

# VOLT VEHICLE FIRE: WHAT DID NHTSA KNOW AND WHEN DID THEY KNOW IT?

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## HEARING

BEFORE THE  
SUBCOMMITTEE ON REGULATORY AFFAIRS,  
STIMULUS OVERSIGHT AND GOVERNMENT  
SPENDING

OF THE

COMMITTEE ON OVERSIGHT  
AND GOVERNMENT REFORM  
HOUSE OF REPRESENTATIVES

ONE HUNDRED TWELFTH CONGRESS

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## **VOLT VEHICLE FIRE: WHAT DID NHTSA KNOW AND WHEN DID THEY KNOW IT?**

**WEDNESDAY, JANUARY 25, 2012**

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON REGULATORY AFFAIRS, STIMULUS  
OVERSIGHT AND GOVERNMENT SPENDING,  
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM,  
*Washington, DC.*

The subcommittee met, pursuant to notice, at 8 a.m., in room 2154, Rayburn House Office Building, Hon. Jim Jordan (chairman of the subcommittee) presiding.

Present: Representatives Jordan, Buerkle, DesJarlais, Kelly, Kucinich, Davis, Connolly, and Maloney.

Also present: Representative Cummings.

Staff present: Michael R. Bebeau, assistant clerk; Robert Borden, general counsel; Molly Boyd, parliamentarian; David Brewer and Ashley Callen, counsels; Drew Colliatie, staff assistant; John Cuaderes, deputy staff director; Linda Good, chief clerk; Tyler Grimm, professional staff member; Christopher Hixon, deputy chief counsel, oversight; Seamus Kraft, director of digital strategy and press secretary; Justin LoFranco, deputy director of digital strategy; Mark D. Marin, director of oversight; Kristina M. Moore, senior counsel; Laura L. Rush, deputy chief clerk; Jeff Solsby, senior communications advisor; Sharon Meredith Utz, research analyst; Rebecca Watkins, press secretary; Nadia A. Zahran, staff assistant; Jaron Bourke, director of administration; Claire Coleman, minority counsel; Ashley Etienne, minority director of communications; Jennifer Hoffman, minority press secretary; Adam Koshkin, minority staff assistant; Lucinda Lessley, minority policy director; and Mark Stephenson, minority senior policy advisor/legislative director.

Mr. JORDAN. The committee will come to order. We will start with our opening statements and then get right to our first panel. Administrator, we appreciate your being here today.

The delayed public notification of serious safety risks of the Chevy Volt raises significant concerns regarding the politicized relationship between the Obama administration and General Motors. The Obama administration intervened and forced the company to participate in a politically orchestrated process. The result was that GM emerged as a quasi-private entity. To this day, the U.S. Government still owns 26 percent of the company.

In addition to a significant ownership stake in the company, President Obama has used this unusual blurring of public and private sector boundaries to openly tout the results of this partnership as a top accomplishment of his administration, creating a dynamic

where the President is politically reliant on the success of General Motors. Most recently, this relationship was touted at last night's State of the Union address. The President has backed this support with taxpayer dollars, providing \$7,500 tax credits for the purchase of the Volt and other electric vehicles, as well as billions of dollars to support the domestic production of batteries. In addition, total Federal, State and local governments have subsidized the production of the Volt to the tune of estimates between 50- and \$250,000 per vehicle sold.

The question before this committee is to what extent this conflict of interest has influenced the way in which this administration has approached its duty to inform consumers about the apparent risks that the GM Chevy Volt can catch fire.

While it remains to be seen whether GM has received special treatment during NHTSA's investigation of the Volt fire, it is clear that the administration has tremendous incentives to protect the political investment it has made in the company and the vehicle. In the face of that political dependency, it is deeply troubling that the public notification of the safety concerns related to the Volt were inexplicably delayed for 6 months, a period of time that also coincides with the negotiation over the new fuel economy standards.

It is also troubling that during a subcommittee hearing, this very subcommittee, in October 2011, where Mr. Strickland was directly asked to respond to Members' concerns about the safety of advanced vehicle technologies, he did not inform the committee of the Volt battery fire. This information was very germane to the questions asked of Mr. Strickland and certainly would have been of interest to committee members.

But for a resourceful Bloomberg reporter who reported on the fire in November 2011, it is unclear whether NHTSA would have ever made news of the Volt fire public. It appears that it was this story that prompted NHTSA to acknowledge the fire's occurrence and later to open a safety defect investigation.

In addition, the subcommittee is also concerned about the preparedness of NHTSA to regulate electric vehicles. In his 2011 State of the Union address, President Obama set the goal of one million electric vehicles on the roads by 2015. Despite the government's strong encouragement of this technology, there was a fundamental lack of knowledge at NHTSA about how to handle an electric vehicle after it has been involved in a crash. This fire risk associated with the lithium-ion technology is well-known, yet the engineers at NHTSA failed to drain the charge from the battery, creating the hazardous situation which ultimately led to the explosion. It appears that this lack of knowledge was caused by a lack of preparation.

According to documents obtained by the committee, NHTSA only inquired about manufacturer's post vehicle crash procedures in September 2011, 4 months after the Volt fire. This evidence strongly suggests that the Agency had not paid sufficiently close attention to the unique safety concerns—excuse me, safety risks associated with the Lithium-ion battery technologies in cars before the Volt fire occurred. This lack of knowledge of how to respond to an electric vehicle fire is unnerving. It also prompts questions about

whether or not this administration is promoting the rapid distribution of electric vehicles like the Volt before we have done our homework and understand how the risks associated with these vehicles should be addressed.

I look forward to hearing the testimony of Mr. Strickland, Administrator of NHTSA, and I hope that Mr. Strickland is more forthcoming today than he was when he last appeared before us. I also look forward to the testimony of Mr. Akerson, the chief executive officer of General Motors.

With that, I now yield to my friend and colleague, the ranking member, Mr. Kucinich from Ohio.

Mr. KUCINICH. Mr. Chairman, thank you very much for holding this hearing, and I always appreciate the opportunity to work with you. Today, we again welcome David Strickland, the Administrator of the National Highway Safety Administration before our subcommittee.

At two other recent hearings, this subcommittee heard testimony from the Department of Transportation officials on first-time regulations proposed by the Department related to standards for vehicle fuel efficiency and then on the number of hours truck drivers can work between mandatory rest periods. At those hearings, the majority criticized the Department of Transportation for considering stricter regulations, claiming they were harmful to business and the economy.

Today, by contrast, the question is whether the Department of Transportation was strict enough in its regulatory oversight of one product, the Chevy Volt electric vehicle by General Motors. The title of today's hearing is "What Did NHTSA Know About the Volt Vehicle Fire and When Did They Know It."

A very detailed 135-page final report by the National Highway Traffic Safety Administration [NHTSA], on its investigation into the Volt battery fire incident which was made public on Friday provides detailed answers to the question this hearing seems to ask. GM has also provided extensive documentation of meetings and information it provided NHTSA pursuant to its investigation into the causes of the Volt battery fire that occurred after crash testing.

Based on what we know so far, NHTSA's new car assessment program appeared to do just what it is intended to do, catch potential safety concerns with new cars before they become a risk to consumers, and General Motors appeared to do exactly what we hoped it would do.

Even before NHTSA determined whether or not there was a real safety issue, it designed improvements to the Volt to make its battery better protected from risk of intrusion or fires. So far we have seen no evidence to support the implication that NHTSA has allowed politics to guide its decisionmaking. And I understand my chairman raising that question, because there are safety issues here at risk.

Considering that in the last few months, there have been efforts by the majority to defund programs that support the development of technologies for electric and alternative fuel vehicles and other proposals to take away tax incentives for purchasing electric cars, I am concerned that an effect of this hearing could be to undermine technology that is critical to both protecting the environment and

ensuring the success of the U.S. auto manufacturing industry, as well as to generally have an adverse effect on U.S. economic competitiveness. It would be very bad, I think, for our economy to do anything that would try to demolish the potential for electric vehicles.

As we established at the hearing this subcommittee held on the proposed fuel economy and greenhouse gas emission standards, clean vehicle technologies protect public health by cutting air pollutants, smog and climate change pollution. Additionally, developing clean vehicle technologies for battery, electric and hybrid cars has grown jobs on the assembly line and supported the recovery of the domestic automotive industry. We don't want to be buying lithium-ion batteries from China in 5 years when we can develop the infrastructure and skills to make them here in the United States. And we want to build cars here in the United States that are attractive to consumers in other countries. The President talked about that yesterday in his State of the Union address. This is where electric and other clean vehicle technologies have already established market share.

Now, let me be clear: I am well-known as a consumer advocate. I support early public disclosure of safety risks, and I hope and expect that NHTSA consistently works as quickly as possible to make intelligent assessments of any safety risks and to disclose them to consumers as soon as possible.

Mr. Chairman, in a meeting that I had yesterday with the General Motors CEO and chairman, I told the gentleman of the same concerns for early disclosure and transparency, the kind that we know that we didn't have with Toyota. So we have a obligation to ask these questions, and we also have an obligation to rely on facts as they are. And as the majority wanted to work with me to craft stricter laws mandating them, I might join them.

I hope this committee's activity on this issue, and I just want to be very clear on this, that I wouldn't want this committee's activity on this issue to discourage companies like GM from continuing to innovate and advance technologies that will ensure U.S. competitiveness. And while it appears that we have different opinions with respect to whether the Chevy Volt is a fiery failure or an innovative success, at least it appears we have an agreement that there is a proper role for government to play in regulating business and ensuring public safety.

Thank you very much, Mr. Chairman. Let us proceed.

[The prepared statement of Hon. Dennis J. Kucinich follows:]



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**Opening Statement**  
**Congressman Dennis Kucinich**  
**January 25, 2012**

**Hearing on "Volt Vehicle Fire: What did NHTSA Know and When Did they Know It?"**  
**Committee on Oversight and Government Reform**  
**Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending**

Good Morning. Today, we once again welcome David Strickland, the Administrator of the National Highway Traffic Safety Administration before our Subcommittee. At two other recent hearings, this Subcommittee heard testimony from Department of Transportation officials, first on regulations proposed by the Department related to standards for vehicle fuel efficiency and then on the number of hours truck drivers can work between mandatory rest periods. At those hearings, the majority criticized the Department of Transportation for considering stricter regulations, claiming they were harmful to business and the economy. Today, by contrast, the question is whether the Department of Transportation was strict enough in its regulatory oversight of one product, the Chevy Volt electric vehicle, by General Motors.

The title of today's hearing is, "What did NHTSA Know about the Volt Vehicle Fire and When Did they Know It?" A very detailed, one-hundred-and-thirty-five page final report by the National Highway Traffic Safety Administration on its investigation into the Volt Battery Fire Incident, which was made public on Friday, provides detailed answers to the question this hearing seems to ask. GM has also provided extensive documentation of meetings and information it provided NHTSA pursuant to its investigation into the causes of the Volt battery fire that occurred after crash testing.

Based on what we know so far, NHTSA's New Car Assessment Program appeared to do just what it is intended to do: catch potential safety concerns with new cars before they become a risk to consumers. And General Motors appeared to do exactly what we would hope it would do. Even before NHTSA determined whether or not there was a real safety issue, it designed improvements to the Volt to make its battery better protected from risk of intrusion or fires. So far, we have seen no evidence to support the implication that NHTSA has allowed politics to guide its decision-making.

Considering that in the last few months there have been efforts by the majority to defund programs that support the development of technologies for electric and alternative fuel vehicles, and other proposals to take away tax incentives for purchasing electric cars, I am concerned that the intended effect of this hearing is to undermine technology that is critical to both protecting the environment and ensuring the success of the U.S. auto manufacturing industry, as well as

U.S. economic competitiveness generally. Trying to kill electric vehicles is bad for America's future.

As we established at the hearing this Subcommittee held on the proposed fuel economy and greenhouse gas emissions standards, clean vehicle technologies protect public health by cutting air pollutants, smog, and climate change pollution. Additionally, developing clean vehicle technologies for battery-electric and hybrid cars has grown jobs on the assembly line and supported the recovery of the domestic automotive industry. We don't want to be buying lithium-ion batteries from China in five years when we can develop the infrastructure and skills to make them here in the U.S. And we want to build cars here in the U.S. that are attractive to consumers in other countries, where electric and other clean vehicle technologies have already established market share.

Now, let me be clear: I am a consumer advocate. I support early public disclosure of safety risks, and I hope and expect that NHTSA consistently works as quickly as possible to make intelligent assessments of any safety risks and to disclose them to consumers as soon as practicable. And if the majority wanted to work with me to craft stricter laws mandating that, I might join them. But I will not hold my breath.

I hope this Committee's activity on this issue will not discourage companies like GM from continuing to innovate and advance technologies that will ensure U.S. competitiveness. And, while it appears we have different opinions with respect to whether the Chevy Volt is a "fiery failure" or an innovative success, at least it appears that we have agreement that there is a proper role for government to play in regulating business and ensuring public safety.

Mr. JORDAN. I thank the gentleman for his statement and for his great work on the committee.

We now would yield to the gentleman from Pennsylvania, Mr. Kelly.

Mr. KELLY. Thank you, Mr. Chairman. Mr. Strickland, thank you for being here today.

My concern has nothing to do with General Motors. General Motors has a history of building the most wonderful cars in the world. And I go back to the days when former President Bush made a statement and said if we could just start—if General Motors could just start building cars that were relevant, they wouldn't have their problems. And at the time, they were the leading manufacturer and seller of vehicles on the planet. So sometimes there is a disconnect between what we say and what we do.

My concern today is not so much with General Motors, because my association with General Motors goes back to 1953 when my father became a dealer and back to the early 1930's when he was a parts picker in a General Motors warehouse and had the opportunity to move forward with not only his life, but our family's in establishing a dealership and being somewhat successful, the combined efforts of a lot of people over those years.

My problem today has to do with your agency, and certainly it comes down to a question of trust. And one of the things that I see all the time, whether I am in Washington, DC, or back home in my district or whether I am in my dealership, is can I trust you? Can I trust you to do what you said you were going to do? Can I trust you to do the best thing for me and have my best interests all the time? And it is about trust. We know that you can spend your whole life building trust, and one misjudgment, one false step, you can destroy an entire legacy. Certainly the passing of Joe Paterno last week we saw a gentleman who spent his whole life establishing a legacy and lost it in the last 2 months of that life.

Now, with your agency, the formation of it was to protect the public and to work in their best interests. When I look at the definition of trust, assured reliance on the character, ability, strength or truth of someone or something. One in which confidence is placed. Firm reliance on the integrity, the ability or the character of a person or thing. It deals with custody and care. Something committed into the care of another. And that is where the disconnect comes.

I have no problem with General Motors because General Motors acted very quickly once your agency let them know what happened. If we were to look at some of the slides, if we could, slide 11 and slide 12 if they are available.

Now, this happened with the car that you folks tested, and I want to find out when you look at the timeline, when did you let General Motors know this? Because General Motors has not had that problem out on the highway with these cars. We only had it in the testing. But, again, it comes down to that trust.

Whose best interests were you acting in? Certainly it wasn't the American public. And it was with a manufacturer who has a 100-some year history of building the best products in the world when it comes to transportation. Why not get on the phone and ask them?

Now, my association with General Motors is very strong. I am not a Volt dealer, and I am not a Volt dealer only because the Volt does not appeal to people in my marketplace. And I have some other things that I will bring forward later on, but I have to tell you, I really am disturbed with the fact that this happened so early on, and yet the full disclosure of it happened by chance from a reporter, not from the Agency that is out there to protect the public.

So we ask then why is this erosion of trust there? Why do people no longer trust Congress? Why do they no longer trust our form of government? Why do they no longer trust things that have taken years to build? And it comes down to incidents that cause them to question what it is that happened.

So I am hoping today, because we talked to you earlier on, what did NHTSA know, when did it know it, and when did they let General Motors know that? My friends at General Motors have always been very responsive. They have always acted very quickly in the best interests of the public and those people that they serve. I understand that. What I don't get, why so long? And my question comes down very frankly, is the commitment to the American public or is the commitment to an administration whose agenda is we are going to get to green technology one way or the other, and I don't care if we have to use the Department of Defense to get there, I don't care who we have to use to get this alternative energy, and I am all for it, by the way. But when the market is ready for the science, it won't have to be subsidized. It will go on its own.

So I am hoping today that we can talk with this and talk about it in an open forum so the American public can again have the trust that it needs to have in the people that they send to represent them, in the agencies that were formed, at least in the beginning, to protect those folks that rely on us, and not to protect an agenda or to push an agenda forward that I quite frankly think that some day we will use electric cars. But going back to the beginning, the problem with electric cars was always where do you store the energy source and how efficient is it and how economical is it and how do you drive that?

So I am here to hear what you have to say. As we looked at what happened in these cases, it didn't happen with any, but there was no loss of life or limb, nobody was injured. I just wish you would have called GM the same day you found that out, because they would have—they would have, I guarantee you, within 48 hours had the same fix that they ended up with.

So thank you very much, Mr. Chairman. I yield back.

Mr. JORDAN. I thank the gentleman for his insightful opening remarks.

Administrator Strickland, the rules of the committee require us to swear in our witnesses. If you would please stand and raise your right hand.

[Witness sworn.]

Mr. JORDAN. Let the record reflect that the witness answered in the affirmative. The floor is yours, Mr. Strickland. You have done this before. You get 5 minutes, give or take a few seconds, and we are pretty lenient with that. So fire away.

**STATEMENT OF DAVID L. STRICKLAND, ADMINISTRATOR,  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION**

Mr. STRICKLAND. Thank you, Mr. Chairman. Good morning Ranking Member Kucinich and members of the subcommittee. I appreciate the opportunity to testify before you today on the status of the Volt question.

Mr. Chairman, I have done this before, but, of course, I forget to hit the button.

I am pleased to share that we have recently closed our investigation without finding evidence of an unreasonable risk to safety. Before I discuss the events that led to this determination, I would like to establish some context.

One way we reduce traffic deaths and injuries is by setting and enforcing standards for motor vehicles. We test many of the vehicles on the road to ensure that they comply with these standards. However, the fact that a vehicle complies with all of the standards does not necessarily indicate the absence of an unreasonable risk to safety.

The Agency's ability to investigate and determine whether such a risk exists is key to getting defective vehicles recalled and remedied. It is within this context that the Agency undertook the preliminary fact-finding task which led to the formal investigation of the Volt.

