Great Balls of Fire: The Case for Ethanol Rail Safety

By “Coach Vance” Trefethen

Trains carrying fuels like oil and ethanol across the heartland of our nation are a serious and well-known hazard. The town of Lac Megantic, Quebec, was devastated by an oil tanker derailment and explosion several years ago, and Congress took action to try to prevent it from happening here. Unfortunately, while taking immediate action on oil tanker safety, Congress left a loophole that postpones standards for safer tanker cars carrying ethanol until 2025. It was a bad decision because there are even more ethanol derailments and spills in the US than accidents involving oil, and ethanol is just as, if not more, dangerous. The standard for safer tanker cars for oil is a standard called DOT-117, which defines the safety features and safeguards built into a tanker car design. Currently, most ethanol is carried in DOT-111 cars, which burst and explode when they derail and are considered much more dangerous. There are lots of DOT-117 cars sitting idle in railyards today, but companies won’t use them because they’re waiting for the deadline. Meanwhile, every community the old tankers pass through is at risk of fiery destruction. We need to move up the DOT-117 standard for ethanol rail transportation and get the safety benefits as soon as possible, not in 2025.

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In 2013 a horrific rail accident occurred in Lac Megantic, Quebec. A tanker train carrying oil derailed and exploded, burning down the center of town and killing 47 people. Government and industry took notice of the unsafe tanker design and mandated safer tankers for transporting oil. But they left open a loophole for another fuel that’s just as dangerous: ethanol. Please join my partner and me as we affirm that The United States federal government should substantially reform its transportation policy.

OBSERVATION 1. We offer the following DEFINITIONS.

**Policy**: “a high-level overall plan embracing the general goals and acceptable procedures especially of a governmental body” (*Merriam Webster Online Dictionary, copyright 2017* [*http://www.merriam-webster.com/dictionary/policy*](http://www.merriam-webster.com/dictionary/policy))  
  
**Substantial**: “considerable in quantity” (*Merriam Webster Online Dictionary, copyright 2017* [*http://www.merriam-webster.com/dictionary/substantially*](http://www.merriam-webster.com/dictionary/substantially)*)*

**Transportation**: “means of conveyance or travel from one place to another” (*Merriam-Webster Online Dict. 2017* [*https://www.merriam-webster.com/dictionary/transportation*](https://www.merriam-webster.com/dictionary/transportation)*)*

OBSERVATION 2. The RISKS.

A.The Iowa crash. A fiery crash in Iowa shows the growing danger of ethanol tankers are similar to the Quebec disaster

Reuters news service 2017. (journalists Chris Prentice and Jarrett Renshaw) 17 Mar 2017 “Thousands of Safer Ethanol Rail Tank Cars Sit Idle: Reuters” <http://www.insurancejournal.com/news/national/2017/03/17/444767.htm>

While crossing a small wooden bridge in northwestern Iowa last Thursday, 20 rail tank cars in a mile-long train transporting ethanol flew off the tracks, sending fireballs into the sky, while thousands of gallons of the biofuel leaked into the creek below. No one was injured, in part because the accident occurred in a sparsely populated area. A similar derailment in the more dense Lac-Mégantic, Quebec, Canada, in 2013 killed 47 people after a train carrying crude oil crashed and exploded. But the incident in Iowa underscores the growing risk of another serious accident along with the increasing volume of the biofuel being moved in unit trains that are mile-long with about 100 rail cars – dubbed “rolling pipelines” – to slash freight costs.

B. Bigger Threat. Ethanol tankers are an even bigger threat than oil. They spill more and threaten communities

Curtis Tate 2017 (journalist) NORTH JERSEY, 13 Oct 2017 “Ethanol has replaced oil trains as hidden safety risk in N.J.” <http://www.northjersey.com/story/news/transportation/2017/10/13/ethanol-has-replaced-oil-trains-hidden-safety-risk-nj/758520001/>

The volume of crude oil shipped by rail may have declined in recent months, but communities in New Jersey and other states face another hazard: ethanol. The flammable biofuel is transported in trains that look virtually identical to the oil trains that have attracted so much attention, and controversy, in the country's energy boom of the past decade. But according to federal data, 1 million gallons more ethanol spilled from derailed trains than crude oil from 2005 to 2015. A report this week released by the National Academies of Sciences, Engineering and Medicine warns that the shipment of large quantities of flammable liquids will continue, presenting risks to communities along rail lines that transport them.

1. The Impact: Death and destruction. Ethanol tanker explosions destroy lives and property

National Transportation Safety Board 2009 (agency of the US Dept of Transportation) Railroad Accident Report Derailment of CN Freight Train U70691-18 With Subsequent Hazardous Materials Release and Fire, Cherry Valley, Illinois, June 19, 2009 <https://www.ntsb.gov/investigations/AccidentReports/Reports/RAR1201.pdf>

About 8:36 p.m., central daylight time, on Friday, June 19, 2009, eastbound Canadian National Railway Company freight train U70691-18, traveling at 36 mph, derailed at a highway/rail grade crossing in Cherry Valley, Illinois. The train consisted of 2 locomotives and 114 cars, 19 of which derailed. All of the derailed cars were tank cars carrying denatured fuel ethanol, a flammable liquid. Thirteen of the derailed tank cars were breached or lost product and caught fire. At the time of the derailment, several motor vehicles were stopped on either side of the grade crossing waiting for the train to pass. As a result of the fire that erupted after the derailment, a passenger in one of the stopped cars was fatally injured, two passengers in the same car received serious injuries, and five occupants of other cars waiting at the highway/rail crossing were injured. Two responding firefighters also sustained minor injuries. The release of ethanol and the resulting fire prompted a mandatory evacuation of about 600 residences within a 1/2-mile radius of the accident site. Monetary damages were estimated to total $7.9 million.

