Testimony of
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On Behalf of the
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FEDERAL ENERGY REGULATORY COMMISSION

DISCUSSIONS WITH UTILITY AND RAILROAD REPRESENTATIVES ON MARKET AND RELLIABILITY MATTERS

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I. INTRODUCTION

Good afternoon, Chairman Kelliher, Commissioners and Commission professional staff. I am William M. Mohl, Vice President for Commercial Operations at Entergy Services, Inc. Thank you for inviting me to discuss railroad coal-delivery matters and their impact on markets and electric reliability. I am appearing today on behalf of Entergy as well as the Edison Electric Institute (EEI). EEI is the trade association of U.S. shareholder-owned electric utilities and industry affiliates and associates worldwide.

On May 1, EEI and other electric utility trade associations sent a letter to the Commission expressing common concerns about the potential impact of problems associated with rail deliveries of coal produced from the Powder River Basin (PRB) of northeast Wyoming and southeast Montana to power plants in various regions of the country. Coal provides 50 percent of the fuel for electric generation, and approximately 40 percent of that coal comes from the PRB. That means about 20 percent of the

electricity consumed in the United States is generated using PRB coal, more than the amount using natural gas.

Nationally, the railroads move approximately 70 percent of the coal utilized for electric production. Generators experienced shortfalls in coal deliveries from the PRB starting in 2005 that continue through the present time and are projected to extend beyond 2007.

My testimony will focus to a large degree on the use of PRB coal as it relates to the Entergy System. Entergy owns and operates 5 coal-fired generating units through its operating companies Entergy Arkansas, Inc., and Entergy Gulf States, Inc. These coal units, which total 3,887 MW of capacity, include the White Bluff and Independence Stations in Arkansas, and the Nelson Station in Louisiana. Entergy Gulf States is also a co-owner of one of the Big Cajun Station units located in Louisiana. All of these stations were designed to burn, and until recently did in fact burn, 100 percent PRB coal.

There is only one mode of transportation practically available for originations of PRB coal – rail. All of the Entergy operated coal units are served directly by railroad and have historically received virtually all of the coal we burn via railroad. We have some limited ability to receive coal at White Bluff via barge, but not in sufficient quantities to protect our system from the type of rail delivery disruptions that were experienced in 2005. Big Cajun Station currently transports its coal via a rail-barge movement, with all PRB coal originations moving via rail to St. Louis. Rail deliveries have been primarily provided pursuant to long-term coal transportation agreements between Entergy and the western rail carriers, the BNSF Railway Company and the Union Pacific Railroad Company. We

depend on the commitments contained in these agreements in planning how we will meet our generation requirements throughout our system.

II. COAL TRANSPORTATION BACKGROUND

It is important to put the coal delivery challenges Entergy and other shippers are currently facing in some context. Since passage of the Clean Air Act of 1970, there has been a dramatic shift to low sulfur coal in order to meet the Act's requirements. This shift has led to greater demand for low sulfur sub-bituminous coal resources located in the PRB, where seams of coal are sometimes 90 or more feet thick, and with only a few feet of overburden providing some of the lowest cost-of-production coal. This has resulted in PRB coal being transported over 1,000 miles to places as diverse as Georgia, Oregon, and Texas. PRB mining operations run 24 hours a day, 7 days a week and 365 days a year, and, in general, have been able to meet the needs of power generators.

In the mid-1970s there was only one railroad serving the PRB – BNSF Railway Company's predecessor, the Burlington Northern Railroad Company ("BN"). In the mid-1980s, rail competition was introduced into the PRB, and the Union Pacific Railroad Company ("UP"), in partnership with the Chicago North Western Transportation Company, entered the PRB transportation market. From the mid-1980s until recently, BNSF and UP competed vigorously for the right to transport PRB coal tonnages. During this time, coal shipments originating on the major line coming out of the PRB have grown from approximately 75 million tons in 1984 to nearly 350 million tons in 2005.

