping the
7 profile below the rim of the rail car?

8 MR. FOX: Over the last five years
9 we have modified the profile. The initial
10 profile was what I'd call a peaked profile
11 with sharp edges and we've worked with NCTA
12 early on. Four or five years ago, we created
13 what we describe as a bread loaf profile.
14 We've lowered the angle of repose of the coal
15 on top of the car. We got rid of the sharp
16 edges which reduces wind erosion and we spread
17 the load all the way from the front of the car
18 to the back of the car. That is the standard
19 that's in place now in the joint line.

20 All chutes in the joint line, all
21 loading chutes in the joint line now have been
22 modified to create a bread loaf profile. We

1 have not looked at what I would describe as
2 the bundt cake option where you would load
3 coal below the side sills of the car.

4 COMMISSIONER NOTTINGHAM: Can I
5 ask why you wouldn't look at that?

6 MR. FOX: Well, we haven't done
7 it. We did have some concerns based on some
8 very preliminary discussions with our
9 consultant that the concern was an eddy
10 current could be created where the wind would
11 start an eddy current at the front of the car
12 and basically continue causing wind erosion
13 with that kind of loading profile. That was
14 really preliminary discussions.

15 COMMISSIONER NOTTINGHAM: Mr.
16 Weicher, would you be open to an alternative
17 safe harbor which would be either try the
18 surfactant or whatever turns out to be the
19 best practice? You believe currently it's
20 surfactant and you've held open the
21 possibility in the future of a technology and
22 science we could see other solutions, how

1 about an alternative safe harbor? If you're
2 not comfortable, shipper, with the cost or the
3 science behind surfactant, just keep your load
4 profile below the rim of the rail car so we
5 have a greatly reduced potential for spillage?

6 MR. WEICHER: We probably need to
7 distinguish -- I believe our testing has shown
8 that the profile in the profile improvements
9 may have reduced 10 to 15 percent of the dust
10 issue and subject to the type of technical
11 problems and physical problems Greg Fox has
12 related to. It does not appear at all that
13 that can address the overall problem.

14 Having said that, if a shipper or
15 a mine thinks a different technique can reduce
16 and meet the standard, we're quite open to
17 that. On the contrary, the testing we've seen
18 and the several years of work on this would
19 not support a safe harbor based just on
20 profiling. It can't do it. Everything we've
21 seen and what we've been doing it's not
22 sufficient and that doesn't work, whereas now

1 several years of testing shows no, surfactant
2 can do it. It can make a dramatic reduction
3 and that's the technique being followed in
4 other parts of the world.

5 COMMISSIONER NOTTINGHAM: So
6 you're saying that the railroad industry or
7 anyone else has thoroughly studied the
8 scenario of having a load limit or safe harbor
9 be below the height of the rail car?

10 MR. WEICHER: I cannot address, as
11 a technical matter, whether that completely
12 exhausts it. But of course that also, if we
13 talk about profound impacts on our customers
14 and the industry, now we're talking about more
15 equipment, more trains, how do we meet the
16 commitments we have and their desires to keep
17 those stockpiles full. Now we start talking
18 about a dramatic difference in how much coal
19 is handled.

20 If that were in theory cost
21 effective and shippers wanted to go that way,
22 we're open to exploring that, but within the

1 existing way the railroad and our customers
2 and these fleets and these hundreds of sets of
3 equipment are running, we don't think that's
4 a way that can address this, certainly not in
5 any foreseeable time.

6 COMMISSIONER NOTTINGHAM: We've
7 heard the argument raised today that railroads
8 should not be allowed to unilaterally impose
9 a solution on the customers. Can you think of
10 any examples in the past where after efforts
11 to dialogue and communicate the railroad
12 industry has had to impose a solution in the
13 area of car design over the objection of some
14 shippers?

15 MR. WEICHER: Well, for better or
16 worse, the way our world works and I don't
17 mean I guess just the railroad work, the
18 railroad owner, the person offering the
19 service always ends up being the one hopefully
20 as in this case after consultation with their
21 customers, hopefully as not entirely in this
22 case after agreement with their customers has

1 to set the terms of carriage.

2 We have massive, and some people
3 would say too massive, we've been trying to
4 get more of the plain speaking thing, but the
5 rule book on coal, the rule book on grain, the
6 rule book on commodities, as was mentioned
7 earlier a variety of AAR and industry rules
8 which generally apply. But then every
9 railroad for every commodity, we've got
10 blocking and bracing rules for all kinds of
11 stuff.

12 COMMISSIONER NOTTINGHAM: Is it
13 pretty common for some shippers to object to
14 those rules as they come along?

15 MR. WEICHER: It does,
16 unfortunately, occur, perhaps more often than
17 we would like.

18 COMMISSIONER NOTTINGHAM: Are you
19 -- is it your position that a railroad cannot
20 be required to transport leaking cars?

21 MR. WEICHER: I think I would have
22 to say yes.

1 COMMISSIONER NOTTINGHAM: It can
2 choose to, right?

3 MR. WEICHER: It can choose to.

4 COMMISSIONER NOTTINGHAM: But it
5 can't be required?

6 MR. WEICHER: It ultimately has
7 responsibility to define the terms under which
8 things were loaded and braced, and we do not
9 believe it can be required. Leaking is a
10 loaded word, but yes, if something is really
11 leaking, we cannot -- in fact, I guess I would
12 turn it around in the proper situation,
13 chemicals are always easy, but a dangerous
14 load of rebars or something, we may have an
15 obligation not to transport.

16 COMMISSIONER NOTTINGHAM: It seems
17 to me if there is routine spillage, release,
18 leakage, pick your favorite word, that
19 basically that's tantamount to routine
20 overloading. And it seems to me a railroad
21 has, in my humble opinion, the right to say
22 we're not going to take cars that are

1 routinely overloaded and therefore routinely
2 leak. And you put that out for a reasonable
3 period of time and you give people the safe
4 harbor alternative course of action.

5 I'm just speaking as one Board
6 Member, but I think this Agency, I would
7 think, would be hard pressed to say that a
8 railroad is required to move leaking freight
9 cars.

10 MR. WEICHER: Leaving aside a pure
11 safety issue which is the absolute on the
12 railroad, meeting both FRA and our own
13 requirements, I will use my analogy. It's not
14 the same, but in the stages of things we have
15 all kinds of rules of how heavily cars can be
16 loaded, including coal. We have corresponding
17 tariff items, which you do not have before you
18 now in this case, which says if something
19 violates, that it is overloaded what we do.
20 In that case, depending on exactly what it is,
21 we say we will set it out and we will get a
22 dumpster and unload something. And there are

1 charges for that. That's all set out, either
2 in a contract or in a tariff.

3 Were someone to be subject to that
4 and were that to occur, we recognize as the
5 common carrier shipper that's within your
6 jurisdiction. And that is certainly, we
7 believe, within our ability as a railroad to
8 do that step. That's not before the Board
9 here. What is before the Board here is keep
10 the coal in the cars, reduce the dust.

11 COMMISSIONER NOTTINGHAM: Do you
12 recognize that one may not be the intended
13 outgrowth of this controversy, but one
14 possible outgrowth is that coal cars are
15 required to move with less coal? It's out
16 there in the range of possibilities, depending
17 how this controversy plays out?

18 MR. WEICHER: It certainly is a
19 possibility, but we think it's pretty remote
20 particularly when for all the talk about cost,
21 when you look at the overall delivery cost of
22 coal, this is such a manageable, doable thing

1 as the most cost effective way to reliably
2 move all this coal across the nation for all
3 this energy within the existing fleet.

4 However, that's why we started with a
5 performance-based standard, not an activity-
6 based standard. We're open to a safe harbor
7 for an activity of spraying, but between the
8 shippers and the mines, if there's a better
9 way to achieve the result of no dust, it's
10 more efficient, we're not precluding that.

11 COMMISSIONER NOTTINGHAM: I guess
12 Mr. Sipe, you may be the best person to know,
13 do you find it -- it seems to me that you're
14 in the untenable legal situation of having --
15 of not having to, but being tempted to make
16 the following type of argument. The better
17 you can argue about how hazardous, dangerous,
18 risky, negative, scary, throw in your --
19 risky, the movement of these heavily loaded,
20 I'll say, I won't editorialize and say
21 overloaded, but these heavily loaded cars of
22 coal that seem to routinely spill out coal

1 that you have -- significant amount of coal,
2 the better you argue the risks and the hazards
3 and the negative externalities, the more
4 actually you're inviting third party
5 litigation by the organic farmers of the world
6 that your client so skillfully demonstrated to
7 us.

8 I mean do you feel any tension
9 there or is that --

10 MR. SIPE: I'm not sure I would
11 subscribe to the characterization untenable,
12 but you've seen the record and you know we
13 have not gone on and on about environmental
14 risks and concerns. But everybody knows what
15 the reality is. We live in a world where
16 there's a lot of tension.

17 MR. WEICHER: And one could
18 suggest that this tension is another reason
19 why we as a responsible railroad need to put
20 into effect a rule to mitigate coal dust.

21 COMMISSIONER NOTTINGHAM: That's
22 why I ask the question because we don't have

1 a lot of third parties before us here. Many
2 of us were, I think actually this may be a
3 situation where almost, most of the parties
4 that were testifying today, actually, and
5 including the Board were basically aligned on
6 the DM&E appeal and the battle.

7 We heard some legal arguments,
8 very serious legal arguments raised by serious
9 lawyers spending tens of hundreds of thousands
10 of dollars, if not millions, to recite a
11 litany of -- I'll just use the phrase again,
12 "negative externalities", but basically
13 horrible attributes of coal and coal-related
14 energy production. We're all very -- this is
15 not just some kind of contrived concern.

16 Mr. Sipe, are you familiar with
17 court cases where parties have tried to raise
18 claims about various hazards and dangers of
19 coal and coal transportation?

20 MR. SIPE: I am certainly
21 generally aware of what happened in DMNE. I
22 know there's litigation currently in Alaska

1 which I believe involves stockpiles in a court
2 in Alaska. I think these issues are
3 potentially out there and you're probably
4 correct in inferring that we haven't gone out
5 of our way to stir people up.

6 COMMISSIONER NOTTINGHAM: Right.

7 And I think this Board -- the reason I go into
8 this is not to give you a hard time or to
9 conjure up alarming scenarios, but this Board
10 has a number of missions, I should say, some
11 of which include promoting competition,
12 working to review and approve, where
13 appropriate, construction and new build out
14 and new track.

15 So we have an interest, if there
16 is a commodity that is spilling out on
17 railroad right of way and basically inviting
18 third party opposition to projects that would
19 increase rail competition, it's more than an
20 academic concern to us.

21 And so I guess I would say I wish
22 you luck in trying to take steps to stop

1 commodities from leaking out of your cars. I
2 think I understand why you're trying to do it.
3 I may have some concerns with the methodology
4 you took or the tactics you took in this case,
5 I think you certainly, in my humble opinion,
6 you seem to have the right to try to control
7 spillage out of your rail cars.

8 MR. WEICHER: If I could comment
9 briefly on that. There's almost some role
10 reversals here. We have people saying this is
11 too tight a rule to keep an emission down. If
12 this were -- and there were some analogies
13 earlier in the day to Government-induced
14 rules, the usual question is you're not being
15 strict enough, whoever is trying to control
16 emission. Here we have people saying, don't
17 worry about it. Don't worry about it. It's
18 blow off. Let it happen. That is not our
19 position.

20 It's time to do an incremental
21 approach to reduce this problem.

22 COMMISSIONER NOTTINGHAM: I have

1 no more questions at this time.

2 CHAIRMAN ELLIOTT: Thank you,
3 Commissioner.

4 I just had one line of questions
5 for BNSF. I heard earlier in the testimony
6 with regard to customers under contract, is
7 there a significant percentage of the coal
8 traffic in the PRB that's on the joint line
9 that is under contract at this point in time?

10 MR. WEICHER: Yes, Chairman. I
11 will speak generally.

12 CHAIRMAN ELLIOTT: I don't want to
13 go to confidential information, obviously.

14 MR. WEICHER: I'm speaking only,
15 of course, for BNSF Railway. Very roughly, I
16 would estimate in the range of 80 to 85
17 percent of the tonnage we move in the PRB
18 moves under contract, somewhere in the 15 to
19 20 percent moves under common carrier tariffs
20 directly subject to your jurisdiction
21 including the rate case stuff.

22 By the same token, I made an

1 allusion earlier today and I think this is
2 important to understand who is subjected to
3 what and who is being -- will this rule go
4 into effect? Our general estimates are that
5 by the end of 2011, something in the order of
6 65, 70 percent of our contract tonnage will
7 be, by however it works through tariff
8 contract, will be subject to such a rule as we
9 are proposing here for the common carrier
10 shippers and asking that be upheld.

11 CHAIRMAN ELLIOTT: If I understand
12 what you're saying, at the present time you
13 have the 80 to 85 percent under contract and
14 they won't be subject to have the surfactants
15 on it at the present time?

16 MR. WEICHER: Again, it's the rule
17 for a performance based, some of which are, of
18 course, choosing to go the surfactant route.
19 Some are already there where the rule is in
20 effect and we're working on implementation,
21 but a large chunk of that contract base is not
22 yet, will be by the end of 2011. As contracts

1 roll over, as they are negotiated, older
2 contracts, before this problem arose, that to
3 speak generally, might have incorporated an
4 older version of rules, might not yet be
5 subject to the rule's application today, but
6 will be in due course.

7 CHAIRMAN ELLIOTT: So
8 incrementally, have you been putting things
9 like this in contracts?

10 MR. WEICHER: And without getting
11 into the specifics --

12 CHAIRMAN ELLIOTT: Right.

13 MR. WEICHER: Of course. We are
14 working on implementing this through our
15 contracts as quickly as we can as things turn
16 over, as things come up. This is a gradual,
17 somewhat lumpy process, but it is moving
18 along.

19 CHAIRMAN ELLIOTT: And say that
20 tomorrow -- this is obviously very
21 hypothetical because we can't issue a decision
22 in one day -- but we say that it was

1 reasonable, what percent of the traffic would
2 you say would be -- it be required at that
3 point to run based on the tariff or something
4 similar?

5 MR. WEICHER: If you permit, as we
6 ask you to do, that this rule go into effect
7 on October 1 --

8 CHAIRMAN ELLIOTT: Right.

9 MR. WEICHER: At that time,
10 directly that 15 percent or so of tariff
11 traffic would become subject to it. Again,
12 remembering that the rule is not saying you
13 must go spray. It is not asking for instant
14 compliance. It's asking to be working this
15 out.

16 Of that contract base, you raise
17 some very interesting technical issues because
18 quite frankly it doesn't necessarily depend on
19 whether you uphold the rule or not. It
20 depends on what's in the contract. And what
21 the contract is incorporating, and what the
22 contract says about a rule, but we will be

1 continuing to move towards broader and broader
2 encumbrance through a combination of that
3 tariff application, its incorporation in our
4 contracts.

5 I don't mean to over-complicate
6 it, but it's an iterative process.

7 CHAIRMAN ELLIOTT: My only concern
8 there was similar to the concern I had earlier
9 when I was asking you about Union Pacific and
10 how they are going to go forward from here is
11 that there will be trains running around the
12 joint line and there will be coal flying off
13 and while this 15 percent will be subject to
14 the tariff and I guess coming to the
15 conclusion that it may not be effective and
16 that would be my only concern.

17 MR. WEICHER: I will, of course,
18 not speak to UP's practices. I don't know
19 what they are. I heard Counsel LouAnne Rinn
20 speak to it earlier today. Our relationship
21 with UP on this operating rule, and I'm
22 speaking of the pure operating rule we put up

1 on the board comes about between us and UP
2 under the joint line agreement which contains
3 its own series of enforcement mechanism,
4 arbitration remedies. It's an operating rule
5 as soon as practicable, recognizing the
6 realities of this rather convoluted or multi-
7 tiered situation which we respect because it
8 goes back to the ICC-approved joint line
9 operation of the two carriers with us as the
10 maintaining and operating rules issue carrier
11 issuing the rules under that agreement. But
12 as to our customers, we tried to describe
13 generally this iterative process of bringing
14 these into broader and broader effect.

15 I have to say if the rule doesn't
16 go in on the common carrier, that will be a
17 step backward, a detrimental step to the
18 gradual incorporation and working with our
19 customers because not only will it delay
20 things, but it will call into question whether
21 this can be seriously applied to the universe
22 of shippers.

1 It should eventually over time, be applicable
2 too.

3 CHAIRMAN ELLIOTT: Thank you very
4 much, Mr. Weicher. Thank you, counsel. Thank
5 you everyone today for your patience. It was
6 quite a lengthy hearing and a special thanks
7 to the officers that came here today. Your
8 knowledge is invaluable. We obviously take
9 this matter very seriously. We can tell that
10 it's a very emotional issue and we'll take it
11 under advisement and the hearing is now
12 adjourned. Thank you.

13 (Whereupon, at 3:32 p.m., the
14 hearing was concluded.)
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88:16 89:2,8	went 62:17 204:11	290:18 297:20	willingness 109:15	worked 87:2 97:20
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Public Record

November 17, 2010

VIA HAND DELIVERY

Ms. Cynthia Brown
Chief, Section of Administration
Office of Proceedings
Surface Transportation Board
395 E Street, SW
Washington, DC 20423-0001



Re: *Petition of Arkansas Electric Cooperative Corporation for a Declaratory Order,*
STB Finance Docket 35305

Dear Ms. Brown:

As requested by Board staff, enclosed are two hard copies of the PowerPoint slides that BNSF Railway Company presented during oral argument in the above-referenced case on July 29, 2010, and two copies of the videos clips that were shown in the PowerPoint presentation.

Please address any questions concerning these materials to the undersigned.

Sincerely,

Samuel M. Sipe (KG)
Samuel M. Sipe, Jr.
Counsel for BNSF Railway Company

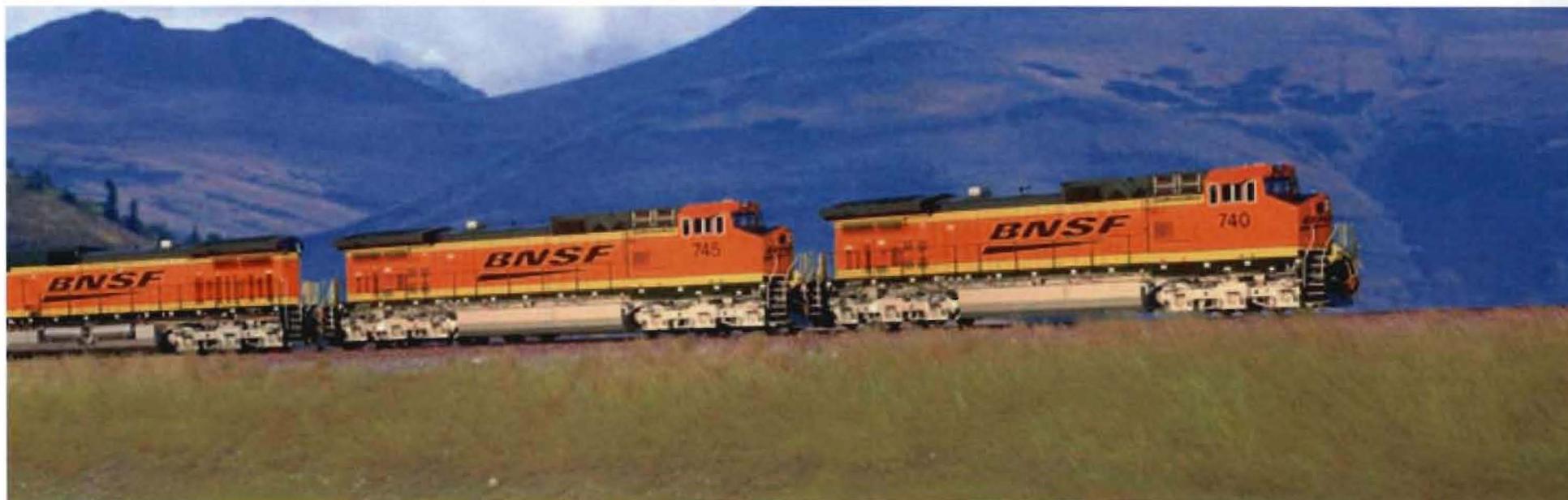
cc: Parties of Record (with enclosures)

BNSF Railway

STB Docket No. 35305

Petition of Arkansas Electric Cooperative Corporation

July 29, 2010



The Board Should Conclude:

- 1) It is necessary to keep coal dust from blowing off of loaded trains in transit.
- 2) BNSF has the authority to issue reasonable operating rules that will curtail coal dust emissions.
- 3) The specific standards at issue here are reasonable.