To be clear, the first priority and the core mission of the National Highway Traffic Safety Administration is safety. I have the honor of leading more than 600 professionals who collectively have one goal in mind—to help the American public get to their destination safely every single trip.

When we learned of the fire at the MJA test facility in June, we had no relevant real world data to help us assess the safety risk and no clear understanding of how the fire began. The Agency took numerous unprecedented steps to ascertain the real world risk of Volt owners and passengers and then to isolate the root cause of this incident to determine if a defect existed that posed unreasonable risk to safety.

The technical team at NHTSA, working in collaboration with the Department of Energy and Defense, used every second over the past 6 months to provide the data needed for the Agency decision, and they delivered in an innovative and expert fashion. If at any time during this period I had any notion that an imminent safety risk existed to the American public, I would have ensured that the public knew of that risk immediately.

We at NHTSA rely on data to drive our decisions. As I noted in my written statement, we undertook several Volt crash tests in an attempt to replicate the June incident. In addition, the Agency reviewed all the crash reports in the field involving Volts. We found no reports of post-crash fires. We looked at a variety of data sources, including all relevant early warning reporting data and vehicle owner questionnaires. The Agency found no indication of a post-fire crash risk in the Volt, nor were we able to recreate the June incident at the vehicle level.

Despite the initial negative results and the lack of real world events, we decided to continue investigating at the component level and shared our initial thoughts with the public on this in Novem-

ber. NHTSA engineers analyzed the Volt to understand what caused the penetration into the battery compartment. We then created new component level testing procedures and designed and constructed completely new and unique test mechanisms to replicate the intrusion that occurred during the May crash test.

In mid-November, NHTSA tested three Volt Lithium-ion packs by damaging the battery compartment and rupturing the coolant system. On November 24th, one of the battery packs that was tested a week earlier caught fire at the testing facility, burning the shed that housed it. The next day, NHTSA opened a formal defect investigation of post-crash fire risks in Volts.

It is important to note that the Agency rarely opens a defect investigation without data from real-world incidents. By taking this uncommon step, NHTSA sought to ensure the safety of the driving public. In response to the defect investigation, GM proposed a field fix to mitigate intrusion by adding a reinforcement collar around the battery compartment. Our technical team reviewed and tested the remedy and confirmed that there was no intrusion into the battery compartment, no leakage of coolant and no post-impact fire. As a result, we have concluded the Agency's investigation and found no discernable defect trend.

NHTSA continues to believe that electric vehicles show great promise as a safe and fuel efficient option for American drivers. Based on the available data, NHTSA does not believe that Volts or other electric vehicles pose a greater risk of fire than gasoline-powered vehicles. In fact, all vehicles have some risk of fire in the event of a serious crash.

However, electric vehicles have specific attributes that should be made clear to consumers, law enforcement, emergency response communities and tow truck operators and storage facilities. NHTSA has been working with the Department of Energy, with assistance from the National Fire Protection Association and others, to develop guidance to help them identify vehicles powered by lithium-ion batteries and to take the appropriate steps in handling these following a crash.

We have also been working with the manufacturers to develop appropriate post-crash protocols dealing with lithium-ion battery powered vehicles.

Mr. Chairman, thank you so much for this opportunity, and I am now happy to answer questions from the committee.

Mr. JORDAN. Thank you, Administrator.

[The prepared statement of Mr. Strickland follows:]

**Statement of the Honorable David L. Strickland  
Administrator, National Highway Traffic Safety Administration**

**House Committee on Oversight and Government Reform  
Subcommittee on Regulatory Affairs,  
Stimulus Oversight and Government Spending**

**January 25, 2012**

Good morning Mr. Chairman, Ranking Member Kucinich and members of the subcommittee. The National Highway Traffic Safety Administration's mission is to reduce deaths, injuries, and economic loss resulting from motor vehicle crashes. I appreciate this opportunity to testify before you today on the status of our Chevrolet Volt investigation. I am pleased to share that we have recently closed our investigation without finding evidence of an unreasonable risk to safety.

Before I walk you through the sequence of events that led to this determination, I would like to establish some context. One way we reduce traffic deaths and injuries is by setting and enforcing standards for motor vehicles. We test many of the vehicles on the road to ensure that they comply with these standards; however just because a vehicle complies with all Federal Motor Vehicle Safety Standards does not mean that there may not be an unreasonable risk to safety. The agency's ability to investigate and determine whether such a risk exists is key to getting defective vehicles recalled and remedied.

In addition to testing for compliance with our standards, we also conduct crash tests for our New Car Assessment Program, or NCAP. For over 30 years, NHTSA has helped consumers find safer cars through our 5-star safety-rating program. We measure how well a vehicle performs in crashworthiness tests and award more stars for safer cars. It was following an NCAP test that we discovered there was an issue with the Chevrolet Volt.

Last May, we conducted a side pole test on the Volt at a contractor's facility in Wisconsin. This test, like all of our other NCAP tests, evaluates how well the vehicle protects occupants inside the passenger compartment. The Chevy Volt earned 5-stars for its ability to protect occupants from injury in the event of a crash. After the test, the vehicle was parked outside in a salvage storage area in accordance with regular NHTSA procedures. Three weeks later, on June 6, the contractor found that the Volt and three other vehicles parked near it were completely burned. I was notified that same day. Since the fire occurred over a weekend, no one was on site to witness the incident or readily identify what caused the fire.

The local fire marshal focused on possible arson, but determined that was not the cause. NHTSA then contracted with battery and fire experts to investigate the case further. In July 2011, our contractor, Hughes Associates, developed preliminary findings indicating that the fire incident most likely originated in the Chevrolet Volt battery and the local fire marshal concurred with that assessment. However, the investigator was not able to explain exactly how the Volt caused the fire and NHTSA proceeded to investigate the matter further. The vehicle, along with the fire damaged battery, was shipped to NHTSA's Vehicle Research and Test Center in East Liberty, Ohio. Hughes Associates, NHTSA, and General



Motors (GM) representatives conducted a forensic inspection and battery teardown in August. The inspection revealed that there was penetration in the battery compartment that damaged the lithium-ion battery and ruptured the battery's liquid cooling system. A review of the crash test photographs and video confirmed that battery coolant leaked from the battery compartment. Hughes Associates later concluded that the damage to some of the Volt's battery pack cells and electric shorting precipitated the fire.

Once the Volt battery was identified as the source of the fire, NHTSA proceeded to determine whether the fire resulting from the May crash test was an anomaly and, if it was not, whether GM and other manufacturers had protocols in place for assessing or managing the risks. In September, we conducted a second side pole test of a Volt. The test vehicle was fitted with additional cameras and equipment to monitor post crash events. The vehicle was monitored for three weeks after the crash. This second side pole test did not produce any intrusion into the battery compartment and there was no battery damage, shorting, or coolant leakage. GM conducted a similar side pole test the same month and that also did not result in any intrusion into the battery pack or fire.

We rely on data to drive our decisions. In a review of all crash reports in the field involving Chevrolet Volt vehicles, we found no reports of post-crash fires. We looked at a variety of data sources, including all relevant Early Warning Reporting data, and Vehicle Owner Questionnaire data. NHTSA investigated two non-crash fire incidents involving Chevrolet Volts. In both cases the vehicles were parked in home garages where the garage caught fire, and it was determined that the fire did not originate in the vehicles.

Despite the initial negative results and the lack of real world events, NHTSA decided to continue investigating at the component level and shared our initial thoughts on this with the general public in November. NHTSA engineers analyzed the Volt to understand what caused the penetration into the battery compartment. We then created new component-level testing procedures, and designed and constructed a completely new and unique test mechanism to replicate the intrusion that occurred during the May crash test. Working with GM, the Department of Energy, and the Department of Defense, NHTSA conducted additional rigorous testing at the battery component level. In mid-November, NHTSA tested three Volt lithium-ion battery packs by damaging the battery compartment and rupturing the coolant system. After each impact, we rotated the battery 360 degrees in 90-degree increments, just like after the NCAP crash test, to see if there was any fluid leakage. The battery coolant is conductive and we found that it can cause electrical shorts. During one of these tests, the battery pack was rotated within hours after it was impacted and it began to smoke and emit sparks, but there was no fire. On November 24, one of the battery packs that was tested a week earlier caught fire at the testing facility, burning the shed that housed another battery pack that was being stored and monitored alongside it. The next day, NHTSA opened a formal safety defect investigation of post-crash fire risk in Chevrolet Volts.

It is important to note that the agency rarely opens a defect investigation without data from real-world incidents. By taking this uncommon step of opening a defect investigation with no available field data, NHTSA sought to ensure the safety of the driving public with emerging electric vehicle technology. In response to the defect investigation, GM proposed a field fix to mitigate intrusion by adding a reinforcement collar around the battery compartment. NHTSA observed the installation of the collar into a 2012 production Chevrolet Volt, and the vehicle

was then shipped to Wisconsin where an NCAP side pole test was performed on December 22. The vehicle was then monitored for three weeks. We confirmed that there was no intrusion into the battery compartment, no leakage of coolant, and no post impact fire.

As a result, we have concluded the agency's investigation and have found no discernible defect trend. The vehicle modifications recently developed by GM effectively address the issue of battery intrusion and they have included this modification as they manufacture new vehicles going forward. NHTSA continues to believe that electric vehicles show great promise as a safe and fuel-efficient option for American drivers. Based on the available data, NHTSA does not believe that Chevrolet Volts, or other electric vehicles, pose a greater risk of fire than gasoline-powered vehicles. In fact, all vehicles have some risk of fire in the event of a serious crash. However, electric vehicles have specific attributes that should be made clear to consumers, law enforcement, the emergency response community, and tow truck operators and storage facilities. NHTSA has been working with DOE and with assistance from the National Fire Protection Association and others to develop guidance for these groups to help them identify vehicles powered by a lithium-ion battery and taking appropriate steps in handling lithium-ion batteries following a crash. NHTSA has also been working with vehicle manufacturers to develop appropriate post-crash protocols for dealing with lithium-ion battery powered vehicles.

Thank you Mr. Chairman. I am happy to answer questions from the committee.

Mr. JORDAN. Let me just start with the timeline. Give me the date you first learned at NHTSA of the fire concerns of the explosion that took place in the test.

Mr. STRICKLAND. I was notified and the Agency was notified on June the 6th of 2011.

Mr. JORDAN. And was this the same time that you, along with the EPA, were working on finalizing, maybe not finalizing, but negotiating the CAFE standards?

Mr. STRICKLAND. There is lots of work that goes on between the Agency—

Mr. JORDAN. But isn't it true you were working on negotiating the CAFE standards—

Mr. STRICKLAND. We were working on the CAFE standards at that time, that is correct.

Mr. JORDAN. And isn't it true that the proposed CAFE regulations rely heavily on the sale and deployment of vehicles, electric vehicles like the Volt?

Mr. STRICKLAND. Absolutely that is not true. Actually, by statute, NHTSA is forbidden from actually using electric—

Mr. JORDAN. But don't you count on reaching—to get to 54 miles per gallon, don't you count on the sale of these kind of vehicles, this kind of technology in the future helping to reach those standards?

Mr. STRICKLAND. There are several vehicle technology pipelines to achieve this, and frankly, most of the manufacturers are using internal combustion engines to achieve those standards.

Mr. JORDAN. The proposed rules specifically talk about electric vehicles. The administration has talked heavily about this vehicle. So it is certainly true that these were included in getting to that standard.

Mr. STRICKLAND. For NHTSA's CAFE regulations, it is illegal for us to consider electric vehicles as part of our technology mix. So therefore, we look at the technology pipelines that are available to the manufacturers to comply with our standards and therefore, we are very satisfied that the standards can be met, as are the manufacturers.

Mr. JORDAN. Certainly the EPA is counting on this.

Mr. STRICKLAND. There are several technology pipelines that can be used to achieve the standards.

Mr. JORDAN. Got it. Got it. We got it. And isn't it true that the administration has heavily touted vehicles like the Volt as alternative vehicles that could help meet or surpass the fuel efficiency targets?

Mr. STRICKLAND. The Obama administration believes in American innovation, and anything to help support American manufacturing innovation is something that is a keystone—

Mr. JORDAN. Is it fair to say this administration feels pretty strongly about technology like this helping to get to these standards, helping with the future of the automobile industry?

Mr. STRICKLAND. The Obama administration feels that electric vehicle technology shows great promise.

Mr. JORDAN. Now, when did you testify before Congress on the CAFE standards, do you remember?

Mr. STRICKLAND. I believe I was before you, Mr. Jordan, in October of last year.

Mr. JORDAN. October of last year. Okay. So you were aware of the safety concerns when you were developing and negotiating the CAFE standards?

Mr. STRICKLAND. There was no safety concern on the part of the Agency at the time regarding the Chevrolet Volt because we were still in the process of figuring out the root cause and whether this posed an unreasonable risk.

Mr. JORDAN. But let me just—when you came in front of Congress, when you came in front of this committee, that picture Mr. Kelly had shown had taken place, correct?

Mr. STRICKLAND. That is correct, yes, it had.

Mr. JORDAN. Okay. All right. So you were aware of the safety concerns when the President announced on July 29th of last summer the negotiated agreement on the CAFE standards?

Mr. STRICKLAND. There was no conclusion about whether there was an unreasonable risk to safety posed by the Chevrolet Volt. We were still in an investigation posture.

Mr. JORDAN. I know that. I am just asking, you knew about it?

Mr. STRICKLAND. I knew of the fact that—

Mr. JORDAN. Wait, wait, wait. You knew about that picture—

Mr. STRICKLAND. I knew of the fact that the Chevrolet Volt was involved in four vehicles catching fire—

Mr. JORDAN. You knew about that picture, that explosion, when you came in front of Congress. You knew about it when the President talked about the agreement with the manufacturers on the CAFE standards, correct?

Mr. STRICKLAND. We knew of the incident on June the 6th, yes, Mr. Chairman.

Mr. JORDAN. Okay. Obvious question: Why didn't you tell us? Well, one other point. If you recall during that hearing, Mr. Kelly and Ms. Buerkle asked specific questions about the Chevy Volt and about safety concerns and about reaching these standards, and you didn't feel it was appropriate to let us know that there was an explosion with pictures like that?

Mr. STRICKLAND. There was no Agency decision as to whether there was an unreasonable risk to safety in the Chevrolet Volt. My understanding is Mr. Kelly and the vice chairwoman was asking me about mass reduction in the CAFE standards. They made no question about—

Mr. JORDAN. Just think about it. We are talking about safety. We are talking about CAFE standards. You know that there has been a safety concern with the battery in the Volt leading to an explosion, leading to a fire, and you don't think it is appropriate to tell Congress?

Mr. STRICKLAND. Mr. Chairman—

Mr. JORDAN. Let me ask you this question: But for the reporter at Bloomberg, would you have ever told us?

Mr. STRICKLAND. Of course we would.

Mr. JORDAN. Really?

Mr. STRICKLAND. Absolutely.

Mr. JORDAN. You waited that long. You testified once before Congress and didn't tell us, but once the reporter breaks the story, then you let everyone know?

Mr. STRICKLAND. When the Agency was prepared to make a decision as to what the steps were in the protocols and whether we were going to make a decision as to the risk of the Volt, we would have clearly disclosed it.

Mr. Chairman, I want to make one point here: I wake up every morning in this job with one purpose and one purpose only, to make sure that I keep as many people safe and healthy as possible. That is my only goal. That is my only goal for my 600-staff working with me.

Mr. JORDAN. Then why did you wait—

Mr. STRICKLAND. The bottom line being, it is our responsibility to be deliberate and careful.

Mr. JORDAN. Let me ask you this: Why did you wait 6 months before you started a formal investigation? Why did you wait 6 months?

Mr. STRICKLAND. It took every second of that time for our technical team and our engineers to figure out—

Mr. JORDAN. Let me ask you this: Then here is the inconsistency I don't get as well. You started the formal investigation 6 months after that picture, 6 months after you had done some other tests in the interim, and when did you officially say that the Chevy Volt is okay and officially cleared it from any safety concern? When did that happen?

Mr. STRICKLAND. We will definitely refer you to the timeline, Mr. Chairman. But basically—

Mr. JORDAN. Wasn't it just last week?

Mr. STRICKLAND. We concluded the investigation last week once we had finished all of our work. Actually we finished our observation of the last Volt vehicle.

Mr. JORDAN. One other thing. You waited 6 months. November 25th is when you started the formal investigation, correct?

Mr. STRICKLAND. We opened a formal investigation when the final battery caught on fire and consumed the shed.

Mr. JORDAN. So you opened a formal investigation on November 25th?

Mr. STRICKLAND. That is correct.

Mr. JORDAN. You officially cleared to GM just last week, last Friday, if I am not mistaken.

Mr. STRICKLAND. That is correct.

Mr. JORDAN. Last Friday.

Mr. STRICKLAND. That is correct.

Mr. JORDAN. Okay. But on December 6th, Secretary LaHood said the Chevy Volt is safe, there is no problems. So how does that connect? If you didn't start—you waited 6 months after you saw pictures like that before you started a formal investigation. You didn't finish and clear it until last Friday. But between November 25th when you started it and when you cleared it last Friday, the Secretary of Transportation says the Volt is fine.

Mr. STRICKLAND. The Chevrolet Volt was safe to drive and the Chevrolet Volt had been safe to drive this entire period. As I said, Mr. Chairman, our responsibility is to figure out whether there was

an unreasonable risk to safety and whether there was an imminent risk. That did not exist. We did, however, we were trying to replicate the post-fire crash——

Mr. JORDAN. But do you see how Members of Congress and frankly the American public could see some inconsistencies? You don't start a formal investigation until after a 6-month time period from when the explosion occurred, and then you don't officially clear it until 2 months later, but in between when you start it and when you officially clear it, the Secretary of Transportation says it is fine?

Mr. STRICKLAND. Mr. Chairman, in our investigatory process——

Mr. JORDAN. And in the interim, before you started the formal investigation and know about it, you are developing the CAFE standards, but you can't share the information with Congress, let alone the American public. So people say what is going on.

Mr. STRICKLAND. Mr. Chairman——

Mr. JORDAN. That is why Mr. Kelly made his opening remarks like he did, because he thought what is going on?