OBSERVATION 3. INHERENCY, or the conditions of the Status Quo that block a solution

1. Dangerous rail cars. The DOT-111 rail car, known to be unsafe, transports most ethanol in the US today

Reuters news service 2017. (journalists Chris Prentice and Jarrett Renshaw) 17 Mar 2017 “Thousands of Safer Ethanol Rail Tank Cars Sit Idle: Reuters” <http://www.insurancejournal.com/news/national/2017/03/17/444767.htm>

Federal regulators have warned longer trains hauling hazardous materials increase the risk of disasters, particularly when using DOT 111 cars. There have been at least 17 significant ethanol or crude derailments since 2006, and nearly all involved DOT 111s. U.S. regulators gave the ethanol industry more time to shift because getting oil producers to stop using older cars was considered more important. A 2014 Federal Railroad Administration study found ethanol cars were 1.5 times more likely to explode than oil. As of September, there were 35,252 tank cars hauling ethanol, and 84 percent were DOT 111s, according to the latest Association of American Railroads data. Newer DOT 117s account for just 6 percent of the ethanol fleet.

1. Delays. Current rules mandate switching from DOT-111 to DOT-117, but not until 2025

National Transportation Safety Board 2017. (agency of the US Dept of Transportation) 10 March 2017 Union Pacific freight train derailment <https://www.ntsb.gov/investigations/Pages/2017-graettinger-ia.aspx>

The NTSB has identified many vulnerabilities in the DOT-111 tank car design that create the risk of the release of hazardous materials or flammable liquids when those tank cars are involved in an accident.  In light of those demonstrated vulnerabilities Congress mandated the rail industry to, by 2029, end the use of DOT-111 rail tank cars for the transport of hazardous materials or flammable liquids and use tank rail cars built to the more robust DOT-117 standard, designed to reduce the vulnerabilities found in DOT-111 tank cars.

**END QUOTE. They go on to say later in the same context QUOTE:**

The NTSB’s position on implementing the use of DOT-117 rail tank cars has been consistent – vulnerable DOT-111 tank cars must be replaced as quickly as possible with the new DOT-117 design. The deadline for replacing less-robust tank cars extends more than 12 years, from 2018 to 2025 for crude and ethanol, and to 2029 for all other Class 3 flammable materials.

1. Status Quo can’t solve. We need Congressional action to get ethanol tanker safety

Reuters news service 2017. (journalists Chris Prentice and Jarrett Renshaw) 17 Mar 2017 “Thousands of Safer Ethanol Rail Tank Cars Sit Idle: Reuters” <http://www.insurancejournal.com/news/national/2017/03/17/444767.htm>

“We would like to see the shippers accelerate their schedule to get these legacy DOT-111 tank cars out of service when transporting flammable liquids — specifically crude oil and ethanol,” said Robert Sumwalt, member of the U.S. National Transportation Safety Board, an independent federal agency, at a Saturday press briefing in Iowa following the accident. The train in last week’s accident was heading from Green Plains Inc.’s Superior, Iowa, terminal to the Gulf Coast. Green Plains did not comment for this story. The Renewable Fuels Association, which represents biofuels producers and shippers, said safety is a top priority for the industry and highlighted the rarity of these incidents. The NTSB has no regulatory authority to change things, Sumwalt said, adding that the power is vested with U.S. Congress.

OBSERVATION 4. Our PLAN is that Congress and the President should do just that.

1. Congress votes to advance the 2025 safety standard for rail transportation of ethanol by requiring the DOT-117 standard or higher for rail tankers 6 months after an Affirmative ballot.  
2. Funding through existing budgets of existing agencies.   
3. Enforcement through the same agencies and penalties as currently apply to rail transportation of oil  
4. All affirmative speeches may clarify

OBSERVATION 5. COMPARATIVE ADVANTAGE: Ethanol transportation safety.

1. Replacements available. Safer rail cars are available and sitting idle because current law doesn’t require their use

Reuters news service 2017. (journalists Chris Prentice and Jarrett Renshaw) 17 Mar 2017 “Thousands of Safer Ethanol Rail Tank Cars Sit Idle: Reuters” <http://www.insurancejournal.com/news/national/2017/03/17/444767.htm>

That is because ethanol shippers are still primarily using the type of rail cars that were deemed too unsafe to carry crude after the Quebec disaster, even though the biofuel is more explosive than oil. Thousands of replacement cars meant to better withstand an accident are sitting idle in rail yards around the country because the ethanol industry is not required to use them for another six years and as they cost about three time as much as the older cars, according to industry sources. The U.S. Pipeline and Hazardous Material Safety Administration (PHMSA) gave the ethanol industry until 2023 to employ cars with thicker shells and other safety features.

