

NATIONAL SECURITY

A Hard Look At The Risks Of Transporting Oil On Rail Tanker Cars

31:20Queue

- [Download](#)
- [Embed](#)
- [Transcript](#)
- [Facebook](#)
- [Twitter](#)
- [Google+](#)
- [Email](#)

<iframe src=

February 25, 2015 2:12 PM ET

Heard on [Fresh Air](#)



Marcus Stern has spent the past year investigating the practice in collaboration with the Nation Institute's Investigative Fund. Recent accidents show cars aren't built to carry so much oil, he says.

DAVE DAVIES, HOST:

This is FRESH AIR. I'm Dave Davies in for Terry Gross, who's off this week. Earlier this month, a train carrying crude oil derailed in West Virginia, sending 27 cars off the track, spilling oil across the landscape and into a nearby creek, and causing explosions and fires that burned for days. And it isn't the only such accident in recent years.

(SOUNDBITE OF EXPLOSION)

UNIDENTIFIED OPERATOR: Nine-one-one, what's your emergency?

UNIDENTIFIED WOMAN #1: Oh, it just blew up. A train blew up. You need fire and ambulance - everything - right away.

DAVIES: That's a 911 call from a derailment and explosion near Casselton, N.D., in December of 2013. Five months before that, a tank car derailment in Canada sparked fires that killed 47 people.

Our guest, investigative reporter Marcus Stern, has spent the past year looking into the risks of transporting oil on rail tanker cars, a practice which has expanded dramatically in the past eight years. His stories focus in particular on how regulators have responded,

or failed to, following the tragedy in Canada. Marcus Stern won the 2006 Pulitzer Prize for National Reporting for his investigation of San Diego Congressman Randy "Duke" Cunningham. His reporting on the risks of rail transportation of crude oil was a joint effort of the environmental website InsideClimate News and The Weather Channel.

Well, Marcus Stern, welcome to FRESH AIR. Let's begin with this horrific accident that happened in the Canadian town of Lac-Mégantic - or at least that's how it's pronounced in this country. I'm sure the French pronunciation's different. This was July of 2013. Tell us what happened.

MARCUS STERN: There was a train that was hauling crude oil - about 2.6 million gallons - and it had a little bit of a mechanical problem. And so the railroad instructed the lone conductor - the lone crewmember - to leave it overnight with the engines running unattended. And he called a cab and went into town, into Lac-Mégantic, to get sleep and spend the night at a hotel. And in the middle of the night, the brakes failed on the locomotives. And there were several locomotives. And it started down a long incline. And by the time it reached Lac-Mégantic, seven miles down the hill, it was doing 60 miles an hour. It hit a curve there. It derailed and several of the railcars exploded. Fireballs went shooting several-hundred feet into the air. And a tide of flaming oil flowed in every direction, including the direction of a nearby bar/restaurant that was full of patrons. It was one o'clock in the morning on a Saturday night - a beautiful July night. And it immediately engulfed the bar/restaurant in flames. And 47 people were killed. The remains of five people - no remains were found of five of the people.

DAVIES: Because the heat was so intense?

STERN: Yes, it just vaporized these people.

DAVIES: Now, this accident was in Canada. But we're seeing a lot more rail traffic of tanker cars in the United States. And I guess this oil actually had come from the United States. Why are we seeing so much more tanker traffic and crude oil being carried on railroads?

STERN: What happened is in 2005, roughly, there were advance - new developments in fracking technology that allowed the producers to pull light crude oil from about two miles beneath the ground in North Dakota. And suddenly that was available to them. And they could start pulling it out. They were pulling out hundreds of thousands of gallons of barrels a day. The problem is that, you know, while they suddenly became - you know, had this huge resource, and they now were Texas. They were Texas without pipelines. They had all the oil production of Texas - not quite as much, but they're now number two to Texas - but they didn't have any of the infrastructure in place. And so the - very cleverly, they turned to the rails because the rails were sitting sort of idle and not used very much except for by grain farmers. And also, you had refineries on the East Coast that were actually getting ready to shut down because they couldn't compete with the Gulf Coast refineries that were using domestic crude oil because the East Coast refineries were using oil purchased on the world market at a higher price. So by pulling it out of the ground, putting it on the rails, and sending it to the East Coast refineries, it

created a renaissance - an industrial renaissance, if you will - worth tens of billions of dollars, perhaps hundreds of billions of dollars. So it was a huge, big, good business story until the trains started to blow up.

DAVIES: So the fast solution to a lack of pipelines to get the crude to refineries was to put it on tanker cars. Give us a sense of how dramatically the rise is in, you know, crude oil being shipped by tanker car.