**COAL DUST EMISSIONS MUST
BE SUBSTANTIALLY
ELIMINATED**

Coal dust fouling is extensive



Coal dust fouling is extensive

Milepost 20.6



05/24/2010



Coal dust fouling is extensive



Coal dust fouling is extensive

Milepost 62.3



Coal dust fouling is extensive

Milepost 96.3



Coal dust fouling is extensive

Milepost 103.6

05/25/2010



Coal dust fouling is extensive

Milepost 126.63

05/25/2010



Coal dust is found on all PRB rail lines



Coal dust is blown off the top of loaded cars in transit

383



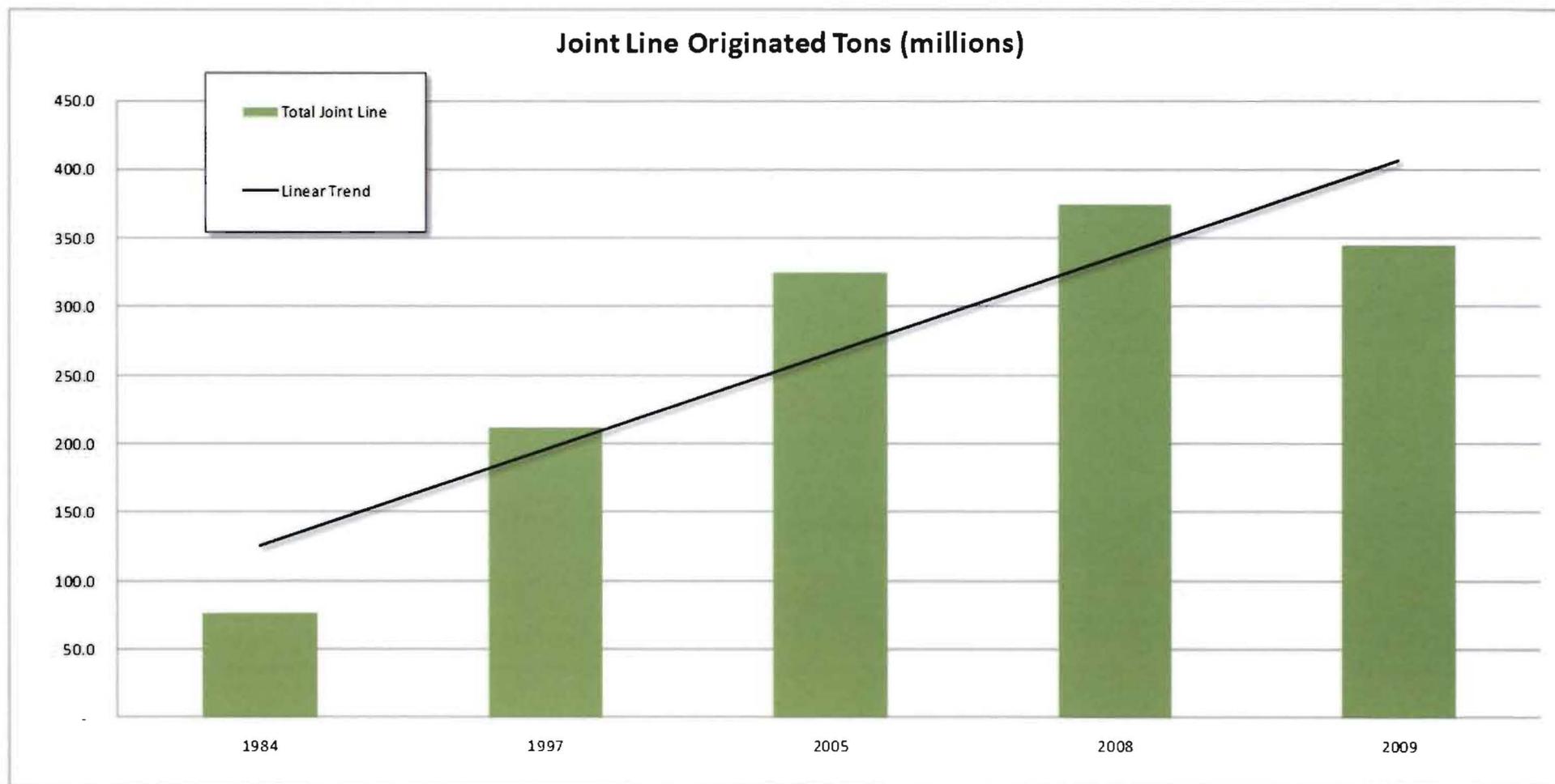
BNSF

Large amounts of coal are lost from the tops of cars

Coal loss caused by wind erosion in transit

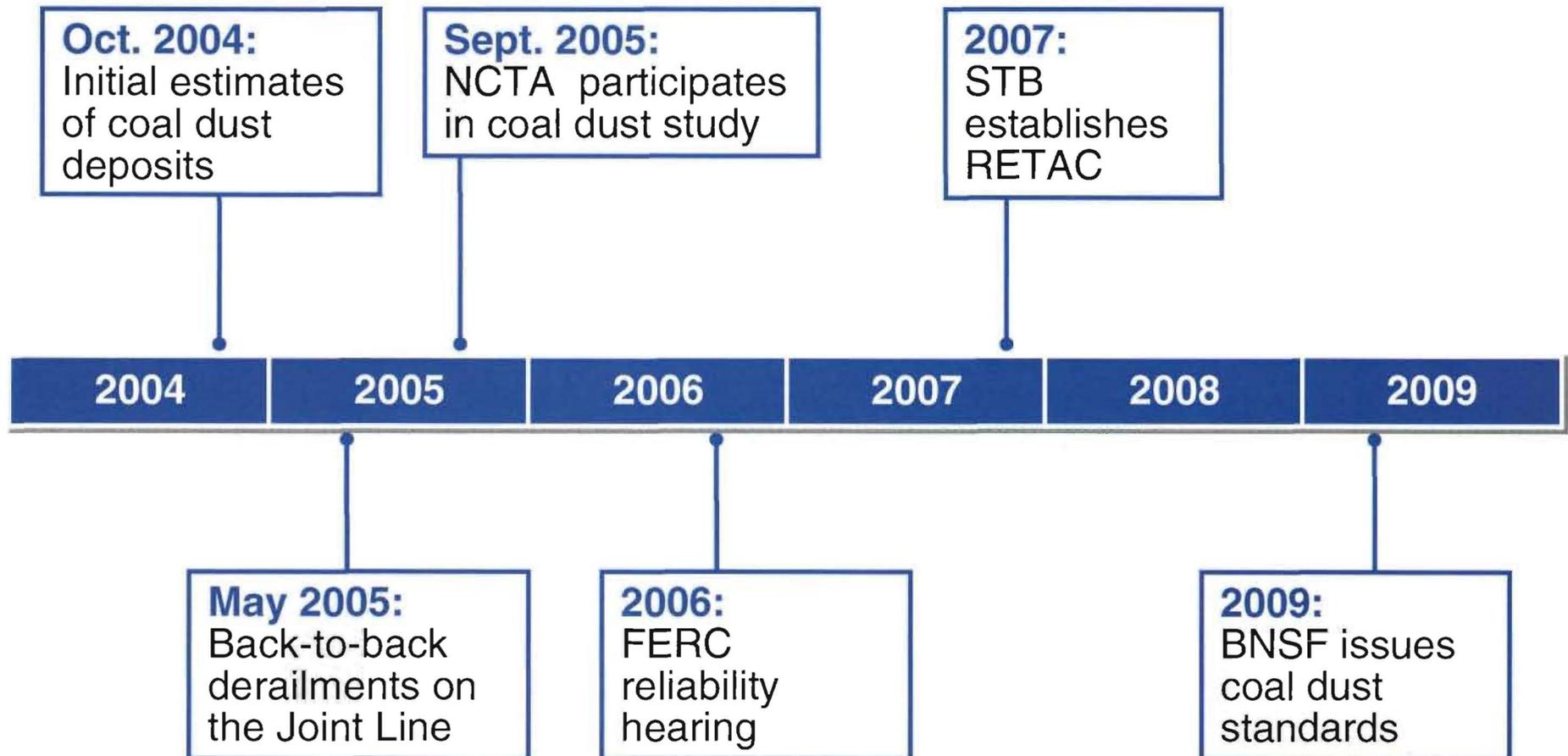


Increase in Joint Line traffic 1984-2009



BNSF has been studying the coal dust problem for years

386

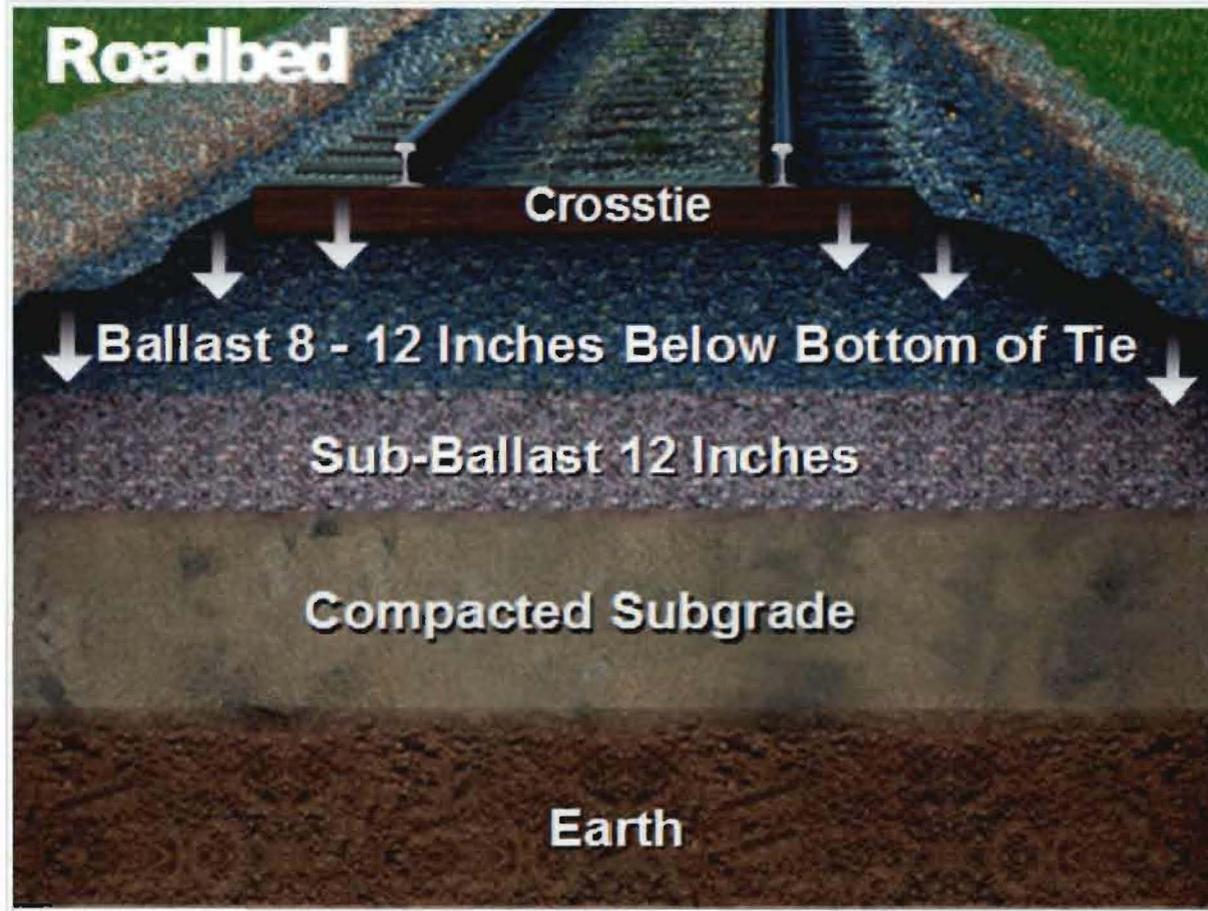




**AFTER-THE-FACT
MAINTENANCE IS NOT A
RESPONSIBLE WAY OF DEALING
WITH COAL DUST**

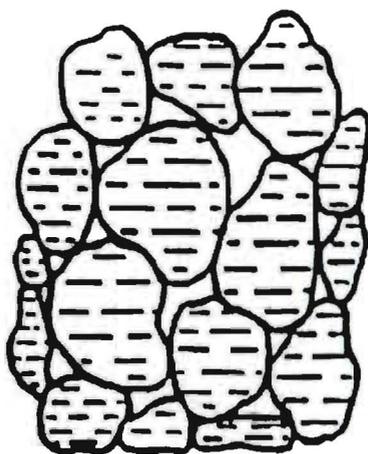
Ballast is a crucial aspect of track integrity

388

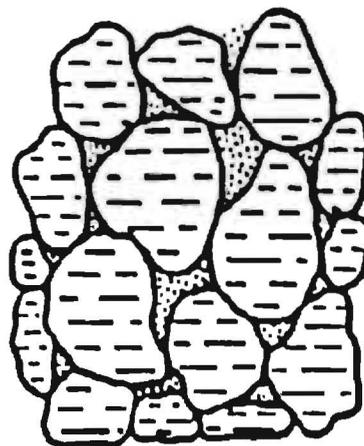


Coal is a pernicious ballast foulant

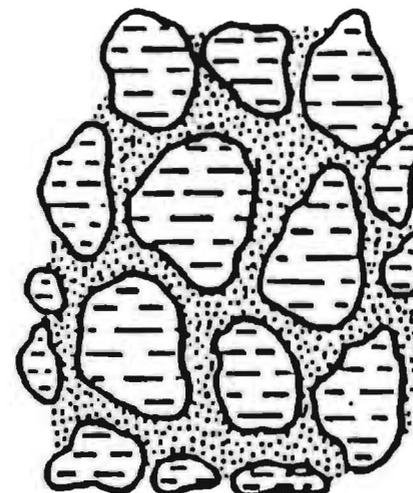
❑ Critical Phases of Fouling



Clean



Partially to
Fully Fouled



Heavily Fouled

Large volume of coal dust makes it impossible to deal with through maintenance ³⁹⁰



**CONESTOGA-ROVERS
& ASSOCIATES**

2270 Springlake Road, Suite 800, Dallas Texas 75234
Telephone: (972) 331-8500 Facsimile: (972) 331-8501
www.CRAacorp.com

June 1, 2010

Reference No. 071136

Mr. William E. Van Hook
Assistant Vice President & Chief Engineer - System Maintenance & Planning
BNSF Railway Company
2600 Lou Menk Drive
Fort Worth, TX 76131

RE: BNSF Right-of-Way Cleanup, Orin Subdivision, Bridge Junction, Wyoming

Conestoga-Rovers report: estimated tons for removal from Orin sub: 1.58 Million

include the transportation and disposal of the excavated material.

CRA has prepared the engineering cost estimate for your review, which can be found on Table 1. The engineering cost estimate was produced using an average width distance of the ROW as determined from the track charts for each MP. The linear distance of each railroad Mile Post (MP) was taken directly from the track charts and then CRA developed a scale for the depth of coal/coal dust impact in an effort to calculate volumes.

The depth scale is identified as follows:

- Light (L), 0-2 inches (using an average depth of 1 inch for complete area).
- Medium (M), 2-4 inches (using an average depth of 3 inches for complete area).
- High (H), 4-6 inches (using an average depth of 5 inches for complete area).
- Extreme (X), >6 inches (using an average depth of 7 inches, these areas contained extreme slopes, water ways and/or heavy deposits of coal/coal dust).

CRA calculations for each MP are as follows, and can be noted on Table 1.

- Distance, provided by track charts.

Title
Employee Name

Worldwide Engineering, Environmental, Construction, and IT Services

BNSF

Coal dust deposits accumulate rapidly

New Track Construction – Fall 2006
M3 Mile Post 52 – Orin Subdivision
Photograph May 2007



Coal dust accumulates in the ballast



Coal dust in the ballast is often difficult to detect



Apparently clean granite ballast with coal dust deposits beneath the surface

Lengthy reroutes are needed because of coal dust maintenance



After-the-fact maintenance does not address coal dust that falls off the right-of-way ³⁹⁵

The Chadron
Record

May 4, 2010

“Coal Dust Runoff Inundates Family’s Organic Garden”

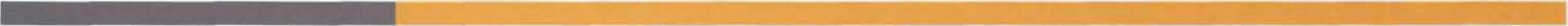


BNSF

Coal dust was a contributing factor to two derailments in 2005

396





**THE PRECAUTIONARY
PRINCIPLE ARGUES FOR
PREVENTATIVE MEASURES**

BNSF's emissions standards can be implemented without large costs

398



Assumptions:

- Delivered cost of coal = \$30/ton
- Surfactant cost = 20 cents/ton

Cost of surfactant spraying
<1%

Prevention and maintenance are not equally effective

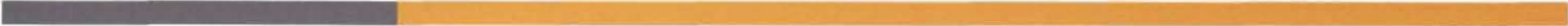
**Preventing
coal dust
emissions**



**Performing
after-the-fact
maintenance**

Core Legal Principles and Conclusions

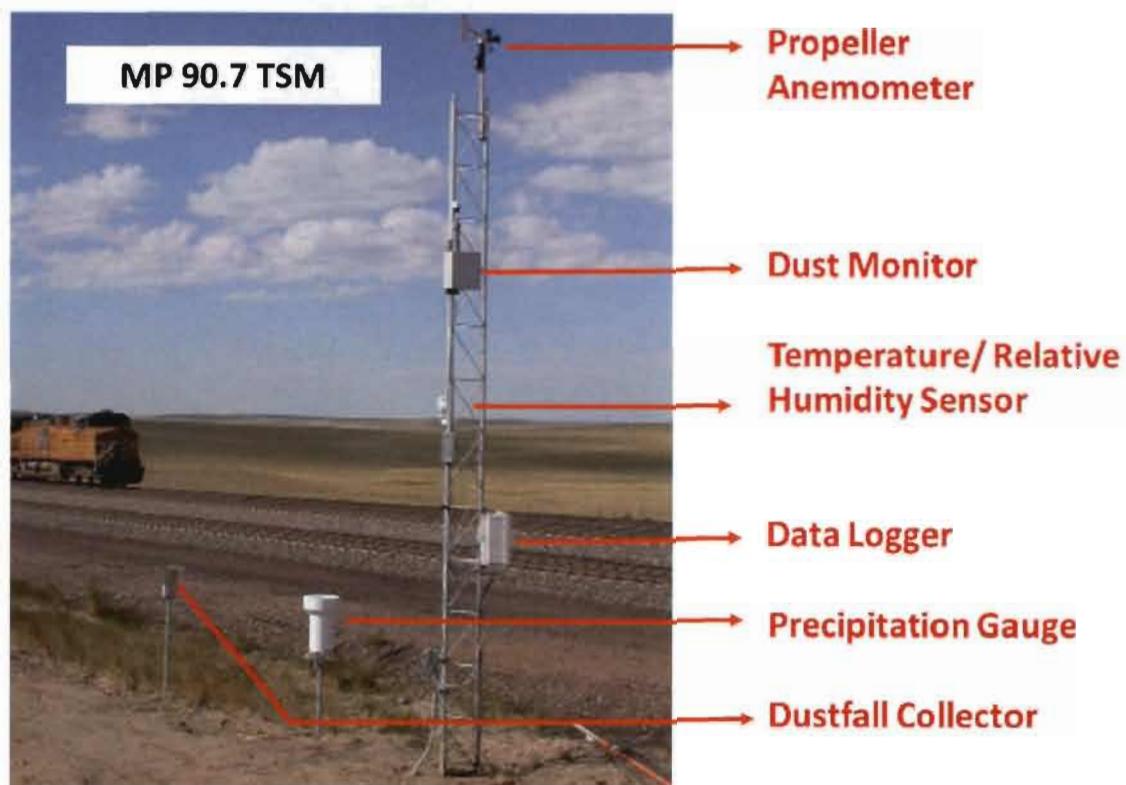
- **Railroads have authority to issue operating rules to promote safe and efficient transportation.**
- **Shippers are responsible for securing their freight.**
- **BNSF's coal dust operating rule is a reasonable way to ensure that shippers will take steps to limit coal dust emissions.**



**BNSF'S PERFORMANCE
STANDARD REQUIRES
MONITORING**

Trackside monitors

Track-side monitor
at milepost 90.7



Trackside monitor in
Queensland, Australia



Monitors detect dust clouds emitted from passing trains

403



BNSF

BNSF's use of the dust monitors has been approved by the manufacturer



Met One Instruments, Inc.
1600 NW Washington Blvd.
Grants Pass, OR 97526
(541) 471-7111
www.metone.com

Dear Dr. Emmitt,

It is our understanding that some questions about the Met One Instruments, Inc E-Samplers have been raised in the context of a proceeding before the Surface Transportation Board. These concerns apparently center on the suitability of the E-Samplers to measure relative amounts of coal dust in the air from coal trains in transit. Based on our understanding of how the E-Samplers are being used, we have no reservations about their use in the Powder River Basin (PRB) to monitor dust emitted from moving coal trains. We believe that the E-Samplers are well suited to this task. We are aware of claims made about supposed shortcomings in the method, and we would like to take this opportunity to make some specific observations about four important points:

First, it is perfectly appropriate to use the E-Samplers to measure the relative amount of dust in an air sample using a relative dust unit instead of a unit of mass concentration such as milligrams per cubic meter (mg/m^3). While the E-Sampler output can be scaled to report particulate mass concentrations through the use of a K-factor (multiplier), it is not necessary to do so for the PRB application.