Currently, BNSF and UP are the only two railroads providing coal transportation out of the PRB. Most of this coal is transported over a line of railroad that the two carriers jointly own that is commonly referred to as the "Joint Line." The Joint Line is a north-

south rail line that spans approximately 120 miles. The Joint Line begins in the south at a junction with the UP network called Shawnee Junction, Wyoming and extends north to a point on the BNSF rail line a short distance south of Gillette, Wyoming. Coal currently originates at eight mines (owned by three companies) on the Joint Line. While BNSF and UP both operate on the Joint Line, BNSF dispatches the rail traffic over this rail line. The Joint Line has been referred to as the heaviest traveled stretch of railroad in the world, as measured by tonnage hauled, and all of this coal moves to destinations located south out of the PRB. BNSF also exclusively serves a group of six mines located north of Gillette, Wyoming on a BNSF-owned rail line. At a junction east of Gillette, BNSF can direct their trains south entering the Joint Line from the north or west to these six mines served exclusively by BNSF. Unlike UP, BNSF thus has the ability to move coal out of both the Northern and Southern ends of the PRB, although most of the coal moves to the south over the Joint Line. Currently, approximately 102 shareholder-owned, cooperatively-owned and government-owned electric utilities rely on PRB coal to fuel their coal-fired generation resources.

While, to be sure, BNSF and UP have invested in the PRB rail infrastructure, the electric industry has also played an important role in the development of the PRB transportation system. Utilities have shared in the costs associated with transporting coal through a variety of initiatives, including but by no means limited to: investment first in steel railcars, and then in higher capacity aluminum railcars through either purchases or leases; plant improvements that facilitated the use of longer trains (e.g., expanded loop tracks) so as to enable more tonnage to be delivered per train; and the construction of car repair shops (or contracting with private car repair shops) in order to

provide for maintenance and repairs to their fleets of cars. The electric industry also entered into long-term contracts to provide the western railroads with contract certainty so that they could make the necessary investments in roadbed and locomotives. All of these actions helped reduce the capital and operating costs of the railroads, with the overarching intention that the utilities could count on reliable deliveries of coal to their power plants as a result of these investments and contractual agreements with the railroads.

III. THE 2005 SERVICE DISRUPTIONS AND OTHER RAIL-COAL DELIVERY CHALLENGES

Entergy, like many utilities, is deeply concerned about the serious deterioration in service levels that occurred in 2005. Entergy has been receiving PRB coal by rail since its Arkansas plants became operational in 1980 (White Bluff) and 1983 (Independence). Prior to 2005, prolonged service disruptions were a rarity. With the exception of the problems experienced in the aftermath of the 500-year Midwestern floods in 1993-1994 and the well-publicized UP service meltdown in 1997-1998, the two western carriers had not experienced any prolonged service disruptions. For example, in the more than 20 years the railroads had been serving Entergy prior to 2005, there had only been 7 or 8 isolated *force majeure* claims, and none extended beyond a few days. The railroads were generally able to meet their commitments to deliver coal to electric generating stations owned by various electric utilities, cooperatives and municipal agencies across the U.S.

This all changed in 2005 and the railroads are no longer meeting these commitments. For example, in 2005, UP declared *force majeure* seven times under our transportation agreement, almost the same number of claims it had raised in the prior 22 years. The

worst of these claims purportedly related to two derailments that occurred on the Joint Line in May 2005, one involving the UP and the other the BNSF. BNSF cleared the Joint Line and repaired the affected tracks in the area of the derailments within approximately three (3) weeks. BNSF, accordingly, ended its *force majeure* claim on June 3, 2005. Although both railroads were similarly impacted by the seven-month catch-up maintenance blitz that ensued, only UP continued its *force majeure* claim during that period in an effort to avoid liability for its failure to meet its contractual performance obligations. UP finally ended its *force majeure* claim in late November, 2005. During this seven-month period, UP essentially suspended the volume commitments under its coal transportation agreements with Entergy and other utilities, and it began rationing the delivery of PRB coal tonnages. In open letters to its utility customers, UP estimated that shippers would receive only 80 to 85 percent of their nominated tonnage needs during the period of *force majeure*. In fact, Entergy received less than 85 percent and continues to receive substantially less than its nominated amount in 2006.