STERN: Yeah, the ramp up on crude by rail was just incredible. It's why it caught so many people by surprise. In 2008, there were 9,500 rail cars that moved carrying crude oil. Last year, there were well over 400,000. So a lot of people mistakingly say that's a 400 percent increase. It's actually a 4,000 percent increase. They're pulling more than a million barrels of oil out of the ground every day. And much of that is going - in North Dakota. And much of that's going onto the rails.

DAVIES: OK. Now, we'll talk about some of the issues in rail transport. But I gather there is also issues about the kind of oil that's coming from these shale deposits in North Dakota that could make them more dangerous, right?

STERN: The oils from North Dakota come out of the ground. They come out - it's called light oil. It's not the viscous, black, gooey oil that we all think of from "The Beverly Hillbillies." It's more like gasoline. When it comes out of the ground, it's a mixture of oil and also what are called natural gas liquids. These are methane, butane, propane. They're gases that we all know, but they're actually suspended in the oil. They're suspended in the liquid when they come out of the ground. And if they aren't processed properly - and they aren't being processed properly - than a lot of those natural gas liquids go into the railcars. And during the journey to the refinery, which can be thousands of miles, the gases begin to separate from the liquid, and you have a blanket of propane essentially sitting on top of the oil.

DAVIES: Which is more explosive?

STERN: Yes, and what happens when you end up with this gaseous blanket sitting on top of the liquid oil, if there is a breach of the railcar and any of the gas - the propane or butane gases inside - come in contact with the outside air and there is a spark, then you have one of those huge explosions or you see the fireballs going into the air hundreds of feet and a flaming oil going in all directions. And the emergency responders have to just cordon off the area to wait for them to burn out. And they'll - one will blow, and it'll act like a blow torch on another railcar that didn't rupture, and then it will blow. And so you have a series of explosions that can go over two or three days.

DAVIES: And the Lac-Mégantic tragedy in Canada was of course widely reported. Are we seeing more accidents in the United States as well?

STERN: Yeah, and I think what we saw is it was a big wake-up call for the regulators in Canada. But I think for the regulators down here in the U.S., there was a sort of sense that that was a perfect storm of calamities; that was a fluke; that there was just so many

things that happened that would never happen down here. And one of the things they would site in private conversations was leaving trains on the tracks unattended. Actually, it turns out we do that down here. And it wasn't very long before there was an explosion in Aliceville, Ala., a few months later, and was not as widely reported by any means because there was nobody killed. But there were - but nine acres of wetland and timberland burned for three days. And everything was destroyed. The wildlife, the fish, the habitat was destroyed. And they were still cleaning that area - that wetland - up almost a year later.

DAVIES: And there was an accident in December, 2013 in - what? - Casselton, N.D., evacuated a town of 2,300. And there have been several others, right?

STERN: There was a very dramatic explosion in Casselton, N.D., where the images were captured, and they were pretty impressive, although they - you know, it was a one-day story. And then more recently, on April 30, there was an explosion. A train exploded in Lynchburg, Va., and set the James River on fire. And of course we have the very recent one with West Virginia.

DAVIES: Let's talk a bit about the transport of crude oil in railcars. How long are the trains that haul this stuff - how many cars?

STERN: Well, they are running about 100 cars now. They can extend for more than a mile. They're carrying 3 million gallons of this crude oil that's very volatile. And it's a new - it's a very new phenomenon. It used to be if they had - hauling crude oil by rail, they would have a couple of crude oil rails and - railcars or tankers. Then they would have some other things. And they'd split them up, so there was only a few railcars in any one stretch of a train. Now they're just setting up these trains where there - got more than a hundred tankers being hauled by two, three or four locomotives. And they stretch for more than a mile.

DAVIES: And do they go through population centers?

STERN: They go through population centers because many of the refineries are in population centers - Philadelphia, Mobile, you know. But they also go down rivers - the Hudson River. They go down the Mississippi. They go through very environmentally sensitive areas like the George Washington National Forest. And through the - through the Columbia River Gorge in the Pacific Northwest.

DAVIES: Our guest is investigative journalist Marcus Stern. We'll continue our conversation in a moment. This is FRESH AIR.

(SOUNDBITE OF MUSIC)

DAVIES: This is FRESH AIR, and if you're just joining us, our guest is investigative journalist Marcus Stern. He's written recently about the risks of hauling crude oil in railroad tanker cars for Inside Climate News and The Weather Channel.

There's been an issue of the particular model of railcar that is used to carry the crude oil. This is the DOT-111. What - how old are they? What were they designed for?

STERN: The DOT-111 - and that's its designation, and that's what it's known by - simply it's - some people call them the dot 111. But the DOT-111 was designed in the '60s, and it was really designed for something not flammable. It was designed for corn syrup, for instance, and far less flammable products. And since 1991 - so for 23 or 24 years now - the National Transportation Safety Board has been saying that this is a very dangerous railcar to put anything volatile into because it has a tendency to rupture whenever there's a derailment.