Mr. STRICKLAND. And we are very happy to explain in great detail exactly every moment that we worked on this investigation. Every investigation there is preliminary work that takes place. Every time we open a formal investigation, there is preliminary fact-finding that takes place. It was 6 months of preliminary fact-finding for us to be able to get to the point where we felt that we should open a formal investigation. We don't simply take these matters. We have over 40,000 vehicle owner complaints every single year about safety, and we investigate the same one——

Mr. JORDAN. I am over time, and I want to get to my friend and colleague, Mr. Kucinich. But let me just ask, were you concerned—I mean, here is the bottom line, I think. Were you concerned about if you told us last summer, or excuse me, told us in October, about what was going on, that you would impact sales of the Volt and/or impact the negotiations on the CAFE standards? That is what we want to know. Were you concerned about that, and is that why you weren't square with us? Is that why you had to wait for a reporter to break the story?

Mr. STRICKLAND. I was square with you. Every day I talk to victims of traffic crashes, every single day. My first priority is to make sure that we reduce injuries and fatalities due to traffic crashes. That is the only thing on my mind every single day. I don't have any other consideration.

Mr. JORDAN. I just want to be clear. So your decision not to share information with Congress when you were in front of Congress and you knew the information and we were talking about that subject, your decision not to share that information has nothing to do with your concern about the sales of the Volt and the administration's involvement in promoting the sales of the Volt and nothing to do with the negotiation of the CAFE standards at the same time?

Mr. STRICKLAND. Absolutely not. It would be irresponsible of me to disclose anything unless we made an agency decision.

Mr. JORDAN. I will yield to the gentleman from Cleveland, Mr. Kucinich.

Mr. KUCINICH. Thank you very much, Mr. Chairman.

Administrator Strickland, I am going to have a series of questions, and I would ask that your answers be brief and, of course, true.

Mr. STRICKLAND. Yes, ranking member.

Mr. KUCINICH. Now, the fire occurred on June 6th, and as my colleague points out it wasn't until November that NHTSA's follow-up testing confirmed that this was not an isolated incident. It does seem like a long time.

What we need to know, Administrator Strickland, is whether there was a valid reason for so much time to pass or whether, as the majority has concluded, or has at least offered, that NHTSA was acting in a politically motivated manner. So the first question is, what was NHTSA doing between June and November that required such a long internal investigation?

Mr. STRICKLAND. Thank you for the question, ranking member. In June, once the fire was discovered after the fact, sometime over the weekend, and we were notified, we had absolutely no notion of what the source of the fire was. There was three other vehicles around it. It could have been arson, it could have been one of the other vehicles, it could have been a number of factors.

So we had to go out, figure out what happened at the scene, hire additional contracting expertise, fire investigators and folks like that, and then begin the work to actually figure out what happened on the scene. That also included crash testing other Volts to see if we could actually replicate what happened out there——

Mr. JORDAN. Was there a second crash test?

Mr. STRICKLAND. Absolutely. There were actually several.

Mr. JORDAN. Did that second crash test produce an impact into the battery or a fire?

Mr. STRICKLAND. It did not.

Mr. KUCINICH. And did NHTSA develop a mechanism to damage the battery pack directly in order to test for fire risk?

Mr. STRICKLAND. Yes, sir, that is exactly what we did. We were not satisfied with the fact that we could not recreate the incident at the whole vehicle level, so we took the unprecedented next step to do a component level testing, and we had to actually create a whole new system and mechanism in order to recreate that.

Mr. KUCINICH. So you created the circumstances under which the fire could occur. This wasn't created independently through the vehicle, an intact vehicle, without you having to essentially rig it to go on fire, is that right?

Mr. STRICKLAND. That is correct, ranking member.

Mr. KUCINICH. So is it correct that NHTSA intentionally damaged the battery compartment and intentionally ruptured the coolant system to try to reproduce the fire, is that correct?

Mr. STRICKLAND. That is correct.

Mr. KUCINICH. Was this fire difficult for NHTSA to reproduce?

Mr. STRICKLAND. Actually, it was.

Mr. KUCINICH. Why?

Mr. STRICKLAND. Because there are several issues in terms of getting through the sub-structure of the vehicle in order to get a certain percentage of intrusion into the battery. But not always simply intruding into the battery. We had to replicate the exact angle, the exact depth, the exact force of the impact in order to do



that. We wanted to take this component level test and make it as close to the real world circumstance that we create in the test as possible. That took a tremendous amount of engineering.

Mr. KUCINICH. So you went to extensive efforts to try to replicate the fire.

Mr. STRICKLAND. Absolutely.

Mr. KUCINICH. Is that a normal procedure at NHTSA?

Mr. STRICKLAND. That is absolutely not. The reason why we undertook these steps is because we feel that advanced technology vehicles, and especially with anomalous circumstances as what happened in June, we need to know full answers in order to make the decision to protect the American public.

Mr. KUCINICH. Did GM ever request that NHTSA keep the information from your internal testing and your efforts to replicate a fire? Did GM ever ask you not to disclose that or make it public?

Mr. STRICKLAND. Absolutely not.

Mr. KUCINICH. Did anyone in the administration who is your superior ever ask you to fail to disclose information relating to NHTSA's replication of the fire?

Mr. STRICKLAND. Absolutely not. It is my expectation, it is the Secretary's expectation, it is the executive office of the President's expectation, that I do my job to lead this Agency.

Mr. KUCINICH. What would you do if someone did come up to you and say, hey, you know what? We have these issues out here with the technology, we have issues out here with CAFE standards. What would you do if that did happen?

Mr. STRICKLAND. I have a higher moral obligation to the American public. I would properly disclose any risk if it proved to be an unreasonable risk to safety, period.

Mr. KUCINICH. Does NHTSA always keep initial internal investigations confidential prior to opening a formal safety defect investigation?

Mr. STRICKLAND. Like all agencies, we have pre-decisional work to be done.

Mr. KUCINICH. Why?

Mr. STRICKLAND. Because we handle confidential business information, proprietary information, and, frankly, it doesn't serve the American public for us to make a non-deliberative, uncaredful decision about something that poses a safety risk.

Mr. KUCINICH. So what are your statutory obligations with respect to alerting the public to safety risks?

Mr. STRICKLAND. If we find that a defect we believe pose an unreasonable risk to safety, we would initiate a recall process with the manufacturer. We would ask them to undertake a recall.

Mr. KUCINICH. So hold on a minute. So in your view, before an unreasonable risk to safety is identified, NHTSA does not have a legal obligation to inform the public of isolated hazardous incidents that may occur until it is determined to be an unreasonable risk to safety?

Mr. STRICKLAND. We have no obligation. But clearly, before we even make that decision, if we feel that there is an imminent risk, we will always inform the public through consumer advisories and other methodologies.

Mr. KUCINICH. Let's move from the testing laboratory to the real world. It is my understanding from the chairman and CEO of GM who I met with yesterday, there are approximately 8,000 of these vehicles on the road. Are you familiar with those numbers?

Mr. STRICKLAND. That is correct. I think there is around 6,000, I think, Volts on the road right now, if I am not mistaken, plus or minus.

Mr. KUCINICH. Okay. And have you ever received any reports or accounts of any real-world crashes that would seem to parallel the safety testing that you did internally?

Mr. STRICKLAND. None.

Mr. KUCINICH. Has anyone that you know ever been hurt in a Chevy Volt vehicle and those reports came back to you specifically related to a fire risk?

Mr. STRICKLAND. It is my understanding there has been no injuries or fatalities due to post-fire crashes in Volts.

Mr. KUCINICH. Who on your staff tracks that?

Mr. STRICKLAND. We have an entire office called the Office of Defects Investigation, and that is their responsibility to track all vehicle reports, also early warning reporting data as well through that particular recall office. There is an entire team that does it and they do a fantastic job. They review over 40,000 complaints every year.

Mr. KUCINICH. So you follow the crashes, you follow the accidents, you follow incidents, you follow lawsuits that products—

Mr. STRICKLAND. We have lots of information that comes in to help us make defect investigation decisions. All of those things that you listed, ranking member, we do look at.

Mr. KUCINICH. Would you drive a Chevy Volt?

Mr. STRICKLAND. Not only would I drive it, I would drive my mother, my wife and my baby sister with me along on the ride.

Mr. KUCINICH. And you would have no concerns about the safety of the vehicle?

Mr. STRICKLAND. None.

Mr. KUCINICH. And will you continue to maintain a study of the Volt with respect to your internal circumstances that produced the fire?

Mr. STRICKLAND. We treat all vehicle investigations and all vehicles on the road the same way. While we do thorough investigations, it is our obligation to always watch the fleet. So while this investigation may be closed, we will always be looking at not only the Chevrolet Volt, but any other vehicle in terms of possible risk, safety risk to the public.

Mr. KUCINICH. One final question, Mr. Chairman. You know, you went to great length to describe the circumstances under which you created the fire. Could you tell this subcommittee how likely is it in the real world that those circumstances could actually be replicated as a practical matter?

Mr. STRICKLAND. Well, I will have to get back to you on the record for the specific technical difficulties in recreating the crash in the real world, but it is my understanding it is very, very, very rare.

Mr. KUCINICH. Have you assessed it mathematically?

Mr. STRICKLAND. I am not sure if my staff has or has not done that.

Mr. KUCINICH. Okay. Mr. Chairman, I want to thank you. I think it has been a very useful interchange here. Thank you.

Mr. JORDAN. Again, I will make the quick point though, certainly it is very rare. We understand that. But the fact is it happened, and it happened at a time when you were negotiating CAFE standards. It happened at a time when you were coming before Congress and you didn't tell us about it. That is the point.

So let me just ask you this question: When did you first let the public know that there might be a concern that there was, in fact, an explosion that caused a fire with the battery in the Volt? What was the first date NHTSA let the public know there might be a concern?

Mr. STRICKLAND. My understanding is we first informed the public in November.

Mr. JORDAN. What date?

Mr. STRICKLAND. I have to take a look at my timeline specifically.

Mr. JORDAN. Was it before or after the news report from Bloomberg News came out and talked about this issue?

Mr. STRICKLAND. I believe it was concurrently. But bottom line being our agency actually assisted the reporters in getting that story actually factually correct. So we fully absolutely worked with those folks to make sure that there was proper details and context of the work that was ongoing and what happened back in—

Mr. JORDAN. So you first released the information to the public after you knew there was going to be a news report about it?

Mr. STRICKLAND. We were in a pre-decisional posture—

Mr. JORDAN. The news report took place on November 11th. When did NHTSA officially say something about this concern?

Mr. STRICKLAND. We responded on the 11th, but we were also in a pre-decisional posture. We were close to making those—

Mr. JORDAN. But for the story, when were you going to tell us?

Mr. STRICKLAND. Fairly soon. We were actually in the process of doing that.

Mr. JORDAN. Fairly soon?

Mr. STRICKLAND. Yes.

Mr. JORDAN. Okay. But not until—I mean, the way it worked out is not until a news reporter broke the story?

Mr. STRICKLAND. Mr. Chairman, it is my responsibility—I do not disclose to the public anything that we find that we don't have proof that it is a unreasonable risk to safety.

Mr. JORDAN. Let me ask you one more question before yielding to Ms. Buerkle or Mr. Kelly. Is it customary for the Secretary of Transportation to comment on the safety of a vehicle while there is a formal investigation going on?

Mr. STRICKLAND. The Secretary of Transportation was fully aware of the work that was going on, and he made the statement because it was based on the facts provided to him by this Agency.

Mr. JORDAN. But that is not what I asked. I said does he normally do that? In other investigations, does the Secretary of Transportation, while you have a formal investigation going on, does the Secretary of Transportation make a comment about the safety of

the vehicle? Not any comment, but a thumbs-up comment. Is that a normal procedure for the Secretary of Transportation?

Mr. STRICKLAND. The Secretary, my understanding, was asked a direct question and he gave a direct answer based on facts.

Mr. JORDAN. Has it happened before? Is this the first—

Mr. STRICKLAND. Mr. Chairman, you know the Secretary very well. When somebody asks the Secretary of Transportation a question, he answers. That is what he does.

Mr. JORDAN. Did Mr. LaHood know at the time he was asked the question and he gave the answer that there was a formal investigation going on?

Mr. STRICKLAND. He was very aware of all the work that was undertaken by the Agency at that time—

Mr. JORDAN. So our Secretary of Transportation knew you were investigating this vehicle, was asked the question about the safety of the vehicle, comments and says it is fine, and—

Mr. STRICKLAND. The Secretary knew about the—

Mr. JORDAN. And yet that answer was given 6 weeks before you formally said it was fine.

Mr. STRICKLAND. The Secretary knew of all the facts and the details as to whether they pose an imminent threat—

Mr. JORDAN. Doesn't it seem at least a little unusual?

Mr. STRICKLAND. No, it wasn't unusual. The Secretary is asked questions like that all the time and gives an answer. He did it for Toyota. He did it for Toyota.

Mr. JORDAN. We have a picture of a car, an explosion that took place. You wait 6 months to start an investigation. Two weeks into the investigation, the Secretary of Transportation is asked a question about the safety of the vehicle and he says it is great. Even though you haven't concluded the investigation, and you think that is normal?

Mr. STRICKLAND. The Secretary was aware of all of our pre-fact-finding work and enough to make a conclusion on his own supported by the work of the Agency that there was no imminent risk to Volt drivers regarding this issue, and the Secretary answered directly. He does it all the time.

Mr. JORDAN. Okay.

Mr. KUCINICH. Mr. Chairman, I would suggest that what the witness has done with respect to his own experience is to communicate the manner in which the testing occurred and that in his considered judgment there was no risk to the consumers and that the Secretary of Transportation with his understanding that was communicated through his own questioning determined that what you said was consistent with what he believed to be the facts.

Mr. STRICKLAND. Absolutely.

Mr. KUCINICH. Now, the option we always have, and I would suggest it would be very interesting for this subcommittee, would be to invite Secretary LaHood, if we have any doubts about his position, which I do not, but the chair certainly is free to do that.

Mr. JORDAN. Well, I appreciate the ranking member's response. I would just say that I know the ranking member's commitment to safety. He has an amazing track record.

Mr. KUCINICH. We share that.

Mr. JORDAN. An amazing track record in his years of public service. But I would ask you, Mr. Kucinich, don't you think it is a little strange that when there is a formal investigation going on, that the Secretary of Transportation comments and says the vehicle is safe, it is fine, you can drive it.

Mr. KUCINICH. I would say, first of all, you and I share the concern about safety.

Mr. JORDAN. Don't you think it is a little strange?

Mr. KUCINICH. You and I share the concern about safety. But it may be that the Secretary, and I don't know unless we invite him, so we can only speculate, it may be he was concluding based on information that he received from NHTSA, and it wasn't an off-the-cuff assessment that was just driven by hope, as opposed to material fact.

Mr. JORDAN. I yield 5 minutes to the gentleman from Pennsylvania.

Mr. KELLY. Thank you, Mr. Chairman.

Mr. Strickland, just to be perfectly clear, I do not question why you get up in the morning and what is in your heart. I get up every morning with the same purpose that you do, to serve the American people. Believe me, I was a lot more comfortable in my showroom back in Butler, Pennsylvania, than I am sitting here today, and I am sure you are a lot more comfortable sitting where you sit every day than you are here today.

But the question does become, because, you know, when it comes down to it, perception is reality. And we constantly fight these perceptions that are out there. Whether they are real or not, that really has nothing to do with it, because at the end of the day, it is how did the public perceive that. So when we come down to these things, I have to tell you, I have some slides here, and I have a problem with this. I have been involved in a lot of vehicle launches, and slide 14 that we have, if we can pull that up.

Usually most product launches that I have been to, there are people that show up. And in this one, if you look in the upper left-hand corner, there is Secretary LaHood with EPA Administrator Lisa Jackson. In the middle is President Obama himself. On the right side is Secretary Chu of Energy. Down in the left-hand corner is Labor Secretary Solis and Steny Hoyer. Then you go to the other side, there is Labor Secretary Hilda Solis. So this is an unusual launch.

The reason I bring that up is because of the disconnect between what your Agency does, because your mission statement back in 1970 when the Agency came into existence was to save lives, prevent injuries and reduce traffic-related health care and other economic costs.

So I look at this and I say, you know what, the stakeholders are all in this launch. This is a halo car, not so much for General Motors, but for this administration. This has nothing to do with the Chevy Volt or the Nissan Leaf or anything else. For me it comes down to taxpayer dollars being used to subsidize a product that this administration has decided should go forward.

Believe me, if General Motors thought this was a good investment, they would have launched it themselves many, many years ago and would have said you know what, we can make money with

this, because their real commitment is to the shareholders and the stakeholders in the company. Right now the government has a big hand in that, do they not?

So, I think we can agree that there is a mutual benefit here for not only, not only the administration, but General Motors, but on a very, very small scale. Because when you look at the number of cars we build every year and we sell every year, this is not going to have a dramatic impact on a carbon footprint or the sales of General Motors products.

I go back to I sell a lot of Chevy Cruzes. Do you know how many taxpayer dollars are subsidizing that car? None. You know why? The market loves it. They love it. It is affordable, it is economical, it is safe. It is everything that the American public wants. That is why we are the leaders in the industry. We have always been able to do that.

So I come down to these things. Again, I don't question what is in your heart. I would never question your integrity. But when you look at these timelines, as you go back and forth, every once in awhile there may be something, you say, well, that was kind of a coincidence. But when it is time after time after time after time, and what did you know and when did you know it and when did you share it with General Motors and when did you share it with the public, and when all these people are weighing in, and certainly they show up for the launch, and I am sure they stayed for the lunch, but you have to understand that the American public is demanding from us today, more than anything else, integrity. Say what you mean, mean what you say.

If you are truly protecting our lives and protecting our best interests, if you are looking at all the costs involved, both health care and economic, then why so long? Why so long? I think that is what the chairman keeps referencing, and I think Mr. Kucinich feels the same way, and we all do. We all do.

So it is hard for me to sit back and look at this and think that, my gosh, there was a rush to judgment with Toyota. I have friends that sell Toyotas. And I have watched this Congress bring members of the former GM board in and excoriate them for bad business practices. Now, keep in mind, this is an outfit that is running \$15 trillion in the red, and they are telling General Motors, you guys don't know how to run your business. They say, okay, thanks, I think if I am going to hire somebody, I probably won't go to you guys.

But we bring Toyota in, we embarrass them in front of the world. We roll this out very early. When did we go to Toyota and say, listen, you know what? We have run these tests. Now, it took us 6 months to let the public know there is an acceleration problem. We didn't do that, did we?