Despite the railroads' claims that service is improving and that PRB coal volumes are increasing in 2006, Entergy is still receiving only about 85 percent of its nominated tonnage on average through the first half of 2006; that is after considering the impact of Entergy-caused delays or shortfalls. This situation is not unique to Entergy as many other coal shippers are experiencing the same problem in that their actual deliveries are significantly less than their nominated, contractual amount.

These service disruptions present serious challenges to coal-burning utilities in meeting their electricity demand. Coal inventory stockpiles reached dangerously low levels at many plants, and utilities were forced to curtail coal-fired generation and replace

it with more expensive alternative sources such as purchase power and natural gas. EEI members report that loadings have generally improved, although full contracted tonnages are still not being delivered.

Where stockpiles have improved, it largely is because the electric generators have taken a variety of steps to conserve coal or rebuild stockpiles, such as generating electricity using natural gas, purchasing power from the grid (usually costing the consumer more), taking coal-fired generating units out of service for maintenance, and in some cases importing coal.

In our case at Entergy, we were able to shift some coal shipments to come out of the north end of the PRB on the BNSF, which does not travel through the south exit over the Joint Line. We also purchased approximately 10 barges of PRB coal from storage piles on the Mississippi River, and Entergy has purchased 136,000 tons of Colombian coal, which was delivered to our White Bluff Station located near Little Rock, Arkansas by barge. We are currently in the process of test burning this coal. Entergy has also purchased an additional 78,000 tons of Columbian coal and is in the process of delivering and test burning this coal at the Nelson Station located near Lake Charles, Louisiana. Entergy also purchased and consumed over 550,000 tons of coal from Colorado at its White Bluff and Independence plants. In addition, we purchased and are currently test burning more than 80,000 tons of Louisiana lignite at our Nelson Station. Entergy has also made commitments to purchase Indonesian coal and intends to test burn this coal at its White Bluff and Nelson facilities later this year. Despite all of these efforts, the alternative coals were insufficient to provide reliable unrestricted generation during the last half of 2005 and the first quarter of 2006. As a result Entergy was left with no choice

but to implement a coal burn reduction program. In addition, all of these alternate fuel supplies were at least double the cost of our PRB resources that we should have received under our transportation contracts with the railroads. These are not the most desirable long-term solutions. There is something inherently wrong when U.S. utilities are forced to rely on coal supplies from Indonesia and Colombia, when we are considered the "Saudi Arabia of Coal." Such imports and coal conservation programs are at best, only stop-gap measures—and expensive ones at that—until the current problems with the U.S railroads are resolved.

It is important for the FERC to understand that none of these efforts and related increased costs would have been necessary if the railroads had lived up to the contractual commitments that they had with Entergy. The alternate coal supplies that were tapped to replace PRB coals are more costly than PRB coals, both in terms of the commodity price, and in many instances the transportation rates. Our coal units are specifically designed to burn PRB coal. Significant additional capital costs are also required in order to modify the plant to successfully use an alternate fuel on a long term basis. In today's natural gas market, most of these steps are still more cost-effective than burning natural gas, even though preparation costs to burn alternate fuels can increase total costs significantly.

The manner in which the railroads managed coal delivery interruptions in 2005 puts the electric system at great risk. Utilities cannot meet their obligations to serve their electric customers unless the railroads meet their obligations to serve their utility customers. We have to be able to rely upon the commitments to service and volume levels that were agreed to by the railroads. We need to be able to plan based on the assumption that the railroads' system is stable and reliable enough to meet these

commitments. The shortfalls in 2005 are comparable only to two extraordinary events – a 500-year flood and an ill-fated merger. The railroads want the industry to accept that these types of shortages need to be anticipated and planned for through means such as maintaining ever-expanding coal inventory stockpiles. This is unreasonable and not acceptable. For example, in order for us to have had enough inventory on hand to have avoided curtailments in 2005, Entergy would have needed to have an additional 1.5 million tons more coal on the ground.