Second, when measuring the relative amount of dust in a sample using relative dust units, the E-Samplers will reliably establish a linear relationship between measurements. Thus, a reading of 2X dust units can reasonably be interpreted as representing two times the amount of dust as a reading of X dust units, assuming that the type of dust is reasonably consistent. This claim is adequately met with sample times of several minutes, as is the case with trains passing the monitoring site described by BNSF.

“Based on our understanding of how the E-Samplers are being used, we have no reservations about their use in the Powder River Basin (PRB) to monitor dust emitted from moving coal trains. We believe that the E-Samplers are well suited to this task.”

*– Dennis Hart, Product Engineer,
MetOne Instruments*

Load Profiling



BEFORE

Note peaked loads, sharp lines, steep angle of repose and other irregular surfaces which are susceptible to erosion



AFTER

Note rounded contour, no sharp angles, flatter angle of repose and few irregular surfaces which are susceptible to erosion

Surfactant Application



Surfactant spraying in the PRB



Surfactant spraying in China



BNSF'S ADOPTION OF A PERFORMANCE-BASED STANDARD

FERC convened a hearing regarding impact of coal delivery on reliability

408

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Discussions with Utility and Railroad Representatives
On Market and Reliability Matters

Docket No. AD06-8-000

NOTICE ON FILING COMMENTS

(June 30, 2006)

On June 15, 2006, the Federal Energy Regulatory Commission (FERC) met with utility and railroad representatives to discuss railroad coal-delivery matters and their impact on markets and electric reliability.

Additional comments in this docket will be accepted until **July 17, 2006**.

Magalie R. Salas
Secretary

The Board places a strong emphasis on maintaining a reliable PRB coal supply

38193
EB

SERVICE DATE JULY 17, 2007

SURFACE TRANSPORTATION BOARD

DECISION

STB Ex Parte No. 670

ESTABLISHMENT OF A RAIL ENERGY TRANSPORTATION ADVISORY
COMMITTEE

AGENCY: Surface Transportation Board.

ACTION: Notice of Establishment of Federal Advisory Committee.

SUMMARY: As required by section 9(a)(2) of the Federal Advisory Committee Act (FACA), 5 U.S.C. App., the Surface Transportation Board (Board), hereby gives notice that, following consultation with the General Services Administration, the Board is creating a Rail Energy Transportation Advisory Committee (RETAC). RETAC will provide advice and guidance to the Board, and serve as a forum for discussion of

The Board views the reliability of the nation's energy supply as crucial to this nation's economic and national security, and the transportation by rail of coal and other energy resources as a vital link in the energy supply chain.

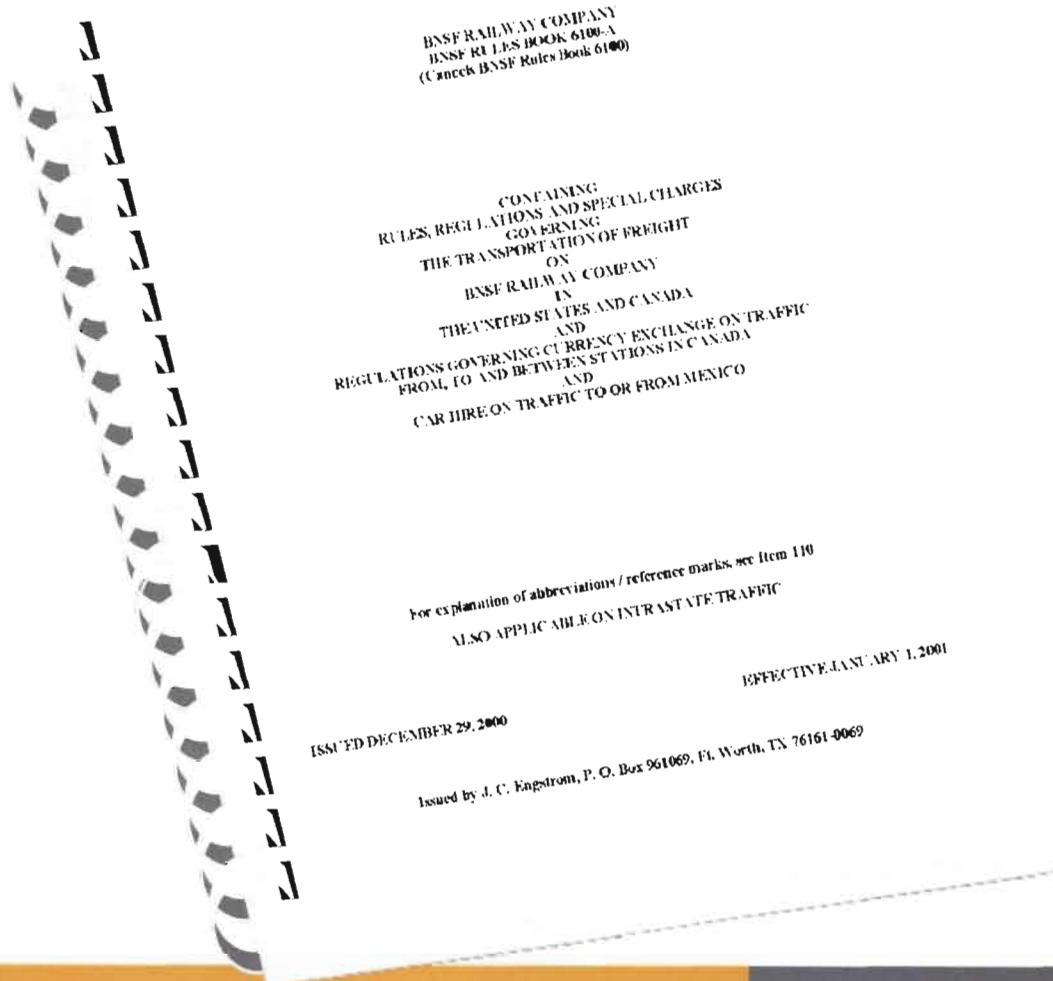
STB Ex Parte No. 670 (Served July 17, 2007)

[www.stb.gov for additional information or to contact the Board's Customer
Service (FIRS) at 1-800-877-8339]

SUPPLEMENTARY INFORMATION: The Board, created by Congress in 1996 to take over many of the functions previously performed by the Interstate Commerce Commission, exercises broad authority over transportation by rail carriers, including regulation of railroad rates and service (49 U.S.C. 10701-10747, 11101-11124), as well as the construction, acquisition, operation, and abandonment of rail lines (49 U.S.C. 10901-10907) and railroad line sales, consolidations, mergers, and common control arrangements (49 U.S.C. 10902, 11323-11327).

There must be a rule that is generally applicable

410



BNSF



**SHIPPERS MUST BEGIN TO
ADOPT CURTAILMENT
MEASURES**

The Joint Line



Joint Line Operating Rule

“As soon as practicable, trains handling cars loaded with coal moving from individual mine origins on the Joint Line shall not emit more than an Integrated Dust Value (IDV.2) of 300 units in order to enhance retention of coal in rail cars.”



NEXT STEPS



SLOVER & LOFTUS LLP

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November 18, 2010

BY HAND DELIVERY

Ms. Cynthia Brown
 Chief, Section of Administration
 Office of Proceedings
 Surface Transportation Board
 395 E Street, S.W.
 Washington, D.C. 20423-0001



Re: Finance Docket No. 35305, Arkansas Electric Cooperative Corp. –
 Petition for Declaratory Order

Dear Ms. Brown:

In response to the request of the STB's staff earlier this week, we are providing two copies of the hearing materials utilized by the Western Coal Traffic League ("WCTL") and the Concerned Captive Coal Shippers ("CCCS") during the July 29, 2010 hearing in the above-referenced proceeding. WCTL's materials included a PowerPoint presentation. CCCS's materials included a PowerPoint presentation identifying the members of the group, a set of photos showing Joint Line track conditions as of May 2010, and a video showing the movement of a train on the Joint Line. We have enclosed both hard-copy and electronic versions of the hearing materials.

Respectfully submitted,

Andrew B. Kolesar III

Enclosures

STB Finance Docket No. 35305

Handout for Oral Hearing



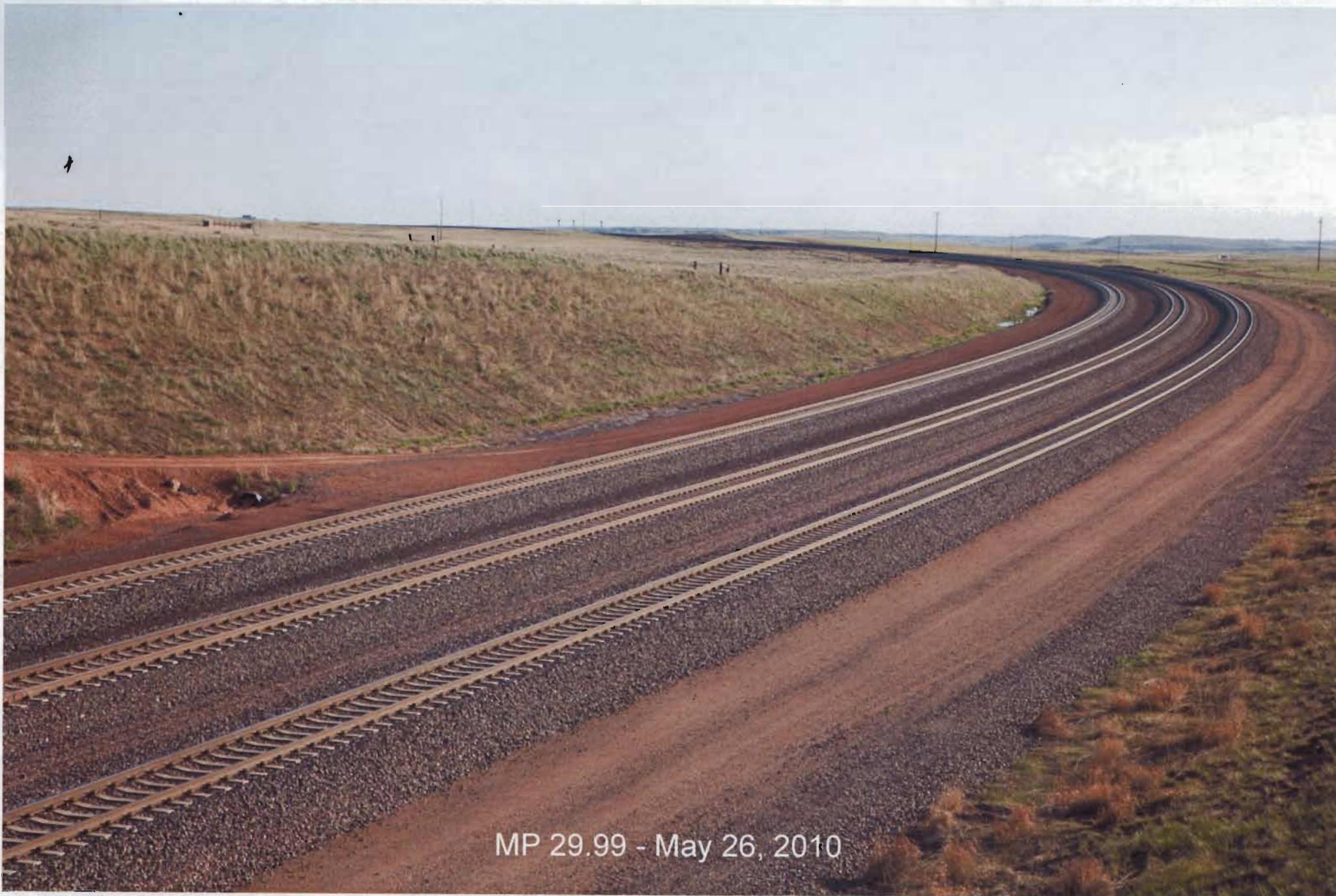
Excerpts from WCTL-CCCS Rebuttal Exhibit 2

Joint Line Photos – May 25 & 26, 2010

C. Michael Loftus
Slover & Loftus LLP
Counsel for Concerned Captive
Coal Shippers
July 29, 2010



MP 28.44 - May 25, 2010



MP 29.99 - May 26, 2010



MP 39 - May 26, 2010



MP 45 - May 26, 2010

MP 59.3 - May 26, 2010





MP 65.4 - May 26, 2010



MP 88.6 - May 26, 2010



Finance Docket No. 35305

Western Coal Traffic League

July 29, 2010

BNSF IDV Standards

- Item 100 – “Effective October 1, 2010, Shipper shall take all steps necessary to ensure that Trains handling Cars loaded with Coal from **any mine origin that move over the Joint Line shall not emit more than an Integrated Dust Value (IDV.2) of 300 units** in order to enhance retention of Coal in Cars.”
- Item 101 – “Effective October 1, 2010, Shipper shall take all steps necessary to ensure that Trains handling Cars loaded with Coal from **any mine origin that move over the Black Hills Subdivision shall not emit more than an Integrated Dust Value (IDV.2) of 245 units** in order to enhance retention of Coal in Cars.”

F.D. 35305
Concerned Captive Coal Shippers

July 29, 2010

Concerned Captive Coal Shippers

- American Electric Power Service Corporation
- Consumers Energy Company
- Dairyland Power Cooperative
- Dynegy, Inc.
- Entergy Arkansas, Inc., Entergy Gulf States Louisiana, L.L.C., and Entergy Services, Inc.
- Intermountain Power Project
- Progress Energy, Inc.
- Seminole Electric Cooperative, Inc.
- South Carolina Public Service Authority (Santee Cooper)
- South Mississippi Electric Power Association



U.S. Department of
Transportation
Office of the Secretary
of Transportation

General Counsel

1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

November 18, 2010



Ms. Cynthia Brown
Chief of the Section of Administration
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Re: Arkansas Electric Cooperative Corporation –
Petition for Declaratory Order
Docket No. FD 35305

Dear Ms. Brown:

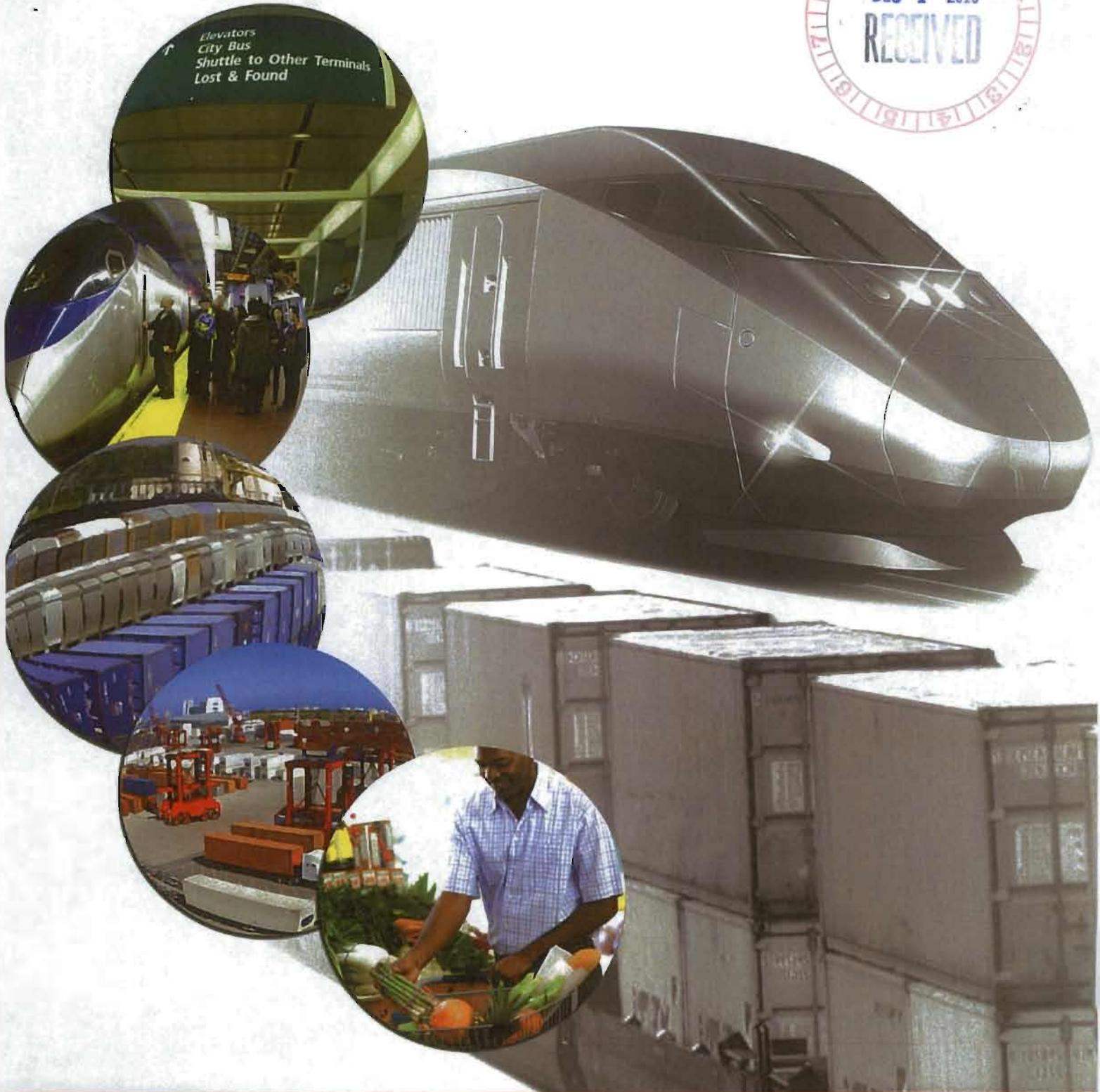
Pursuant to the request of the Surface Transportation Board, enclosed are two hard copies of the *Preliminary National Rail Plan* issued by the Federal Railroad Administration in October 2009. I supplied copies of this document to the members of the Board at the hearing in the above-referenced proceeding on July 29, 2010, referencing in particular Figure 1 on page 4. Please contact me if you have any questions.