I mean, there was a real timeline problem here. And when you compare the two, I am not talking about General Motors and Toyota, I am talking about electric vehicles, whether it is the Chevrolet Volt or the Nissan Leaf or anything else that is out there, if these cars are so great and so marketable, why could do we have to subsidize them so heavily?

In my State of Pennsylvania, in addition to \$7,500 tax credit from the Federal Government, Pennsylvania throws another \$3,500

at this car. That is \$11,000. I have sold a lot of cars in my lifetime, and the only time you put a SPIF on a car is when it won't move on its own.

Why are we using taxpayer dollars to do this? Certainly if the corporate average fuel economy doesn't have anything to do with this, I don't know how old you are, but I go back to the dates they actually launched it. It was about dependence on foreign oil. It had nothing to do with carbon footprint. You didn't have to get the DOD involved in this to come up with the idea that, you know what, if you build a car that gets better gas mileage, the people that actually pay for these cars and buy them and have to put fuel in them will probably go to a vehicle that, in the long run, is cheaper to run. General Motors has done it all our lives. They have done it since day one. That is why we have always led the world.

But I got to tell you, when you look at this, I really am concerned, and I mean this sincerely. Your Agency dropped the ball on this, sir. And when I look at the dialog back and forth at about when this stuff came to light, there is a timeline that needed to be addressed. And to go back to your own mission statement, stabilize and prevent injuries and reduce traffic-related, health care and other economic costs, I think there is also another investment here, and that is the one that took precedence over what your initial mission statement is.

So I don't know that you can answer any of those questions. I don't know it is so much a question as a statement. Because we are both members of the same organization. We are trying to do the best thing for the people that we represent.

Mr. KUCINICH. Would my friend yield?

Mr. KELLY. Yes, sir.

Mr. KUCINICH. You may have been out of the room when I made this statement, and I just want to make sure that the record is clear. I did make the observation, and it seemed like a long time, but what I tried to do in the course of the questioning is to give Mr. Strickland the opportunity to testify whether there was a valid reason for so much time to pass, and I think that, in my view, he did effectively make a case why it took so long. But I just want to make sure—

Mr. KELLY. Will the gentleman yield?

Mr. KUCINICH. Sure, of course.

Mr. KELLY. Were the same standards used when we had the acceleration problems with the Toyota?

Mr. KUCINICH. I think it would be good to ask Mr. Strickland that question.

Mr. STRICKLAND. Every investigation is different, every investigation has different facts and every investigation has different needs in terms of our pre-fact-finding work at the technical level.

Mr. Kelly, I appreciate the question and I appreciate your statement, that you are absolutely right. The American people send folks like me their faith to make sure that the decisions that this Agency makes are the right ones, and our process is one that we have to prove an unreasonable risk to safety before we can take any formal action against an auto maker for them to remedy that particular problem.

Mr. JORDAN. Will the gentleman yield? I just want to be clear, Mr. Strickland. Your testimony is each investigation is different and unique, is that correct?

Mr. STRICKLAND. They are. Yes.

Mr. JORDAN. So you are saying that with the Volt, the General Motors vehicle, you took a different tact, a different approach than you did with the Toyota vehicle?

Mr. STRICKLAND. Mr. Jordan, I meant that technically. Every investigation at the technical level is a different problem. I was trying to clarify that.

Mr. JORDAN. Let's be clear. When you testified just a few seconds ago, you said each investigation is unique. So it is truthful, it is factual that you did a different type of approach with the Volt and General Motors than you did with Toyota?

Mr. STRICKLAND. We take different technical approaches because they are different problems. We took the same process—the process that—

Mr. JORDAN. The fact is the taxpayer-subsidized auto manufacturer got a different approach than the non-taxpayer funded auto manufacturer. That is what you said.

Mr. STRICKLAND. No. Mr. Jordan, I said at the technical level every investigation is different; different technologies, different problems, different issues, different levels of how much we know about a particular technology pipeline. But we treat, and I want to underscore this, we treat every manufacturer the same. We hold them accountable for the safety every single day—

Mr. JORDAN. There is no way that statement can jive with what you just said 2 minutes ago. You said each investigation is unique and different, and now you are saying we treat each manufacturer the same. Did you wait 6 months before you told the public on concerns with other manufacturers? I don't think so. So that is the concern the American taxpayer has. You have just stated it right here in the last 2 minutes. That is the concern the American taxpayer has.

Mr. STRICKLAND. The American taxpayer, Mr. Jordan, expects us to do the right job every single time in finding safety defects, and they want to make sure that when we make a decision that a reasonable risk to safety exists, that we act proactively.

It does not serve the American people with the number of complaints we get every single year—Mr. Jordan, what you have basically outlined in this situation would mean that this Agency would have to outline 40,000 defect investigations every single year to treat everything the same.

Mr. JORDAN. No, I am not outlining anything. You answered Mr. Kelly's and Mr. Kucinich's questioning by saying each investigation is unique and different, and all I am doing is saying so GM got treated different than Toyota did.

Mr. STRICKLAND. Mr. Jordan, I am not going to get my words minced. In terms of process, we treat every manufacturer the same. At the technical level, we have to take every investigation with the same set of facts, and there is different technical issues, and we treat those uniquely, because different cars have different problems.

Mr. JORDAN. The gentleman from Cleveland is recognized.



Mr. KUCINICH. I just want to make sure to follow up on what the chairman said. Did you pull any punches with GM because they are taxpayer-subsidized, or did you go into the science to try to see if there was any way you could replicate a fire?

Mr. STRICKLAND. We pulled no punches. We treat this investigation the way we treat every investigation. If we have a question—

Mr. KUCINICH. So GM is not going to get a pass because there is a subsidy.

Mr. STRICKLAND. No, absolutely not. The core of what we do every day is driven by data, science and engineering.

Mr. KUCINICH. And the data and the science was different because you were studying in Toyota something different in terms of acceleration, as opposed to with the Volt, you were trying to replicate to see whether or not there was a fire that could be created under laboratory circumstances.

Mr. STRICKLAND. That is correct, ranking member.

Mr. KUCINICH. Thanks, Mr. Chairman. I appreciate it.

Mr. JORDAN. I would just point out too, when the investigation of Toyota took place, we weren't negotiating the CAFE standards. We didn't have administration officials going out to Toyota plants taking pictures in the cars, talking about the need to do certain things and have certain kinds of vehicle sold. We didn't have this huge investment in green technology.

So, again, I come back to what the Administrator said. That is the point here. He is under oath. He is testifying. He said that they are different and unique investigations each time, and I just asked a simple question, was GM treated different than Toyota? And based on what this Administrator said, that, in fact, was the case.

Mr. KUCINICH. My friend, he spoke to the relevant underlying technical facts of what they had to look at. There are different problems. That is how I took it. Is that what you meant?

Mr. STRICKLAND. That is what I meant, ranking member.

Mr. JORDAN. I am sorry, I took Mr. Kelly's time. Mr. Kelly, you have a few minutes left and then we will move to the next one.

Mr. KELLY. Mr. Strickland, let me just say something to you, okay?

Mr. STRICKLAND. Absolutely.

Mr. KELLY. There is a difference between the two of us. You were actually appointed and I was elected.

Mr. STRICKLAND. That is true.

Mr. KELLY. And Mr. Akerson is going to be here pretty soon. You are getting a little bit of a flavor of when I go back home and we have town hall meetings what it is like. So as much as it may seem like it is an easy thing, that we can actually walk and chew gum at the same time, I am going to tell you, people ask you questions that are really trying to get to the heart of the problem. And I do want to—again, this is not to attack you personally. This is not about anybody's personality. This is about performance. And this is a standard that we have to be held to, both you and I, for the American public.

So as we go forward in this, I just hope we are understanding this. And I am going to show you something, just so you know. Because, you know, most cars are 12 volt operation. You know this

is a 300 volt and also has a 12 volt. Now, do you know, I have techs that have been trained in this, because the concern was always about safety. Do you know what our guys do? Do you know what are some of the essential tools?

One of the things—I brought some gloves today, okay. The first thing you got to put on is this cloth glove when you're going to disconnect or unhook the battery, okay. Then the next thing you got to do is—this keeps the moisture down, which, you know, you don't want to have your hands wet when you're working around electricity, especially 300 volts. Then you got to put on the rubber glove. Then on top of that, you've got to put on a leather glove. So this is a three-prong process. And this is all designed to protect the technicians that are working on this car. And I don't know that you know this, I don't know if you've seen this procedure before. There was one other essential tool that was debated early on. Do you know what it was.

Mr. STRICKLAND. No, sir.

Mr. KELLY. It was an insulated shepherd's hook. Now, that's the same hook that the Lord refers to a lot about the Good Shepherd pulling one of his flock back out of a problem it was in. So if you're a technician and you're working on a Volt and you happen to hit a live wire, 300 volts which does have a little bit of effect on your ability to sustain life, you grab the insulated shepherd's hook and you pull your comrade off the car.

So I want to make sure that we understand where we're going with this. And the responsibility that you have to the American public and the responsibility that we all have to the American public is the same thing: to protect them from health care costs or economic costs related from an injury.

So I'm going to take off the gloves. And I don't dislike you. I admire you for what you're doing. I want you to travel with me sometime back in the district and meet some of the folks that I represent.

Mr. STRICKLAND. I would love to.

Mr. KELLY. As we go forward, there is no doubt that we're going to continue to look at this, but as Mr. Jordan said, perception is reality. We have created now a question of trust, not only here in this body, but also with your agency, because now the American people got to start to wonder. So why did they do it, what happened, when did it happen, when did they let General Motors know about it, and was it in the best interest of the public or was it in the best interest of the administration?

Mr. KUCINICH. Will my friend yield for 10 seconds?

Mr. KELLY. I will, Mr. Kucinich.

Mr. KUCINICH. I would say that we're fortunate to have you on this committee because your expertise in automotive is wonderful to have here. But I would also submit that the question isn't whether GM was dealing with the kind of gloves you're talking about, but whether or not NHTSA treated GM with kid gloves.

Mr. KELLY. And I will tell you this. It's a matter, Mr. Kucinich, of protecting people from harm, and in this case I think we're protecting the administration more than we are the American public.

Mr. KUCINICH. You and I agree on the safety issues.

Mr. KELLY. And we both like each other. I know that's a hard thing for most people to understand. And we don't fight around here all the time.

Mr. JORDAN. The ranking member of the full committee has been extremely patient. I want to give him as much time as the gentleman. Do you want 10 minutes?

Mr. CUMMINGS. I probably won't need that much, but thank you very much.

Mr. JORDAN. The gentleman from Maryland is recognized.

Mr. CUMMINGS. Thank you very much. First of all, Mr. Strickland, Administrator Strickland, thank you very much for your testimony this morning. When I listened to your testimony and I listened to yesterday's comments from the GM head, Mr. Akerson, and I combine what I've heard this morning with what he had to say, I have some simple words for you, and it is that I believe you.

Mr. STRICKLAND. Thank you.

Mr. CUMMINGS. A lot of times when we look at circumstances from this vantage point we make judgment calls, but we're not in your shoes. And as a trial lawyer for many years I often saw facts that appeared to say one thing but when the story was told and the circumstances were explained they said a whole other thing.

I think part of the problem here this morning is that as I've listened very carefully, the timeline in getting out information at certain points seems a bit shaky. And as I listened to your explanation in response to one of Mr. Kucinich's questions, I am convinced that apparently you did things in a way that it should have been done. But the problem is this. Somebody over there just said, trust is so important. And there is a book that I recommend to all my proteges that's called *The Speed of Trust*. And it talks about how important it is that when in any relationship, that you trust a person, because it allows the relationship to move faster; in other words, get things done. But there are two kinds of trust. There's trust with regard to integrity and then there's trust with regard to competence. In other words, I would not want my barber cutting my hair.

So I think, you know—and I don't want us to get confused here. You've been sworn here today. But what has happened here, and whether you know it or not, is your integrity has been questioned, your honesty has been questioned. And then the question becomes, what is that all about?

Now, I don't believe this hearing is about safety. I wish I did. I think that GM has come up with a brilliant idea to come up with a great product. It's had some problems, but there is this allegation out there that some kind of way President Obama or somebody from the Obama administration came to NHTSA and said, don't put out certain information because we want GM to be successful; or, they have conflated the CAFE standards with all of this—which is ridiculous.

So I'm going to ask you a few questions that I want you to clear up some things. Because see what happens here is that, Mr. Strickland, our lives are short and damage can be done to somebody sitting in that chair and they don't even know it's been done. Or your wife will be looking at you on television tonight and saying, you

know, they really made you look bad. Well, I just want you to know, calm down, you don't look bad.

Mr. STRICKLAND. Thank you, sir.

Mr. CUMMINGS. But I've got to ask you this. You know there's been some discussion with regard to—you know, when you were here before, and there was discussion that you had at the October fuel economy standards hearing regarding safety focused on—and that focused on the impact of weight and mass reduction; do you remember that?

Mr. STRICKLAND. Yes, sir.

Mr. CUMMINGS. And I want to ask you this. Do electric vehicle technologies have impact on weight and mass reduction of vehicles?

Mr. STRICKLAND. No.

Mr. CUMMINGS. So the discussion on safety at the October hearing was not directly relevant to the battery fires that occurred 3 weeks after a series of extreme tests; is that right?

Mr. STRICKLAND. That is correct, sir.

Mr. CUMMINGS. So the majority is attempting to conflate two separate issues. Mr. Strickland, how does the safety of electric vehicles compare to conventional fuel-based vehicles?

Mr. STRICKLAND. There is no differential in risk between those two systems. They have different attributes that have to be taken into account, but there's no different risk between electric vehicles and gasoline-powered vehicles.

Mr. CUMMINGS. Does the fire of a Chevy Volt, weeks following extreme crash testing in the NHTSA lab, justify Chairman Issa's characterization of Chevy's Volt as a, "fiery failure?"

Mr. STRICKLAND. No, absolutely not. It was an anomalous result that we were not expecting and GM wasn't expecting either, and we took a lot of time to figure out the root cause, which we did. And we feel that the remedy that GM has proposed would deal with those issues going forward.

Mr. CUMMINGS. And so we've got a situation. I want you to understand how this stuff works, okay, because I've been around here awhile, 16 years. There are some employees that are going to watch this at GM tonight, if they're not watching it right now, and they care about this vehicle. They are people who, if it were not for the good leadership of Mr. Ackerman and the help that they got from the government, would be out of a job. They take pride in this vehicle. And so we're having this discussion today, and I don't want the word going out—see, you can have collateral damage in these hearings, and the collateral damage could be that folk go out and say, I'm not going to go buy a Volt. They catch a little bit of information, right? Not going to buy a Volt. So therefore a car that is safe now—and it is safe; is that right?

Mr. STRICKLAND. Absolutely.

Mr. CUMMINGS. You all just released a report, what, Friday?

Mr. STRICKLAND. We closed our investigation last week, that's correct.

Mr. CUMMINGS. So I want to be clear that they can buy a Volt, and as you said—you didn't say these words, but you would be comfortable with your wife, your children, la-de-da-de and everybody riding in it; is that right?

Mr. STRICKLAND. Absolutely.

Mr. CUMMINGS. Because see, you know, we run around here and we complain about jobs and here we—and we complain about what we're failing to do. But here we have used some of the best minds to create one of the best vehicles, one that's selling off the charts. We've got GM now leading the world, and this hearing in and of itself could cause damage to all of that.

So I don't want to—believe me, I want to make sure that the vehicle is safe; that's why I want you to be clear that safety should be all of our number one concern, and I know it's yours. But I also want the word to go out—I don't want this collateral damage, because that collateral damage is going to cost somebody, a supplier in my district perhaps, or a supplier in Mr. Jordan's district, to perhaps have to close their doors. But more importantly, it sends a message to hardworking Americans who are producing a great product and a product that will allow GM to perhaps continue to lead the world with regard to sales of vehicles.

And so I just—you know, I want you to just go back just 1 second, I've got 1 minute left, and give us—and I don't want—see, I don't want these—see, what they're going to do, I've been around here a long time, they're going to keep hammering at you. I'm just telling you that's what they're going to do. I can go to lunch and come back and they're going to still be beating up on you, because they want to make a point. And do you know what, sometimes the point ain't even there, it's not there. They're swatting, we got a point, I want to make a point.

And I want you to use your next 23 seconds that's left to assure us that although it may have appeared—the timeline may have appeared not to be all that we would want it to be, that it was. Can you explain that to us again?

Mr. STRICKLAND. Mr. Cummings, thank you so much for the opportunity. Our work was independent. We have a statutory obligation to protect the American public from a reasonable risk of safety caused by vehicle defects. Our obligation is to make sure the American public gets home safely every time.

It took us 6 months in order to figure out not only whether the Volt was involved, what specifically caused the fire and whether there was an imminent risk, and then if there was a defect that needed to be addressed. It took 6 months of a lot of engineers not only in my agency but in other agencies across government to do that. At no time was there any notion of any other part of government coming to me or coming to any of my staff saying that we should do nothing other than our job, and that's what we did.

Mr. CUMMINGS. Thank you very much. Thank you, Mr. Chairman.

Mr. JORDAN. Yes, thank you. I would just point out we're not trying to make a point; the point is the point, the timeline is the timeline, the facts are the facts, and that's exactly what this hearing is about. The hearing is not the problem, the problem is the problem. That's why we have the hearing.

Mr. CUMMINGS. The problem is the problem?

Mr. JORDAN. Yeah. We're here because a vehicle exploded in a timeline and this gentleman did not give information to the committee when he could have back in October.

Mr. CUMMINGS. That is right but—will the gentleman yield for just a second?

Mr. JORDAN. All I'm saying is the facts are the facts.

Mr. CUMMINGS. The facts are the facts.

Mr. JORDAN. You're saying we're swatting at things, we're appearing, we're trying, we keep them here until—we've got our last questioner right now. That's not what this hearing is about and that's not the points we're making.

Mr. CUMMINGS. Come on, Mr. Chairman, come on now. I've been around a long time. This hearing is not about safety, this hearing is about an attack.

Mr. JORDAN. No, it's not.

Mr. CUMMINGS. Okay.

Mr. JORDAN. We're getting to the facts.

Mr. CUMMINGS. All right. Fine.

Mr. JORDAN. The gentlelady from New York is recognized, the vice chair.