1. DOT-117 is the answer. DOT-117 reduces the consequences of accidents and enhances public safety

RAILWAY AGE 2015 (rail industry publication; written by David Thomas, Contributing Editor) 1 May 2015 “DOT-117 tank car rule debuts with controversy” <http://www.railwayage.com/index.php/regulatory/dot-117-tank-car-rule-debuts-with-some-controversy.html>

Not suprisingly, The Greenbrier Companies was quick to point out that its “Tank Car of the Future” is, in effect, a DOT/TC-117, strongly suggesting that regulators simply adopted its design as the new spec. “Greenbrier announced its Tank Car of the Future in February 2014, a safer design for crude oil and ethanol service and the transport of other hazardous materials that the USDOT and TC introduced today as the new DOT-117/TC-117,” said Chairman and CEO Bill Furman. “I’m proud to say we’re currently delivering cars to our customers that meet these new standards. Nearly 1,000 of these Greenbrier-designed and built tank cars are already in Class 3 flammable liquids service across North America. With orders in place for more than 2,500 cars of the DOT 117/TC-117 design, safer tanks cars are steadily joining the North American rail fleet. Greenbrier believes that by mandating the new DOT 117/TC-117 tank cars be built with features such as increased shell thickness,  full-height half-inch-thick head shields, minimum 11-gauge jackets, a re-closeable pressure relief valve and thermal protection, the U.S. and Canada have taken steps to mitigate the consequences of train accidents and ultimately enhance public safety. These tank car design improvements produce tangible and immediate safety benefits that far exceed any marginal benefit from US DOT-mandated ECP brakes, which Greenbrier has consistently questioned.”

1. We must accelerate. We must speed up the replacement of DOT-111 tank cars because waiting is too risky

Robert Sumwalt 2016 (chairman of the National Transportation Safety Board, an agency of the US Dept of Transportation) RAIL TANK CAR IMPROVEMENTS – MAKE THEM NOW! 18 Feb 2016 <https://safetycompass.wordpress.com/2016/02/18/rail-tank-car-improvements-make-them-now/>

Everybody agrees that without major upgrades, DOT-111 tank cars are not up to the task of the transportation of hazardous flammable liquids. In response to these accidents, last year the DOT issued new tank car regulations, but with a generous phase-in period. The new regulations will require that cars carrying crude oil and ethanol meet the DOT-117 standard by 2025, and that tank cars carrying other flammable liquids meet them by 2029. But as accidents like those cited above vividly demonstrate, each day that passes until our nation’s present tank car fleet is replaced or upgraded is a day lived with elevated risk. Therefore, present day tank cars should be replaced or retrofitted to meet the safer DOT-117 standard—sooner rather than later.

2A Evidence: Ethanol Rail Safety

OPENING QUOTES / AFF PHILOSOPHY

National Transportation Safety Board Chairman in 2017 says: DOT-111 cars leave us at risk for many years to come

USA TODAY 2017. (journalist Bart Jansen) 7 Feb 2017 " NTSB: Defective axle led to fiery North Dakota train collision" https://www.usatoday.com/story/news/2017/02/07/ntsb-north-dakota-train-crash/97587398/

NTSB Chairman Christopher Hart said the long timeline and lack of progress reports would leave “Americans at heightened risk for many years to come.” Few 111 cars remain in service carrying oil, but “a vast fleet” still roll through U.S. cities transporting ethanol or other flammable liquids, Hart said. In April, BNSF will begin offering incentives for shippers to switch to 117 cars, he said.

DEFINITIONS & TOPICALITY

“Transportation Policy” - Ethanol rail transportation safety is regulated by the US Dept of Transportation

Iowa Dept. of Transportation 2016 “Crude Oil and Biofuels Rail Transportation Study” Apr 2016 <https://iowadot.gov/iowarail/safety/full-final-CBR-Biofuels.pdf>

The U.S. Department of Transportation (USDOT), through the Federal Railroad Administration (FRA) and Pipeline and Hazardous Materials Safety Administration (PHMSA), regulate crude oil and ethanol movements by rail. Other independent agencies also play a role in the regulation of crude oil and ethanol by rail. The National Transportation Safety Board (NTSB) investigates accidents involving rail transportation, whereas the U.S. Surface Transportation Board (STB) regulates economic aspects of rail transportation. The Department of Homeland Security’s Transportation Security Administration (TSA) regulates security aspects of rail transportation. Although all of these agencies have a hand in the safe transportation of crude oil and ethanol by rail, the primary agencies for safety regulation are the FRA and PHMSA.