Respectfully submitted,

PAUL SAMUEL SMITH
Senior Trial Attorney
(202) 366-9280

Enclosures

PRELIMINARY NATIONAL RAIL PLAN ⁴³⁰



**Preliminary
National Rail Plan**

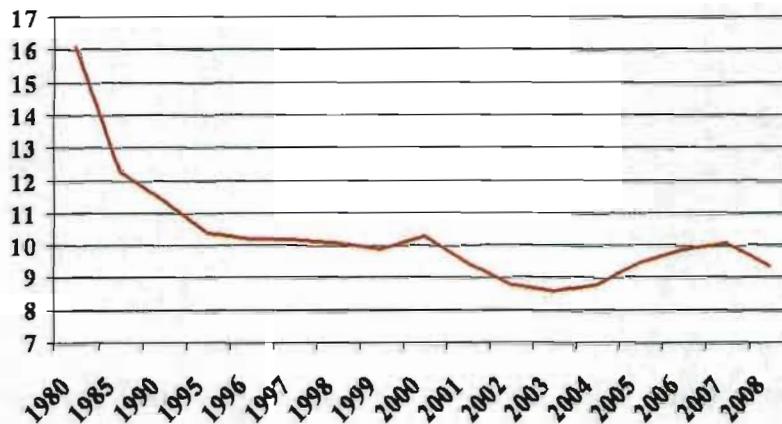
**The Groundwork for Developing
Policies to Improve the United
States Transportation System**

October 15, 2009

PRELIMINARY NATIONAL RAIL PLAN

2009

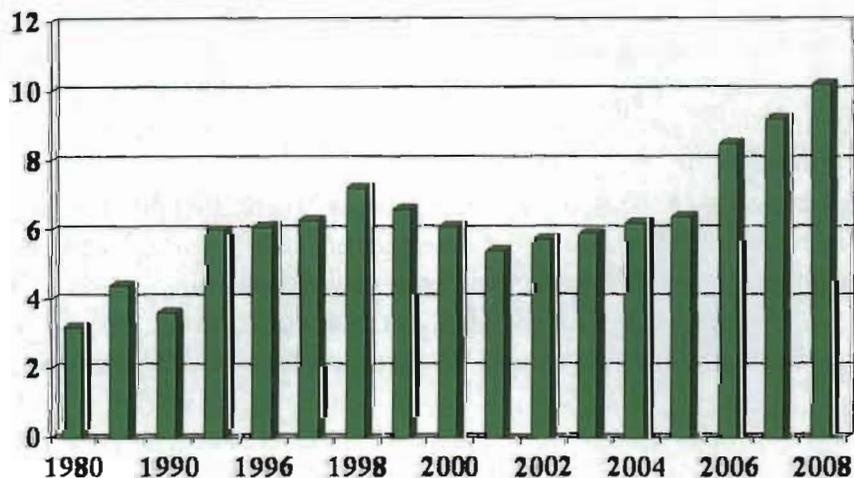
Figure 8. - Total Logistics Costs as a Percent of GDP



Source: Annual State of Logistics Report; Council of Supply Chain Management Professionals

Congestion causes delays, diminishes productivity, and adds extra costs to virtually all goods and services produced in the economy. Investments in transportation infrastructure that expand capacity and relieve congestion points will facilitate the movement of goods over the network and reduce logistics costs. The freight railroad industry invested over \$148 billion from 1980 through 2008. In recent years investment to expand capacity rose from \$6.4 billion in 2005 to \$10.2 billion in 2008. (See Figure 9.)

Figure 9. - Class I Railroad Capital Expenditures



Source: Association of American Railroads; "Railroad Facts," various editions for historic results

Preliminary National Rail Plan

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Executive Summary

The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) directed the Administrator of the Federal Railroad Administration (FRA) to develop a Preliminary National Rail Plan (PNRP or Preliminary Plan) to address the rail needs of the Nation. The PRIIA also directed FRA to provide assistance to States in developing their State rail plans in order to ensure that the Federal long-range National Rail Plan is consistent with approved State rail plans. Subsequent to PRIIA, the American Reinvestment and Recovery Act of 2009 (Recovery Act) sets the framework for the development of true high-speed rail in the United States. This Preliminary Plan is, therefore, an important first step in an ongoing process.

This Preliminary Plan lays the groundwork for developing policies to improve the U.S. transportation system. Its goals are consistent with the top goals of the U.S. Department of Transportation's (DOT): to improve safety, to foster livable communities, to increase the economic competitiveness of the United States, and to promote sustainable transportation. The important attributes of rail—safety, fuel efficiency, and environmental benefits—can meaningfully assist in achieving these goals.

CURRENT RAILROAD BENEFITS TO THE TRANSPORTATION NETWORK		
	FREIGHT	PASSENGER
SAFETY	Rail and intermodal rail can enhance safety in competitive corridors	Average fatalities per year from 2002-2008 = less than 9
ENERGY	1.9 to 5.5 times more fuel-efficient than truck	Consumes 21% less energy per passenger mile than automobiles
LIVABLE COMMUNITIES	Mitigates urban congestion	Encourages efficient land use
ECONOMIC GROWTH	Reduces logistics costs	Improves regional interconnectivity
ENVIRONMENT	Reduces greenhouse gases and pollutants	Reduces greenhouse gases and pollutants

Today, rail is part of a complex national system for the movement of people and goods. Passenger and freight transportation are closely interlinked in that people and goods use the same infrastructure for transportation by highway and rail. Therefore, a National Rail Plan must be developed with an awareness of the transportation needs and demands of both passengers and freight, both of which increasingly move "intermodally," that is they use the most suitable mode of transportation for each segment of a particular journey. The long-range National Rail Plan will assist in developing strategies that exploit the

strengths that are inherent in each mode of transportation, and leverage those strengths to improve U.S. transportation as a whole.

The traditional role of the FRA has long been to promote and oversee railroad safety, and safety remains a focus of FRA. Legislative directives in the last year, most notably PRIIA and the Rail Safety Improvement Act of 2008 (RSIA), have given FRA additional broad responsibilities to administer and manage funds that will improve rail transportation. The new scope and direction provided by PRIIA and RSIA, in combination with the Recovery Act, has made FRA's participatory role in rail transportation projects comparable to that of other modal administrations in the Department.

PRELIMINARY NATIONAL RAIL PLAN

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This Preliminary Plan sets forth the FRA's proposed approach to developing the long-range National Rail Plan, including our goals and objectives for the greater inclusion of rail in the national transportation system. Although this Preliminary Plan does not generally offer specific recommendations, it identifies a number of issues that this agency believes should be considered in formulating the National Rail Plan. In short, it is designed to create a springboard for further discussion. The FRA especially looks forward to input from the States, and freight railroads, who are expected to provide valuable information and perspectives. The end focus is on the shippers and riders who use the rail system. We welcome the participation of all transportation stakeholders on these issues as well as others that may be presented, as we develop the long-range National plan. Outreach efforts such as the Rail Safety Advisory Committee and the high-speed rail development efforts have been very successful. These and other activities have given FRA a reputation for strong and extensive outreach; the development of a National Rail Plan will be in line with this model.

Background and Context of the Plan

The RSIA reauthorized FRA and the current safety program through 2013, and it proposes initiatives to enhance rail safety by adding inspectors and new programs. The RSIA also advances high-speed rail by opening avenues for Federal investments in infrastructure improvements. Companion legislation, PRIIA, was enacted on October 16, 2008. Section 307(b)(j) of the Act directs the Administrator of FRA to: (1) provide assistance to States in developing State rail plans, (2) develop a long-range National Rail Plan consistent with both approved State rail plans and the rail needs of the Nation, and (3) develop a PNRP within a year of the date of enactment.

Additionally, PRIIA directed the Administrator to develop partnerships with the freight and passenger railroad industry concerning public rail development, support intermodal rail development and high-speed rail development, ensure that programs and initiatives developed under this section benefit the public, and support regional and national transportation goals. The Administrator was also directed to assist providers of rail service and owners of rail infrastructure in integrating passenger-freight service on shared rights-of-way in response to joint requests to help assess operations and capacity, capital requirements, and operating costs.

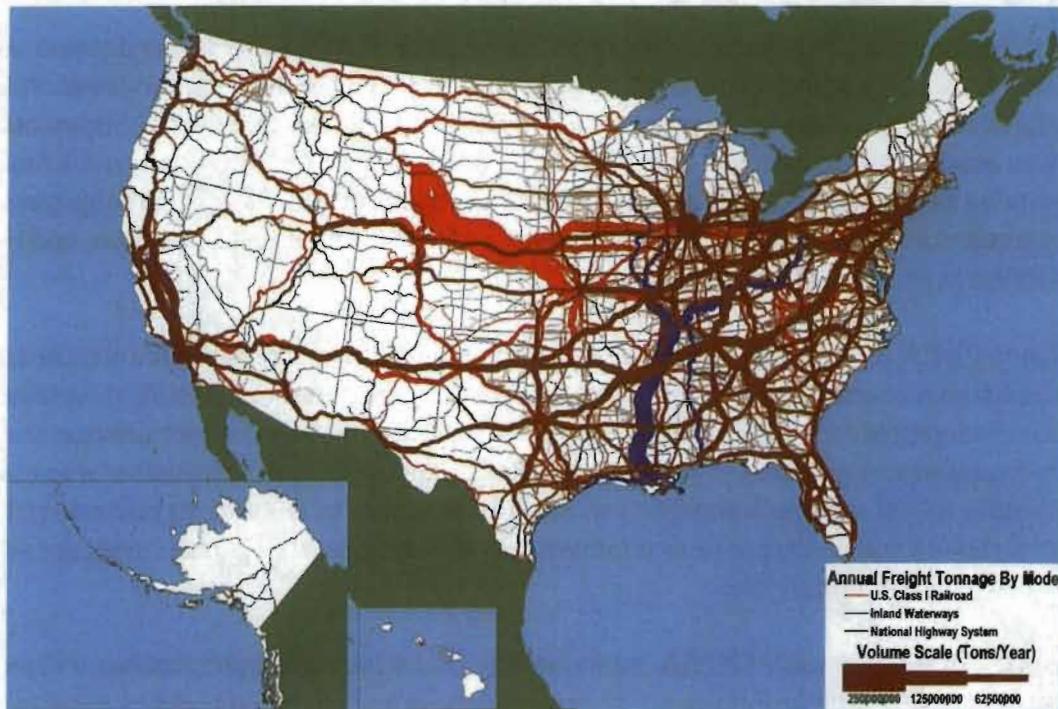
The directives of this section of PRIIA are numerous, and while certain provisions will require additional time due to new requirements, they nonetheless need to be considered in this Preliminary Plan. This PNRP sets forth the issues, methodology, and framework that must be taken into account in the future development of the first long-range National Rail Plan, which, as noted above, must be consistent with the approved State rail plans. This PNRP also presents background material on various aspects of our current system of rail transportation, and addresses the key issues that must be resolved in order to develop a modern and efficient passenger and freight rail system that works in harmony with other modes of transportation. Such a system will enable DOT to meet future national needs as well as achieve current departmental goals.

The railroad industry today is a major component of a mature transportation network that also includes highway, waterway, transit, pipeline, and air (see Figure 1 for rail, highway and waterway tonnage). Together these systems provide, singularly or intermodally, the transportation that is required for freight and passengers. Over the past decades, the network has improved in response to shippers and travelers who have demanded more efficiencies from both the transportation modes and the intermodal connections. As a result, freight shippers and their customers have been able to extract logistic costs from the supply chain, and commuter and intercity rail passengers can sensibly choose the type of transportation that best meets their expectations in terms of time and cost. As this trend continues, higher quality rail service will attract an increasing share of business from shippers and from traveling passengers.

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Figure 1. - Tonnage on Highways, Railroads and Inland Waterways: 2002



Sources: Highways: U.S. Department of Transportation, Federal Highway Administration, Freight Analysis Framework, Version 2.2, 2007. Rail: Based on Surface Transportation Board, Annual Carload Waybill Sample and rail freight flow assignments done by Oak Ridge National Laboratory. Inland Waterways: U.S. Army Corps of Engineers (USACE), Annual Vessel Operating Activity and Lock Performance Monitoring System data, as processed for USACE by the Tennessee Valley Authority; and USACE, Institute for Water Resources, Waterborne Foreign Trade Data, Water flow assignments done by Oak Ridge National Laboratory.

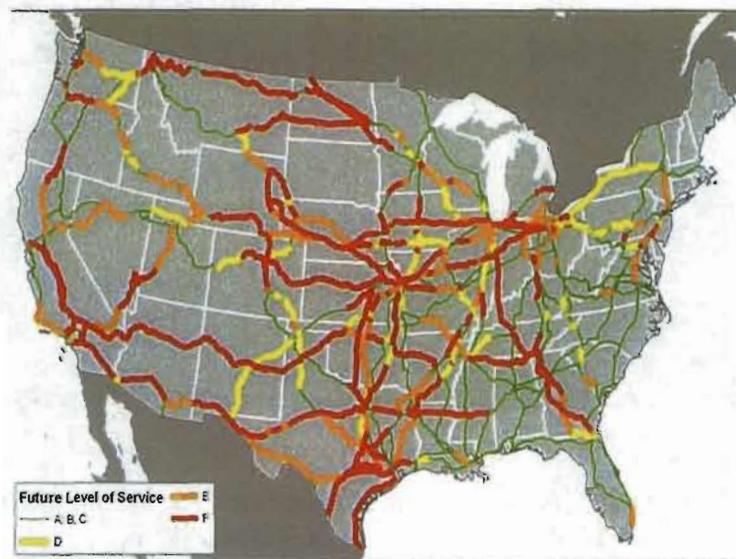
In the United States today, two distinctly different rail systems exist: freight railroads and passenger railroads. Freight railroads are privately owned and operated; they are in business to make a profit for their stockholders. Passenger railroads are publicly subsidized by taxpayers; they provide a public service by offering a safe and environmentally friendly travel option. These two different types of rail transportation usually occur in the same corridor and on the same infrastructure.

By many measures, the U.S. freight rail system is the safest, most efficient and cost effective in the world. Generally speaking, and in relative comparison to other modes, freight railroads perform their functions and maintain the freight rail infrastructure without the need for government funds. Freight rail infrastructure maintenance and capacity enhancements, however, can only occur with Federal legislation and policies that allow rail carriers to earn revenues that are sufficient to encourage their continued investment in the system. Their investment meets National needs by enhancing safety, reliability, and capacity. Before 1980, when railroads were partially deregulated, they focused on survival. In recent years, they have been thriving and privately funded freight railroads have focused on enhancing the reliability of their service and their intermodal capacity. The recent economic downturn has slowed but not eliminated targeted projects that will enhance freight railroads capacity and competitiveness, thereby positioning them to better handle traffic as the economy recovers.

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These investments are important to meet future growth. The Department estimates that tonnage on the railroad system will increase by 88 percent through 2035. Taking this growth into consideration, Figure 2 shows future rail volumes based upon current corridor capacity. Levels of service "A, B, and C" are corridors operating below capacity. Levels of service "D and E" are operating near capacity and level of service "F" is operating above capacity with congestion affecting the network.

Figure 2. - Future Corridor Volumes Compared to Current Corridor Capacity - 2035 Without Improvements



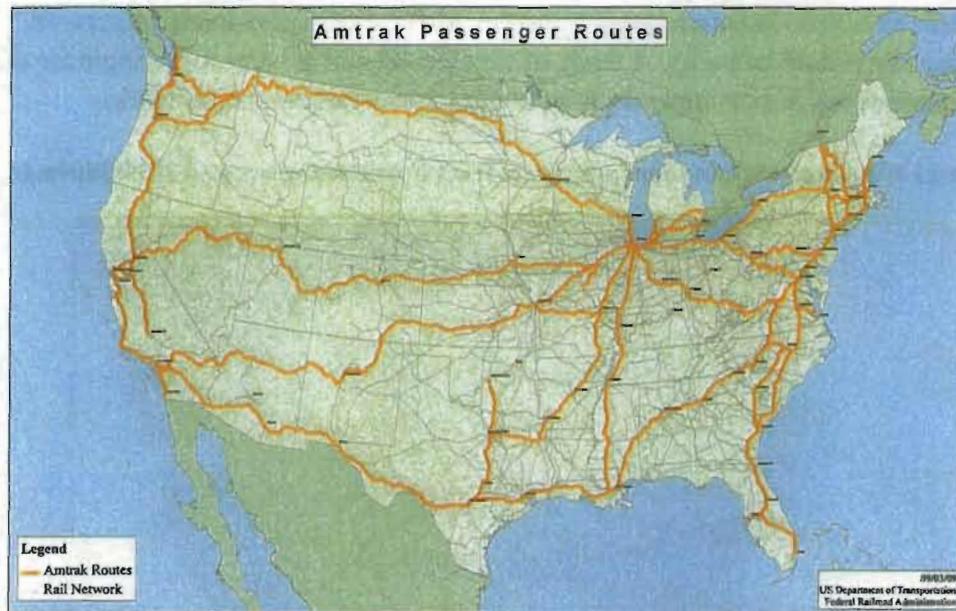
Source: National Rail Capacity Study, 2007

Our Nation's intercity passenger rail service is provided by the National Railroad Passenger Corporation (Amtrak), which was created in 1971 to relieve the freight railroads from their common carriage obligation to provide passenger service. The current passenger services, (see Figure 3), which serve as an important component of a national transportation system, must be improved and intermodal connections enhanced. The PRIIA reauthorized Amtrak for 5 years and provided funding to improve the U.S. rail passenger network. To better develop high-speed rail service, whether operated by Amtrak or another entity, the Recovery Act, signed into law by President Obama on February 17, 2009, contains funding and sets forth requirements for the development of high-speed intercity rail. This investment will serve as an important economic stimulus, while improving intercity passenger rail service in urban areas and paving the way for high-speed rail.

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Figure 3. - Amtrak Passenger Routes



Currently, there are more than 20 commuter rail systems that serve 25 major metropolitan areas. During the 10 years between 1997 and 2007, annual commuter rail ridership increased by 28 percent—by almost 100 million riders—and in 2007, these commuter rail systems operated 7,000 route-miles and carried approximately 1.7 million daily riders. These systems are supported by State, local, and Federal funding, and they operate over rights-of-way that may be publicly owned, or owned and maintained by freight railroads. As commuter services grow, and as high-speed intercity rail brings more passengers directly into city centers, the importance of easy access to local transit services will increase. The number of rail corridors that reach through metropolitan areas and into the heart of cities, however, is limited.

Long-term trends demonstrate that the growth in intercity and commuter passenger rail services will continue. Most passenger service, however, occurs on rail infrastructure that is owned and operated by freight railroads; only a small amount of rail infrastructure is owned by passenger carriers. Although some rail infrastructure is passenger-only, the vast majority of rail route-miles are traversed by freight.

Passenger and freight rail needs are vastly different. Yet because they are inescapably linked and amenable to economies of scale and joint benefits, the development of a National Rail Plan cannot consider one method in isolation from the other. Both passenger and freight rail operations can interfere with one another, and the delay of either passengers or freight seriously diminishes productivity and customer satisfaction.

Moreover, the rail plan must be developed in consideration of all other modes of transportation within the entire network. With proper policies and positioning, rail can better serve its role as a complementary component of that network. Shippers and passengers benefit from options that include intermodal freight and passenger transportation. Therefore, any plan must consider how to improve efficiencies not only within that particular mode, but also on how the system can collectively work together to provide service enhancements for all users of transportation services.

The National Rail Plan must be vigilant of the dynamic transportation needs of the Nation and remain flexible to accommodate changes in trade patterns and market conditions. For example, the completion of the Panama Canal expansion project in 2014 could significantly alter U.S. and international trade patterns and shift current freight flows to or from different port facilities with subsequent increases in traffic on corridors which are not accustomed to such intensive use.

By recognizing that the individual modes of transportation form an integrated transportation system, the Nation can utilize the strengths that are inherent in each mode, thereby optimizing the entire system.