It is my understanding that the majority of traffic moving out of the PRB is currently contract carriage. The railroads, however, have made clear in the last two years that they are moving away from contracts in favor of providing service under common carrier type circulars. At the same time, we are hearing that the railroads cannot justify investment without raising rates. As one UP executive explained in connection with UP's rollout of its Circular 111 public pricing regime:

> *"With the current demand for transportation far outstripping the available supply, the most effective tool we have to control volume growth on our railroad is price. As such we are taking pricing actions to bring supply and demand into balance." – Jack Koraleski, Letter to shippers dated April 15, 2004.*

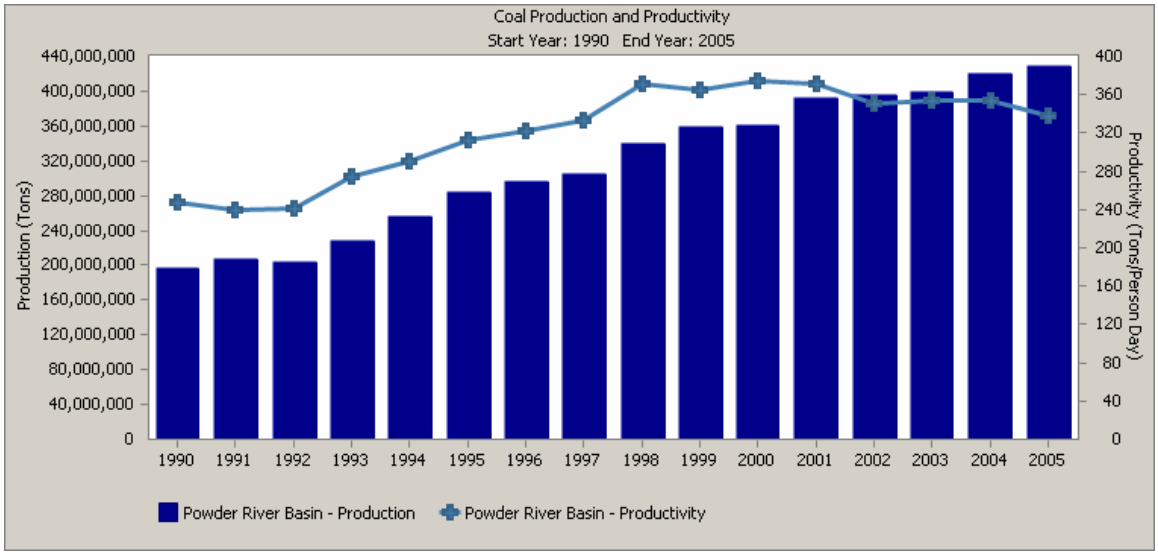
What this all means to shippers is that we are seeing increased prices and reduced service – the railroads are actually benefiting from their constrained capacity through enhanced revenues on the traffic that they actually move. This is particularly troubling for shippers like Entergy and many others who instead of getting the full benefit of the

contract rates and terms we bargained for, are only getting a pro rata share of the available constrained capacity.

The Association of American Railroads argues that its members are having difficulty meeting current surging coal demand from electric generators. This demand primarily is coming from existing power plants—many, if not most, of which are more than 20 years old.

Contrary to assertions made by the railroads, the electric industry did not move away from coal-fired generation over the past decade. The railroads seem to have a fundamental misunderstanding about the factors underlying the 200 GW of natural gas-fired capacity installed during the past ten years. In fact, these additions reflected the balancing of the electric generating market between base load investments and intermediate and peaking investments with new, more efficient and cost-effective natural gas technologies. Many of these new gas-fired units are located in high growth markets where coal is not a preferred or accepted fuel, such as California, New England, and Florida.

As illustrated by the chart that appears below, the demand for PRB coal continued to steadily increase even while the electric generating sector increased its gas-fired capacity.