Ms. BUERKLE. Thank you, Mr. Chairman. I, unlike the ranking member, Mr. Cummings, I am new here in Washington. And Mr. Strickland, thank you very much for being here.

Mr. STRICKLAND. Thank you. Nice seeing you again.

Ms. BUERKLE. Nice to see you, too. We've had other conversations about other issues, but today I would like to talk about—and the ranking member brought it up—trust based on integrity or based on competence. I'm concerned with your role and NHTSA's role with regards to competence and making sure that the technicians and the folks who work there know exactly what the issues are and what to do. And in this instance it really is the issue of the lithium-ion battery. I mean, that really isn't how one handles that and how one treats that. That really is kind of the essence of what we're talking about here for safety.

You know, I think we should all take this opportunity. We learn from mistakes, we learn from shortcomings, we look at situations that we didn't like the way they worked out and we figure out what we did wrong and we move on. And so I think that's what a hearing like this is about: How do we prevent this from happening again?

I guess my question to you is, were the automobile, the safety engineers, aware of the dangers posed by the damaged lithium-ion battery?

Mr. STRICKLAND. At what point, Madam Chairwoman?

Ms. BUERKLE. After the crash occurred on the 12th, May 12th. Then the car sat after the crash.

Mr. STRICKLAND. Okay, I understand. Thank you, vice chairman, for clarifying that. The car was put through a normal New Car Assessment Program side impact test. When we finish with those particular tests and get the results, the car, the hull, is then sold for salvage. That car was stored in the normal process in the yard, thinking that there were going to be no issues, and it wasn't observed at all until those 3 weeks later, on June 6th, when the staff at MGA came back and noticed the burnt hulls that were discovered.

So no one had an expectation that the particular fire incident that happened on June 6th would be precipitated from the May 12th test.

Ms. BUERKLE. And I guess that gets to the essence of my question. These batteries, when it was traumatized, when you had the crash test on May 12th, it then began to leak and there was evidence that there was a leaking orange fluid. And my concern is that the safety administrators didn't have the wherewithal or the knowledge that this leaking battery would cause a problem, given that battery and the energy behind it and the dangers.

And so my question to you is: Why was that car stored with other cars, why wasn't that battery drained, why wasn't that handled—why wasn't it handled as if someone understood the dangers with regards to this lithium-ion battery?

Mr. STRICKLAND. Our engineers and the test facility engineers actually know of the dangers and the issues regarding lithium-ion in terms of how much energy they store. In all of the crash tests up until that particular point, the ones that are taken by the National Highway Traffic Safety Administration, and my understanding of those undertaken by GM, there has never been an issue where post crash there was actually a fire issue. So therefore there was no protocol either by National Highway Traffic Safety Administration or GM externally at that particular time to deal with batteries post crash. Because this is a new technology and we are always learning, this is something frankly that we addressed and we looked at and we took the proper processes once we recognized that this could be an issue.

Ms. BUERKLE. And that, sir, with all due respect, is our concern, or my concern. The fact that if it was a regular engine you would have drained—after an accident, you would have drained the gasoline out of the tank to avoid any—and in this instance, the fact that the fire did occur because the fluid wasn't drained, there were no protocols, therefore there were no protocols given to GM, and that's a problem. Because in this instance without the protocols, without giving the protocols to GM, how do you inform them of what happened? I mean that's the purpose of—you do. And obviously this could happen—it could happen on the road and you would have a similar situation. So that's the concern. There were no protocols, GM wasn't informed, and it appears—and we talk about appearance being reality—that the administrators, the safety administrators, didn't have the knowledge of this battery and the danger that this leaking fluid out of it could cause and did cause this fire. I believe I'm out of time, and I yield back.

Mr. STRICKLAND. Actually, I would like to respond to that.

Mr. JORDAN. Okay. Quickly. That would be great.

Mr. STRICKLAND. And I'll be very brief. Am I satisfied for the fact of what we as an agency or what the manufacturers did at the time in terms of post crash protocols for lithium-ion batteries? No. That's the reason why we addressed it. But there is also no reason to think that there was an issue with the protocols because of the processes that we went through and are learning over the years about these systems. Battery intrusion we've always known is a situation that we want to avoid. In this particular situation, in an anomalous way the battery was intruded upon, and then we discov-

ered a list of events where we know we needed to address lithium-ion batteries post crash, which we did, with the National Fire Protection Association and the Department of Energy.

So, Madam Chairwoman—Vice Chairwoman, we absolutely want to make sure that we protect those people not in post crash, but the second responders, the storage facilities, all those other things. But let me be perfectly clear. We have been working on lithium-ion high-voltage battery systems for several years. We began our work on safety protocols in a research plan in 2010 specifically, well before any of these issues came to the fore, because we recognize that there's always going to be learning going forward in how we deal with these safety systems. It's a priority and we take our job very seriously in that way.

Mr. JORDAN. Thank you, Administrator. We want to get to the chairman of the full committee. And we promise this will be your last 5 minutes because we do want to get to Mr. Akerson before we have votes. So the chairman of the committee, Mr. Issa, is recognized.

Mr. ISSA. Thank you, Mr. Chairman. And perhaps going last gives me one advantage. Administrator Strickland, this is about safety, this is about government's role. This committee under the Republicans and Democratic leaders has taken on auto companies and the Transportation Safety Administration overall. We did it under Toyota and we did it in a very, very bipartisan fashion. So understand, you're here today because my first hybrid electric car came with me to Washington. The factory that blew up and left the world without enough lithium-ion batteries occurred while I was still a CEO in the electronics industry. How dare you tell us you're still developing protocols while the President is sitting in an electric car? And it's not General Motors' first electric car, it's not the first electric car that has been put on the road.

So one of the reasons you're here today is you're behind the power curve. This vehicle's picture was not released until today. I've got to tell you, if you were against electric cars, if you were not trying to promote them perhaps ahead of some of the expertise you have for safety, this picture would have been splashed 20 minutes after it burned. The fact is your administration is not up to speed to maintain safety in an electric age.

Now, I grew up, like many people on both sides of the dais, seeing exposes of various trucks and cars—and I won't name the brands—exploding on television. It's not new that you can have catastrophic events in the case of an accident. That's one of the reasons you have the test protocol.

I'm deeply concerned today about one major part of this, the most important part. You didn't know what you were doing, an anomaly happened, it happened when there were less than 400,000 Volts out there, didn't it? Didn't it?

Mr. STRICKLAND. I don't know the stated charge particularly.

Mr. ISSA. Well, I do. By July there were less than 4,000, and we'll have the CEO here in a moment. Today there are twice as many out there. You didn't even inform and deal with the problem, either to the public or to General Motors or to this committee, when people were here in front of this committee during the intervening period until Bloomberg media outed you.



Now, how do you answer the question of transparency, accountability and trust today? You said you would put your mother, your grandmother, all these people in a car you don't own. You put the President of the United States in the car, you put the Secretary of Transportation in the car. How dare you not have both the public and this committee know what you knew in a timely fashion? How do you answer that accusation, which is the safety charge that you guys screwed up on by keeping a secret?

Mr. STRICKLAND. Mr. Chairman, I will point to the timeline, which is very detailed as to the work that was undertaken by the agency along with the Department of Energy and the Department of Defense.

Mr. ISSA. The car blew up 3 weeks after it was hit, unexplained, right? Part of the timeline.

Mr. STRICKLAND. That's correct.

Mr. ISSA. Three minutes after that 3-week event, why was it that executives at General Motors weren't flying in well informed? Why is it that one of the hallmark projects of this administration that higher-ups, including Secretary LaHood, including if necessary a briefing sent to someone that would try to get it to the President, why wasn't that as important?

Mr. STRICKLAND. GM was notified as soon as we were notified, on June 6th. And it is our responsibility to figure out what is wrong with the vehicle, even the vehicle that was at cause. At the point that we saw, Mr. Chairman, we didn't even know whether the Volt was at fault. So we had to build from the ground up which vehicle was responsible; or even if it was a vehicle, it could have been an arsonist as far as we knew.

Then once we isolated it to the Volt, it took every moment up until we were able to close the investigation to do the engineering work for us to come to the decision on whether or not the Volt posed an unreasonable risk to safety. And until we have that agency decision made, it is irresponsible, frankly illegal, for us to go forward and tell the American public that there is something wrong with a car when we don't know what it is or not. It took us that time to figure it out. So there was never any notion of us not being transparent, Mr. Chairman. We were doing our jobs.

Mr. ISSA. Well, I hear you. I don't believe you. The fact is today, coming to this hearing, why weren't these pictures released? Oh, I'm sorry, that's an embarrassment. But what part of transparency gives you an obligation to be forward-looking?

It's great that everyone is still promoting the Volt. I go to every CES show and every other show and I see all kinds of special cup holder battery chargers in the Volt. I see all kinds of nice things. The fact is the American public wasn't interested in buying the car in large quantity, even with incentives. Now we have a safety question, and it's not a safety question about the Volt, it's about trust of your agency. Can we trust you in this and every other area to not be selective and basically overly cautious?

This was a new automobile, something catastrophic happened, and you're telling me it took months to get to where you had a confidence level that, "you had a problem." It sounds to me like you had to make sure that you could absolutely explain this as an anomaly to save the whole reputation of the Volt and electric cars.

And you started off saying, we've got to prove that this is safe and we're not going to stop until we fully proved it and documented it. You certainly had concerns.

And I'm going to share one thing in closing. Look, I was an automobile parts manufacturer, I had a recall, I've been down the road of anomaly along with Circuit City, one of my major customers at the time, and you can always say that because they're no longer around to complain one way or the other.

The fact is, we were under the scrutiny from a national level from the moment the agency was informed, under the scrutiny. Ultimately we did a recall on something where there was no problem in the vehicle, but we explained in depth how somebody could make a mistake in installation on a limited number of cars. I'm very familiar with how fast you can act, even if you don't know all the facts but you know something bad happened.

Now, with the chairman's indulgence, please, you've got the last word.

Mr. STRICKLAND. Mr. Chairman, the National Highway Traffic Safety Administration is not in the reputation business, we're in the safety business. I am not concerned about the reputation of any manufacturer if they put a product out that that poses unreasonable risk to safety. We work independently to prove that every single day.

Now, I appreciate your comparison with your experience with Circuit City and your company, but we have a statutory obligation under the Safety Act that we have to fulfill before we move forward in pressing a manufacturer for a mandatory recall. It would be improper for us to do anything different than that process. So it is a very careful and deliberate process. I wish it could be instantaneous. It takes technical work, engineering work, and a lot of science to be able to figure that out to a point of certainty.

In those 6 months it took every second for my engineers at NHTSA to be able to come to that conclusion and give us the information for an agency decision and a recommendation of the Secretary of Transportation.

So we are as transparent an agency as we find in government. We have a data base which is filled with tens of thousands of complaints every single year of vehicle defects. We work very hard. We've reduced fatalities in America by 25 percent since 2006. We take every single crash that injures or kills someone with the highest level of sincerity and severity. And, Mr. Chairman, I appreciate the opportunity to explain that.

Mr. ISSA. Thank you. Mr. Chairman, working with your subcommittee, I would ask that we continue the process of verifying what has just been said; essentially how often it takes 6 months when there's a known catastrophic event. Thank you, Mr. Chairman.

Mr. JORDAN. Thank you. Administrator, we want to thank you for your time. And we do want to get to our next witness as quickly as we can. If the staff would quickly get ready for Panel II, we want to get Mr. Akerson started because we are going to have votes sometime in the next half an hour and we want the testimony in time for questioning of our second witness. Thank you, Administrator.

Mr. STRICKLAND. Thank you, Chairman.

Mr. JORDAN. We're pleased to have Mr. Dan Akerson, the CEO of General Motors with us. And Mr. Akerson, you know the routine here. We've got to do the swearing in real quick, then you get your 5 minutes and we'll go from there.

So if you'll raise your right hand.

[Witness sworn.]

Mr. JORDAN. Let the record show the witness answered in the affirmative. And again, Mr. Akerson, I know you were here for the first panel, so you get 5 minutes. And we're pretty lenient with that time, as you saw. So go right ahead and then we'll get to questioning and hopefully get this done before we have to go to vote.

**STATEMENT OF DANIEL F. AKERSON, CHAIRMAN AND CEO,  
GENERAL MOTORS**

Mr. AKERSON. Good morning. Thank you—

Mr. JORDAN. I did the same thing. Try the mic there if you would there. And just pull it close. You should have the red light there. There you go.

Mr. AKERSON. Good morning. Thank you, Chairman Jordan, Ranking Members Cummings and Kucinich. I welcome the opportunity to testify today and stand behind a car that all of us at General Motors are proud of.

Please allow me to start with some Volt history. GM unveiled the Volt concept at the January 2007 Detroit Auto Show. In June 2008. The old GM's board of directors approved the Volt project for production well before the bankruptcy and the infusion of government funds.

The battery story goes back much farther in the early 1990's with GM's extensive work on the EV1. Drawing on that experience, we engineered the Volt to be a winner on the road and in customer's hearts. Today I'm proud to say that the Volt is performing exactly as we engineered it. In its first year the Volt garnered the triple crown of industry awards; Motor Trend Car of the Year, Automobile Magazine's Automobile of the Year, and the North American Car of the Year.

Volt is among the safest cars on the road, earning five stars for occupant safety and a top safety pick with the Insurance Institute for Highway Safety. And 93 percent of Volt owners report the highest customer satisfaction with their car, more than any other vehicle, and the highest ever recorded in the industry.

Beyond the accolades, the Volt's importance to GM and our country's long-term prospects is far-reaching. We engineered the Volt to be the only EV that you can drive across town or across the country without fear of being stranded when the battery is drained. You can go 35 miles, in some cases much more, on a single charge, which for 80 percent of American drivers is their total driving range. After that, a small gas engine extends your range to 375 miles, roughly, before you have to recharge or refill.

But the Volt—but if Volt—if the Volt message boards are any indications, there's some real one-upmanship going on out there. Customers were reporting going months and thousands of miles without stopping once at a gas pump. No other EV can do this or generate that much passion with its drivers.

We engineered the Volt to give drivers a choice to use energy produced in the United States rather than from oil from places that may not always put America's best interests first. We engineered the Volt to show the world what great vehicles we make at General Motors.

Unfortunately, there's one thing we did not engineer. Although we loaded the Volt with state-of-the-art safety features, we did not engineer the Volt to be a political punching bag. And sadly, that is what it's become. For all the loose talk about fires, we are here today because tests by regulators resulted in a battery fire under lab conditions that no driver would experience in the real world. In fact, Volt customers have driven over 25 million miles without a similar—single similar incident.

In one test the fire occurred 7 days after a simulated crash. In another it took 3 weeks after the test; not 3 minutes, not 3 hours, not 3 days, 3 weeks. Based on those test results, did we think there was an imminent safety risk? No. Or as one customer put it, if they couldn't cut him out of a vehicle in 2 or 3 weeks, he had a bigger problem to worry about.

However, given those test results, GM had a choice in how it would react. It was an easy call. We put our customers first. We moved fast and with great transparency to engineer a solution. We contacted every Volt owner and offered them a loaner car until the issue was settled. And if that wasn't enough, we offered to buy the car back. We assembled a team of engineers who worked nonstop to develop a modest enhancement to the battery system to address the issue. We'll begin adding that enhancement on the production line and in customer cars in a few weeks. And in doing so, we took a five-star-rated vehicle and made it even safer.

Nonetheless, these events have cast an undeserved damaging light on a promising new technology that we're exporting around the world right from Detroit. As the Wall Street Journal wrote in its Volt review, we should suspend our rancor and savor a little American pride. A bunch of midwestern engineers in bad hair cuts and cheap wrist watches just out-engineered every other car company on the planet.

The Volt is safe, it's a marvelous machine, it represents so much about what is right about General Motors and, frankly, about American ingenuity in manufacturing. I look forward to taking your questions. Thank you.

[The prepared statement of Mr. Akerson follows:]

**Testimony of Daniel F. Akerson  
Chairman and Chief Executive Officer, General Motors Company**

**United States House of Representatives  
Oversight and Government Reform Subcommittee on Regulatory Affairs,  
Stimulus Oversight and Government Spending**

**January 25, 2012**

Good morning and thank you Chairman Issa, Chairman Jordan and Ranking Members Cummings and Kucinich. I welcome the opportunity to testify today and stand behind a car that all of us at GM are proud of.

Let's start with a brief history of the Chevrolet Volt.

The Volt is an electric vehicle with extended-range capability, designed to run 35 miles, and in some cases much more, on electricity without using gasoline or producing tailpipe emissions. When the Volt's lithium-ion battery is depleted of energy, a gas-powered engine-generator seamlessly engages to extend the total driving range to about 375 miles before refueling or stopping to recharge the battery.

The idea of extended-range capability was born out of consumer research, which identified a very real phenomenon in the market. We called it "range anxiety," or the fear that customers had that they would run out of battery charge and be stranded by the roadside.

We set upon a battery range of up to 35 to 40 miles because most available driving data and consumer patterns indicated 80% of people drive up to 40 miles, or less, per day as part of their daily work week routine.

With that vision in mind, GM announced the concept of the extended range electric propulsion system at the LA Auto Show in November 2006 and unveiled the Volt concept car in Detroit two months later.

GM's decision was not based on any clairvoyant power to correctly predict the 2008 Presidential election, but was a result of post-Hurricane Katrina \$4/gallon gas and a market trend that showed consumers were placing a higher priority on fuel economy. We were looking for some bold statement to say to consumers that we, too, could deliver the engineering goods to help wean the country off imported oil...and more importantly, reclaim our position as a technology leader.

The Volt was approved by the "old GM's" Board of Directors in June 2008. A more aerodynamic production Volt was unveiled in time for GM's Centennial in October 2008.

Running parallel to this timeline, most of the government subsidies and tax credits to support the country's nascent electric vehicle market were created in 2005 and became available in 2006 – again, well before the current Administration.

But the engineering story goes back even further to the early 1990's with GM's battery research, development and engineering on the EV1.

Drawing on that experience, we engineered the Volt to be many things.

We engineered the Volt to be among the safest vehicles on the road – earning an overall NHTSA 5 Stars for occupant safety and a Top Safety Pick from the Insurance Institute for Highway Safety.

We engineered the Volt to be a technological wonder. *Motor Trend* called it a moon shot, and it is.