Objectives for Rail as part of a National Transportation System

Increasing Passenger and Freight Rail Performance Will Improve National Transportation System Performance

The demand for rail passenger transportation depends on the performance of the system. Late passenger trains and inadequate amenities drive away customers, while on-time, frequent and comfortable trains draw increased patronage. Passengers switch to rail when the combination of the positive attributes (safety, speed, reliability, comfort, and convenience) outweighs the cost of transportation alternatives, that is, when the “total package” is viewed as preferable. For this reason, improving rail’s performance will enhance the performance of the national transportation system as a whole. Experience around the world has shown that high-speed and intercity passenger rail systems will require a sustained investment.

Freight shippers, for example, consider not just the cost of rail, but its reliability and convenience. Shippers of freight, and particularly high-value freight, cannot afford slow or undependable transportation services, and when these difficulties result in lost market share, arguments about the superior safety and fuel efficiency of rail fall on deaf ears. If freight rail is to play a larger role in the national transportation system, its performance must improve. This will require expanding capacity, improving connections, reducing chokepoints, and providing new and expanded services. And where rail does not provide direct service to the originator or end-user, seamless service for the “last mile” is also key. At the same time, regulatory and institutional factors that increase costs and impose unequal burdens on performance may have to be revised to better serve the transportation industry and the Department’s goals. Finally, industry and government, working together, must develop and harness new technologies to further improve rail safety, productivity, and performance.

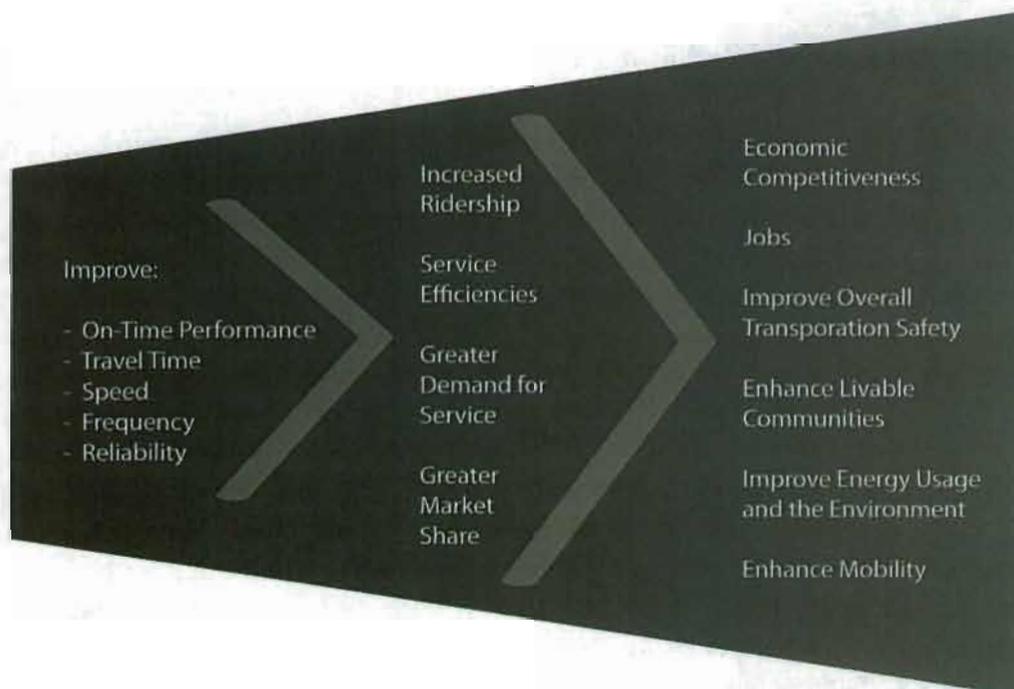
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Integration of All Transportation Modes: A More Complementary Transportation System

The inclusion of new transportation options will allow people and companies to make smarter choices regarding costs and services. Greater integration of rail into the transportation network, where it makes sense to do so, will help the Nation to achieve its ambitious goals. When relative costs and services lead to the increased use of rail, society will experience improved safety, reduced congestion, and a reduction in the need for petroleum with subsequent reductions in pollution and greenhouse gas emissions. In many cases, measures to improve rail performance beyond current levels will further increase rail's capacity to expeditiously move additional freight and passengers.

Using information provided by the States and other stakeholders, including freight railroads and passenger rail operators, the National Rail Plan will set forth a methodology that can more accurately determine what capacity is needed and where intermodal connections need to be improved. This final Plan will recommend strategies to fund capacity enhancements, as well as identify public benefits and consequences. The plan will strive to identify and encourage choices in transportation that help achieve the Nation's and the Department's goals.



Identify Projects of National Significance

One purpose of this plan is to consider how to achieve those critical improvements in the rail system that cannot be realized solely through current public or private arrangements. Rail projects such as the Kansas City Flyover and the Alameda Corridor are examples of successful public-private partnerships

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that are funded by various means, including substantial funding from private sources. As in the case of the Alameda Corridor, user fees can be used to repay a portion of the initial outlays by government. Such projects mirror the manner in which early highway projects were financed by a variety of funding and recouped much of the cost of the project through user fees in the form of tolls.

The privately owned freight rail system, however, must generally finance improvements through current cash flow based on expectations of future demand. Corporate railroads have a responsibility to generate income for their shareholders and look for ways to maximize their return on investment. However, activities that may provide a broad public benefit may not adequately contribute to (and may even harm) efforts to increase revenue or reduce expenses. By comparison, the national highway system, designed to be maintained by user fees in the form of fuel taxes, is not, and has never been, expected to “turn a profit” for its owners. Nonetheless, the national highway system provided speed and flexibility, and revolutionized travel and freight transportation during the 40 years of its development.

There are critical rail projects that might be pursued if additional resources were available. This is particularly true for joint freight-passenger improvements, where the benefit for either mode (when viewed independently) may not be enough to justify a project, although the total benefit would warrant it. New high-speed intercity rail projects provide another example where coordination will be needed among a number of different local jurisdictions. The long range National Rail Plan will consider methods of identifying these “projects of national significance” and propose financing mechanisms. In addition, the Plan will evaluate alternative strategies for financing freight and passenger rail needs.

Just as the formation of the interstate highway system took shape in concert with the development of corridors, rail service enhancements and additions to infrastructure must be coordinated within the context of traffic flows, corridors, and route structures that are in harmony with State and regional transportation plans. As an integral part of the national transportation system, improvements to rail service should be harmonized with existing and future highways, transit systems, airports, and ports.

Provide Increased Public Awareness

The achievement of these goals will require public support and awareness of all modes of transportation. It is therefore vital to stimulate public awareness of the issues and potential benefits from improvements in various modes of transportation, including rail. With this in mind, the long range National Rail Plan will include an extensive public outreach effort. Moreover, the Department will undertake efforts to develop and disseminate material to the public on the potential of rail transportation in partnership with other modes. This is consistent with the Department’s resolve to form a cohesive and efficient multimodal transportation network. Consequently, the long range National Rail Plan will include provisions for ongoing education and feedback on the numerous transportation issues involved.

Need for a National Rail Plan

As the Nation seeks to rebalance its transportation system, much attention has been focused on rail. In the last year, Congress has enacted several important pieces of legislation: RSIA, PRIIA, and the Recovery Act. Efforts are currently underway for legislation for surface transportation reauthorization. A National Rail Plan, developed in harmony with the states, can provide direction by developing a common understanding and aligning goals.

The Recovery Act contains more than \$48 billion in vital transportation funding to help bring about economic recovery and make lasting investments in our Nation's infrastructure. This Act provides an investment in our Nation's transportation infrastructure and in jobs for Americans. The resources made available for transportation infrastructure in the Recovery Act will primarily be used for the modes of transportation that have been traditionally funded publicly. However, the Recovery Act specifies that certain investments, funded through the Federal Highway Administration or the Office of the Secretary of Transportation, can be used for meaningful transportation enhancements regardless of mode; these funds, therefore, are available for rail infrastructure improvements. In addition, for the first time, the Recovery Act designated \$8 billion specifically for the development of high-speed intercity rail in the United States.

Rail can deliver on the Department's goals. For both passenger and freight, rail transportation is a safe, fuel efficient, and environmentally friendly mode of transportation. How rail transportation contributes to the Department's goals is further explained below.

Development of Passenger High-Speed Intercity Rail: A New Transportation Vision

To help address the Nation's transportation challenges, the Federal Government is determining how and where to invest in an efficient, high-speed intercity passenger rail network, which would consist of 100–600 mile intercity corridors that connect communities across America. (See Figure 4.) This vision builds on the successful highway and aviation development models by adding a 21st century solution that focuses on a clean, energy-efficient option (even today's modest intercity passenger rail system consumes 21 percent less energy per passenger-mile than automobiles, for example). But developing a comprehensive high-speed and intercity passenger rail network would require a long-term commitment at both the Federal and State levels. In addition to the \$8 billion in the Recovery Act, consideration is currently being given at all levels of government to increase funding for high-speed rail.

Over the past two decades, the Federal Government has taken small steps to lay the groundwork for an expansion of high-speed intercity rail and intercity passenger rail. The funding provided in the Recovery Act represents a significantly greater Federal commitment to high-speed intercity rail development in the United States.

The first steps to advance passenger rail will emphasize strategic investments that will yield tangible benefits to intercity rail infrastructure, equipment, performance, and intermodal connections over the

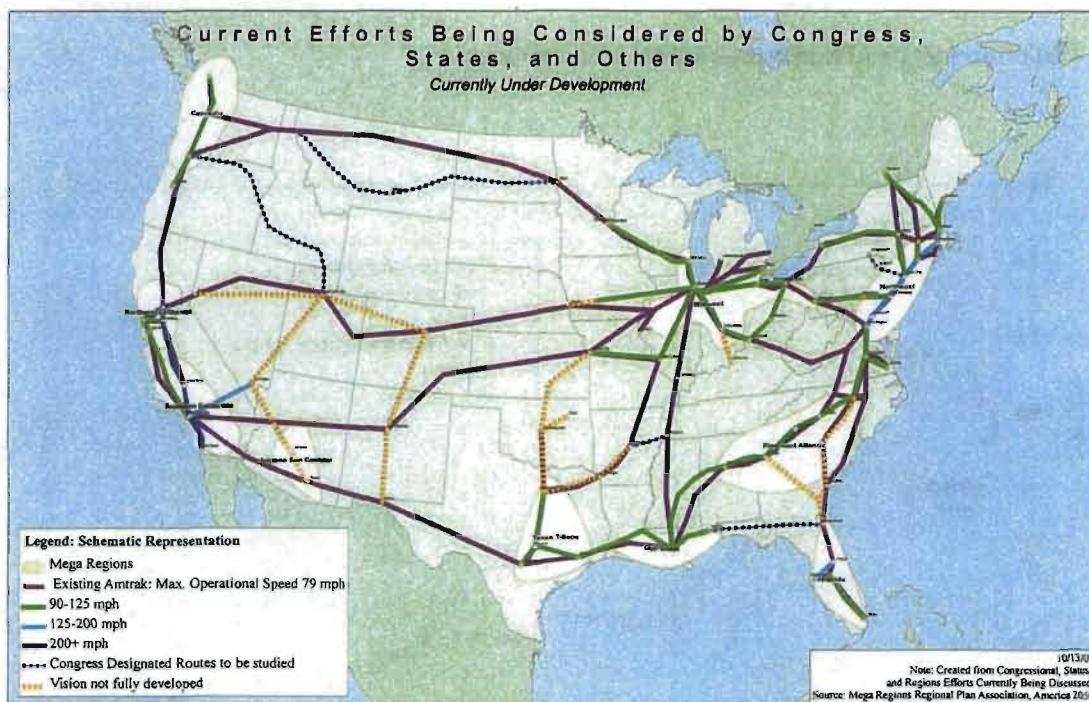
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next several years, while also creating a “pipeline” of projects to promote future corridor development. Federal and State governments face a difficult fiscal environment in which to balance critical investment priorities, and many will have to ramp up their program management capabilities.

The United States has a dwindling pool of expertise in the field of passenger rail and a lack of manufacturing capability. But future investment in passenger rail could lead to a resurgence of this industry and require new technologically advanced designs. Equipment could be constructed in manufacturing plants, requiring advanced subsystems along with primary materials such as high-quality steel.

This presents a challenge, but also an opportunity. Along with the renewed Federal commitment proposed here, the country’s success in creating a balanced and sustainable transportation future will require that we work to overcome these challenges through strong new partnerships among State and local governments, railroads, manufacturers, and other stakeholders.

Figure 4. - High-Speed/Intercity Rail Corridors under Consideration by Multiple Entities



To Improve Safety

In numerous ways and on many levels, FRA has played a key role in the ongoing development and progression of safety in rail transportation. Although a strong safety culture already exists in the freight and passenger railroad environments, there is always room for improvement. Owing to the fact that rail transportation occurs on private rights-of-way and away from the public domain for most of its journey,

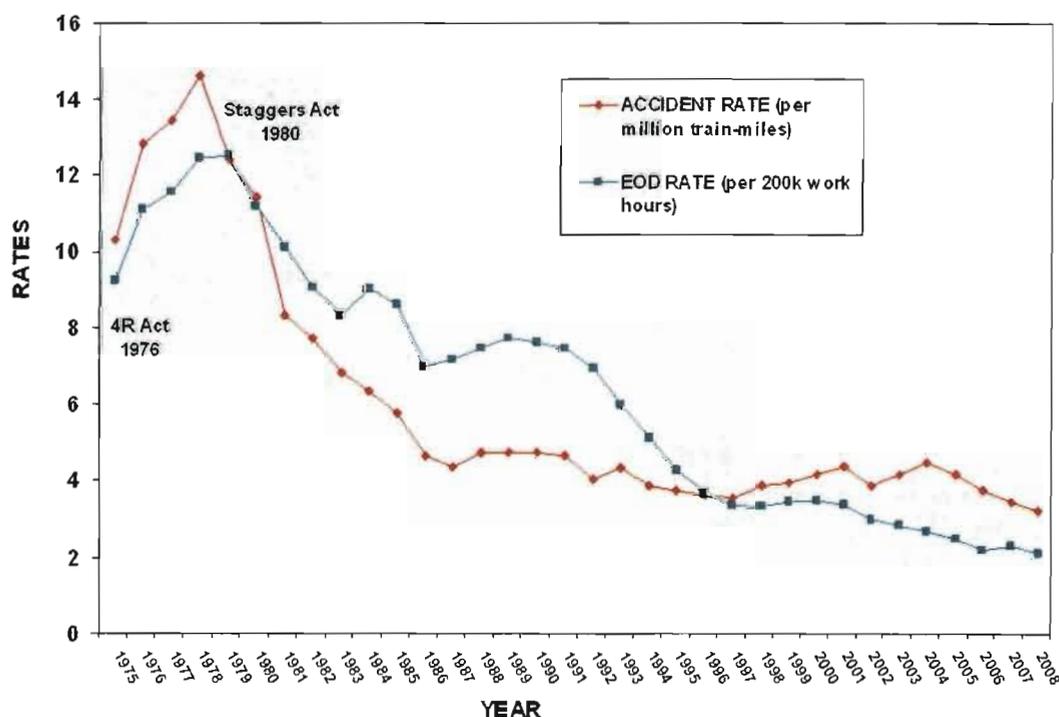
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it largely avoids interacting with the public. In fact, the preponderance of casualties, both injuries and fatalities, involve traffic at grade crossings and/or people trespassing on railroad property. Due to this separation between railroads and other traffic, shippers and passengers who use rail in lieu of public infrastructure accrue measurable safety benefits. Railroad passengers are significantly safer because of safety regulations, standards, and technology that are designed and built into passenger equipment and operations. On a per-mile basis, rail passengers are exponentially safer than automobile occupants. Whether hauling freight, taking commuters to work, or moving intercity passengers, rail is one of the safest modes available. The railroad environment, however, is not without its dangers; indeed, it can be unforgiving in certain situations. Because of this, FRA's most critical mission is safety.

The railroad industry has experienced considerable improvement in safety over the past several decades, with significant annual declines in casualties and rail-related accidents and incidents, including train accidents, highway-rail grade-crossing incidents and employee accidents. These promising trends are all the more impressive because they occurred during an era of ever-increasing train-miles. Since 1980, train-miles, a measure of exposure, have increased by 27 percent while accidents per million train-miles have declined by 71 percent. (See Figure 5.)

Figure 5. - Train Accident and Employee on Duty Casualty Rates



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Over the past decade, both the accident rate and the employee-on-duty casualty rate have flattened. To build upon these successes, FRA began the Risk Reduction Program (RRP), an initiative to reduce accidents and injuries beyond the current downward trend. The program capitalizes upon strong safety cultures already in place by helping the rail industry establish voluntary programs that identify and address risk, and which include measurable goals and corrective actions. Congress later mandated the use of the RRP in the Railroad Safety Improvement Act of 2008.

New technologies have the potential to increase safety even further; two notable examples are positive train control (PTC) and electronically controlled pneumatic (ECP) brakes. PTC systems integrate command, control, communications, and information systems in order to control train movements with safety, precision, and efficiency. These PTC systems will improve railroad safety by significantly reducing the probability of collisions between trains, “overspeed” accidents, and casualties to roadway workers. With FRA guidance and involvement, railroads have tested and demonstrated different types of PTC in signaled and non-signaled territory. The Rail Safety Improvement Act requires the installation of PTC by 2015 on all Class I¹ mainline track where certain hazardous materials are transported, and on mainline track over which intercity or commuter rail passenger transportation is regularly provided. The FRA has begun the rulemaking process for PTC implementation.

Another proven technology, ECP brakes, can significantly enhance rail safety and efficiency. Under some conditions, trains operating with ECP brake systems can stop in approximately half the time and distance as compared to trains equipped with conventional brakes. With ECP brakes, locomotive engineers have better control of their trains because they can gradually apply or release the brakes. In addition, the use of ECP brakes may offer major benefits in fuel savings, train handling, car maintenance, and network capacity. Over the long term—and, in part, because of shorter stopping distances—ECP brakes will allow longer trains to safely operate closer together, permitting greater traffic flow and thereby increasing capacity on existing infrastructure.

To Improve Fuel Efficiency

Railroads offer low rolling resistance, even at high speeds. This inherent feature of rail transportation saves fuel when transporting freight and passengers. Petroleum consumption is, of course, a growing national concern, not only as an economic drain, but also because increasing global competition for petroleum supplies raises national security concerns. Moreover, when petroleum is consumed in transportation, greenhouse gases (GHG) are released into the atmosphere; more efficient methods of transportation will reduce GHG and other harmful emissions.

¹ As defined by the Surface Transportation Board, Class I railroads are rail carriers with operating revenues greater than \$359.6 million per year.

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According to a U.S. Department of Energy study, depending on a number of factors including passenger load-factor, distance traveled and weight, passengers traveling by rail use 21 percent less BTUs² per mile on average than those traveling by automobile, and 17 percent less BTUs per mile than those traveling by air for short-haul flights on average. Importantly, passengers riding on intercity trains that are powered by electricity in the Northeast consume zero petroleum. Electricity for this region of the Nation is generated from a variety of energy sources. Examining information provided by the Energy Information Administration for the States in which electrically-powered intercity passenger trains operate (MA, CT, NY, PA, RI, DE, and MD) for the month of June 2009, indicates that in total, over 36 percent of the electrical power was generated by nuclear energy. Natural gas and hydroelectric power accounted for about 24 percent and 7 percent, respectively. About 30 percent of the energy was generated from coal. The balance is from other sources, such as wind. Technologies such as regenerative braking, which captures the electrical energy that is generated by decelerating a train, can further increase energy efficiency.

The railroad industry is one of the most fuel-efficient freight transportation modes in the Nation. A 2009 study comparing rail and truck fuel efficiency³ demonstrated that, depending on the route and the commodity carried, railroads are 1.9 to 5.5 times more fuel-efficient than trucks. According to Oak Ridge National Laboratory, on a BTU per ton-mile basis, rail is 1.7 times more efficient⁴ than domestic waterborne commerce.