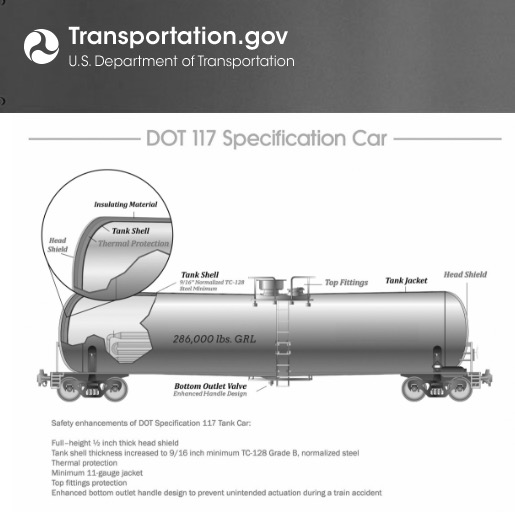
Description of a DOT-117 tank car

RAILWAY AGE 2015 (rail industry publication; written by David Thomas, Contributing Editor) 1 May 2015 “DOT-117 tank car rule debuts with controversy” <http://www.railwayage.com/index.php/regulatory/dot-117-tank-car-rule-debuts-with-some-controversy.html>

The final spec for the now-official DOT-117 (TC-117 in Canada) non-pressurized tank car adopts the most demanding of the technical requirements first offered for comment in the notice of rulemaking: jacketed and thermally insulated shells of 9/16-inch steel, full-height half-inch-thick head shields, sturdier, re-closeable pressure relief valves and rollover protection for top fittings.

Official definition of a DOT-117 rail car

US Dept of Transportation 2015. <https://www.transportation.gov/mission/safety/rail-rule-summary>



INHERENCY

A/T “SQ already has deadline for DOT 117” – That’s part of the problem. The deadline slows down the switch because it gives an excuse to postpone moving to DOT 117 (“we’re waiting for the deadline”)

Robert L. Sumwalt 2016 (chairman of the National Transportation Safety Board, an agency of the US Dept of Transportation ) ROUNDTABLE REVIEW – PART 1: THE LATEST ON RAIL TANK CAR SAFETY 1 Aug 2016 <https://safetycompass.wordpress.com/2016/08/01/roundtable-review-part-1-the-latest-on-rail-tank-car-safety/> (brackets added)

Without those incentives, [John] Bryne [of the Railway Supply Institute] warned that progress toward swifter compliance with federal deadlines could be stifled, although the deadlines themselves can be met. This leads to the next point: one hurdle toward quick implementation of these needed changes are, in a sense, the deadlines themselves. With some of the due dates extending nine years or more, shippers and those who currently lease tank cars can wait several more years before the recommendations to phase out older tank cars become absolute law.

650,000 barrels of ethanol transported by train per day, and the rate is growing

Reuters news service 2017. (journalist Jarrett Renshaw) “New, safer U.S. rail cars gather dust even as ethanol trains grow longer” 15 Mar 2017 <https://www.reuters.com/article/us-usa-ethanol-rail-analysis/new-safer-u-s-rail-cars-gather-dust-even-as-ethanol-trains-grow-longer-idUSKBN16M2SA> (ellipses in original)

About 650,000 barrels of ethanol is transported by rail daily. A 2015 report by the Federal Railroad Administration estimated about 47 percent of ethanol shipments were by unit trains. But several sources interviewed, including four shippers, said their usage is increasing due to cost efficiencies. “Unit trains have been an increasing transportation efficiency...we are encouraged to do more unit trains,” Kelly Davis, director of regulatory affairs at the Renewable Fuels Association, said at an NTSB roundtable in summer 2016. ”Shippers want to utilize unit trains if they can to save money,” said Tom Williamson, a broker and owner of Sarasota, Florida-based Transportation Consultants. He said 11 of his 12 clients have switched to unit trains in the past two years.

Rail transportation of ethanol will increase

Iowa Dept. of Transportation 2016 “Crude Oil and Biofuels Rail Transportation Study” Apr 2016 <https://iowadot.gov/iowarail/safety/full-final-CBR-Biofuels.pdf>

In the short term, rail transportation of ethanol in the U.S. can be expected to increase slowly from its current levels. In the long term in the U.S., there is potential for a substantial increase in ethanol train volumes. From an Iowa perspective, ethanol volumes by rail can be expected to gradually increase in the short term, with potential for significant long-term increase should federal air emissions or renewable fuel policy require a higher ethanol blend into gasoline.

A/T “Status Quo phasing out DOT-111” – Actually use of DOT-111 is increasing

Meghan Sapp 2017 (journalist) BIOFUELS DIGEST 25 Sept 2017 [DoT’s first FAST report shows ethanol shipments in DOT-111 cars increased](http://www.biofuelsdigest.com/bdigest/2017/09/25/dots-first-fast-report-shows-ethanol-shipments-in-dot-111-cars-increased/) <http://www.biofuelsdigest.com/bdigest/2017/09/25/dots-first-fast-report-shows-ethanol-shipments-in-dot-111-cars-increased/>

In Washington, the Department of Transportation’s report required under the Fixing America’s Surface Transportation (FAST) Act of 2015 shows that the number of DOT-111 rail cars transporting ethanol rose to 65% in 2016 from 46% in 2013 despite the legislation requiring the phasing out of such tanker cars carrying hazardous materials or flammable liquids as soon as possible. The report showed newer, safer DOT-117s increased to 9% by the end of 2016 compared to 2% the year before.