In other words, we engineered the Volt to be the only current EV on the road that you can drive across town or across the country without fear of being stranded when the battery power is depleted. No other EV can do this. The Volt gives drivers a choice beyond relying exclusively on oil for driving – and to use energy produced in the U.S. rather than from places that might not always put America's best interests first.

We engineered Volt to give people reason to pause and reconsider the other great vehicles we make at GM.

The new GM's vision is straightforward: "Design, build and sell the world's best vehicles." The company's recent leadership in U.S. passenger car sales and seven quarters of strong profits suggest we're marching straight forward.

For now, the Volt is a technical showcase for GM. This is important because the Volt establishes a beachhead in the electric car segment for future profits in sales and technology licensing agreements. As such, the Volt and its extended-range electric propulsion system is a promising new, American technology that GM is exporting around the world from Europe to China. In many respects, the Volt reflects a new GM, which exhibits the vision and innovation that the pre-bankruptcy corporate leviathan was vilified for not showing.

Apparently, it's a vision that other automakers share. Since the Volt concept's unveiling in 2007, other automakers have announced nearly 30 variants of plug-in hybrid or electric vehicles.

Nonetheless, the Volt's entry into the market came soon after GM's emergence from its government rescue and restructuring – and during this political season. As such, the Volt seems, perhaps unfairly, to have become a surrogate for some to offer broader commentary on General Motors' business prospects and Administration policy.

These outside factors, coupled with advanced technology that is still relatively unfamiliar to a broad consumer base, have likely contributed to a disproportionate level of scrutiny placed on the Volt.

These factors should not be discounted as to why federal regulators opened an investigation into the Volt's battery safety after a severe crash test in a laboratory and the intense interest among media that followed.

Let me try to highlight some key facts:

Testing conducted by regulators resulted in a fire – in one test seven days later and in another more than three weeks later – after putting the battery through lab conditions that no driver would experience in the real world.

NHTSA began testing the Volt battery after one of the vehicles it crash-tested in May caught fire three weeks after the test. We cooperated fully with NHTSA during the testing and analysis. Based on this work, GM determined the fire was the result of a minor intrusion from a portion of the vehicle into a side section of the battery pack. The intrusion resulted in a small coolant leak inside the battery, approximately 50 ml or one-quarter of a cup of fluid.

As part of NHTSA's test procedure, the vehicle was put through a "slow roll," where it's rotated at 90 degree increments, holding in each position for 5 minutes. During the "slow roll," about one liter (about four and a quarter cups) of coolant leaked. While in the 180 degree position, upside down, the coolant came in contact with the printed circuit board electronics at the top of the battery pack. Three weeks later, this condition, in combination with a charged battery, led to electrical activity that resulted in a post-crash fire.

No driver has experienced such an incident under real world conditions. Through the first 11 months of 2011, Volt owners accumulated more than 20 million miles without any incident similar to NHTSA's tests results.

NHTSA, exercising its statutory discretion, opened a preliminary evaluation. At that point, GM had a choice on how we would react. It was an easy call.

There would be no stalling or working the bureaucratic process. We'd place our customers' sense of safety and peace of mind first, and we would act quickly.

With that said, GM chose to go the extra mile to ensure our customers' peace of mind. GM volunteered to conduct a Customer Satisfaction Program and implement structural and cooling system enhancements to further protect the Volt battery from the possibility of an electrical fire occurring days or weeks after a severe side crash.

GM formed a senior engineering investigation team. The team studied potential engineering changes to the Volt, which would help to reduce the risk of post-crash electrical fires after a severe side impact.

Over the past several weeks, GM engineers have completed development and validation on a set of proposed enhancements and discussed them with NHTSA staff.

We ran a series of internal tests and all successfully resulted in no battery pack intrusion, thereby eliminating the chance for a post-crash electrical fire for this test condition.

First, we're going to strengthen an existing portion of the vehicle's safety structure that protects the battery pack in the event of a severe side collision.

The structural enhancements more evenly distribute the load to further protect the battery and the coolant lines in the event of a severe side crash.

Beginning in February, dealers will begin making these modifications for current Volt owners. When production resumes at the Volt plant this month, we'll integrate similar structural enhancements into the body shop manufacturing process.

In addition to these structural modifications, we're going to make enhancements to the battery cooling system, including:

- Installing a sensor in the reservoir of the battery cooling system to monitor coolant levels.
- We're also adding a tamper resistant bracket to the top of the battery coolant reservoir to help prevent potential coolant overfill.

The Volt's battery cooling system is sealed and protected, but again we're taking these steps to provide peace of mind for our customers.

These enhancements should prevent battery pack intrusion, thereby eliminating the risk of a post-crash electrical fire like the one in the NHTSA side impact pole test. They will also be helpful to the automotive industry as the adoption of electrification technologies expands.

It's also important that we reaffirm our commitment to the Volt's battery technology, and the actions we are taking have nothing to do with the battery pack itself. None of these changes will touch the battery cell or pack. As a result, we will not change any part of the manufacturing process at our Brownstown, Michigan, battery pack assembly plant. We have tested the Volt's battery system for more than 285,000 hours, or 25 years, of operation.

It's important to note, the battery cell design used in the Volt was not the cause of the incidents that prompted the investigation. We're confident in the robustness, quality and safety of the cell chemistry used in the Volt battery, which is supplied by LG Chem.

Before we chose LG as our cell supplier, we put their battery through extensive abuse testing, including mutilation, puncture and overcharge scenarios. We took the cell pouch and twisted it, crushed it and even punched nails through it. We're as confident as ever that the cell design is among the safest on the market.

We've also seen a lot of speculation regarding the Volt battery's liquid cooling



system. Early in development we decided to use liquid cooling because of the benefit it provides for performance and overall battery life. It's why we're able to provide our customers with what was the longest Electric Vehicle battery warranty when it was announced – eight-years or 100,000 miles. Key competitors have now followed our lead in offering similar battery warranties. We still believe liquid cooling is the best option for the Volt.

I'm proud of the work of the GM team to get these steps in place as quickly as they did. Our commitment is to provide our customers with the best ownership experience in the industry, and we're focused on delivering that every day.

When we announced our customer satisfaction initiative a few weeks ago, we knew we were throwing out the old playbook. Our owners deserve the best when it comes to customer service. Our Volt Advisors have proven to be the most important link in building a trusting relationship with our owners.

Since news of the investigation broke, a couple of hundred out of our nearly eight thousand owners have requested either a loaner vehicle or a potential buy back.

And that's no surprise as 93% of Volt owners in a recent *Consumer Reports* survey report the highest customer satisfaction with their vehicles – more than any other vehicle and the highest ever recorded by this respected third party.

As a company, we've said that we will stop at nothing until all of our brands are recognized as customer service leaders. The actions we're taking on the Volt illustrate how we'll get there.

Volt owners will be contacted when the modifications are available for their vehicle. The enhancements are also being incorporated into the Volt manufacturing process as production resumes this month.

We have treated this process with NHTSA with the highest level of urgency and seriousness from day one. For its part, NHTSA has certainly been very thorough in this process and we have responded accordingly.

In closing, the Volt is safe. It's a marvelous machine. It represents so much of what is right at GM and, frankly, American ingenuity and manufacturing.

That's why the Volt in its first year, garnered the Triple Crown of industry awards: 2011 *Motor Trend* Car of the Year; *Automobile Magazine's* Automobile of the Year; and, North American Car of the Year. And, to top off its debut year, the Volt earned a Recommended Buy from *Consumer Reports*.

By most every measure, the Volt is a 'winner.'

I look forward to taking your questions. Thank you.

Mr. JORDAN. Thank you, Mr. Akerson. We appreciate you being with us today, and we appreciate the fact that in your testimony you talked about you contacted every Volt owner, and frankly the response you took when this was brought to the public's attention.

In your opinion, Mr. Akerson, should NHTSA have known to drain the battery—when they conducted this test and they subjected it to a crash and they took it out in this lot and they left it sit there, shouldn't they have known that they needed to drain the battery?

Mr. AKERSON. I can only speak for General Motors and the protocols within the industry. The protocol on whether it's a combustion engine or an electric assist, as the Volt is, is to disconnect the battery, the 12-volt battery in a combustion engine car and drain the gas. Our protocol at the time, with the understanding in the background that this is a new and evolving technology, was the battery, the 12-volt battery, is disconnected and the large 16-kilowatt hour battery was disconnected, not depowered. Lesson learned, and that's part of our protocols going forward.

Mr. JORDAN. But let me be clear. So is it fairly common knowledge that when there's a crash, you drain the battery and drain the gas tank? I mean, that's just common sense.

Mr. AKERSON. No. You disconnect the 12-volt battery, disconnect it from the circuitry, and you drain the gas tank.

Mr. JORDAN. Okay. But should we have expected NHTSA to know that they should have drained the battery, or is that an unfair expectation?

Mr. AKERSON. Again, I can't speak for the administration.

Mr. JORDAN. Any testing that you had done before, any testing other—that you know of other manufacturers with similar-type electric vehicles, do they know they're supposed to—I mean, did they drain their batteries in those tests? I mean, was there—it seems to me this is something NHTSA should have known to do, rather than just park it on a lot with a bunch of other cars.

Mr. AKERSON. Let me speak to what General Motors knew. We had 285,000 hours of testing on this battery, which is the equivalent of 25 car lives, if you will. And everything we found was this was a safe—

Mr. JORDAN. Did any of that testing involve draining the battery after it had been subjected to a crash or after the battery had been punctured?

Mr. AKERSON. No.

Mr. JORDAN. When did NHTSA ask you for the protocols—when did you give them the protocols that did include draining the battery?

Mr. AKERSON. In the case in question where the car had a fire 3 weeks after the crash, it was left, as you saw, on the side of the road. And I don't know that the battery was even disconnected. I believe it was. I'm talking about the 12-volt battery. I believe it was. And I believe the larger battery was disconnected from the circuitry but not drained.

Mr. JORDAN. Okay. And when did you plan on, if at all, informing the owners of the Volt and the public about potential concerns? Did you plan on doing that or is that something you were waiting—

you worked in conjunction with NHTSA? What was your plans at General Motors for informing the public?

Mr. AKERSON. Well, after listening to the Administrator's testimony, as the summer progressed we had to disassemble the battery itself and look for the root cause. And as he said, there were concerns about arson or one or the other three or four cars involved. It wasn't all that clear to anyone exactly what happened. It happened over a weekend. There was no observation, there was no witness to what happened.

In September of last year we tested, and NHTSA tested again, and we could not replicate a fire. We did the same exact test—we, General Motors. They did exactly the same test. We could not replicate, and so there were further tests. And as he said, the battery itself was extracted from the vehicle. It was pierced with a steel rod, which is highly unlikely in the real world. And then it was rotated, simulating a rollover, not in a second that you would expect on the road, but by an hour; and it was drenched, if you will, in fluid, coolant. It took 7 days for a fire to occur. I would like to underscore, there was no explosion, a fire.

And that—at that point after that extreme, what I would call not real-world situation, 7 days, that's when they said they wanted to open a formal investigation. We notified our customers immediately after that.

Mr. JORDAN. Okay. Thank you. I yield now to the gentlemen from Ohio, Mr. Kucinich.

Mr. KUCINICH. Thank you. Thank you, Mr. Akerson, for being here. Is the Volt safe?

Mr. AKERSON. It is very safe.

Mr. KUCINICH. Have you ever had any communication with anybody in the Obama administration to ask them to provide some kind of consideration to GM with respect to the testing that you became aware of not to disclose it or to defer disclosure of it?

Mr. AKERSON. Absolutely not.

Mr. KUCINICH. And you're sure in terms of your line staff that it didn't happen?

Mr. AKERSON. I'm quite sure. I can't testify to that 100 percent.

Mr. KUCINICH. But as a policy you, GM, did not try to get the Obama administration to fail to disclose any tests that were made in a laboratory setting?

Mr. AKERSON. No, no one.

Mr. KUCINICH. And you're not aware of any accident or any injury that's occurred to anyone driving a Volt?

Mr. AKERSON. Absolutely none.

Mr. KUCINICH. They're safe in the vehicle; is that right?

Mr. AKERSON. I own one. Yes.

Mr. KUCINICH. And you drive it, and your family members drive it as well?

Mr. AKERSON. I just bought it.

Mr. KUCINICH. Okay. Well, let me ask you something. If there was a material defect in a car that was out in circulation right now, would that affect, let's say, your insurance that GM would be buying from, you know, your insurance carrier? Wouldn't they increase the cost of your insurance if you were likely to have, let's

say, a claim for a product liability? Wouldn't that be a problem for you?

Mr. AKERSON. Yes.

Mr. KUCINICH. Has that occurred? Has your insurance company contacted you and said, wait a minute, Mr. Akerson, there's questions here and it's going to cost you more to—it's going to cost you more to—it's going to cost GM more to have insurance, has that happened?

Mr. AKERSON. I insured this car and it was ridiculously low, but that's because it's a five-star-rated car by the Insurance Institute.

Mr. KUCINICH. So the very people who are charged with determining risk, as a question of the market now, they have not increased the cost of insurance; to the contrary, they've given it a high rating?

Mr. AKERSON. I presume that's the—

Mr. KUCINICH. Is that the way it works?

Mr. AKERSON. That's the way I would run it if I were running an insurance company.

Mr. KUCINICH. Can you discuss what effect designing and producing the Volt has had on GM? Has it helped GM become more competitive?

Mr. AKERSON. As I said, this is an evolving area of automotive engineering and technology. It's a halo car in the sense that we get a cache, if you will, of being innovative, and successful companies all innovate.

Just to set an expectation, a little bit of background, we sold more Volts in the first year than Toyota sold Priuses in the first year that they rolled out the Prius. So new technologies do take awhile to take hold, to get traction. And I think that the engineering around this has been viewed as—it was described as a Moon shot from a technological point of view. And indeed I think it was, and I think that has benefited other cars. We're rolling out—

Mr. KUCINICH. So it's your experience, then, that the manufacturing of the Volt will put America essentially on the map with respect to these electric vehicles; is that right?

Mr. AKERSON. These electric vehicles, the derivatives are already going into many of our cars. And, for example, the Buick LaCrosse would chart in the high 20's on the road mileage; with eAssist, as we call it, it jumps to 37 to 38 miles per gallon. So we're getting derivative positive impacts of exploring these technologies and deploying them in the real world, yes.

Mr. KUCINICH. And so the manufacturing of the Volt then moves America toward clean and efficient energy technologies that's not only used in a Volt, but is being used in other cars to help them become more fuel efficient; is that correct?

Mr. AKERSON. Yes, sir.

Mr. KUCINICH. And that in turn, I might add, has a lot to do with saving jobs in this economy. How many jobs has GM added to the auto manufacturing sector to help develop the technologies that build the parts for the Volt?

Mr. AKERSON. Well, one entire plant in Hamtramck, just outside Detroit, is dedicated to the Volt production. They put out about 400 every couple of days. And there are a couple thousand employees there. I would also say, since we've emerged from bankruptcy,

we've invested over \$5 billion in infrastructure in this country and hired about just short of 16,000 additional employees.

Mr. KUCINICH. Five billion dollars for the purposes of?

Mr. AKERSON. All of our capital programs here in the United States.

Mr. KUCINICH. Final question. So it's your intention as the CEO of General Motors to have the Volt lead the way toward, let's say, electric and hybrid electric vehicles revitalizing our auto manufacturing sector by providing products that consumers would find attractive because it's going to save them money; is that correct?

Mr. AKERSON. Yes, sir. And I would also add that we're developing great combustion engine cars as well that are energy efficient.

Mr. KUCINICH. I understand that from my own district. Thank you very much, sir. Thank you.

Mr. JORDAN. Thank you.

I'm pleased to have with us a member of the full committee, Mr. Walberg from the great State of Michigan. With unanimous consent from the committee, we would like for Tim to be able to join us.

Before going quickly to Mr. Kelly I just want to be clear on a question Mr. Kucinich asked. So with the exception of NHTSA, General Motors had no—you, Mr. Akerson, had no conversation with folks at the White House concerning this incident?

Mr. AKERSON. Correct.

Mr. JORDAN. No conversations with people—you or anyone in General Motors had no conversation with people at TARP—in particular Mr. Massad, who sort of handles the now defunct Auto Task Force—you had no conversations with Tim Massad at Treasury regarding this issue?

Mr. AKERSON. I had a conversation with Mr. Massad earlier this week on another general matter, and I observed to him that I was going to testify today. Other than that, no conversation.

Mr. JORDAN. But has anyone at General Motors, do you know of, talked to Mr. Massad or someone in the administration—have you talked to Mr. LaHood, you or anyone at General Motors talked to Mr. LaHood about this issue?

Mr. AKERSON. No, sir.

Mr. JORDAN. I now yield to the chairman of the full committee, Mr. Issa.

Mr. ISSA. Thank you, Mr. Chairman. Welcome. I'll be brief. The question here is not about whether General Motors is making good cars, whether or not General Motors is coming back. I think those are undeniable, and I'm very happy for that, and I think the President took great pride in that last night. The question here is: Is this, in your history recognition and as far as you know, a typical response to a typical catastrophic event? Is this less aggressive or more aggressive by NHTSA in their response to a mysterious fire on a brand-new automobile when there were only a few thousand in the field?

Mr. AKERSON. As we speak—excuse me. Mr. Chairman—there are about 8,000.

Mr. ISSA. Right. And I was correct. I think there were about 4,000 when this occurred. You've sold about—you may be making

400 a day, but you're selling far less than that; 4,000 or less in June-July, 8,000 or so now.

The question is, when this occurred the director has said, the Administrator has said, this is what we do, it takes 6 months to do it, this is just the way it is.

In your experience, would you consider this to be an aggressive response, an average response, or a little slower than average when it comes to when it lights up your phone and your people come running in and you have emergency meetings and the shit hits the fans and the alligators are around you and it's all you can focus on, even though you're bored and everybody else had something else in mind for you that day? As you compare it to other events that have happened to all great automobile companies, was this more aggressive, typical or, quite frankly, a little less speedy?

Mr. AKERSON. Thank you for your colorful description of my daily routine.

Mr. ISSA. Been there, done that on a smaller scale.

Mr. AKERSON. I understand. I would describe it as proportional. We tried to replicate—first we had to find what we suspected to be the root cause. Then we had to try to replicate it in the field. We crashed and tried to simulate the same outcome we had in the May-June timeframe. We could not do that. Subsequently when they drew the battery out of the car and then impaled it with a steel rod and then spun it, it took awhile to get it, and then it took 7 days after it was impaled in order to replicate a similar situation.