Railroads have worked to improve their fuel efficiency and have shown gains of over 23 percent from 1990 through 2007, measured as average gallons of fuel consumed per revenue ton-mile. Most of these improvements were realized before the significant rise in fuel prices in 2008. These gains are the result of a mix of technical improvements in railroad infrastructure and improvements in equipment and operations. As new locomotive technologies are perfected, including hybrid systems and techniques to reduce aerodynamic drag, further gains are being realized.

Freight rail is much more fuel efficient than transportation by truck, although the level of rail fuel efficiency varies considerably by freight corridor and commodity when making a direct comparison. The 2009 fuel efficiency study found that the benefits of shipping by rail increase with route distance. As route distance increases, the advantage of rail's fuel efficiency is compounded. Similarly, as commodity volume and weight increase, it takes more trucks to replace a single rail carload of freight. Figure 6 shows the average gallons of fuel consumed when shipping by rail compared to equivalent shipments moving by truck.

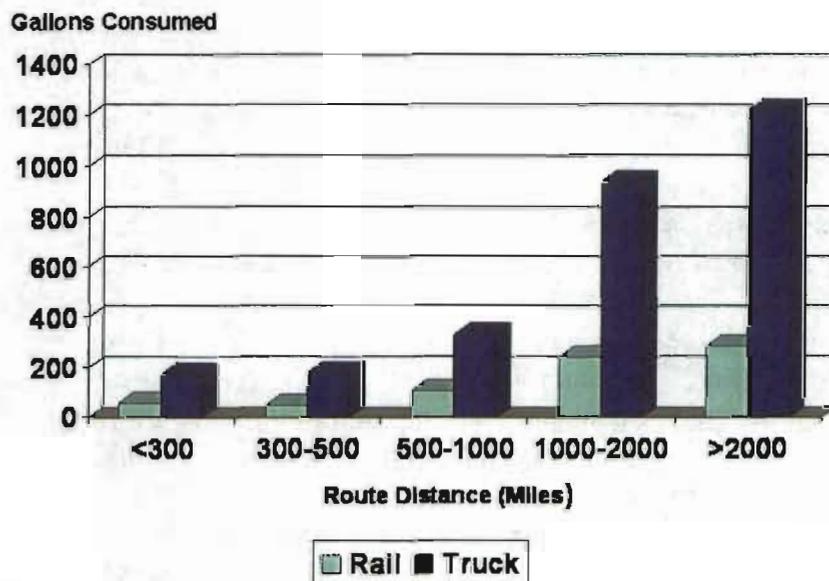
² BTU is an abbreviation of "British thermal unit."

³ *Comparative Evaluation of Rail and Truck Fuel Efficiency on Competitive Corridors*, ICF International, published by the Federal Railroad Administration (2009) pp. 1-9.

⁴ Table 2.16 Transportation Energy Data Book, 28th Edition (2009).

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Figure 6. - Rail vs. Truck Fuel Savings by Distance Traveled



On average, for comparative moves within the mileage blocks and commodities studied, the fuel consumed for shipments traveling less than 300 miles is 58 gallons on rail, while truck consumes 173 gallons. For shipments studied travelling 300–500 miles, rail consumption is 49 gallons and trucks use 180 gallons. Figure 6 illustrates that the results are similar for the 500–1,000 mile range with rail consuming 107 gallons to truck’s 333 gallons. When moving to the 1,000–2,000 mile range, the fuel consumption between the modes widens with rail using 241 gallons to truck’s 943 gallons. The largest fuel savings are realized for moves over 2,000 miles. Here, rail consumes 284 gallons but the equivalent move using trucks would consume 1,227 gallons.

Fuel savings for an entire long-distance freight train are particularly impressive. Depending on the type of the freight and the distance hauled, a single cross-country intermodal double-stack train⁵ can replace 280 trucks and save up to 80,000 gallons of fuel.

⁵ Intermodal freight is hauled in containers moved by truck, rail, barge, or container ship. On intermodal double-stack trains, the containers are stacked two containers high, doubling the amount of trucks this type of train can replace.

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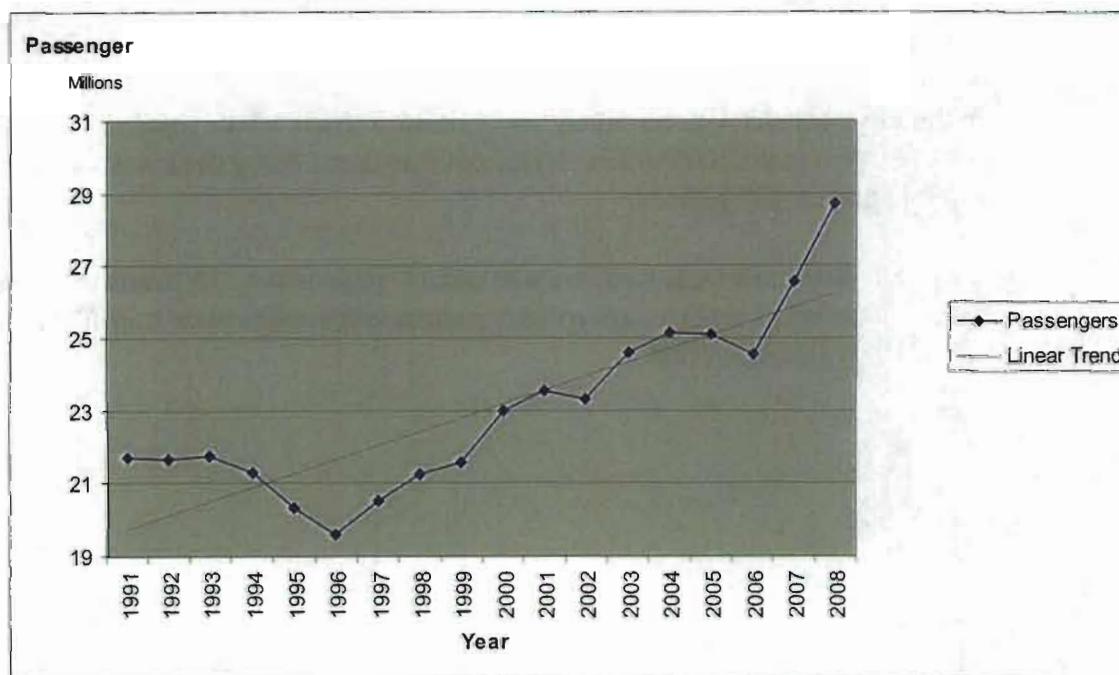
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To Foster Livable Communities

By providing enhanced intercity and commuter passenger rail transportation options, rail can increase a community's vitality and livability. Rail corridors offer the use of private rights-of-way into city centers, putting intercity passengers within easy walking distance of their destinations or convenient transit connections to reach those destinations. From large cities to small towns, restaurants and shops often locate near center-city train stations that can serve as hubs of retail and business activity.

Although Amtrak ridership has declined recently due to the economy, it has generally increased at a steady pace during the last 10 years. (See Figure 7.) As high-speed intercity rail services are expanded beyond the Northeast, the livability of cities will be enhanced. City centers are often the focus of transit systems and generally have the highest concentration of destinations, whether business or personal. By connecting city centers with convenient rail links, center city accessibility is leveraged exponentially, permitting residents of one city to easily enjoy the opportunities of neighboring cities without the need for automobile or air travel, which may be inconvenient for moderate distance trips between city centers. Moreover, the rail mode is often more environmentally friendly. Intercity rail can also work synergistically with transit by encouraging more people to use transit to get to rail stations. The result will be better use of transit services, which will stimulate growth of development more attuned with livable communities not relying on auto access.

Figure 7. - Amtrak Ridership



New stations, platforms and rail passenger cars are being constructed with ease of accessibility built into the design. Using rail passenger services, people with disabilities can travel between cities and connect to accessible transit services.

Freight rail also plays a role in livable communities. By using the long-haul efficiencies of rail, roadway congestion can be reduced, allowing commuters and shoppers to use their automobiles more efficiently. By tailoring their services to community and shipper needs, small freight railroads can preserve, and often improve, local rail service to communities that are not directly served by Class I railroads. And when freight rail service can provide businesses and factories in small communities with cost-effective transportation options, they, too, become more competitive.

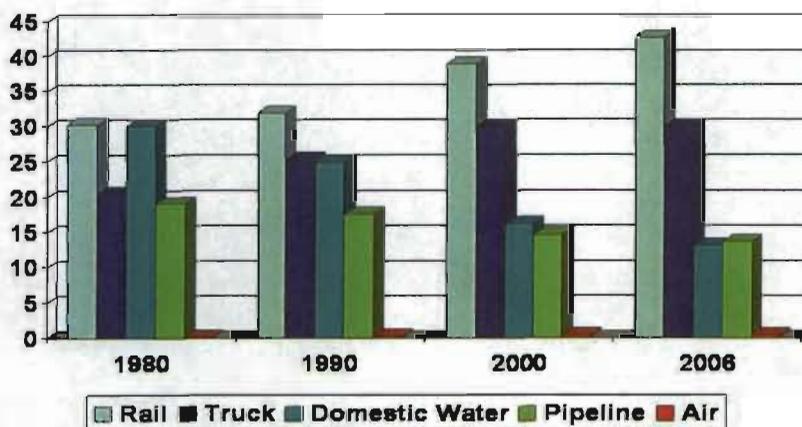
To Increase the Economic Competitiveness of the United States

Safe and efficient passenger and freight transportation systems are essential to support our economy, and when properly maintained and strategically expanded, rail can be a catalyst not only for personal mobility but also for robust economic growth. Moving freight quickly and economically enables our Nation's industries and markets to meet the demands of domestic consumers and helps U.S. products to compete in the global marketplace. Given that even the most successful commercial enterprise can be stifled by inefficient transportation, easy access to U.S. ports is an important factor in facilitating more cost-effective international trade. Economic forecasts continue to indicate a burgeoning demand for freight transportation in the future; industry and the Nation must aggressively plan ahead now if we hope to maintain the competitiveness of the United States in light of the future demands of a challenging global environment.

To that end, transportation providers and shippers have worked to lower total logistics costs. Over the years, more efficient use of the transportation network and targeted investments have lowered those costs, but recently they have begun to rise. This has led shippers to demand more improvements in transportation and better intermodal connections to reduce additional costs. Figure 8 shows logistics costs as a percent of gross domestic product (GDP). These costs fell after transportation industries were deregulated in the early 1980s; however, in 2003 they began to rise, a development that lasted until the recent economic downturn. While much of this increased cost can be attributed to a booming economy that placed capacity constraints on the transportation network, rising fuel prices also played a role. The result has been that logistics costs have formed a larger part of GDP, putting a drag on economic activity, making goods more costly, and diminishing the U.S. competitive position. In 2008, logistics costs ended their 4-year rise, falling to 9.4 percent of GDP. This was likely due to significant reductions in inventory cost from the slumping economy. Transportation costs as a percent of GDP, however, have continued to increase.

The financially healthy and viable rail system that was created after the partial deregulation in 1980 allowed the railroads to regain market share, and helped ease the increasing burden that the economic boom imposed on the highway system. From 1980 through 2006, the railroad's mode share measured in revenue ton-miles grew from 30 percent to 43 percent. (See Figure 10.)

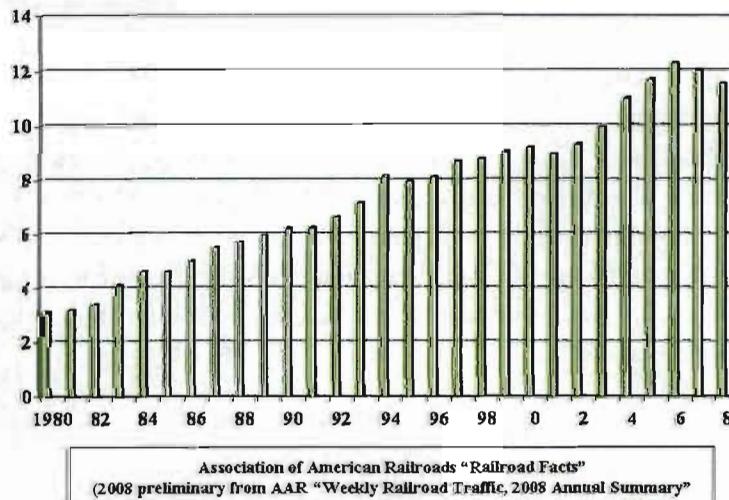
Figure 10. - Trends in Freight Mode Share



Source: Bureau of Transportation Statistics--2008

At the same time, rail intermodal shipments (shipping containers and truck trailers on rail flatcars) grew from 3 million trailers and containers to over 11.5 million. (See Figure 11.) Even though down from the 12.3 million trailers and containers in 2006, intermodal transportation is, nonetheless, the fastest growing segment of traffic on the rail system. (See Figure 12.)

Figure 11. - Intermodal Growth



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Duplicative routes and branch lines that were sold by the Class I's are now being operated by smaller railroads. Class I railroads also spun off some routes that became viable Class II or "regional railroads" that offer mainline service and connections to multiple Class I's and shortlines. The Class I's also shed lightly used branch lines, allowing shortline operators to maintain rail service that might otherwise have been abandoned without the sale. This has created an important niche for the smaller railroads, which focus on local customer service.

Historically, only two modes of freight transportation, rail and pipeline, are self-sustaining, meaning that they have the ability to finance, build, and maintain their infrastructure. Other modes of freight transportation rely on publicly financed infrastructure, though these modes have dedicated revenue sources that are paid, at least in part, by system users. When an investor buys stock in a non-rail transportation company, the investment is made in the vehicles, towboats, office buildings, and other capital costs. The investment does not cover the cost of the infrastructure, which is not owned and not maintained by the freight company. The economics of the U.S. rail industry are unique because private railroads own their locomotives and equipment as well as the track, yards, tunnels, and bridges of the total enterprise. Railroads, confident of the untapped capability of rail freight transportation, have been investing billions of dollars in double-tracking, signal improvements, and intermodal facilities. Railroads are in business to earn a profit and are willing to self-finance additions to their infrastructure to ensure long-term returns. A notable phenomenon is the construction of new main tracks in the same locations where main tracks were removed decades before.

It is the inherent efficiency of rail transportation that enables freight railroads to do something that is expected of no other form of transportation: maintain their infrastructure, add capacity, host passenger operations, and pay local property taxes on their real estate⁶. A review of the previous 29 years since the railroads were partially deregulated by the Staggers Act of 1980 reveals improvements in the railroad's physical plant (infrastructure) as well as their performance metrics. Safety and fuel efficiency have remarkably improved. Rail rates are lower today than in 1980, when compared in constant dollars.⁷ (See Figure 13.) Nonetheless, captive shippers -- those without a viable alternative to a single rail carrier -- often complain that they are being charged more than shippers that have competitive options.

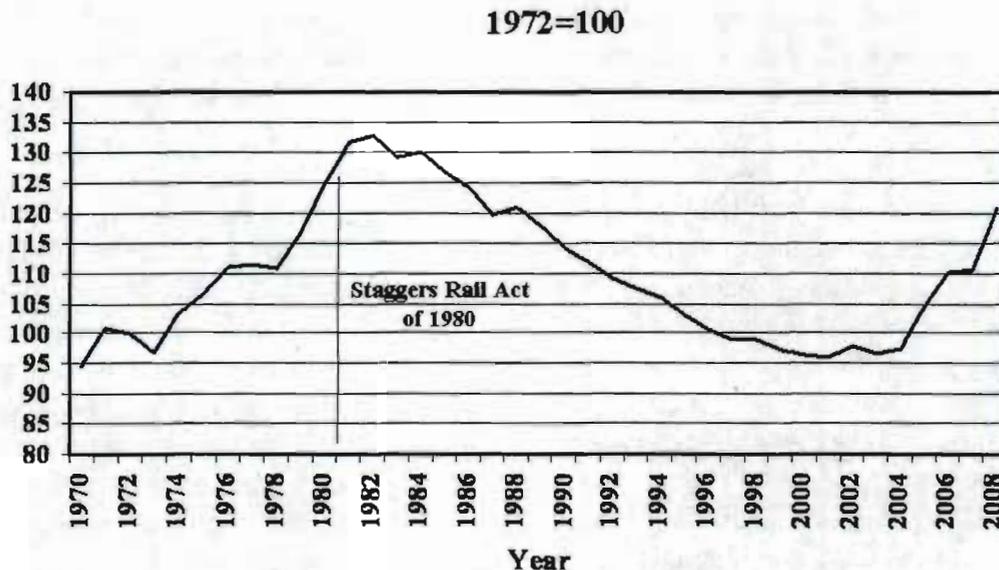
⁶ Railroads paid over \$650 million in property taxes in 2007.

⁷ The period of declining rates ended in 2000. Through late 2007, due to increased demand and little excess capacity, freight rates began to move higher. Much of the increase in 2008 was due to the run-up in fuel prices.

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Figure 13. - Rail Rates Adjusted for Inflation—1970 to 2008



Sources: U.S. Dept. of Labor, Bureau of Labor Statistics, Producer Price Index of Line-Haul Operating Railroads; U.S. Dept. of Commerce, Bureau of Economic Analysis, Implicit Price Deflator for Gross Domestic Product

The combination of steel on steel, gentle grades and curves, and advances in motive power and rolling stock has enabled railroads to offer highly efficient and productive transportation services. Greater use of rail in the national transportation system can only increase the sustainability of this system.

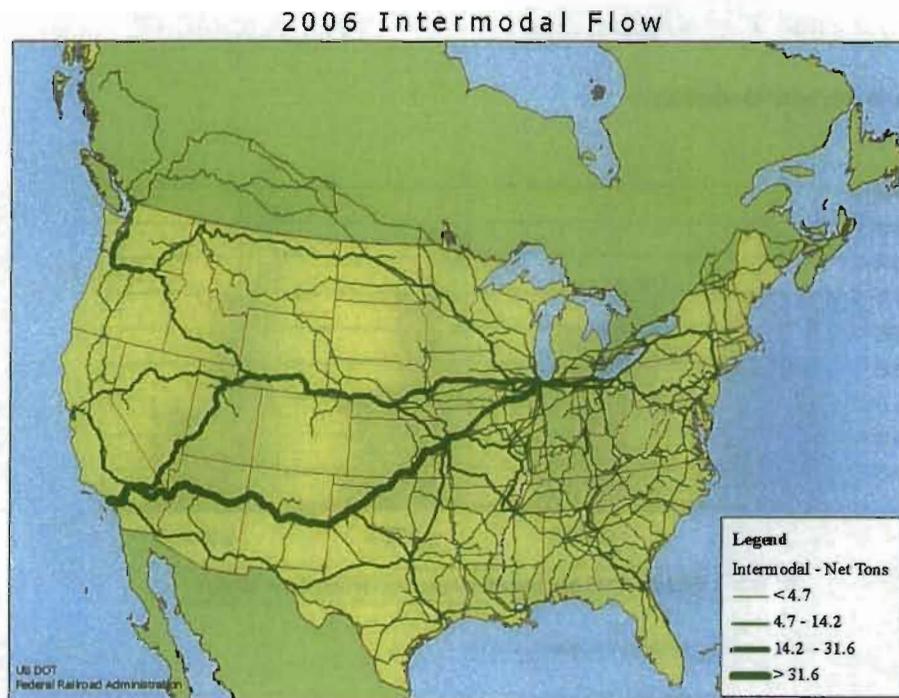
To Help Bolster the Domestic Passenger Rail Industry and Create Jobs

Potential new developments in high-speed rail and intercity passenger rail could bring about a resurgence in railroad engineering and manufacturing that could help to bolster the U.S. industrial base. Rail passenger equipment industries have languished domestically in recent decades. Since the creation of Amtrak in 1971, uncertain budgets and ambiguities about the future of passenger rail service have contributed to the relative low volume of equipment purchases. States have taken up some of the slack, making important purchases of passenger rolling stock that have helped to meet the needs of the national passenger system. New equipment will need to be designed and built, however, if passenger rail services are to be strengthened and expanded. Given that locomotive production, like that of passenger cars, is a segment of heavy industry that relies on many suppliers to produce the required materials and components, this new production will exert a multiplier effect. For passenger equipment, more efficiencies and economies of larger-scale production could be realized. The development of passenger car standards that ensure interoperability of equipment and permit the same equipment to be used on various routes over the course of its designed lifetime could also result in lower unit costs and increased utilization.