MINOR REPAIR & COUNTERPLAN RESPONSES

A/T “Use CPC-1232 instead” – Not good enough, they’ve proven unsafe in derailments recently

WALL STREET JOURNAL 2015 (journalist Bob Tita) 6 May 2015 “Safety Rules Give Eitht Years for Ethanol Tank Car Upgrades” <https://www.wsj.com/articles/safety-rules-give-eight-years-for-ethanol-tank-car-upgrades-1430928629>

The DOT-111 has come under greater scrutiny since July 2013 when a runaway oil train of DOT-111s crashed into a town in Quebec, killing 47 people. Tank cars built since late 2011, known as CPC-1232s, have slightly thicker tanks than the DOT-111s. But the uninsulated version of the car in oil service has fared poorly in derailments this year in the Ontario, West Virginia and Illinois.

A/T “Use pipelines instead” – Ethanol isn’t commercially feasible to be transported by pipeline, that’s why they use rail

Iowa Dept. of Transportation 2016 “Crude Oil and Biofuels Rail Transportation Study” Apr 2016 <https://iowadot.gov/iowarail/safety/full-final-CBR-Biofuels.pdf>

Biofuels transported by rail in and through Iowa consist principally of ethanol and biodiesel. Biodiesel is produced in small quantities relative to ethanol, and is almost exclusively consumed locally to its points of origin, and not moved in large quantities by rail. Ethanol is produced in relatively large quantities. Because ethanol is consumed universally throughout the U.S. but is principally produced only in states with high corn production levels, such as Iowa, and because ethanol is not commercially feasible to be moved by pipeline, ethanol is moved by rail between production and consumption points.

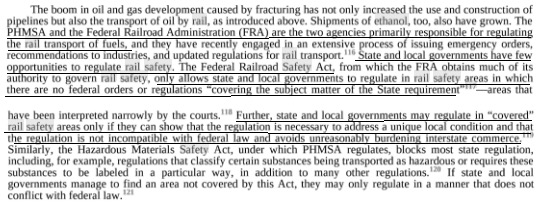
A/T “Slower speed limits instead” – High speed wasn’t the cause of the most serious wrecks

Associated Press 2017 (journalist Joan Lowy) 11 Oct 2017 “Report: Key changes needed to prevent fiery rail crashes” <http://www.nwitimes.com/business/report-key-changes-needed-to-prevent-fiery-rail-crashes/article_1a74f5de-36c5-5345-b6fd-c56dd90daa47.html>

The report also questioned the technical basis for a recent safety regulation that reduced the maximum speed for oil trains to 50 mph in most areas and 40 mph in urban areas. Of the 20 most serious train wrecks in which oil and ethanol were released in the United States from 2005 to 2015, none of the trains were traveling faster than 50 mph and only six were traveling at 40 mph or more, the report said.

A/T “States do it instead” – NEG would have burden to prove 1) there is some unique local condition (where exploding ethanol is safe??) and 2) that 50 different state laws wouldn’t impose a burden on interstate commerce

Prof. Alexandra Klass and Prof. Hannah Wiseman 2017. (Klass – law professor, Univ of Minnesota Law School. Wiseman – Florida State Univ. law school) ENERGY LAW <https://books.google.com/books?id=_lWzDQAAQBAJ&pg=PT85&lpg=PT85&dq=DOT+117+ethanol+rail+lives+safety&source=bl&ots=vhfZTEKHjW&sig=_jN3PdNgMRqCRzicf8LNWdfyEpo&hl=en&sa=X&ved=0ahUKEwif8fLdhf7WAhXD4SYKHTXxAS0Q6AEIZzAN#v=onepage&q=DOT%20117%20ethanol%20rail%20lives%20safety&f=false>



HARMS / SIGNIFICANCE

Risks of Ethanol by Rail

2.6 million gallons of ethanol spilled in 58 derailments between 2005-2015. Ethanol is equal or greater risk to oil

Curtis Tate 2017 (journalist) NORTH JERSEY, 13 Oct 2017 “Ethanol has replaced oil trains as hidden safety risk in N.J.” <http://www.northjersey.com/story/news/transportation/2017/10/13/ethanol-has-replaced-oil-trains-hidden-safety-risk-nj/758520001/>

According to data from the Pipeline and Hazardous Materials Safety Administration, more than 1.6 million gallons of crude spilled in 21 oil train derailments from 2005 to 2015, most of it in 2013, 2014 and 2015. Agency data also show that more than 2.6 million gallons of ethanol spilled in 58 derailments during the same 10 years, with eight derailments in 2011 accounting for more than 1 million of those gallons. Though none of these crude oil or ethanol derailments took place in New Jersey and most occurred in sparsely populated areas, they did in some cases ignite large fires and led to evacuations. [The Federal Railroad Administration concluded in 2014](http://www.mcclatchydc.com/news/nation-world/national/economy/article24774037.html) that ethanol posed an equal or greater risk of exploding in a derailment as crude oil.

