

**INCREASED COAL TRAIN EMISSIONS COULD CHOKE DFW**  
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**THE BIG PICTURE: THE HEALTH AND ENVIRONMENTAL COSTS OF COAL TRAINS**

The transportation of coal from where it is mined to where it is used produces significant levels of pollution from nitrous oxide, particulate matter, carbon dioxide, and volatiles. Diesel-powered locomotives are especially dangerous to public health. Nationally, trucks and trains transporting coal release over 600,000 tons of NOx and over 50,000 tons of particulate matter into our air annually. Furthermore, the black carbon released by diesel engines contributes to global warming.<sup>1</sup>

- Train transports almost 60 percent of coal in the U.S. Coal transportation accounts for 44% of rail freight ton-miles. The lengths of these coal trains cause collisions and pedestrian accidents. There are approximately 3,000 collisions and 900 pedestrian accidents every year.<sup>2</sup>
- Air pollution from diesel locomotives is linked to about 3,400 premature deaths and other serious health effects every year. Based on EPA methodology, locomotive pollution dealt a \$23.2 billion hit to the U.S. economy in 2006.<sup>4</sup>
- In the Dallas-Fort Worth area alone, locomotives are responsible for some 4,500 tons of NOx emissions per year. This is equivalent to 4,900,000 automobiles and two new TXU coal-fired plants. The EPA estimates that in 2006, locomotives emitted 930,000 tons of NOx nationwide, or 120 coal plants, and 32,000 tons of particulate matter, or 70 coal plants. According to TCEQ, in 2003 Texas locomotives emitted 51,400 tons NOx and 2,000 tons of particulates.<sup>5</sup>
- The EPA estimates that rails were responsible for two percent of transportation emissions of greenhouse gasses, contributors to global climate change. These emissions were an 18-percent increase from 1990 levels.<sup>6</sup>

**THE TXU COAL TRAIN BY THE NUMBERS:**

- TXU is claiming that it will rely on 9,000 coal train cars operating continuously to bring in 30 million tons of coal annually from the Powder River Basin in Wyoming. The company recently purchased 7,650 new rail cars from FreightCar America for its coal transportation plan.<sup>7</sup>
- In McLennan County alone, TXU plans on building more than 20 miles of new rail to serve the Trandinghouse and Lake Creek plants. These new rails will bring three 150-car trains a day from Wyoming.<sup>8</sup>
- Using emissions averages for diesel-powered locomotive engines by the EPA and industry specialists, **each TXU train will emit one ton of NOx every 15 hours of operation, one ton of particulate matter for about every two weeks, and two tons of carbon dioxide per hour. Although the details of TXU’s transportation plan are**

vague at best, the company plans to keep 9,000 cars –or about 60 locomotives—operating continuously.<sup>9</sup>

## RAIL CAPACITY: A DANGEROUSLY STRAINED SYSTEM

- The demand for coal, especially from the Powder River Basin, is on the rise while supply and transportation availability are on the decline. Over the last 15 years, Wyoming coal production has increased over 120 percent, and in 2005 accounted for 36 percent of total U.S. coal production. Burlington Northern Santa Fe alone delivers over 115 million tons of coal from the PRB per day. However, from 1989 through 2005, coal stockpiles have fallen by 26 percent while coal generation has increased by 27 percent over the same period. Inventories of PRB coal for individual companies have dropped seven percent, largely due to availability shortfalls.<sup>10</sup>
- Freight carried by Texas trains is expected to grow from 282 million tons in 1998 to 473 million tons by 2020.<sup>11</sup>
- In recent years, rail companies have failed to adequately deliver reliable service of coal to meet the needs of power plants. In 2005, derailments on the Powder River Basin line shared by Union Pacific and Burlington Northern Santa Fe resulted in a 20 percent loss of coal delivery. It is estimated that 2006 saw a 20 million ton shortfall in coal delivery.<sup>12</sup>
- Recent major disruptions resulted in record level highs of PRB coal prices in the end of 2005. Union Pacific was forced to institute an embargo on new PRB business to catch up with delivery delays.<sup>13</sup>
- Coal delivery problems hit particularly hard in Texas. **Last year, CS Energy in San Antonio was forced to import 150,000 tons of coal from Columbia and truck it 140 miles from Port Arthur. MEAG Power in Georgia was forced to import coal from Indonesia to make up for delivery cuts.**<sup>14</sup>
- **In Texas, Tower 55 in Fort Worth will be especially strained by new coal delivery demands. Currently, 120 trains pass through Tower 55 per day, with increases expected. Tower 55 is already responsible for major train and car congestion, resulting in health and public safety dangers for the DFW area.** In late 2005, Sempra Energy contacted the Texas PUC and the Governor's office with concerns over rail capacity. Sempra reported major congestion of rails south of Fort Worth, resulting in 2-day pile-ups for coal shipments. Sempra requested an independent study of coal rail congestion in Texas to help resolve the delivery delays.<sup>15</sup>
- According to the North American Electric Reliability Council, coal deliveries from the PRB have yet to increase enough to compensate for the major derailment in 2005. The NERC concluded that power generation would be reduced if capacity problems worsen.<sup>16</sup>
- Delivery problems greatly increase the cost of PRB coal. From Feb. 2004 through Feb. 2006, cost of PRB coal rose 44 percent, and transportation costs increased by 19 percent.<sup>17</sup>

