



**Written Statement of Greg Saxton,
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**Before the United States House of
Representatives Subcommittee on Railroads,
Pipelines, and Hazardous Materials**

**“How the Changing Energy Markets Will Affect
U.S. Transportation.”**

February 3, 2015

Introduction

Chairman Denham, Ranking Member Capuano, members of the Subcommittee, thank you for the opportunity to testify before you today at this important hearing. My name is Greg Saxton, and I am Senior Vice President and Chief Engineer at The Greenbrier Companies. In this capacity, I am responsible for all tank car and freight car engineering for the four manufacturing facilities Greenbrier operates in North America. I currently chair the American Association of Railroads' (AAR) Equipment Engineering Committee, and serve as a member of the Rail Supply Institute's (RSI) Tank Car Committee and the AAR's Tank Car Committee.

About The Greenbrier Companies

The Greenbrier Companies is a leading supplier of transportation equipment and services to the railroad industry. We operate as an integrated provider of railcar services that combines freight car manufacturing, wheel services, repair, refurbishment, retrofitting, component parts reconditioning, leasing, and fleet management services. Our customers include railroads, leasing companies, financial institutions, shippers, carriers and transportation companies. Greenbrier's commitment to high quality products, technological leadership in developing innovative products and competitive pricing of our railcars has helped us maintain our long-standing relationships with our customers.

Overall, Greenbrier owns approximately 8,500 railcars, and performs management services for approximately 238,000 railcars. We are also one of the leading designers, manufacturers and marketers of railroad freight car equipment in North America and Europe; manufacturing a broad array of railcar types. Greenbrier's four manufacturing facilities build new railroad freight cars for the North American market. In addition, we provide railcar repair, refurbishment and retrofitting services in North America through 50/50 joint venture partner with Watco Companies, LLC. The joint venture, GBW Railcar Services, LLC, provides repairs and refurbishment services at 39 locations across North America, including 14 tank car repair and maintenance facilities ready to meet regulatory and market-driven demand for tank car recertification, repairs and retrofits.

One of GBW's repair, refurbishment, and maintenance facilities is located in Modesto, California, which is in Chairman Denham's district. We were pleased to host the Chairman for a visit to the facility a few years back.

Greenbriers' Investment Manufacturing and Repair Facility Capacity

To better provide for the needs of our customers and respond to market demands, Greenbrier has made a significant investment of private capital in our manufacturing facilities. Over the past five years alone, our capital expenditures in manufacturing facilities have grown nearly 5 times – from \$17.4 million in 2011 to \$88.2 million in 2015. Of this amount, approximately \$40 million is being invested in new rail tank car production facilities.

This increased investment in our manufacturing production capacity is the result of a growing demand for rail car units. Since 2011, our delivery of rail car units in North America increased

from 8,698 to 15,290 in 2014. We anticipate that total deliveries will increase to over 20,900 units this year.

Greenbrier has also made a significant investment in increasing our capacity to handle tank car upgrades and retrofit, committing over \$20 million through our joint venture with Watco – GBW Railcar services. These investments have more than tripled GBW’s ability to do retrofits.

Greenbrier is committed to continuing to make the investment in our facilities necessary to meet the demands and needs of our customers.

Crude by Rail

One of the key drivers in the increased demand for rail car units is the surge in the volume of crude oil moving by rail. According to the U.S. Energy Information Administration, U.S. crude oil production has increased from 5 million barrels per day in 2008 to 8.5 million barrels per day in 2014.¹

This dramatic growth in domestic energy production has led to significant challenges in transporting crudes efficiently and safely. Increasingly, crude oil producers are utilizing rail to deliver crude supplies to U.S. markets. According to the Association of American Railroads, the United States rail system transported 407,642 carloads, or roughly 300 million barrels, of crude oil in 2013, up from 9,500 carloads in 2008.²

While rail provides safe and efficient transport of oil, the increasing volumes being transported through communities have raised significant safety and environmental concerns. Railroads consistently spill less crude oil per ton-mile transported than other modes of land transportation. Despite the industry’s track record of safe transportation of crude, the increased volumes and demands on the network are not without significant safety and environmental risks. These risks have been highlighted by a number of major incidents involving crude oil being transported by rail—including a catastrophic fire that caused 47 fatalities and destroyed much of Lac Mégantic, Quebec, in 2013.

A contributing factor to concerns is the fact that tens of thousands of outdated railroad tank cars are carrying volatile crude oil. The industry continued reliance on legacy DOT-111 tank cars to handle the transport of crude is placing communities through which these cars travel at risk. Despite this risk of oil being transported in tank cars lacking the latest safety technology, the Federal government has been slow to develop standards to require stronger, safer tank cars.

New Tank Cars Standards Needed

As crude moves by rail across America, delivering great benefits to our economy, moving it and other flammable commodities safely must be our top priority. The rail industry utilizes tank cars for the transportation of a range of products such as caustic soda, urea ammonium nitrate,

¹ Energy Information Administration crude oil production data, by state, available at <http://www.eia.doe.gov>.