58 train wrecks with millions of gallons of ethanol spilled, between 2005-2015. More than twice as many wrecks as oil

National Academies of Sciences, Engineering & Medicine, Transportation Research Board, Special Report #325 2017 (The National Academy of Sciences was established in 1863 by an Act of Congress, signed by President Lincoln, as a private, nongovernmental institution to advise the nation on issues related to science and technology. Members are elected by their peers for outstanding contributions to research ) “Safely Transporting Hazardous Liquids and Gases in a Changing U.S. Energy Landscape” study was sponsored by the Pipeline and Hazardous Materials Safety Administration of the U.S. Department of Transportation and the National Academies of Sciences, Engineering, and Medicine’s Transportation Research Board and the Gulf Research Program <https://www.nap.edu/download/24923>

The focus here, however, is on the approximately 5 percent of incidents that occur when a tank car is damaged while moving, usually because of a derailment or a yard collision (e.g., during coupling). These incidents tend to involve larger releases and more severe consequences. From 2005 to 2015, there were 58 such incidents involving ethanol shipments and 21 involving crude oil shipments (see Figures 4-12 and 4-13 and Tables 4-3 and 4-4). These 79 incidents accounted for most of the product lost and all severe consequences such as fires, evacuations, and injuries. The 21 crude oil incidents accounted for more than 98 percent of the total 1.7 million gallons (40,400 barrels) of crude oil released unintentionally from tank cars during the period. Likewise, the 58 ethanol incidents accounted for more than 93 percent of the 2.8 million gallons (66,900 barrels) of ethanol released.

Large and rising risk to life, property and environment from ethanol trains

https://safetycompass.wordpress.com/2015/02/23/as-rail-hazmats-rise-so-must-safety/

Increasing concerns about the transportation of crude oil and other hazardous materials through American communities have brought rail tank car safety to the forefront, and recent derailments have provided a fresh reminder of the need to improve the safety of transporting these materials by rail. Since 2006, a rapid increase in rail transport of flammable liquids has led to a growing risk to life, property, and the environment. Two commodities in particular, crude oil and ethanol, have led a massive surge in hazardous materials traffic, and a corresponding rise in the number of derailment accidents involving these products. The sharp and continuing upward trajectory of these shipments emphasizes the urgency of a commensurate response in safety measures, which is why the issue of Improving Rail Tank Cars is included on our 2015 Most Wanted List.

A/T Negative Whining About “Quantifying How Many Deaths” before Justifying Action

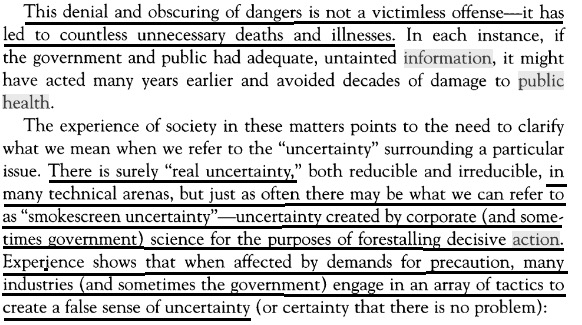
Waiting for absolute certainty is bad: Fails to safeguard public health and loses opportunities to innovate new, safer technologies

John Yewell 2016 (contract writer for the National Institute of Health Sciences, Office of Communications and Public Liaison) “Gee shares European approach to early hazard warning” ENVIRONMENTAL FACTOR June 2016 <https://www.niehs.nih.gov/news/newsletter/2016/6/science-highlights/gee/index.htm> (brackets added)

According to [retired senior advisor at the European Environment Agency, David] Gee, science itself sometimes discourages timely action by setting the bar for evidence of harm higher than is prudent to safeguard public health. With things like lead or asbestos exposure, effects accumulate over time, but it is still a good idea to act as expeditiously as possible. “No evidence of harm is not the same as evidence of no harm,” Gee said. Some countries have turned to what is known as anticipatory research, which anticipates risks from new technologies and products. For example, in the Netherlands, 15 percent of money spent on developing and promoting nanotechnology is directed toward anticipatory research. The idea is to help develop the technology in a way that avoids harm and possible product bans later.

False sense of uncertainty costs lives by unnecessarily delaying life-saving policies

Sanford Lewis 1999 (attorney) PROTECTING PUBLIC HEALTH AND THE ENVIRONMENT <https://books.google.com/books?id=p8OC3HT6bmwC&pg=PA242&lpg=PA242&dq=delay+%22public+health%22+perfect+information+action&source=bl&ots=92X_-fuNiH&sig=n5mAixrdimdcFwqBFsE3J0CGi7k&hl=en&sa=X&ved=0ahUKEwjj1drztdLRAhWBeyYKHWPECUoQ6AEIJzAC#v=onepage&q=delay%20%22public%20health%22%20perfect%20information%20action&f=false>



Impact: Lives lost. Historically, we saved millions of lives by taking action before having final numbers

Dr. D. J. Wagstaff 1986 (DVM, PhD; toxicologist with the Epidemiology andf Clinical Toxicology Unit, FDA) “Public Health and Food Safety: A Historical Association” PUBLIC HEALTH REPORTS Vol 101 Nov/Dec 1986 https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0ahUKEwiL6ufDtNLRAhVPfiYKHYZJAX8QFggeMAE&url=https%3A%2F%2Fwww.ncbi.nlm.nih.gov%2Fpmc%2Farticles%2FPMC1477676%2Fpdf%2Fpubhealthrep00180-0062.pdf&usg=AFQjCNGBYnnuaBQ94wGdn8bSvwj209geLQ&sig2=j2Afsal69CcB\_Pu596NxFw

But of greater importance than apportioning credit for improvements in public health is the protecting of gains that have been realized from improved public health. Courses of action for doing so should be based on the best information and the best evidence available when decisions must be made about the kinds of controls to use. If certainty had been a requirement for implementing the health reforms of the late 1800s and early 1900s, hundreds of millions of lives would have been lost. If the death rate of 1900 had not been reduced, an additional 1.8 million Americans would die each year. This number is about that of the population of West Virginia, and such loss would be particularly tragic since more than half the additional deaths each year would be of children under 5 years.