Source: Global Energy Decisions, Inc., EV Fuels

Increased demand for more coal by generators is not as sudden as railroad spokesmen assert, but was eminently predictable and had been forecast by the U.S. Energy Information Administration (EIA). Coal consumption by the electric power sector has consistently trended upward, with only a slight downturn in 2001 attributable to the effects of the September 11 attacks on economic activity generally and electricity production specifically. In its 2003 Annual Energy Outlook, EIA noted that, "with Phase 2 of the Clean Air Act of 1990, which became effective on January 1, 2000, mines in the Powder River Basin will require expansion of their train-loading capacities to meet the increase in demand for low-sulfur coal." Even the National Petroleum Council in its 1999 and 2003 natural gas studies did not project any significant turn away from existing coal units.

PRB coal-fired generating resources are some of the most economical baseload generating sources in the country. Thus, utilities do not have an economic incentive to

move to greater use of other fuels for baseload generation – unless they cannot get enough coal delivered by rail. The power generation sector is concerned about whether there will be sufficient rail delivery capacity to meet future demand for coal, especially from the PRB. According to Global Energy Decisions, 16,980 MW of additional coal-fired capacity utilizing non-mine mouth PRB coal is expected to be brought online in the U.S. between now and 2013.

Obviously, rail operations on the PRB Joint Line need to be restored to full capacity, but more is needed. The railroads have announced plans to increase its capacity, which would be welcome. However, that will not be enough over the long term. Ultimately, the electric generation sector needs another coal-hauling railroad, such as the Dakota, Minnesota & Eastern Railroad (DM&E), to be built, to add much needed rail transportation capacity to the system and an alternative route to the PRB Joint Line. The Joint Line in the PRB is not only inadequate for existing demand, but the planned increases in its capacity are unlikely to be sufficient. The DM&E Project would extend the DM&E's current line in western South Dakota to the PRB, and rehabilitate the current DM&E system, so as to be able to haul at least 25 million tons of coal annually, and perhaps 100 million tons.

IV. COAL DELIVERY PROBLEMS HARM ELECTRICITY CUSTOMERS

The current situation raises costs for consumers in at least two ways. Less than full delivery of the industry's total coal needs will require the use of more expensive generation. In addition, these uncertainties raise business risks in the wholesale markets.

The discussions today are not taking place in a vacuum. The Commission is moving proactively to implement its responsibilities under EPAct 2005. We are all aware that

Congress in EPAct clearly signaled that the nation needs significant investments in electric infrastructure, as well as a stronger structure for maintaining system reliability. Today's discussions underscore the importance of the Commission's consideration of various transmission-related inquiries that will influence future levels of investment.

We are not suggesting that the electric industry should envision bulk power transmission as a substitute for coal delivery or natural gas pipelines, nor should it. The systems should be complementary, where public policy seeks to maximize their efficiency while managing costs. Our message to the Commission today is that the electric production and delivery system cannot operate efficiently under the current situation. Some oversight of the railroad industry is required. Utilities are required to meet certain capacity requirements to ensure that they are able to meet electrical demand. This standard is untenable unless their vital fuel supply lifeline is required to meet its commensurate obligations. Like the utilities' transmission and distribution systems, railroads are by nature a "natural monopoly" in the economic sense, and the necessity of a certain amount of regulatory oversight is inherent if the overall system is to perform its combined function.

As described earlier, over the past year, because of shortfalls in rail coal deliveries, numerous utilities have been forced to invoke coal conservation programs under which they burned natural gas to replace coal-fired generation or purchased additional power---much of it from gas-fired plants --- in the wholesale market, often at dramatically higher prices than the cost of their own coal-fired resources. The significant additional costs resulting from rail service failures have put additional upward pressure on consumers' electricity rates.

The additional use of natural gas to generate electricity in place of coal comes at a particularly inopportune time, as the price of natural gas across the country remains at very high levels, causing additional pain not just for electricity consumers, but also those using natural gas as a feedstock for manufacturing products or as a home heating fuel.