So I would say, given all the complexities associated with this new technology and the fact that we couldn't replicate it in the field again, it would be proportional.

Mr. ISSA. Okay. I'll take "proportional" as an interesting answer that I'm not sure what it means, but I appreciate your candor.

Last question. Lithium-ions, a relatively new technology for you, not new technology to the world. It's a 20-year-old use in all kinds of things, including all of our cell phones. The aviation industry has regulated volume of it, all kinds of other things. Do you think you're behind the power curve and need to play catch-up on lithium-ion? You describe not knowing how to replicate that. Is that one of the problems with going forward on a mass basis with large volumes of a new, basically other-than-sealed lead acid battery that you've historically used?

Mr. AKERSON. Well, arguably we're teamed with probably one of the leaders, not the leader in battery technology in the world, and that's LG Chem out of Korea. And they built a plant in Holland, Michigan, to supply not only ourselves, but other competitors in the same market. I would say that we're a leader in this. We understand the battery technology well. We have a battery lab specifically to study the technology and the evolution and the improvement that we expect over years.

Mr. ISSA. I wasn't trying to ask what you were doing, because I know you're doing that. But in fairness, it's a little bit of catch-up. I mean, the American automobile companies, including your previous leased automobile, you're playing catch-up on all electric cars, and even hybrid, and I applaud you for doing it. But from a safety standpoint, don't you think that if you had to do it over again, you would have been—would have worked with NHTSA to be a little

more aggressive in public confidence by doing what you needed to do sooner; in other words, 6 months of continuing to sell a car that could, and turns out would, potentially explode and needed dramatically different safety procedures? Didn't we find as a country that you shouldn't have kept selling this relatively new car the way you were?

Mr. AKERSON. The lithium-ion battery, as you know, is well used throughout the industry. The one protocol change that I think we did learn as an industry, and it is now incorporated—in fact, General Motors is leading the Society of Automotive Engineers in how to handle not only with first and second responders, but that we need to have certain protocols that are consistent and uniform, not only for General Motors battery electric cars, but around the globe. And that is that we are going to depower the—not disengage—but depower the battery after crash. And I think that alone is a huge step forward.

The additional work we did to support and shed the load around the battery is a huge step forward. I don't think it's monumental, but it's a good step forward that when we did crash five cars after this minor enhancement, perfect. So I think there's lessons learned; but at the same time, I don't think there was ever an imminent threat to any customer when you have anywhere from 7 to 21 days to remove yourself from the car if there is an accident. After 25 million miles on the road for this car, there's never been an incident anywhere close to this. There have been no injuries. And so we felt, as we found in an extreme simulated lab fire that took 7 days, that this car was safe.

But as I said in my opening comments, we weren't satisfied with this. We wanted to address the issue with our customers. We offered them loaner cars, we bought the cars back, we made the adjustments, and they're being implemented over the next month.

Mr. ISSA. So to characterize it, just to make sure your testimony is understood, it's fair to say that what you've learned is the entire Nation of repair facilities, salvage yards and other people involved in the automotive industry are going to have to learn and adapt a lot of new procedures that are continuing to evolve if we're going to ensure safety of handling of these new components, both because of high voltage and potential fire and explosion? That's what you've learned from this, is that those of us who aren't part—we get out of the car, but when we go to the salvage yard they need to know it, the tow truck company needs to know it, all the other people need to know it? That is in fact the risk that you found after 6 months?

Mr. AKERSON. Before we launched this car, Mr. Chairman, we conducted nationwide safety tours across the country to make sure that the public safety was paramount. That's a core value of General Motors. We talked to the National Fire Protection Agency, the International Association of Fire Fighters, the International Association of Fire Chiefs, the Association of Public-Safety Communications Officials, fire chiefs, police chiefs, 911 call centers, to make sure that we had this understood. We've now trained over 15,000 people across the Nation on these safety protocols. We're going to have to go back and make sure that it's well understood, the new safety protocols. So I think every organization and individual

should evolve and learn, and we've learned some lessons here that I think will benefit the entire industry, not just General Motors.

Mr. ISSA. Thank you, Mr. Chairman. Thank you Mr. CEO. Thank you, Mr. Chairman.

Mr. JORDAN. We're pleased to be joined by Representatives Connolly and Maloney. We have 4 minutes left in this vote, but only 60-some folks have voted. So if Mr. Cummings—

Mr. CUMMINGS. I'm going to be very quick.

Mr. JORDAN. The gentleman from Maryland.

Mr. CUMMINGS. First of all, Mr. Akerson, as a member of the Board of Visitors of the Naval Academy, I just want to congratulate you on being named Graduate of the Year. Thank you. That's wonderful.

I want to make sure, you heard what I said, I don't want collateral damage from this hearing. And so you as the head of GM, you're assuring the public, and listen up, press, that the Volt is a safe vehicle; is that right?

Mr. AKERSON. Yes, sir. And actually I view this as a positive. It's our chance to get this before the American people; you represent the American people, to get our story before you. We've taken out ads in the paper today, coincident with this, that the investigation has been complete. I do think there has been collateral damage. We're going to have to work hard to get it back, and today is a good start.

Mr. CUMMINGS. Well, I want to thank you for your leadership. And I want to take this moment to thank all the employees of GM for producing such a great product. And with that, I yield back.

Mr. AKERSON. Thank you.

Mr. JORDAN. I thank the gentleman. We are going to take about a 20-minute break. We'll be back for Mr. Kelly and then some of our full committee folks who may want to ask questions, but we'll keep that as quick as we can.

I want to congratulate you, too. And frankly I appreciate the attitude you just expressed in your last answer. So the committee stands in recess for 20 minutes, more or less.

[Recess.]

Mr. JORDAN. The committee will come to order.

I will recognize the gentleman from Pennsylvania, Mr. Kelly, for 5 minutes.

I apologize for the delay, Mr. Akerson, but I forgot we were going to have a very appropriate ceremony for Congresswoman Giffords.

Mr. Kelly is recognized.

Mr. KELLY. Mr. Akerson, thanks for being here.

You and I have never met. We have never done anything socially. We have never done anything—well, from a business standpoint, far away, I buy a lot of cars from you.

But we are linked in a different way. Dan Daniel and I grew up in Butler, Pennsylvania. Mr. Daniel and yourself, we have a great relationship. And I know the reason you are here is not because of any monetary gain that General Motors could have possibly offered you. Because, really, your decision to go with GM was made with your heart and not with your head. Because you could have stayed in the private sector, and it would have been a lot more rewarding, and you wouldn't be, in fact, here today going through this.



The question goes back to—it has nothing to do with General Motors, but it does have to do with the apparent partnership that the government has with GM. And the reason I bring that up—and I know you say, no, that is not true; and I know Mr. Strickland said, no, that is not true. But you can't get away from certain things that are already on the table.

If we go to the slides—I think it is on page 3. There is two slides. In one of the slides, this is some advice coming from the administration back to GM, and it is kind of a marketing thing. And one of the slides—and this is a 2009—May 18, 2009, e-mail—shows Treasury officials directing GM in how it would structure press releases, asking that references to the government ownership of GM be removed and taking it out of the lead.

Then we go to another slide showing an e-mail from May 2009, again, and it talks about a member of the automotive task force telling General Motors to coordinate with the UAW, United Auto Workers, about the pending termination of the pension plans for which GM is responsible. And it says, at a minimum, this could get messy and the UAW should probably be brought into the loop.

Now, having served on a lot of dealer councils and being part of ad groups where we tried to get the message out about how great our cars were and how good our deals were and how you could trust your General Motors dealer and the General Motors products, walk me through some of that stuff. Because it is—again, perception is reality.

This hearing today is not about the Chevy Volt. This hearing is about NHTSA. What did they know? When did they know it? When did they let you know it?

I believe we have always had a great partnership, and I told you early on my dad started in 1953 after being a parts picker in the warehouse.

My relationship with General Motors has never been cloudy. It always has been clear and been transparent, and I know at which side of the table I sit. I am not a manufacturer or a distributor. I actually sell these cars.

But when you look at these things and you say, well, my gosh, if it really isn't government run, if the government really is at arms length and away from this, this sharing of this information of how are we going to market these different messages, how does that happen if it is not that way? And how does NHTSA sit there and say, no, no, no, no, we did it the same way we always do it, and the fact of the matter is they didn't do it the same way they always do it.

Again, halo products, I understand halo. It has nothing to do with angels, but it does have to do with what we are trying to do when we are putting the spotlight on our cars. We can compete with anybody in the world with any product at any level. But, again, our success has been driven by producing cars in mass quantities that people want to buy in mass quantities. So it truly is market driven, and by that I mean just be able to be driven off the lot by an awful lot of folks.

But when I look at those two e-mails and I am trying to think, okay, so if they are really not involved and they really don't have an influence, why are these e-mails going back and forth and why

are they advising General Motors on how they should message these different things? If you could just walk me through it really easy.

And, again, I admire you for what you are doing. I know don't have to be here. You could do a lot of different things. And Danny speaks highly of you all the time. So if you could just kind of help me to understand that and help the American people to understand that, I would appreciate it.

Mr. AKERSON. Thank you for your question.

I want to make something perfectly clear. I joined the board in July 2009, so these e-mails preceded any knowledge or specific knowledge I would have of the situation.

I would allow that when I was in the deal merger and acquisition business at the Carlyle Group, there is a lot of conversation back and forth when you are about to put money into an investment. So possibly that is the context of that. But that is just pure conjecture on my behalf. I don't know.

I will say this, and I mean this as sincerely as I can. When I was first queried on the possibility of joining the board, I was clear that I did not want to be associated with a venture, a company as great as General Motors is and as important as I think it is to this country's manufacturing and industrial base, if there was going to be government involvement. Was the company going to be allowed to function as a business?

And in my tenure, both on the board for the first year from 2009 to September 2010 and in the subsequent year and a half, I will testify in front of the Good Lord that this administration has never had a presence in the board room or any input on the operations of the business.

You asked a more specific question about NHTSA and its involvement with us: What do they know? When did they know it? I think the Administrator and I have commented on that. But if there is any question in anyone's mind that they gave us a free ride, if the last 2 months of negative publicity and the fact that I am sitting here explaining this, thanks, but I will go it alone in the future.

Mr. KELLY. Thank you.

I yield back, Mr. Chairman.

Mr. JORDAN. I thank the gentleman.

I believe in order the gentleman from Virginia is recognized and then Mrs. Maloney.

Mr. CONNOLLY. Thank you, Mr. Chairman.

Mr. AKERSON, welcome.

Mr. AKERSON. Thank you.

Mr. CONNOLLY. The chairman of the full committee indicated the NHTSA study was done roughly sort of halfway through the number of sales that currently have occurred. That is to say, I think you said there were about 8,000 Volts on the road. This happened around sale 4,000. Is that about right?

Mr. AKERSON. I am sure it was quite a few less than that, because we sold I think 1,500 plus in January alone. So I think it has been gaining momentum. I would have said closer to 2,000 or 3,000, but I don't have the specific number before me.

Mr. CONNOLLY. Of the 8,000 families or consumers who drive Volts, how many have blown up or had fires?

Mr. AKERSON. None.

Mr. CONNOLLY. I am sorry?

Mr. AKERSON. None.

Mr. CONNOLLY. None. Well, so the only example of any safety concern with respect to that occurred in a laboratory run by NHTSA?

Mr. AKERSON. No. To be precise, the first one occurred in the field in a contractor—I guess a contractor of NHTSA's—it was a test facility in Wisconsin. We hit it with a severe side impact, and it sat alongside the road with three other vehicles. Three weeks later, a fire occurred; and it took us awhile not only to understand which vehicle started the fire and under what conditions, because it happened over a weekend, then we had to find the root cause. We had to disassemble the battery. You saw pictures of it. It was not all that easy to ascertain precisely what happened.

Subsequently, tests were conducted to try to simulate that again, because you could have a bad test. We ran tests. We crashed it again. We could not replicate a fire with the same conditions. We didn't depower. We didn't do anything. NHTSA could not do it.

Mr. CONNOLLY. Well, I was listening to the chairman of the full committee, Mr. Issa, questioning you. And in the process of asking a question, he asserted some facts; and I want to make sure that you either do or do not concur with his assertions that, in light of this test, even though it hasn't been able to be replicated, we need to give special instructions for people so that it doesn't explode and blow up. You know, if you are taken by tow truck or put in a storage facility or a junkyard or even, for that matter, in a garage, because there is reason to be concerned. Would you comment on that?

Mr. AKERSON. I think the kernel of the issue is what do we do in a post-crash, multi-day, multi-week environment if we did not depower the battery. I think the lesson learned is, after a week to 3 weeks—and we could not simulate in the real world the condition that we experienced after 3 weeks. We had to pull the battery out, pierce it, and essentially—this will be a slight exaggeration—drench the battery in coolant, and then a week later it occurred. And it wasn't an explosion. That has been a little bit of hyperbole, I think. There was a fire. It smoldered for a while. It would spark. It takes awhile, and then it would burn.

When that occurred, even in a simulated laboratory, extreme, non-real-world environment, NHTSA initiated a formal investigation, and we went to general quarters.

Mr. CONNOLLY. And you, as the CEO of GM, are so concerned about this you went out and bought one yourself?

Mr. AKERSON. I bought one of the cars that was returned, yes, sir.

Mr. CONNOLLY. Thank you.

Last night, the President alluded to the lithium battery research and development, advanced lithium battery. If I recall, at the time we adopted the Recovery Act here in Congress, before we made the investment in advanced lithium battery research, the U.S. manufacturing share worldwide was something like 4 or 5 percent, and

the projection is like by next year it is going to be 40 percent, is that correct? Is that your understanding?

Mr. AKERSON. I am not familiar with those numbers.

Mr. CONNOLLY. But in a brief period of time, manufacturing here in the United States of advanced lithium batteries has significantly expanded in the last 2 or 3 years, is that not correct?

Mr. AKERSON. That is correct.

Mr. CONNOLLY. Briefly, GM before and after the bailout, could you just refresh our memory in terms of your world market share?

Mr. AKERSON. Our world market share today at the end of 2011 stands at about a right around 12 percent. Roughly one out of every eight vehicles in the world is manufactured by GM or one of its affiliates. Through—at the end of 2011, it was the first time since 1977 that we have gained market share 2 consecutive years in a row.

Mr. CONNOLLY. And you have returned to number one in the world?

Mr. AKERSON. Yes, sir.

Mr. CONNOLLY. I thank the chair.

Mr. JORDAN. I thank the gentleman.

Real quick, before yielding to Mrs. Maloney, just so I am clear, the protocols prior to this investigation and this incident were—commonly understood, commonsense, common knowledge—were to drain the gas tank and to disconnect the smaller battery—12 volt battery that the car has.

Mr. AKERSON. In a “conventional car,” yes.

Mr. JORDAN. So in an electric vehicle the protocols were the same: Disconnect the 12 volt, drain the gas tank, but do nothing with the larger lithium-ion battery?

Mr. AKERSON. It would automatically disconnect from the circuitry.

Mr. JORDAN. So the protocols for the electric vehicle were exactly the same as for a non-electric vehicle: Disconnect both batteries, disconnect the battery operation, drain the gas tank. That was common knowledge.

Mr. AKERSON. Yes. But I want to make sure I am perfectly clear. There is a difference in depower.

Mr. JORDAN. Okay, that was my next question. So the protocols today are disconnect the battery, which entails both batteries, drain the gas tank, and, in your words, depower the larger battery, which means drain the coolant?

Mr. AKERSON. No.

Mr. JORDAN. Tell me in layman’s terms.

Mr. AKERSON. Discharge the battery.

Mr. JORDAN. And what does that mean?

Mr. AKERSON. Think of connecting a giant light bulb to that battery and just run it down.

Mr. JORDAN. Okay. Got it.

Mrs. Maloney.

Mr. AKERSON. I am sorry for the inarticulation, but there’s not much—

Mrs. MALONEY. Thank you very much and welcome to the committee.

I would find it very difficult to imagine an America that did not make its own cars, so I am pleased that the President was able to report in his State of the Union the progress that the car industry has achieved in America. I would like to quote one line and put his whole statement in the record with unanimous consent. He said, "Today, General Motors is back on top as the world's number one auto maker."

A report I read last week said that there are over 700,000 jobs created by the auto industry now in America, and I would like to put that report in the record.

Mr. JORDAN. Without objection.

Mrs. MALONEY. Okay. I think that it is clear that this innovative car that GM has made has been caught up in the middle of politics, and some Members appear more interested in making wild allegations for political purposes than in recognizing a promising technological breakthrough. And I would like to ask you—and give me a yes or no answer—is it true that the Volt was first shown as a General Motors electric vehicle concept at an international auto show in January 2007, more than 2 years before the swearing in of President Obama and the company's filing for bankruptcy?

Mr. AKERSON. Yes. It was shown at the Detroit auto show.

Mrs. MALONEY. Okay. I am just curious. How did you get here? Did you fly? Did you take a train? Did you drive? How did you get to this hearing?

Mr. AKERSON. I drove a Volt.

Mrs. MALONEY. You drove a Volt. Okay. And can you tell us how the Volt is selling and what is the customer feedback?

Mr. AKERSON. Well, it is rated—from a customer satisfaction point of view, it is rated at the highest rate any car has ever gotten. Ninety-three percent of the people highly approve of the car that own it. It is the highest recording ever.

Mrs. MALONEY. And will the technology developed for the Volt be used in other vehicles?

Mr. AKERSON. There are derivatives that come out of our research and development and the practical application of the Volt and other electric cars that will benefit other vehicles in our fleet, yes.

Mrs. MALONEY. How many miles does the typical Volt owner drive without having to fill up with gasoline? How long can you go?

Mr. AKERSON. Well, on one charge we say 35. Sometimes it is more. It is actually, quite interestingly, temperature dependent. If it is really cold or it is really hot, you do see some diminution. But let's say in the typical day that is temperate, about 35–40 miles.

Now, what we do have is 80 percent of the American public drives 40 miles or less per day. This car was designed for that mass market. I drove a test vehicle before we launched for 3 months. I put roughly 2,500 miles on it. I used two gallons of gas, because our driving patterns were such that we didn't drive 50 and 60 miles at one run.