So but in - around 2005, we started producing a great deal of ethanol, and we put that onto the rails, and then beginning in 2008, we've started ramping-up with crude oil. And we - the producers and the refiners used the DOT-111 because it was really the only car that was available to them in the numbers they needed. They're using about 100,000 - almost 100,000 DOT-111s right now. And it was the only - they were only really the carriage that was available, even though it was flawed. But they did that knowing the flaws with the DOT-111, and they're still using the DOT-111.

DAVIES: And what are the flaws? Why is it problematic?

STERN: Well, it's got a number of problems. One of the reasons it tends to rupture is that the shell is not thick enough. The opening of the top that they put the oil into breaks off in derailments. The valves don't shut properly. At the bottom, there's a fitting where they remove the oil. That, too, tends to break. And also, they need to be reinforced at both ends of the car. Now, over the years, there have been a number of petitions to the regulatory agency that oversees the movement of hazardous materials, and that's called the Pipeline and Hazardous Materials Safety Administration, otherwise known as PHMSA - or pronounced phimsa (ph). And it never took up any of these petitions until after Lac-Megantic

DAVIES: In the recent accident in West Virginia, I read in one account that the cars that derailed and exploded there actually had some of the more advanced features. Is that true? Do you know?

STERN: That is true, and several of the incidents that have happened in the last year have involved these - the new car that was mandated beginning in October 2011. And again, let me be clear, this was mandated by the railroad industry, not by the government. The government hadn't acted at all - still hasn't acted on this question of what kind of cars would be good enough, but - so they began in October 2011 building tougher cars. They need to have thicker shells. They need to have half-inch shells and other improvements that go beyond what the railroad industry itself had laid down as the marker in 2011.

DAVIES: And just to clarify, you said that in 2011, the railroad industry mandated tougher cars. But a lot of the old ones - the old DOT-111s - are still on the rails, aren't they?

STERN: Yes.

DAVIES: Is it really a requirement?

STERN: Well, the new cars have to be built to this higher standard, but there are still hundreds of thousands of the old cars. They're called the legacy vehicles, and they're still out there on the rail. And a lot of the discussion is about how quickly those old railcars will be - those legacy railcars will be phased out. And you know, many of the mayors in the communities along the roads - the rail routes - have argued for, immediately, they want those off the track now.

DAVIES: This is a fascinating part of the story, as you tell it, which is that the railroads themselves are concerned that these cars are dangerous. Who objects to replacing them then?

STERN: Well, the railroads don't actually own the railcars. The railroads own the track, and they have the right-of-ways. They have the locomotives. But the people who own the railcars are the producers in North Dakota and the refineries that are taking them. They're called the shippers. And so basically, the refineries and the producers own these railcars, and so the burden of upgrading the railcars falls on them. And they are the ones that are resisting the upgrades.

DAVIES: Right, I mean, we think of the railroads as managing this, but in fact, they're - they, in effect, have to open their tracks to any cargo, right? They legally can't refuse to carry this stuff, right?

STERN: That's absolutely right. And also, when something happens on the tracks in a community, the community looks at the railroads. They don't look at the producers. They don't look at the refineries, but they look at the railroad. So the railroad really feels the burden of the liability. In Lac-Megantic, the railroad there caused what could be up to \$2 billion worth of liabilities. It promptly went bankrupt because it only had \$25 million worth of insurance. And very few of these railroads in the United States have significant amounts of insurance to cover the kinds of liabilities that they'll face in these kinds explosions.

DAVIES: All right, but to come back to the issue of the tanker car. So the railroads want heavier, safer tanker cars. The shippers save money by using the older, inferior ones. How much would it cost to actually upgrade the fleet of tanker cars, and is anybody doing it?

STERN: Well, they say it's about a \$3 billion upgrade, and they're - and the, you know, the oil producers and the refineries, the shippers are balking. But it's a real - it's a delicate kind of a dance. They don't often come out and say that. What they say is that these upgrades are not necessary, that the oil is not so - as volatile as people say it is. So what happened is, the DOT - the Department of Transportation - initiated comprehensive review or a rewrite of the regulations right after Lac-Megantic. But we're here - we're a year and a half later, and those regulations haven't emerged. It's sort of is

a very, very good example of how the regulatory process, in many cases, has fallen apart through the negotiated rulemaking process that gives the industry a very loud voice at the table. And they can delay, and they can dilute, and they can delete a lot of these provisions just simply by objecting.

It's funny. We Americans are very familiar with the gridlock in Congress, but I don't think they're as familiar as a - with the similar gridlock that takes place in a lot of regulatory agencies, and certainly at the Department of Transportation when it comes to crude-by-rail. They have not been able to get these regulations out, and it's been more than a year and a half.