The electric production sector is mindful of FERC's concerns about the natural gas market. A simple observation: so long as the coal logistics system does not deliver the full coal requirements of electric generators, it will be difficult to balance natural gas supply and demand.

V. WHAT NEEDS TO BE DONE

Under the Energy Policy Act of 2005, FERC was given explicit statutory authority to oversee the development and implementation of mandatory electric reliability standards. Unfortunately, the Surface Transportation Board (STB) has only limited authority under the Interstate Commerce Act to regulate service issues relating to common carrier movements. Despite the differences that exist in statutory authority, they do not preclude voluntary cooperation and coordination between the STB and the FERC. FERC has worked well with the Nuclear Regulatory Commission on nuclear matters impacting the grid and its efforts can be seen as a model for coordination with the STB on rail transportation matters, because of its impacts upon electric system operations. Given the long-term demand for PRB coal, we recommend regular joint review of coal transportation deliveries by the FERC and STB. FERC and the STB need to regularly review the capacity requirements that the power sector will place upon the railroads to ensure adequate rail deliveries of coal and to avoid potentially harmful impacts on electricity markets or reliability. In addition, FERC should follow up this meeting with

regular evaluations of the state of rail-coal deliveries relative to the current situation to ensure that the railroads are providing adequate capacity to meet shipper's needs. Finally, as the reliability provisions of EPAct 2005 are implemented, FERC should encourage the new Electric Reliability Organization to continue its increased focus on this issue, as evidenced by the North American Reliability Council's recent decision in its Summer Assessment to place the PRB issue on its "Watch List" and to continue to monitor developments, both for the coming summer and for the longer term.

Beyond FERC's purview, the DM&E should also be built as rapidly as possible to provide additional capacity and competition in the PRB.

Also, the STB needs to effectively regulate in the public interest a rail system that has been permitted to devolve to duopoly or monopoly from over 40 Class 1 Carriers in less than 25 years. Some additional authority should be given the STB to clarify that it should have the power to ensure that railroads make coal deliveries a priority at prices that are just and reasonable. While it may be in the public interest to shift goods from highway to rail, that should not be done at the expense of creating either a threat to electric reliability, or increasing the consumption of natural gas and thereby impacting electricity prices because the rail shipment of coal was not prioritized.

Electric utilities and other industries that depend heavily on rail also support other legislation to help improve rail service and capacity. These measures include bills to implement reforms at the STB and to eliminate the railroad industry's outdated anti-trust exemptions. If Congress considers tax incentives proposed by the railroads to encourage expansions in rail capacity, those incentives should be focused on improving capacity to

deliver critical domestic shipments, such as coal, and other measures to improve the plight of captive shippers currently without access to competitive rail options.

VI. CONCLUSION

The Commission should not be comfortable that the issue of rail reliability is resolved due to the fact that utility stockpiles appear to have improved recently with adequate supplies to meet the peak seasonal needs of utilities. This improvement has largely been the result of the numerous steps that utilities took, as mentioned above, to conserve coal and obtain alternate supplies of coal over the course of the last year. As previously indicated, while the railroads have taken some steps to improve the situation, the railroads have not resolved their delivery problems. Deliveries continue to be less than the contractual commitments made to utilities. A single event, such as the 2005 derailments in the PRB, could put the railroads and utilities back in a situation similar to last year, with disastrous results for everyone concerned.

In sum, rail deliveries of coal are an integral part of electric reliability. Adequacy of long-term coal deliveries is fundamental to the cost-effective operation of the bulk power electric system. The U.S. electric system will likely operate with sufficient reserve margins to meet peak loads this summer, despite the rail situation. However, recent rail delivery problems highlight the lack of reserve capacity within the PRB rail network, which puts the electric industry—and ultimately its customers—at risk. Railroads need to fulfill their obligation to transport coal at a level of service that enables utilities to meet growing demand for electricity.

Thank you very much for your consideration of this important issue.