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Figure 12. - 2006 Intermodal Flows



Modern rail systems require skilled employees. The rail industry has focused on workforce development, not only recruiting and retaining the needed skilled employees to add to and replace the large number of employees that will be required for an ever-increasing demand, but also ensuring that adequate educational institutions are in place to develop a constant pool of talent. This will provide for a highly technical work force at all levels that will be needed to build and operate those systems.

To Better Understand and Integrate the Unique Economics of the Rail Industry

The passage of the Staggers Act in 1980 partially deregulated railroads. Partial deregulation of the industry allowed the railroads to consolidate and gave them the flexibility to control costs and enter into contract pricing. As a consequence, the long-term decline of the U.S. freight rail industry prior to Staggers was reversed. Since the early 1980s, the total number of Class I railroads went from 26 to 7. The number of miles of road owned by these railroads has declined from nearly 165,000 miles in 1980 to nearly 94,000 miles in 2008. All told, railroad productivity has increased substantially, as more freight moves over a denser network.

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Importance of State Rail Plans in Developing the Long-Range National Rail Plan

PRIIA contains a legislative mandate to develop a long-range National Rail Plan, and the Act directed FRA to develop the plan consistent with approved State plans. The PRIIA also tasks States with establishing or designating a State rail transportation authority that will develop statewide rail plans to set policies for freight and passenger rail transportation within their boundaries, establish priorities and implementation strategies to enhance rail service in the public interest, and serve as the basis for Federal and State rail investments within the State. The FRA is aware of the variety of rail needs and resources within State DOTs and that those individual State authorities can range from a division of the State DOT to the assignment of such activities to a particular office. The Department expects that these State rail plans will provide detailed insight into the concerns facing State transportation systems and set forth their vision of how rail transportation can address those issues. The Department's challenge in preparing the National Rail Plan will be to examine passenger and freight corridors running through and between States, and to coordinate the States' plans into a blueprint for an efficient national system, thereby meeting both regional and national goals. Because the majority of the infrastructure is owned and maintained by the freight railroads, the Department will continue to work with States to develop plans that contain proposals or initiatives for partnering with freight carriers in the development of plans and objectives.

In addition to the requirements of PRIIA, this preliminary plan will provide the States with a framework of elements that the Department views as necessary for creating a viable national rail plan. States are welcome to raise additional issues and provide other relevant information, and are encouraged to work with all stakeholders. State rail plans should also consider all other modes of transportation, especially ways in which they can be leveraged to serve transportation customers more effectively and efficiently. It is anticipated that the National Rail Plan may encourage rail development and growth much like the model of the interstate highways system, recognizing that the traffic flow of passengers and freight rely on the connectivity of regional corridors that pass through several States.

This Preliminary Plan recognizes the comments received from stakeholders over the last several months. On September 9, 2009, FRA held a meeting to exchange information with representatives from State DOTs, other U.S. DOT modal administrations, passenger rail advocates, transit groups, and the freight rail industry. This meeting served as an important step to reach out to all stakeholders and solicit their participation in the development of the National Rail Plan; these activities will be numerous as we go forward in the development of the Plan.

Framework for a National Rail Plan

The development of a National Rail Plan will necessarily involve a discussion and resolution of certain issues common to almost every state. The following areas of discussion are not exhaustive, but are intended to raise key issues for States and transportation stakeholders to consider as they structure their State rail plans and provide input to the long-range National Rail Plan. The FRA believes an exploration

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of these issues by States and stakeholders will provide valuable information to the Department. This input will help shape policies and define the future programs that will be necessary to complete a strategic, long-range national plan. In addition, by bringing together the appropriate parties, and particularly by partnering with freight railroads—the owners of the rail infrastructure—the States will be able to better assess and resolve crucial transportation issues.

On a more operational level, States can provide information on local rail bottlenecks and resultant traffic congestion, which can affect the movement of people and goods not only in that location but throughout the rest of the corridor as well, thereby negatively affecting the larger transportation network. Resolution of such issues can improve transportation flows and positively affect the movement of goods and people far beyond State borders. States can also provide information on projects that they are planning to develop, which may have repercussions beyond state borders, and hence should be considered in the National Plan.

The following are several issues that States and stakeholders should consider as they provide input to FRA in the development of the long-range National Rail Plan:

Appropriateness of Strategies of Funding Freight Transportation Investments

Our Nation's transportation infrastructure is one of its greatest assets. Properly maintained, it can move freight quickly and efficiently, which is essential to U.S. economic growth, industrial productivity, and global competitiveness. Inadequate investments in freight corridors that fail to keep pace with increased shipper demand and expected public benefits cause congestion, delays, unreliable service, and damage the environment. These freight corridors, once built, should be self-supporting. Cost-effective, fuel efficient, and environmentally friendly, improved rail transportation is essential to achieving national freight transportation goals. Failure to keep and grow rail market share will impose a further burden on highways.

To address this issue, stakeholders need to evaluate the appropriateness of various strategies for investing in freight rail by the private sector, the public sector, or potentially both in conjunction. States can leverage Federal programs and funds by partnering with all freight transportation stakeholders, including the private sector. As States develop State transportation plans, it is expected that they will identify planning and organizational opportunities that will lead to the development of new and more creative ways to better allocate resources, which will result in a more integrated and efficient freight and passenger transportation network.

Developing ways to assign Costs and Allocate Resources Equitably across All Modes of Freight Transportation

As explained above, freight transportation services are provided almost exclusively by the private sector, and all types of freight transportation place some cost on society. These external costs can include the costs of infrastructure damage, environmental damage, accidents, congestion, and other costs.

While motor carriers operate on publicly provided highways and water carriers on publicly maintained waterways, the transportation services that the rail industry provides occur over its own rights-of-way, and through privately funded support services. Since railroads are privately owned, its customers must pay the full costs, both variable and fixed, for the transportation provided. These include the full costs of equipment operation and maintenance, as in the other modes; but unlike the other modes, rail must also maintain its own infrastructure.

The Federal Highway Administration's May 2000 *Addendum to the 1997 Federal Highway Cost Allocation Study*, indicates that heavy intercity trucks only pay 80 percent of the costs imposed on Federal highways. Many local roads are funded by real estate and sales taxes, rather than the highway users. A more recent study⁸ indicates that user fees from transportation taxes and tolls cover only about 60 percent of highway costs, when all roads, Federal, State, and local, are taken into consideration.

The pricing of one mode of transportation can directly affect demand for and costs of other modes. When private freight companies provide transportation services without being held accountable for using the infrastructure, the resultant inefficiencies can impose higher costs on society. From a societal standpoint, inefficient pricing will manifest itself in the continued misallocation of resources for transportation services.

Some States and universities have been studying the costs imposed on society by the different modes of freight transportation. In their rail plans, States can examine the opportunities that would exist if the various modes were priced properly, and calculate the expected benefits and cost savings that might result. The National Rail Plan will further examine this issue.

Opportunities and Greater Efficiencies in Multimodal Transportation

One of the greatest accomplishments in improving efficiencies in the U.S. transportation network over the past 15 years has been the gains that have resulted from using multiple modes of transportation for completing an origination/destination trip. Significant investment by the public and private sectors has gone toward improving, for example, passenger connections at airports for ground transportation, which has included rail. Travelers and commuters look to minimize trip costs, and rely on the most efficient mode to meet their needs. The ubiquitous "park-n-ride" facilities that surround major cities are a testament to intermodal passenger travel. Intercity and commuter rail provides a great benefit to intermodal passenger traffic and can be designed for total accessibility.

The private freight railroads have also undertaken and continue to make investments in facilities to develop rail intermodal services. Under a multimodal approach, the transportation mode that is the most efficient and cost effective for each leg of the trip is used for that particular segment. On the freight

⁸ *Paying Our Way: A New Framework For Transportation Finance*, Report to the National Surface Transportation Infrastructure Financing Commission, February 2009.

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side, customer demands for lower logistics costs have led to a reliance on truck trailers or containers on freight trains for the long haul. At the origin, the trailer or container is driven to the rail intermodal facility or loaded onto rail at dockside. The long haul is provided by rail, keeping the shipment off congested highways, while creating a huge savings in fuel. For the final delivery of the freight—the “last mile” of the trip—a motor carrier provides the flexibility and reliability that is sought by the shipper.

While transportation customers continue to demand improvements in multimodal travel, these efficiencies are also reducing the external and social costs of transportation. To continue these gains, States should look at opportunities to exploit the inherent efficiencies of each of the modes, and identify projects that will improve multimodal connections and travel. These strategic investments can repay the taxpayers many times over.

Identifying Areas to Continue to Improve Transportation Safety

Over the years, FRA has worked closely with State rail safety inspectors and railroads to reduce both the frequency and the severity of railroad accidents. As a result, Federal and State railroad safety efforts are now in harmony. In the wake of several major train accidents, DOT and FRA jointly launched, in 2005, the National Rail Safety Action Plan, whose broad goals are to target the most frequent, highest risk causes of train accidents, to focus FRA oversight and inspection resources more precisely, and to accelerate research efforts that may mitigate the largest risks. New technologies will also enhance railroad safety, and FRA has sponsored research to bring technologies such as PTC and ECP to the point that they now are ready to be deployed. Congress has observed the value of several of FRA’s initiatives and has mandated their implementation in Rail Safety Improvement Act of 2008. Going forward, PTC, in combination with other technologies and strategies, can offer levels of passenger protection that can be incorporated into new equipment design standards.

The National Rail Plan will present DOT’s strategies for further improving rail safety based on data compiled and the analysis developed by FRA’s Office of Railroad Safety. The FRA will continue to ensure that its inspection, enforcement, and regulatory programs uphold the safety of the rail industry. And FRA will continue to develop new programs to advance railroad safety for employees, passengers, and the general public.

States should also consider areas in which the greater use of rail, for both passenger and freight, can be used to improve safety. This should be an important consideration for transportation planning.

Effectively Meet Defense and Emergency Transportation Requirements

Rail transportation is important to the national defense strategy because the military’s heavy and oversized vehicles need to move by rail to seaports for deployment. The Department of Defense (DOD) has emphasized the need for rapid deployment of large numbers of people and huge amounts of materials on short notice. Similarly, following a natural disaster, rail transportation is critical to ensuring the safe evacuation of affected populations and to assisting local, State, and Federal officials in

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rebuilding devastated communities. Deployment of personnel, equipment, and supplies for defense and emergency relief operations requires a well planned and flexible rail network with the capacity to absorb additional traffic should the demand arise.

The DOD's Railroads for National Defense Program, in conjunction with FRA, has established the Strategic Rail Corridor Network (STRACNET), which allows for the mobilization and deployment of personnel, equipment, and supplies in the event of a national emergency or natural disaster. The STRACNET is owned and operated by individual rail operators, principally the Class I railroads, and it comprises 38,000 miles of rail track serving 170 defense installations. The DOT and FRA will continue to work with the DOD, other Federal agencies, individual rail operators, and the transportation community to identify short- and long-term national defense and emergency transportation requirements and to ensure that the Nation's railroad network can meet those requirements. To continue this high level of readiness, States should assess their plans and rail transportation options in the event a disaster strikes. States should also identify the need for improved access and egress in case of evacuations and the need for movement of humanitarian supplies.

Balancing the Benefits of Rail Corridor Development with Local Communities and Commuter Services

Greater use of passenger rail and freight rail holds the promise of improving our national transportation systems, reducing congestion, and diminishing petroleum use while improving the environment. These benefits enhance the livability of communities. Thus the benefits of expanded freight and passenger service to communities should be an important consideration when developing rail projects. In assessing total costs, States should consider both the community benefits and the potential community costs in developing their plans. Carefully planned economic development can also help to alleviate the recurring problem of benefits being enjoyed by one community while the costs are passed on to another, as well as "not-in-my-backyard" issues. Strategies and best-practice approaches must be developed to resolve these issues and to ensure that local concerns are addressed as regional and National needs are obtained.

Identify Opportunities to Improve Energy Use and the Environment

While rail has proven that it is more energy efficient than comparable truck moves, the most significant gains occur over longer hauls. As advances in technology result in greater rail fuel and operating efficiencies, the relative length of haul required to obtain maximum efficiencies may be reduced. State and Federal efforts can work in harmony to leverage private freight rail investments and identify high-volume freight corridors that have the potential to increase their capacity through enhanced rail service. This can reduce the burden on highways while combining the benefits of lower highway capital and maintenance costs with improved safety and environmental quality. In order to assess the benefits of these projects, states can collect data to comply with the Clean Air Act administered by the U.S. Environmental Protection Agency (EPA), as well as make use of voluntary programs developed to estimate greenhouse gas emissions, such as the EPA's Resources for Inventory Development and State Climate Change Action Plans at www.epa.gov/climatechange/emissions/state_ghginventories.html.

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Stakeholders and the Development of the National Rail Plan

We are all stakeholders in the Nation's transportation system, and we all have a vested interest in the continuation and enhancement of performance and services that we have come to rely on. Each of us depends on the delivery of goods and the ability to travel unimpeded throughout the country. The providers of transportation services are constantly under pressure to provide greater value to their customers.

A long-range National Rail Plan cannot be constructed without the input of those that support and provide transportation services. These stakeholders include States, Class I railroads, Amtrak, regional and shortline railroads, rail labor, rail industry suppliers, trucking companies, logistics providers, domestic and international freight shippers, and the associations that represent these groups. Other stakeholders include the modal administrations of the DOT, the U.S. Environmental Protection Agency, and other State and Federal government entities.

Large carriers have the employees and maintenance capabilities to reliably operate a high-quality infrastructure that can simultaneously support passenger and freight operations through national corridors. But some rail projects designed to improve both rail and highway traffic flows lack sufficient return to the railroad to justify the investment. Nor could public bodies pursuing the project solely fund it. Railroads have pursued public participation in the development, financing, and construction of such projects. Such public-private partnerships offer the potential to achieve multiple goals that benefit both parties.

Smaller railroads also play a critical role in providing transportation services. These generally lower-cost railroads preserve transportation options for local shippers, and thus play an important part in the harmonization of the national transportation system by providing the link to connect shippers with the larger carriers. In many instances, these small railroads have demonstrated the flexibility and resourcefulness to improve customer service at the local level, while connecting with the Class I carriers for the efficiencies of long-haul rail service. This combination has often improved service to shippers and communities that would otherwise have been without rail service.

With the increase in rail intermodal traffic over the past few years, the trucking industry has become a significant partner with the railroads. These companies include large, national long-haul trucking firms, as well as local companies which provide drayage to and from port and rail intermodal facilities. The railroads have tailored their services to meet the demands of these customers and have continued to shorten transit times and strengthen reliability. This adds value and lowers total logistics costs. There are many aspects to these services, and because of the highway interfaces, obstacles to improving services could be local—that final mile on the highway—or regional. Stakeholders include trucking companies and trucking associations as well as ports and localities around intermodal terminals. Finally, shippers and receivers who depend on rail, and other modes, have a significant interest in the performance of the entire transportation system as many shipments are multimodal. The convergence of

each of these stakeholder concerns should be addressed in a National Rail Plan where stakeholders can identify the prospects for improved services and potential opportunities to achieve lower logistics costs.

Passenger rail service on the current freight rail network provides opportunities as well as significant challenges. Improvements in passenger rail service hold the promise of further mobilizing the Nation in an environmentally friendly way while reducing highway and airport congestion. The National Rail Plan will need to address many of these issues, a number of which are currently addressed/required in FRA's High-Speed Intercity Passenger Rail Program. Stakeholders, who include passengers and industry trade groups, will act as important resources in highlighting passenger rail issues.

Rail passenger intermodal facilities have also become important, as customers have benefited from improved connections between all forms of transportation. Significant investment on the part of the States, local governments, and the Federal Government has brought about these improvements. All stakeholders should identify additional opportunities for such connections and potential funding sources.

The role of public-private partnerships for these endeavors should also be explored. In this regard, FRA stands ready to work with all stakeholders who want to contribute to a comprehensive national rail plan that incorporates the needs of the States, the traveling public, the freight railroads and their customers, and promotes the National goal of a safe, efficient, and sustainable transportation system. Together, we can improve safety, foster livable communities, and improve the economic competitiveness of the United States.

Outreach Strategy to Develop the National Rail Plan

The FRA's National Rail Plan will involve a vigorous outreach strategy that will encompass all stakeholders and the achievement of the Administration's goals will require nationwide involvement. Therefore, it is vital to promote nationwide awareness of the lasting benefits that high-speed intercity passenger rail, commuter rail and freight rail can provide, as well as the trade-offs including, but not limited to, costs to taxpayers and users of the Nation's transportation system, impacts on local communities and businesses, and the effects on the environment. To encourage this, FRA will undertake efforts to develop and disseminate material to the interested public on the value of rail transportation in partnership with other modes.

It is essential that the National Rail Plan be developed with an extensive outreach effort to stakeholders and the public, not only by FRA, but also by States and local organizations to their communities. As FRA developed this Preliminary National Rail Plan, stakeholders participated through FRA outreach efforts and provided valuable insight that played an important role in validating some issues and bringing others to the forefront. A list of stakeholders is shown in Appendix A. Appendix B illustrates the issues raised during outreach sessions for high-speed intercity rail. The FRA is committed to a proactive outreach effort to involve stakeholders in our development process that will result in a validated and consensus-built long-range National Rail Plan.

PRELIMINARY NATIONAL RAIL PLAN

2009

Objectives of the National Rail Plan Outreach

The FRA recognizes the importance of discussing rail issues in an open forum and constructively listening to different points of view from stakeholders and customers. As it is a National plan, FRA will reach across the Nation throughout the rail community and transportation industry for productive feedback.

During the course of our outreach, FRA will give careful consideration to efforts that:

- Further define the Plan's goals;
- Determine role of passenger and freight rail in the Nation's transportation system, and identify appropriate role of various stakeholders including the Federal government, State governments, local governments, freight railroads, commuter railroads, Amtrak, and other parties;
- Develop strategies to achieve goals;
- Define system performance outcomes and metrics;
- Define key issues that affect success;
- Define roles and responsibilities for Federal, State, local, and private stakeholders;
- Develop an implementation plan to achieve goals, including recommendations for legislative, regulatory, or administrative changes.

Outreach Activities

The FRA will host a series of live webconferences to assist in the development of the National Rail Plan. This format will provide the opportunity for FRA to refine more detailed questions and make any necessary adjustments as we move forward. In addition, this will allow those that will not be able to travel for face-to-face meetings to have a chance to provide their comments within a forum. The projected timeframe for webconferences is from December 2009 through February 2010.

To ensure that we capture nationwide input, FRA will place a notice in the Federal Register for the opening of a docket for anyone who may wish to submit written input. The FRA will seek opportunities to discuss rail issues at targeted national rail and other transportation meetings to widen the reach and further inform the development of the national rail plan. In addition, FRA will host several regional meetings across the nation with key stakeholders. The projected timeframe for these regional meetings is March through May 2010.

Next Step

The FRA will provide stakeholders with the times of webconferences and meeting dates, locations, and other essential information to enable them to plan for participation. We will also provide support materials as we begin to more clearly focus on objectives and outcomes as well as pertinent input that we capture along the way.

2009

APPENDIX A

Key to rail's future success is partnerships.