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- <sup>1</sup> Testimony of David G. Hawkins, Director of Climate Center, Natural Resources Defense Council. Full Committee Hearing on Coal Liquefaction and Gasification. Committee on Energy and Natural Resources, United States Senate. April 24th, 2006.  
[http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing\\_ID=1546&Witness\\_ID=4370](http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing_ID=1546&Witness_ID=4370)
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- <sup>2</sup> Ibid.
- <sup>4</sup> “Smokestacks on Rails: Getting Clean Air Solutions for Locomotives on Track,” Environmental Defense, 2006.  
[http://www.environmentaldefense.org/documents/5736\\_SmokestacksOnRails.pdf](http://www.environmentaldefense.org/documents/5736_SmokestacksOnRails.pdf)
- <sup>5</sup> Ibid.
- <sup>6</sup> Ibid.
- <sup>7</sup> FreightCar America press release, Oct. 26, 2006. <http://www.johnstownamerica.com/investor/news/102606.htm>; TXU, “Power for Your Future,” 2006. [http://www.reliabletexaspower.com/index.aspx?id=u\\_power](http://www.reliabletexaspower.com/index.aspx?id=u_power)
- <sup>8</sup> Waco Herald Tribune, Oct. 27, 2006; [http://www.accessmylibrary.com/coms2/summary\\_0286-22628539\\_ITM](http://www.accessmylibrary.com/coms2/summary_0286-22628539_ITM)
- <sup>9</sup> Southwest Research Institute study, via Energy Conversions, Inc. “Emissions and Natural Gas Locomotives,” <http://www.energyconversions.com/locoemis.htm>; EPA, “Emissions Factors for Locomotives,” Dec. 1997, [http://www.fhwa.dot.gov/environment/conformity/mpe\\_benefits/6.htm](http://www.fhwa.dot.gov/environment/conformity/mpe_benefits/6.htm); DieselNet, “Emissions Standards for Locomotives,” <http://www.dieselnet.com/standards/us/loco.html>
- <sup>10</sup> Dallas Morning News, Dec. 16, 2005; BNSF Railway, “Powder River Basin Coal Transportation,” FERC Update, Jun. 15, 2006; Dr. Howard Gruenspecht, Energy Information Administration, Testimony before the Senate Cmte. On Energy and Natural Resources, May 25, 2006
- <sup>11</sup> “Smokestacks on Rails,” Ibid.
- <sup>12</sup> David Wilks, Edison Electric Institute, Before the Committee on Energy and Natural Resources, U.S. Senate, May 25, 2006.  
[http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing\\_ID=1560&Witness\\_ID=4410](http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing_ID=1560&Witness_ID=4410)
- <sup>13</sup> Dept. of Energy, Annual Coal Report, Jan. 2007. [http://www.eia.doe.gov/cneaf/coal/page/acr/acr\\_sum.html](http://www.eia.doe.gov/cneaf/coal/page/acr/acr_sum.html)
- <sup>14</sup> Rock Products Magazine, Apr. 1, 2005. [http://rockproducts.com/mag/rock\\_waiting\\_train/](http://rockproducts.com/mag/rock_waiting_train/); Christian Science Monitor, May 29, 2006. <http://www.cbsnews.com/stories/2006/05/26/tech/main1660992.shtml>; Steven Jackson, MEAG Power, Senate Cmte. On Energy and Natural Resources, May 25, 2006,  
[http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing\\_ID=1560&Witness\\_ID=4408](http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing_ID=1560&Witness_ID=4408)
- <sup>15</sup> Wendy Davis, DFW Partners in Mobility, TX DOT Commission Meeting, May 25, 2006; Memo, Sempra Energy to PUC, Dec. 2005
- <sup>16</sup> Ibid.
- <sup>17</sup> Dr. Howard Gruenspecht, Energy Information Administration, Testimony before the Senate Cmte. On Energy and Natural Resources, May 25, 2006