² Association of American Railroads, “Moving Crude Oil by Rail,” September 2014.

vegetable oils, bio-diesel, ethanol and crude oil. The industry has long acknowledged the need to update rail tank car standards. In March, 2011, after years of study, industry and the AAR petitioned the U.S. government to mandate a more robust tank design with thicker steel shells, and protection for the top, bottom and both ends of the tank car. When government action did not appear imminent, industry and the AAR voluntarily adopted the more robust standard — called CPC-1232 — for new tank cars ordered after Oct. 1, 2011.

Today, more than three years after the more robust CPC-1232 standard was proposed by this consensus industry group, DOT-111 specification remains the government-specified design in the United States. The railroads are common carriers and by law, they are required to move any car that properly “packages” commodities to U.S. Department of Transportation (DOT) specifications.

In the wake of Lac-Mégantic and several other high-profile tank car derailments, it has become clear that there is a need for improved tank car design for both newly-built tank cars and for tank cars currently in service. The significant safety concerns about the existing legacy fleet of older DOT-111 cars requires the Federal government to develop a safer tank car design standard for crude oil and ethanol service and the transport of other hazardous materials. The enhanced safety standards should apply to all tank cars containing flammable liquids - not just those carrying crude oil and ethanol. Ultimately the rail industry should transition all hazardous materials to a more robust tank car—regardless of the flash point at which these materials ignite.

The National Transportation Board (NTSB) has long recognized safety concerns with legacy tank cars. We strongly support NTSB including “Improving Tank Car Safety” on its 2015 “Most Wanted Transportation Safety Improvements List.” In identifying tank cars for safety improvements, the NTSB made clear its view that “. . . the current tank cars moving these flammable liquids are not up to the task. It’s crucial to strengthen existing rail tank cars and new rail tank car regulatory requirements.”³ Greenbrier could not agree more.

Tank Car of the Future

Despite the Federal government’s inability to provide the industry with a more robust tank car design standard, Greenbrier voluntarily announced its "Tank Car of the Future" in February 2014 (see attachment). Prominent features of this more robust tank car include:

- 9/16 inch thick steel tank;
- high capacity pressure relief valve to protect the tank from internal pressure resulting from a fire;
- 1/2 inch full-height head shields at both ends of the tank car;
- bottom outlet valve handle that disengages so it does not unintentionally open during derailment; and
- ceramic thermal jacket around the tank shell and an outer steel jacket around the car to additionally protect against punctures and fire.

³ <http://www.nts.gov>.

These new design features combine to inhibit discharge of contents during a derailment, to reduce penetration of the tank shell and to limit “pool fires” that can result when hazardous contents of a tank car escape in a breach and are ignited. The new design is also equal in capacity volume to the legacy DOT-111 tank car with a loading volume of 30,000 gallons.

With the Tank Car of the Future design, the Conditional Probability of Release (CPR) — which measures the likelihood of tank car spills in the event of a derailment at different speeds and by different car types — for a derailment at 50 mph would improve by up to approximately 7 to 8 times compared with the majority of tank cars now operating in hazardous service in the North American fleet. Using the accepted CPR measurements, the Tank Car of the Future is also twice as safe as a fully jacketed and insulated CPC-1232 car.

So far, customer response for our Tank Car of the Future has been favorable. Greenbrier currently has more than 3,500 orders for tank cars with 9/16-inch shell thickness and has begun delivering these tank cars to customers. In fact, a unit train of more than 100 tank cars built to this highest safety design recently received its initial cargo of Bakken crude from the field in North Dakota.

GBW Railcar Retrofit Solutions

In addition to delivering our new Tank Car of Future, Greenbrier through our joint venture with Watco, GBW Railcar Services, is delivering retrofit solutions for the legacy DOT-111 tank cars. These retrofit solutions permit extended service for DOT-111 tank cars in flammable liquids service and for other hazardous materials transport as these cars are placed in lower risk service over time. GBW also offers retrofit alternatives for the most recently built CPC-1232 tank cars. Combined, these retrofits meaningfully improve the safety performance of all tank car types in existing service.

The GBW joint venture established the largest independent railcar repair shop network in North America, owning and operating the combined network of 39 railcar repair, refurbishment and maintenance shops of Greenbrier and Watco, 14 of which are certified to work on tank cars. This allows us to deliver on retrofit designs for the legacy DOT-111 tank cars that include:

- optimally sized pressure relief valves;
- head shields;
- top fittings protection;
- thermal protection; and
- steel jackets for additional puncture protection.

Appropriate retrofit choices permit extended service for DOT-111 tank cars in flammable liquids service and for other hazardous materials transport as these cars are placed in lower risk service over time.

GBW’s retrofit alternatives for the most recently built CPC-1232 tank cars include enhancements to the bottom outlet valve controls, and pressure relief valves that will reduce the likelihood of tank cars releasing contents in derailments.

Combined, these retrofits meaningfully improve the safety performance of all tank car types in continued service.