FRA will be engaging in meetings and events with Federal, State, local and national organizations representing rail and transportation interests at large as well as special interest organizations and groups such as—but not limited to:

- | | |
|--|---|
| <ul style="list-style-type: none"> • American Association of State and Highway Transportation Officials (AASHTO) • American Association of Port Authorities • American Automobile Association (AAA) • American Association of Retired Persons (AARP) • American General Contractors (AGC) • American Planning Association • American Public Transportation Association (APTA) • American Shortline and Regional Rail Association (ASLRRA) • American Society of Safety Engineers (ASSE) • Amtrak • Association of American Railroads (AAR) • Brotherhood of Locomotive Engineers and • City Mayors • Coalition of Northeast Governors (CONEG) • Congressional Leaders and Staff • Council of University Transportation Centers (CUTC) • Executives from State Departments of Transportations • -Environmental Groups- • Governors and Staff • Institute of Transportation Engineers • Intermodal Association of North America • National Governors Association • National Mayors Conference | <ul style="list-style-type: none"> • Metropolitan Planning Organizations Leaders • National Association of Railroad Passengers (NARP) • States for Passenger Rail Coalition (SPRC) • National Association of Counties (NACo) • National Association of County Engineers • National Association of Rail Shippers • National Industrial Transportation League • National Private Truck Council (NPTC) • National Railroad Construction and Maintenance Association (NRC) • National Safety Council • North American Rail Shippers Association (NARS) • Railway Supply Institute (RSI) • OneRail Coalition • Regional Economic Development Agencies • Rail Division IBT • Transportation for America - Coalition Partners • Transportation Trades Department, AFL-CIO • U.S. Chambers of Commerce Leaders • U.S. Department of Environmental Protection Agency (EPA) • U.S. Department of Housing and Urban Development (HUD) • U.S. Department of Justice / ADA • U.S. Department of Transportation (DOT) Modes and other Federal organizations • Urban Land Institute |
|--|---|

APPENDIX C

References

Association of American Railroads. "Railroad Facts," various years.

Association of American Railroads. "Analysis of Class I Railroads," various years.

U.S. Department of Commerce, Bureau of Economic Analysis. Implicit Price Deflator for Gross Domestic Product series, various years.

U.S. Department of Energy, Oak Ridge National Laboratory. Transportation Energy Data Book, 28th edition.

U.S. Department of Labor, Bureau of Labor Statistics, Producer Price Index for Line-Haul Railroads series, various years.

U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics and U.S. Census Bureau. 2007 Commodity Flow Survey (Advance Report, released December 2008)."

U.S. Department of Transportation. "National Freight Transportation Policy Statement." (1995)

ICF International. Comparative Evaluation of Rail and Truck Fuel Efficiency on Competitive Corridors. (March 2009); Report Prepared for the Federal Railroad Administration.

Transportation Research Board of the National Academies. Special Report 297; Funding Options for Freight Transportation Projects (August 2009).

Report of the National Surface Transportation Policy and Revenue Study Commission. Transportation for Tomorrow (December 2007).

Cambridge Systematics: National Rail Freight Infrastructure Capacity and Investment Study (December 2007). Report Prepared for the Association of American Railroads.

Federal Highway Administration. 1997 Federal Highway Cost Allocation Study. (September 1997)

Federal Highway Administration. Addendum to the 1997 Federal Highway Cost Allocation Study. (May 2000)

New York State Rail Plan: Strategies for a New Age (2009).

PRELIMINARY NATIONAL RAIL PLAN

2009

Virginia State Rail Plan: A Multimodal Strategy to Meet the Commonwealth's Passenger and Freight Transportation Needs Through 2025 (2004).

Vision for the Future: U.S. Intercity Passenger Rail Network Through 2050. Prepared for Commissioner Frank Busalacchi, National Surface Transportation Policy and Revenue Study Commission (December 2007).

National Railroad Passenger Corporation. High-Speed Rail: A National Perspective High-Speed Rail Experience in the United States (December 2008)

Federal Railroad Administration. Vision for High-Speed Rail in America: High-Speed Rail Strategic Plan (April 2009).

U.S. Department of Transportation. "Notice of Funding Availability for Supplemental Discretionary Grants for Capital Investments in Surface Transportation Infrastructure Under the American Recovery and Reinvestment Act." Federal Register, June 2009.

Federal Railroad Administration. "High-Speed Intercity Passenger Rail Program." Federal Register, June 2009.

U.S. Congress, House of Representatives, Committee on Transportation and Infrastructure. The Surface Transportation Authorization Act of 2009: A Blueprint for Investment and Reform, (June 2009).

Council of Supply Chain Management Professionals. Annual State of Logistics Report, (June 2009).

Rail Safety Improvement Act of 2008 (Pub. L. No. 110-432, Division A), 122 Stat. 4848 (2008).

Passenger Rail Investment and Improvement Act of 2008 ((Pub. L. No. 110-432, Division B), 122 Stat. 4907 (2008).

U.S. Department of Defense. Military Surface Deployment and Distribution Command, Strategic Rail Corridor Network and Defense Connector Lines (March 2008).

North Carolina Department of Transportation. 2009 Rail Plan (Executive Summary).

Washington State Transportation Commission. Statewide Rail Capacity and System Needs Study: Final Report, December 2006.

Paying Our Way: A New Framework for Transportation Finance; Report to the National Surface Transportation Infrastructure financing Commission (February 2009).

November 17, 2010

Sang Min Lee

The Honorable Cynthia T. Brown
Chief, Section of Administration, Office of Proceedings
Surface Transportation Board
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Washington, D.C. 20423

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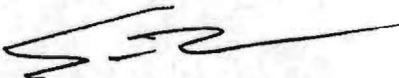
Re: STB Finance Docket No. 35305
Arkansas Electric Cooperative Corporation - Petition for Declaratory Order

Dear Ms. Brown:

In response to the Surface Transportation Board's request, enclosed are two paper copies of the PowerPoint slides Union Pacific Railroad Company recalls using at the July 29, 2010 hearing. Additionally, Union Pacific Railroad Company provided a CD containing its PowerPoint slides/hearing exhibits to the Board's staff before the hearing. If you have any questions, please feel free to contact me.

I certify that I have served a copy of this letter on all parties of record by U.S. mail.

Sincerely,



Sang Min Lee

Enclosures

Geneva
Houston
Kansas City
London
Miami
Orange County
San Francisco
Tampa
Washington, D.C.

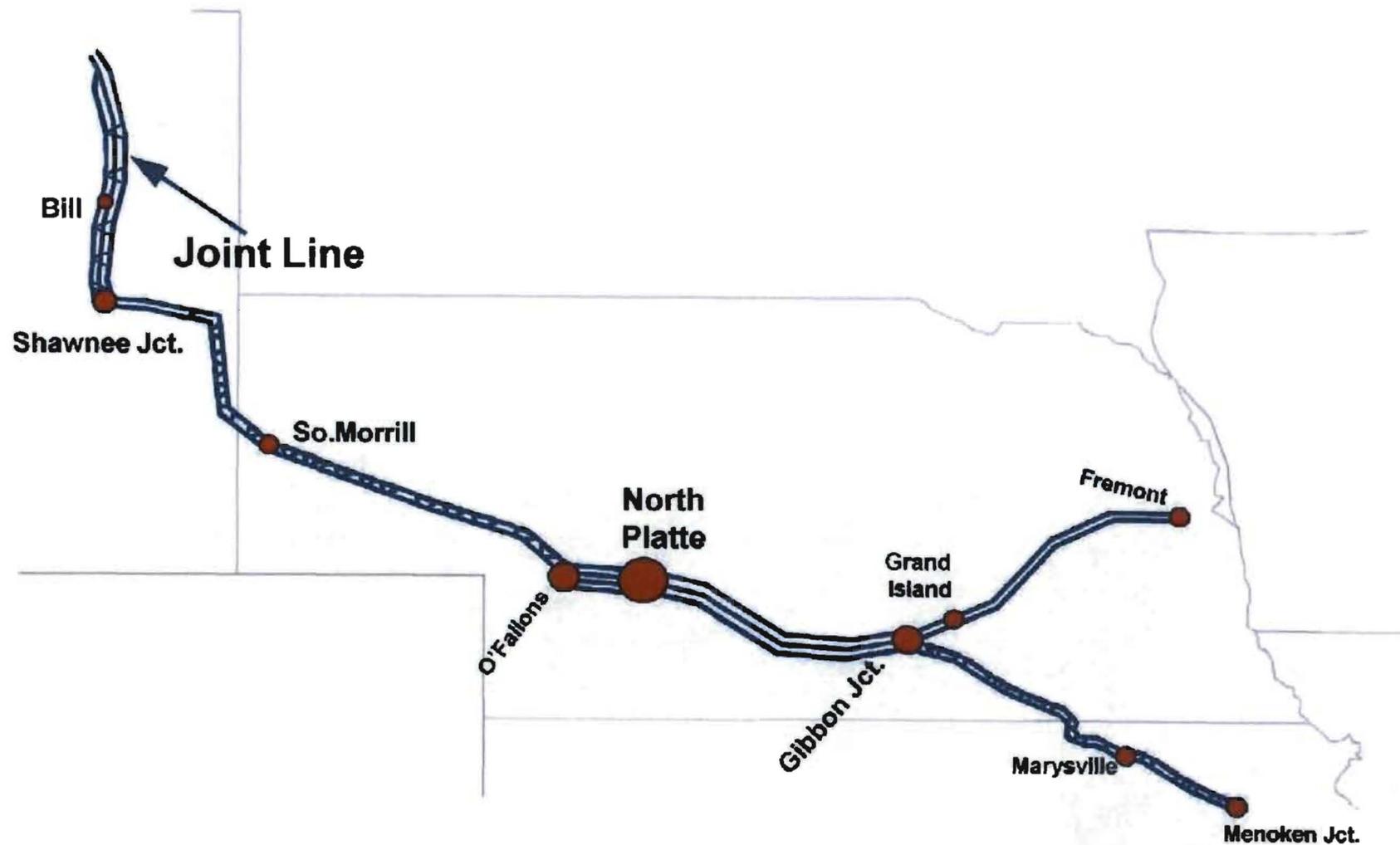
STB Finance Docket No. 35305

**ARKANSAS ELECTRIC COOPERATIVE
CORPORATION—PETITION FOR
DECLARATORY ORDER**

July 29, 2010 Hearing

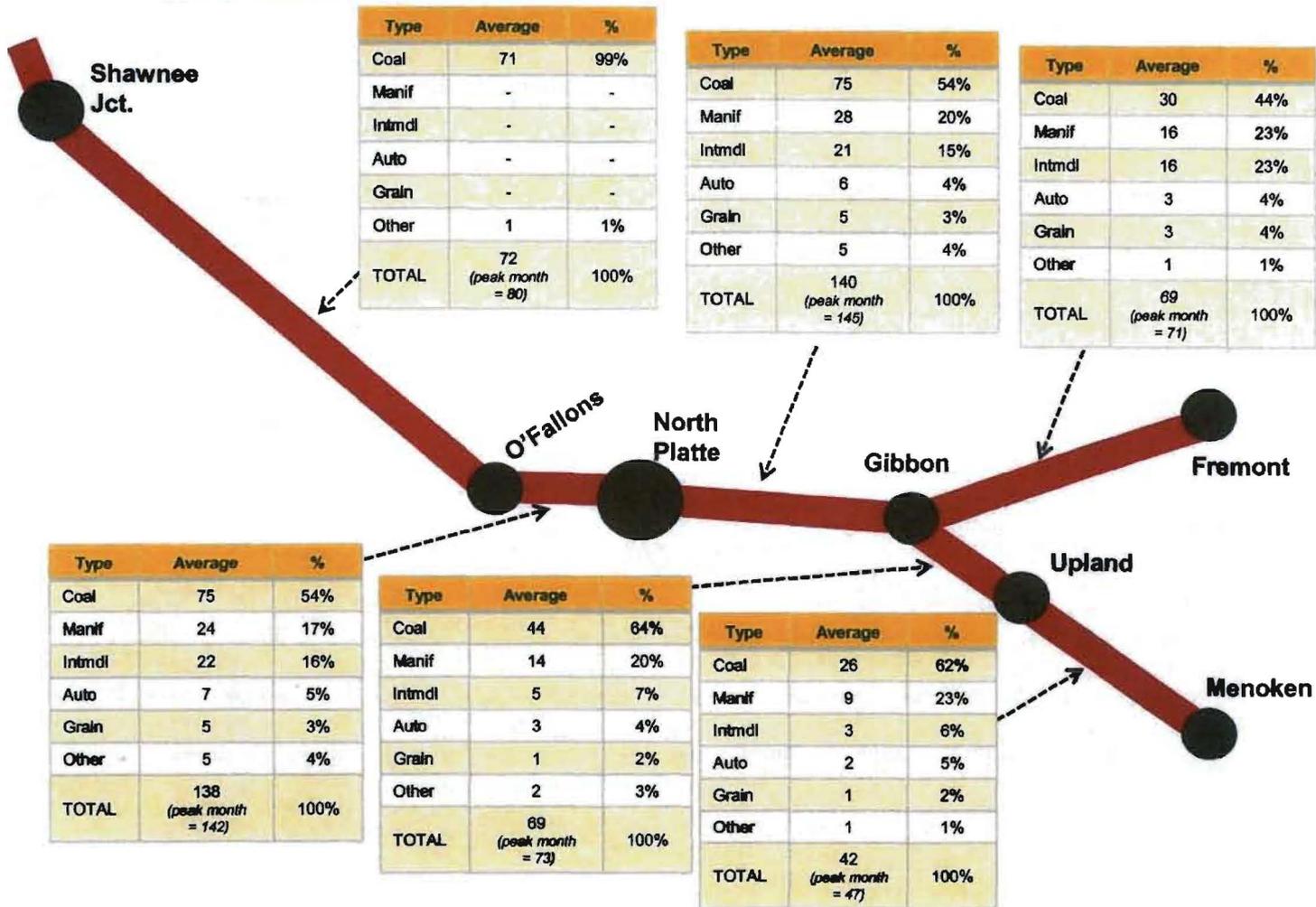
**Argument of
Union Pacific Railroad Company**

The Core of Union Pacific's Coal Network



2007 Trains per Day

Shannon and Wilson Study Area

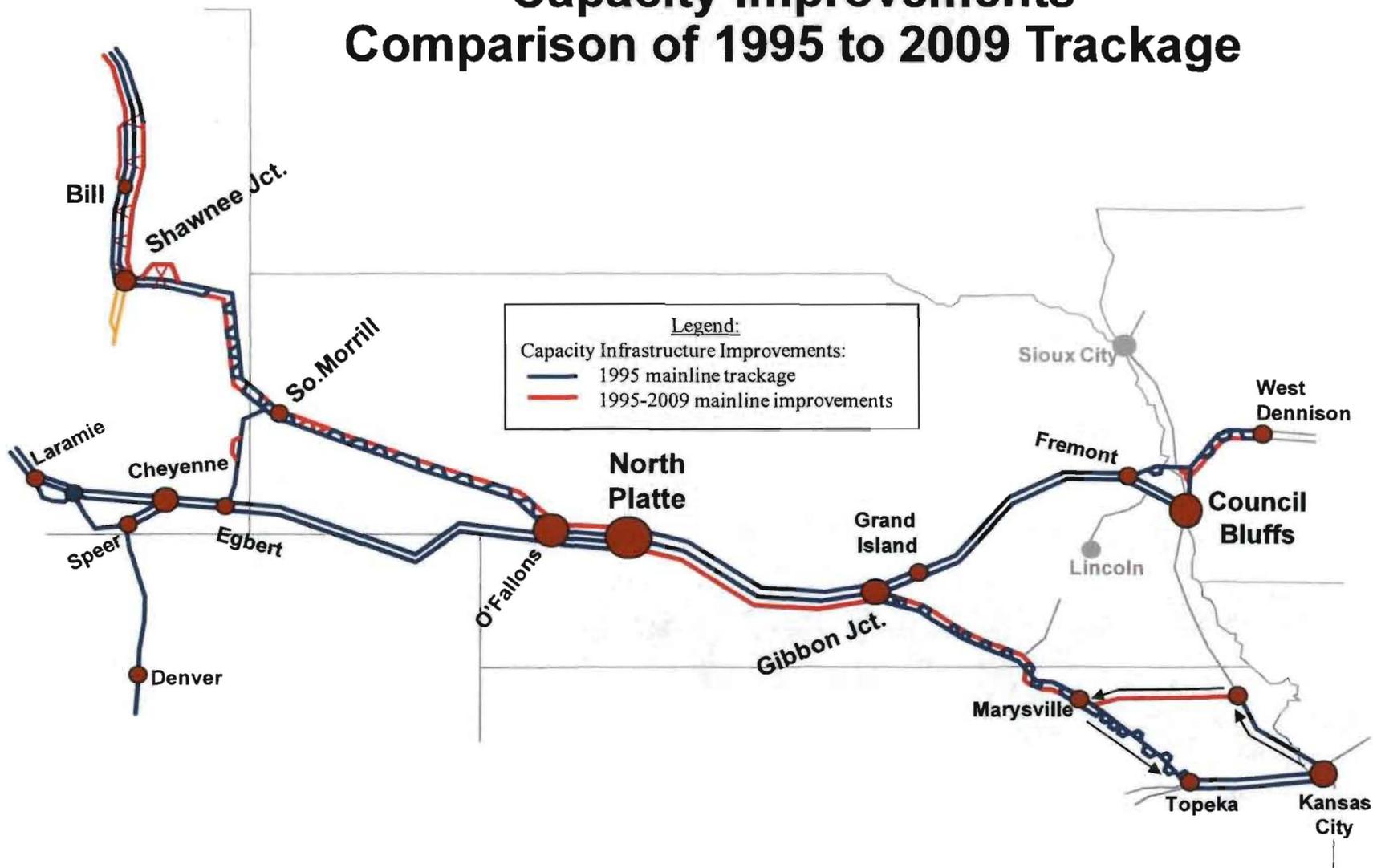


Record Reference: UP Reply Glass VS, Ex. DRG-2.

UPRR's SPRB Coal Route

Capacity Improvements

Comparison of 1995 to 2009 Trackage



Record Reference: UP Rebuttal Duffy VS, at 3.

Coal Surface Compacted by a Frame-Mounted Roller

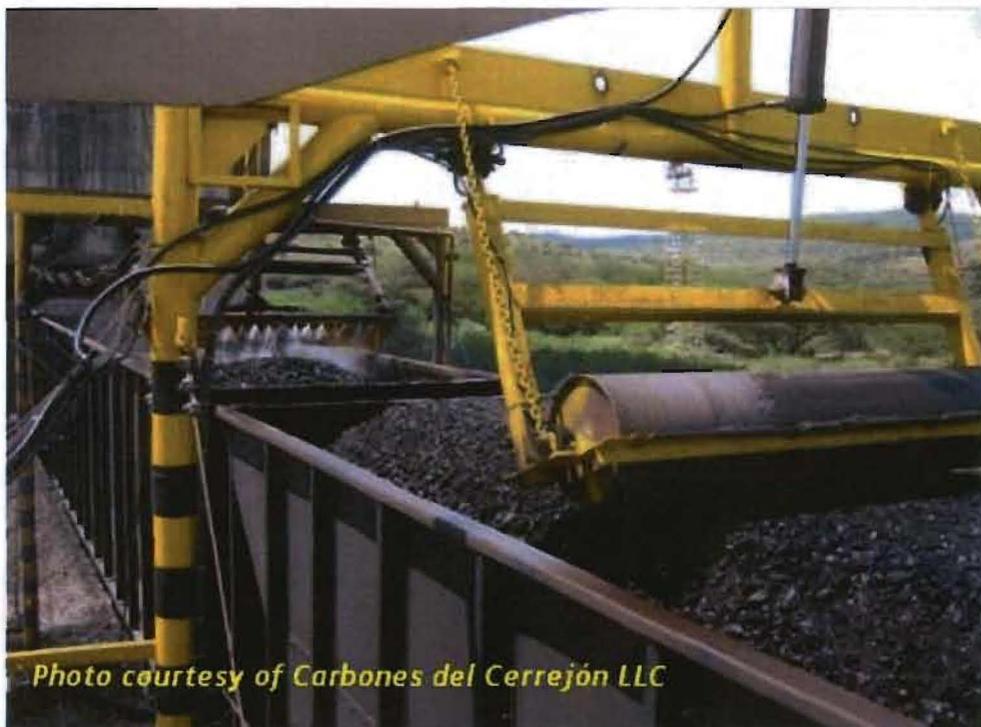


Photo courtesy of Carbones del Cerrejón LLC



Photo courtesy of Carbones del Cerrejón LLC