SOLVENCY / ADVOCACY

Thousands of new DOT-117 cars have been built but not being used. And they can retro-fit old DOT-111s to meet the standard

National Transportation Safety Board 2017. (agency of the US Dept of Transportation) 10 March 2017 Union Pacific freight train derailment <https://www.ntsb.gov/investigations/Pages/2017-graettinger-ia.aspx>

According to Association of American Railroads statistics for August 2016, there are a total of about 99,000 DOT-111 and CPC-1232 tank cars that require retrofitting or replacement by 2029, or an average of about 7,700 tank cars per year. As of August 2016, about 1,400 existing tank cars have been retrofitted to the DOT-117 standard. About 10,839 new DOT-117 cars have been built, but fewer than half have been deployed in flammable liquids service.

Sooner is better: We need to get rid of the old tanker cars faster because the risk is unacceptable

Robert L. Sumwalt 2016 (chairman of the National Transportation Safety Board, an agency of the US Dept of Transportation ) ROUNDTABLE REVIEW – PART 1: THE LATEST ON RAIL TANK CAR SAFETY 1 Aug 2016 <https://safetycompass.wordpress.com/2016/08/01/roundtable-review-part-1-the-latest-on-rail-tank-car-safety/>

While these considerations may make sense from a business perspective, from the NTSB’s perspective, the sooner these changes are made, the better – a belief that is fueled by numerous accidents we have seen involving breached tank cars. In the past decade, there have been 28 significant accidents in the U.S. and Canada involving flammable liquids transported by rail, in which nearly 5 million gallons of crude oil and ethanol have spilled. In each of these accidents, legacy DOT-111 or CPC-1232 tank cars were used to transport flammable liquids. If past performance is a predictor of future performance, continuing to transport crude oil and ethanol in DOT-111 or CPC 1232 tank cars poses an unacceptable public risk.

Advocacy: Canada. They moved up the deadline for phasing out DOT-111 to 2016 for oil

National Academies of Sciences, Engineering & Medicine, Transportation Research Board, Special Report #325 2017 (The National Academy of Sciences was established in 1863 by an Act of Congress, signed by President Lincoln, as a private, nongovernmental institution to advise the nation on issues related to science and technology. Members are elected by their peers for outstanding contributions to research ) “Safely Transporting Hazardous Liquids and Gases in a Changing U.S. Energy Landscape” study was sponsored by the Pipeline and Hazardous Materials Safety Administration of the U.S. Department of Transportation and the National Academies of Sciences, Engineering, and Medicine’s Transportation Research Board and the Gulf Research Program <https://www.nap.edu/download/24923>

Ethanol may not be transported in DOT-111 cars or in CPC-1232 cars that lack thermal protection in 2023. By mid-2025, all CPC-1232 cars are prohibited from transporting either crude oil or ethanol. It merits noting that Transport Canada announced an expedited phase-out of all DOT-111 (TC-111 in Canada) tank cars used in crude oil service by moving up the deadline to November 1, 2016.

DISADVANTAGE RESPONSES

A/T “Distracts us from derailment prevention / track safety” – No it doesn’t, we already have programs that do that

Iowa Dept. of Transportation 2016 “Crude Oil and Biofuels Rail Transportation Study” Apr 2016 <https://iowadot.gov/iowarail/safety/full-final-CBR-Biofuels.pdf>

Routine track inspections, as mandated by federal regulations enumerated in 49 CFR 213.233, are conducted by a designated track inspector and are used to identify potential defects to track structure and the best means of correction. A track inspector is designated by the Federal Railroad Administration (FRA) as one who “inspects and monitors functions of railroad track and structures to assure compliance with Federal safety and health regulations among railroads, railroad employees, and contractors to railroads within an assigned geographical territory.”

