

## **FEDERAL RAILROAD ADMINISTRATION UPDATE ON ELECTRONICALLY CONTROLLED PNEUMATIC BRAKES**

The Federal Railroad Administration (FRA) continues to promote the adoption of electronically controlled pneumatic (ECP) brakes. On October 16, 2008, the FRA amended Title 49 Code of Federal Regulations Part 232, Brake System Safety Standards for Freight and Other Non-Passenger Trains and Equipment, by publishing new regulations (*see* Federal Register Vol. 73, No 201) that address the maintenance and operation requirements for ECP brake systems. The final rule became effective January 12, 2009.

FRA continues to believe that ECP brakes provide numerous safety and business benefits over conventional air brake systems. ECP brake technology provides simultaneous and graduated application and release of brakes on all rail cars within a train, resulting in shorter stopping distances. Trains equipped with ECP brakes provide locomotive engineers with better train control, lowering the risk of derailment. ECP brakes also permit longer trains to operate at higher speeds with improved fuel efficiency and reduced emissions. It also complements other rail safety technologies like Positive Train Control systems and Wayside Detection Systems.

The final rule requires that ECP brake systems fully comply with existing industry standards and that certain railroad operating rules and training programs be modified to ensure workers have the knowledge and skills required to properly utilize the systems. While the final rule does not mandate adoption of ECP brakes, it establishes performance standards for their use. With the final rule in place, FRA is confident that it will facilitate more widespread deployment of the technology to the benefit the rail industry. The rule permits trains to travel up to 3,500 miles without stopping periodically for certain routine brake inspections—more than double the current limit—because ECP brake systems contain continual, electronic, self-diagnostic “health-check” capabilities that inform train crews when maintenance is required. For example, an ECP brake-equipped intermodal container train originating from the ports of Los Angeles-Long Beach may safely travel all the way to Chicago without stopping for a routine brake test. Similarly, ECP brake-equipped coal trains will be able to make faster deliveries from western coal fields to power plants in eastern and southern States.

The Association of American Railroads (AAR) has played a significant role in advancing ECP brake implementation and has worked with different brake manufacturers on achieving interoperability between the two currently available products. AAR has developed and adopted industry standards for rail cars and locomotives equipped with ECP brakes.

FRA continues to examine the potential business benefits of ECP brakes and has contracted with Booz Allen Hamilton to work with several of the railroads and shippers currently operating ECP brake-equipped trains to gather operational and performance data to assess realized improvements in train cycle times, reduced fuel consumption, and reduced annual expenditures for wheel replacement and brake shoes. Through better

cycle times, there is potential for enhanced asset utilization and increased capacity on the rail system. FRA believes that by demonstrating the advantages that ECP brakes offer, railroads, railcar owners, and shipping companies will increasingly realize safety and business benefits, which will prompt the industry and its customers to make the necessary investments in this technology.

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