DAVIES: You know, it's interesting because, as you describe that, I think a lot of commercial interests say, you know, government regulatory agents are tyrants, imposing rules on us that they don't really understand the impact of, and it's really unfair. You say there is a negotiated rulemaking process. I mean, where's that ordained? Why is it - you want to explain that a bit?

STERN: In the past couple of decades, it's just really evolved that the rulemaking process is much more of a negotiated process. A lot of it happens in secret, behind closed doors. But essentially, the industry has a - is able to give a lot of input. So is the public. But the industry always has a little better access. Groups like the American Petroleum Institute have a budget of more than \$200 million a year. The American Association - the Association of American Railroads has \$50 to \$60 million a year. And they do a lot of lobbying in Washington, so they get their voice heard a little better than the average person in the public.

DAVIES: I wanted to ask you about this practice of trains being left running and unattended. I mean, to those of us who don't know anything about the industry, this sounds crazy. That's what happened in this horrific accident in Canada. Now, tell us why that happens. I mean, why would anybody do that?

STERN: Well, I can't for the life of me understand why they would do it. It seems bizarre. You know, as a layperson and even after talking with people around it, it seems insane. But, you know, right after Lac-Mégantic, one of the first things that the Department of Transportation did in the United States was to issue an emergency order. It was probably the strongest single thing it's done. It issued an emergency order that said that trains may not be left unattended with the engines running on tracks without specific permission. I think the coverage of that, and certainly my take away when I saw the press release, was OK, so that means they're going to make sure there is no trains left on tracks with the engines running unattended in the United States. Well, it turns out not to be the case.

And I've discovered that because there was - I got in touch with somebody in a town called Plainville, Ill., who told me that there had been a train sitting idling on their track for seven hours in the middle of their downtown. And they called the railroad, and the railroad said they are allowed to do that. So months later, I called the railroad, talked to the same spokesperson for the railroad, and he said, we are allowed to do it. And he

wouldn't explain to me why they were allowed to do it or how it squared with the emergency order. It took additional reporting, and finally I was able to determine, by talking with people at the Federal Railroad Administration, that if you look at the actual regulation as it appears in the Federal Register - it appeared several days after the press release - it actually had some small print. It said they actually - the railroads - only had to have a plan for leaving the railroad cars unattended with the engines running. As long as they had a plan in a drawer somewhere, then they could continue to do it. And apparently they are continuing to do it.

DAVIES: You know, one way to resolve the issue of transporting all this crude-by-tank car would be to build pipelines. Is that happening?

STERN: Well, one of the reasons I think that producers and refiners have turned to rail is because pipelines are just so difficult to get approved. You can look at the Keystone XL Pipeline - the big debate over it - and it's become a lightning rod for this whole discussion. But building pipelines is very contentious. And in addition to that, it takes a lot of time to do it. There's a big upfront expense. And by the time they were putting pipelines into North Dakota, the North Dakota play might be played out.

DAVIES: In a lot of cases, local officials are bewildered by the fact that these trains are running through their communities, and when a disaster occurs, they are often unprepared for the scale of it. Is there any requirement that local officials be informed that a crude oil train is coming through or that some disaster plan be ready to deal with an accident?

STERN: Well, the Railroad Safety Advisory Committee took up the question of emergency response plans and completely punted - they just - the industry would not go along with it. The National Transportation Safety Board and its counterpart in Canada, these safety agencies, have said there must be - they need to have response plans. The pipelines companies have response plans. They're required to have response plans. At this point, the U.S. railroads are not required to have emergency response plans.

The one thing that has happened in the past year-and-a-half since Lac-Megantic and these other disasters is that the federal government has told the railroads that they must notify state emergency officials whenever they're going to be sending a train through a state that has more than a million gallons. So the state emergency planners get a heads up that there will be trains moving through of more than a million gallons - individual trains more than a million gallons. Anything less they don't get notified of, and it's not guaranteed that that gets down to the community level. And when I talked with a lot of the local officials in Tuscaloosa, I was really struck by the fact that they seem to feel very comfortable that they can handle whatever happens. Yet also the people in Lac-Megantic, when you talk to them, they shake their heads. And they say to the people of America, you know, you really don't want this to happen in your backyard. This happened here. We lost 47 people. It destroyed our downtown. There's no way anybody is going to be prepared for this if it happens in your downtown area.

DAVIES: Marcus Stern, thanks so much for speaking with us.

STERN: Thank you.

DAVIES: Marcus Stern is an investigative reporter whose pieces on rail transportation of crude oil are a joint effort of the environmental website InsideClimate News and The Weather Channel. Coming up, Ken Tucker reviews the new album from the band The Mavericks. This is FRESH AIR.