Works Cited

1. Reuters news service 2017. (journalists Chris Prentice and Jarrett Renshaw) 17 Mar 2017 “Thousands of Safer Ethanol Rail Tank Cars Sit Idle: Reuters” <http://www.insurancejournal.com/news/national/2017/03/17/444767.htm>
2. Curtis Tate 2017 (journalist) NORTH JERSEY, 13 Oct 2017 “Ethanol has replaced oil trains as hidden safety risk in N.J.” <http://www.northjersey.com/story/news/transportation/2017/10/13/ethanol-has-replaced-oil-trains-hidden-safety-risk-nj/758520001/>
3. National Transportation Safety Board 2009 (agency of the US Dept of Transportation) Railroad Accident Report Derailment of CN Freight Train U70691-18 With Subsequent Hazardous Materials Release and Fire, Cherry Valley, Illinois, June 19, 2009 <https://www.ntsb.gov/investigations/AccidentReports/Reports/RAR1201.pdf>
4. National Transportation Safety Board 2017. (agency of the US Dept of Transportation) 10 March 2017 Union Pacific freight train derailment <https://www.ntsb.gov/investigations/Pages/2017-graettinger-ia.aspx>
5. RAILWAY AGE 2015 (rail industry publication; written by David Thomas, Contributing Editor) 1 May 2015 “DOT-117 tank car rule debuts with controversy” <http://www.railwayage.com/index.php/regulatory/dot-117-tank-car-rule-debuts-with-some-controversy.html>
6. Robert Sumwalt 2016 (chairman of the National Transportation Safety Board, an agency of the US Dept of Transportation) RAIL TANK CAR IMPROVEMENTS – MAKE THEM NOW! 18 Feb 2016 <https://safetycompass.wordpress.com/2016/02/18/rail-tank-car-improvements-make-them-now/>
7. Iowa Dept. of Transportation 2016 “Crude Oil and Biofuels Rail Transportation Study” Apr 2016 <https://iowadot.gov/iowarail/safety/full-final-CBR-Biofuels.pdf>
8. US Dept of Transportation 2015. <https://www.transportation.gov/mission/safety/rail-rule-summary>
9. Meghan Sapp 2017 (journalist) BIOFUELS DIGEST 25 Sept 2017 DoT’s first FAST report shows ethanol shipments in DOT-111 cars increased <http://www.biofuelsdigest.com/bdigest/2017/09/25/dots-first-fast-report-shows-ethanol-shipments-in-dot-111-cars-increased/>
10. WALL STREET JOURNAL 2015 (journalist Bob Tita) 6 May 2015 “Safety Rules Give Eitht Years for Ethanol Tank Car Upgrades” <https://www.wsj.com/articles/safety-rules-give-eight-years-for-ethanol-tank-car-upgrades-1430928629>
11. Associated Press 2017 (journalist Joan Lowy) 11 Oct 2017 “Report: Key changes needed to prevent fiery rail crashes” <http://www.nwitimes.com/business/report-key-changes-needed-to-prevent-fiery-rail-crashes/article_1a74f5de-36c5-5345-b6fd-c56dd90daa47.html>
12. Prof. Alexandra Klass and Prof. Hannah Wiseman 2017. (Klass – law professor, Univ of Minnesota Law School. Wiseman – Florida State Univ. law school) ENERGY LAW <https://books.google.com/books?id=_lWzDQAAQBAJ&pg=PT85&lpg=PT85&dq=DOT+117+ethanol+rail+lives+safety&source=bl&ots=vhfZTEKHjW&sig=_jN3PdNgMRqCRzicf8LNWdfyEpo&hl=en&sa=X&ved=0ah> UKEwif8fLdhf7WAhXD4SYKHTXxAS0Q6AEIZzAN#v=onepage&q=DOT%20117%20ethanol%20rail%20lives%20safety&f=false
13. National Academies of Sciences, Engineering & Medicine, Transportation Research Board, Special Report #325 2017 (The National Academy of Sciences was established in 1863 by an Act of Congress, signed by President Lincoln, as a private, nongovernmental institution to advise the nation on issues related to science and technology. Members are elected by their peers for outstanding contributions to research ) “Safely Transporting Hazardous Liquids and Gases in a Changing U.S. Energy Landscape” study was sponsored by the Pipeline and Hazardous Materials Safety Administration of the U.S. Department of Transportation and the National Academies of Sciences, Engineering, and Medicine’s Transportation Research Board and the Gulf Research Program <https://www.nap.edu/download/24923>
14. John Yewell 2016 (contract writer for the National Institute of Health Sciences, Office of Communications and Public Liaison) “Gee shares European approach to early hazard warning” ENVIRONMENTAL FACTOR June 2016 <https://www.niehs.nih.gov/news/newsletter/2016/6/science-highlights/gee/index.htm>
15. Sanford Lewis 1999 (attorney) PROTECTING PUBLIC HEALTH AND THE ENVIRONMENT <https://books.google.com/books?id=p8OC3HT6bmwC&pg=PA242&lpg=PA242&dq=delay+%22public+health%22+perfect+information+action&source=bl&ots=92X_-fuNiH&sig=n5mAixrdimdcFwqBFsE3J0CGi7k&hl=en&sa=X&ved=0ahUKEwjj1drztdLRAhWBeyYKHWPECUoQ6AEIJzAC#v=onepage&q=delay%20%22public%20health%22%20perfect%20information%20action&f=false>
16. Dr. D. J. Wagstaff 1986 (DVM, PhD; toxicologist with the Epidemiology andf Clinical Toxicology Unit, FDA) “Public Health and Food Safety: A Historical Association” PUBLIC HEALTH REPORTS Vol 101 Nov/Dec 1986 <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0ahUKEwiL6ufDtNLRAhVPfiYKHYZJAX8QFggeMAE&url=https%3A%2F%2Fwww.ncbi.nlm.nih.gov%2Fpmc%2Farticles%2FPMC1477676%2Fpdf%2Fpubhealthrep00180-0062.pdf&usg=AFQjCNGBYnnuaBQ94wGdn8bSvwj209geLQ&sig2=j2Afsal69CcB_Pu596NxFw>