Pipeline and Hazardous Materials Safety Administration's Rulemaking

While Greenbrier and GBW are moving forward unilaterally to address safety concerns raised by outdated tank car design standards, it is clear that DOT must act to strengthen rail tank car design standards with features that exceed even the CPC-1232. The only thing holding the industry back is the government's inaction on proposed new tank car design standards and a deadline for having an upgraded rail tank car fleet.

On August 1 of last year, the Pipeline and Hazardous Material Safety Administration (PHMSA), in conjunction with the Federal Railroad Administration, issued a Notice of Proposed Rulemaking (NPRM), which, among other things, proposes to enhance standards for new tank cars and sets a timeline for retrofitting all exiting tank cars.

Greenbrier fully supports PHMSA's proposed "Option 2" design for new tank cars in flammable service built after October 1, 2015. Adding 9/16-inch shell thickness produces a 21.6 percent reduction in the CPR performance. At a derailment speed of 50 mph, CPR improves from 45 percent in bare DOT-111 legacy tank cars to just over 5 percent with the new design standard required in Option 2 (which is consistent with the design of the Tank Car of the Future). Under this design standard, CPR improves by about 7-8 times from the least protected tank car to the most protected tank car, and twice as safe as a fully jacketed and insulated CPC-1232 car.

While Greenbrier believes that tank cars built to the new robust standards will provide the greatest safety benefits, we also supports PHMSA's effort to retrofit the existing fleet of tank cars currently used in the transport of all flammable commodities. GBW agrees with PHMSA that every packing group classification—PG I, II and III—within the Class 3 flammables category must be transported in a retrofitted tank car by 2020. This is an aggressive timeline, we believe it is achievable, which is why we established our GBW joint venture with Watco. GBW is making significant investments in expanding retrofit capacity. Others in the repair industry have also announced similar investments in increasing their retrofit capacity. We are making these investments in anticipation of a new car standard. Yet these private investments are in jeopardy if the final rule is delayed.

Immediate Release of Final Rule Critical to Industry Certainty

Adopting Option 2 as the fixed and final standard for new tank cars, combined with establishing clear standards and timelines for the retrofits of existing cars, will produce a safer North American tank car fleet in the shortest possible time. Ensuring that limited capital is targeted to the appropriate tank car designs and modifications—those that maximize the safety benefits accruing to the public—and that this happens expeditiously should be a core priority of PHMSA as it completes this rulemaking. While we believe it is important that PHMSA get this done quickly, it is also just as critical that the final rule "gets it done right".

Prompt implementation of proposed new tank car design and retrofit standards will ensure safer communities and provide railcar manufacturers, like Greenbrier, with the regulatory certainty needed to continue investments already underway to deliver more robust tank cars. We are very disappointed that PHMSA's announcement that the publication of the final is not anticipated until May 12 of this year, and share Congressman DeFazio's call in his January 22 letter to Secretary Foxx that DOT take immediate action to address this serious safety issue.

Greenbrier is making major capital investments in new facilities and equipment to respond rapidly to PHMSA's new standards. A final rule establishing clear, robust standards for new tank cars and timelines for retrofits of existing cars will permit the industry to make the necessary upgrades to their facilities as rapidly as possible. From Greenbrier's perspective, the urgency for a final rule is apparent. We are already responding to this imperative by delivering general purpose tank cars with the most robust safety features we can offer. We are ready to move even more quickly upon issuance of a final rule.

It is also critically important for the DOT to act soon as Transportation Canada has taken the lead by adopting new tank car standards earlier this year and moving forward to establish an even higher standard soon. A similarly prompt decision in the U.S. will provide industry with the regulatory certainty it needs to continue investments already underway to produce more robust tank cars. We are hopeful the DOT will act soon to enact strong designed standards, and then move quickly to harmonize the U.S. standards with new Canadian rules to create a unified North American tank car standard.

While the urgency of upgrading the safety of the North American tank car fleet should be apparent, there are some who suggest that the industry requires six, seven or even up to 10 years to fully enhance the puncture resistance of tank cars. This is simply wrong. The rail supply industry can move faster than that and we will. Greenbrier and others are already making necessary investments to address this need. Greenbrier currently builds tank cars at a rate of 4,000 cars per year, and we are increasing our production capacity to meet higher demand for tank cars related to the energy renaissance in America. Greenbrier is investing with a goal of doubling our capacity by later this year to support strong demand for our Tank Car of the Future.

Despite the commitment of Greenbrier and others in the industry to invest in their production and retrofit capacity, critics of the PHMSA NPRM remain. This should not, however, be a debate between service and safety. Service requirements are very important, but our customers do not expect us to provide improved service at the price of diminished safety. The railroads have earned a reputation as safe handlers of cargo because they utilize the right equipment. To preserve this legacy, the standards in the proposed rule should be finalized immediately.

Conclusion

Thank you for allowing Greenbrier the opportunity to share our views on this very important topic. We are proud to be a player in the Nation's ongoing energy renaissance, and stand committed to working with this Subcommittee, DOT, and industry stakeholders to provide the safest possible transport of crude oil and other energy products.