Mrs. MALONEY. So how often do you have to fill up with the Volt if you can get such mileage off it?

Mr. AKERSON. Well, again, it depends on your usage patterns. If you are driving 35–40 miles a day, you may not have to fill up for months. We have instances and testimonies on some of the blogs

that people drive it 800 or 900 miles. But, again, if you are driving 100 miles a day, you are going to see a transition.

It is really important to understand this car is always driven by an electric motor. The gas engine is relatively small. There is no mechanical drag on the combustion engine. All it does is charge the battery.

Mrs. MALONEY. And what are your future plans for the Volt?

Mr. AKERSON. Well, I think this has been a good exercise for us, because it has gotten everything out on the table, and I think we have a fair hearing. We are going to start exporting it with the enhancements that we are implementing now, not only to Europe but to Asia and China in particular.

Mrs. MALONEY. If everything you say, Mr. Akerson, is true about the Volt, that you can get such mileage, that you can drive for months if you are not driving that long, that you cannot fill up but once every 2 months, and you get such great mileage and safety and so forth, why aren't other manufacturers of cars copying the Volt? Why aren't they building their own version of the Volt?

Mr. AKERSON. There has been interest by some of our competitors to license the technology.

Mrs. MALONEY. And do you own the technology? Is it American owned, this technology?

Mr. AKERSON. Yes, it is.

Mrs. MALONEY. Is it patented?

Mr. AKERSON. Yes.

Mrs. MALONEY. And so you can hold on to it?

Mr. AKERSON. Yes, For 17 years.

Mrs. MALONEY. Well, we might be able to export something then.

Mr. AKERSON. We are exporting it.

Mrs. MALONEY. This fire scenario that we have been talking about, it seems to me that you have responded to it in a very unlike GM way—no offense—but not like a big corporation, but responding very fast to provide a solution. Has this fire happened in any other real-life accident or other accident?

Mr. AKERSON. We have 25 million miles driven on the cars that are in the public domain. There has been no documented case of any fire of any nature on the Volt.

Mrs. MALONEY. And I have heard that some of the consumer groups and watchdog groups have given you ratings. Could you give us what those ratings are and the safety watch groups? Can you elaborate on these standards, I guess, or qualifications?

Mr. AKERSON. We are rated five star not only by NHTSA but by the International Institute of Highway Safety for occupant safety. So both five stars in the arena we want. The Consumer Reports says it has had the highest rating of customer satisfaction, the highest they have ever seen.

When we closed the—when we were first notified of a formal investigation, we immediately offered loaner cars or the opportunity to sell the car back to the company, and at the same time we embarked upon a very aggressive and active effort to come up with an enhancement to the protection of the battery, which we have done, and that will be implemented over the next couple of weeks and months.

Mrs. MALONEY. I would like to commend you and your company for this innovative addition to the world and congratulate you on moving in the right direction to reduce our dependence on foreign oil and eliminating, I would say, harmful pollutants in the air. It is a wonderful technology. I am proud of my vote in support of the bailout of the auto industry. It is an American success story. It is the American dream, and I am very proud of you and your company. Thank you for being here today.

Mr. AKERSON. Thank you.

Mr. JORDAN. The gentleman from—

Mr. KUCINICH. Would the gentleman yield for just a moment?

When I was out in the lounge there I saw my friend, Mr. Kelly, put the slide referring to the e-mails between GM and the Department of Treasury concluding that the U.S. Government was somehow running GM. Now, I just want my friend to know that, on this side, we really looked at that very deeply, and I wrote a letter dated June 29, 2011, which I don't know—I am guessing you may not have had a chance to see it. Because what this effectively did is to debunk any evidence of collusion in a June 29, 2011, letter to the chairman. And I would specifically cite pages 3 and 4 and 6 and 7.

When I wrote this letter, I haven't received any response that would indicate that there was a dispute as to what was said. So I just wanted to share that with my friend and with my chairman, just so you know that we looked at this and I think we effectively debunked it.

Mr. JORDAN. Without objection, the—

Mr. KUCINICH. I would ask unanimous consent—

Mr. JORDAN. Without objection, the letter is entered into the record.

[The information referred to follows:]

*Kucinich  
1/25/11*

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ONE HUNDRED TWELFTH CONGRESS

**Congress of the United States**  
**House of Representatives**

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

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June 29, 2011

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The Honorable Jim Jordan  
Chairman  
Subcommittee on Regulatory Affairs,  
Stimulus Oversight and Government Spending  
U.S. House of Representatives  
Washington, DC 20515

Dear Chairman Jordan:

At the hearing entitled "The Lasting Implications of the GM Bailout," held by the Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending on June 22, 2011, the majority introduced a number of documents into the record and made a number of statements characterizing the witness, Ron Bloom, and the Treasury Department, as controlling influences in the reduction of the pension benefits provided to salaried workers of the Delphi Corporation.

A close examination of the evidence that the majority offered reveals a lack of support for its characterization of the government's involvement in the auto industry and Mr. Bloom's individual role. To the contrary, the evidence tends to refute the majority's assertions. It suggests that the government's role in GM's operations was limited, and that the company ultimately was responsible for its own decision-making and day-to-day operations, just as Mr. Bloom testified.

Moreover, some members of the majority made unsubstantiated assertions and made highly selective use of documents, in some cases completely mischaracterizing them. In one instance, the majority apparently withheld a key fact and a relevant document from the witness when they questioned him, causing a critical misimpression about the role of Mr. Bloom and the government in the bankruptcy of GM. I am writing to correct the hearing record.

**Some Majority Members Made Unsubstantiated Allegations**

The majority painted the White House and Department of Treasury as a sort of svengali, controlling the GM bankruptcy process and GM's subsequent decision-making, including the decision not to "top-up" the pensions of Delphi's salaried employees following the termination of Delphi's pension plans and their assumption by the Pension



Benefit Guaranty Corporation (PBGC). Statements made by Rep. Michael Turner (R-OH) exemplified this view:

The administration picked winners and losers where the pensions of many salaried Delphi workers were lost. This was done without any explanation, without any justification or without any basis. And today, it is still being done without any answers. ... I mean the retirees from Delphi were not treated similarly at the direction of the administration. ... Somewhere in a room at the White House, people were picked as winners and losers, there was inequality and injustice that was done.

Chairman Issa suggested that Mr. Bloom and the government did “GM’s dirty work” for “free” by helping the company selectively close dealerships. In his questioning, Chairman Issa drew the conclusion that it was because GM “hated some of their dealers, [but] loved others.”

Unfortunately, neither Rep. Turner nor Chairman Issa offered any evidence for their assertions that the government “picked winners and losers” or that the government did “GM’s dirty work.” Regrettably, these unsubstantiated allegations were made by senior members of our Committee.

#### **The Majority Misrepresented the Situation of Delphi Salaried Workers**

A central issue examined in last week’s hearing was the situation faced by certain retirees of GM’s parts supplier, Delphi. An example of the majority’s questionable use of evidence was its selective misrepresentation of which workers lost pension benefits, following the termination of Delphi’s pension. Some lawmakers asserted that only Delphi salaried workers suffered pension losses, while union workers were protected from those losses.

For instance, Rep. Dan Burton inserted into the record a chart purporting to show that Delphi salaried workers lost pension and other benefits, while union workers from the UAW, IUE, and USWA received the full level of pension and other benefits they had been promised. Rep. Burton said: “I’d like to know why the salaried employees got chopped up so badly compared to the others that were under contract. It just doesn’t make any sense to me and it doesn’t seem fair.” Chairman Issa made a similar point when he questioned Mr. Bloom about how the bankruptcy process “maintain[ed] the pensions for union workers while screwing the salaried workers.”

Although Delphi salaried workers sustained very significant losses to their pensions as a result of the termination of Delphi’s pension plans and their assumption by the PBGC, it is not accurate that the salaried workers were singled out for this treatment. Nor is it accurate that all union members at Delphi were insulated from these losses.

Regrettably, the majority omitted information available to them at the time of the hearing that contradicted the narrative they told. What Reps. Burton and Issa did not say, and what Rep. Burton’s chart failed to show, was that there were other workers who received substantially the same treatment as the Delphi salaried workers, and that these were union workers. In fact, a formidable list of unions represented Delphi workers who

now find themselves in much the same position as the Delphi salaried retirees. They include the International Association of Machinists and Aerospace Workers; International Brotherhood of Electrical Workers; Michigan Regional Council of Carpenters, Local 687 and Interior Systems, Local 1045; International Brotherhood of Painters and Allied Trades of the United States and Canada, Sign & Display Union Local 59; International Brotherhood of Teamsters; International Brotherhood of Boilermakers; International Union of Operating Engineers; and United Catering Restaurant Bar & Hotel Workers.<sup>1</sup>

The union and non-union retirees who lost a significant amount of their benefits had in common the fact that they had not previously negotiated agreements with GM to have their benefits guaranteed in the event of bankruptcy.<sup>2</sup> The chart inserted by Rep. Burton, and the comments of Reps. Burton and Issa, presented a skewed perspective on how the Delphi workforce fared in bankruptcy, creating a misimpression that they were singled out for worse treatment because they were not union members.

#### **The Majority's Portrayal of the White House "Picking Winners and Losers" Was Refuted by Documents Presented at the Hearing**

E-mails introduced at the hearing confirm Mr. Bloom's characterization -- and refute the majority's portrayal -- of the relationship between the Treasury Department and GM. Chairman Jordan cited an e-mail exchange between the Treasury Department and GM in which the Government asked for a modification to a GM press release:

**Chairman Jordan:** This is, I think, from Jenni Engebretsen to Greg Martin of General Motors.

"Greg, we would ask that you move the reference to Treasury down to the third paragraph taking it out of the lead."

So this is an on [sic] a press release that was going to go out where we now have the Auto Taskforce involving themselves with General Motors on a press release. So again, I just want to ask you, is this involvement in day-to-day operations?

**Mr. Bloom:** No. I think what this is involvement regarding the Treasury Department, so in other words, *when the company is talking about us, meaning the Treasury Department, I think it's proper that we would -- that we would have interest in how we be characterized.* ... What we did is if General Motors was going to talk about the Treasury Department, we would obviously want it to be done properly. (Emphasis added).

The e-mail reveals that the government believed it could make only a *request* of GM, and then only for a change to GM's reference to the Treasury Department in a press

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<sup>1</sup> Government Accountability Office, *Key Events Leading to the Termination of the Delphi Defined Benefit Plans* (Mar. 30, 2011) (GAO-11-373R).

<sup>2</sup> *See Id.*

release. If the government were exercising control of GM's day-to-day operations, as the majority asserted, the government would not have to *ask*; it would *tell* GM what to do and which edits to make. That was not the case. Furthermore, the range of editorial comments would not have been restricted to the press release's characterization of Treasury, but could have included any number of details relating to the business decisions the press release discussed. This e-mail, which Chairman Jordan used in his questioning, refutes the majority's case and supports Mr. Bloom's testimony.

In fact, the first document that Chairman Jordan cited demonstrates the same thing. A June 2009 e-mail chain between Treasury and GM officials, Walter Borst and Rick Westenberg, shows that Treasury simply asked GM about steps the company had taken at that time with regard to the pension benefits owed to certain employees of Delphi.<sup>3</sup> This e-mail does not show that Treasury issued GM an order, took any action, or exercised any influence on GM's decision-making.<sup>4</sup> What this e-mail chain ultimately demonstrates is that GM responded to a query posed by Treasury by indicating the company's position on the issue.<sup>5</sup> Furthermore, the e-mail demonstrates that Walter Borst, GM's Treasurer at that time, left the determination of a course of action on this issue to other GM officials, specifically copying GM employees Adil Mistry, Thomas A. Croskey, and Francis S. Jaworski on his e-mail reply to Treasury, asking them for suggestions as to how to proceed.<sup>6</sup>

Later in the hearing, Rep. Burton referred to this same e-mail from Matthew Feldman of Treasury to Mr. Borst and Mr. Westenberg, when questioning Mr. Bloom as to whether he was motivated in his actions on the Auto Task Force by a desire to support the unions.<sup>7</sup> As Mr. Bloom noted at the hearing, he was not copied on this e-mail.<sup>8</sup> Nevertheless, the conversation does not suggest a preference for unions, nor does it suggest that any particular action was taken for the benefit of any party. The e-mail simply asks whether GM had opened a dialogue regarding Delphi pension issues.

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<sup>3</sup> E-mail from Matthew Feldman, U.S. Department of the Treasury, to Walter Borst and Rick Westenberg, General Motors (June 30, 2009).

<sup>4</sup> *See Id.*

<sup>5</sup> *See Id.*

<sup>6</sup> E-mail from Walter Borst, General Motors, to Matthew Feldman, U.S. Department of the Treasury (June 30, 2009). *See also Biography of Walter G. Borst, Chairman, Promark Global Advisors, Vice President and CEO*, Opel Media (Jan. 15, 2010) (online at [media.gm.com/content/media/intl/en/news/news\\_detail.brand\\_opel.html/content/Pages/news/opelcompany/eu/opel/executives/01\\_15\\_borst](http://media.gm.com/content/media/intl/en/news/news_detail.brand_opel.html/content/Pages/news/opelcompany/eu/opel/executives/01_15_borst)).

<sup>7</sup> House Committee on Oversight and Government Reform Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending, Hearing on Lasting Implications of the General Motors Bailout, 112<sup>th</sup> Cong. (June 22, 2011).

<sup>8</sup> *Id.*; *See* E-mail from Matthew Feldman, U.S. Department of the Treasury, to Walter Borst and Rick Westenberg, General Motors (June 30, 2009).

**The Majority Failed to Reveal Other Documents That Contradicted Their Portrayal of the White House “Pick[ing] Winners and Losers”**

The majority’s repeated assertion that the White House “picked winners and losers” was contradicted by evidence gathered by the majority in its investigation, but not presented at the hearing. The majority failed to mention e-mails, found in the same cache from which they drew their exhibits, that lent support to Mr. Bloom’s testimony. Indeed, a closer examination of the evidence tends to support the conclusion that Mr. Bloom and the Treasury Department neither offered special consideration for union members with pension problems caused by GM’s bankruptcy and the termination of the Delphi pension plan nor interfered with GM’s handling of the issue.

For example, the majority did not mention an e-mail to Mr. Bloom from Dean Schweisberger, a member of the Machinists union. In his e-mail message, Mr. Schweisberger asserted:

There remains a relatively small group of IAM, IBEW, IUOE and other splinter Unions that will receive no ‘top-up’ from GM.... I am asking you to intercede for the benefit of those whose pensions will be greatly reduced due to the inequitable decisions that have [been] made by GM and endorsed by the Treasury Department.<sup>9</sup>

The e-mail chain shows that Mr. Bloom forwarded Mr. Schweisberger’s e-mail to Mr. Sadiq Malik, an attorney with the Department of the Treasury with only this note, “Please get the facts here. Thanks.”<sup>10</sup>

Mr. Malik then forwarded it to Ms. Diana Tremblay of GM, with this note:

Pls see email from Ron below. Could you pls have someone draft a simple response (2-3 paras at the most) that lays out the facts and responds to Dean’s email to Ron?<sup>11</sup>

Two days later, Preston Crabill, GM’s Director of Pension and Savings Plans, responded. In his message, Mr. Crabill traced a history of agreements between GM and UAW, GM and IUE, and GM and USWA, which explicitly protected the pensions of individuals represented by these unions in the event that Delphi terminated those plans. No other unions had such agreements with GM, Mr. Crabill said.

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<sup>9</sup> E-mail from Dean Schweisberger to Ron Bloom, U.S. Department of Treasury (Sept. 6, 2009)

<sup>10</sup> E-mail from Ron Bloom to Sadiq Malik, U.S. Department of Treasury (Sept. 7, 2009)

<sup>11</sup> E-mail from Sadiq Malik to Diana Tremblay, General Motors (Sept. 7, 2009)

While we understand the comments that you raised in your message, GM and the IAM, IBEW and IUOE never negotiated pension benefit guarantees for Delphi employees. There is no agreement which would call for such pension protections.<sup>12</sup>

This omitted series of e-mails is significant for several reasons. First, it reveals how Mr. Bloom and the Treasury Department handled a specific pension matter: by asking for the facts, and by referring the matter to GM, respectively. Second, it reveals how a significant union, the IAM, was treated: the IAM received no special consideration or rights to which it was not previously entitled. Third, it explains why both salaried workers at Delphi and some union workers at Delphi saw their pensions reduced as a result of bankruptcy, while other workers were protected from those reductions: employees who saw their pensions reduced when Delphi terminated the pension plans lacked contractual protections that other employees, namely those from the UAW, IUE and USWA, had negotiated.

**The Majority Withheld From the Witness Relevant Information and Documents that Contradicted Their Portrayal of Mr. Bloom's and Treasury's Role in the GM Bailout**

When the majority questioned Mr. Bloom, they withheld a document and key fact that refuted a statement made by Chairman Jordan in his question and that would have underscored an answer Mr. Bloom provided to a previous question.

After Mr. Bloom responded to Chairman Jordan's question about a May 29, 2009, e-mail, discussed above, with an explanation that Treasury was exercising its interest in how GM characterized Treasury in its press release, Chairman Jordan seemed to change topics and e-mails:

**Chairman Jordan:** Let me put up one more e-mail. This is from General Motors to Treasury. ... "We will wait a further quote 'temperature check' from Jenny on whether to go Friday." This is an announcement on your new small car.... Yet, no influence, no picking winners and loser, no involvement in day-to-day operations. Do you still stand by that statement?

**Mr. Bloom:** Yes. ...

**Chairman Jordan:** [T]hey're not talking about Treasury, they're talking about the new cars they're building. *You can't say this is – that this involves Treasury.*

**Mr. Bloom:** I don't know the specifics of this particular press release. (Emphasis added)

But the *majority* knew more about this press release they did not share with Mr. Bloom. They knew it was, in fact, the same press release about which they had

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<sup>12</sup> E-mail from Preston Crabill, General Motors to Diana Tremblay (Sept. 9, 2009)

previously questioned Bloom. The majority possessed the draft press release that GM had formatted for distribution on May 29, 2009. This draft merged the texts of both the Engebretsen e-mail of May 29, 2009, and the “temperature check” e-mail of May 28, 2009, concerning the public announcement of a new small car. That draft, which combined both announcements, and which had been reviewed and approved by GM CEO Henderson, *did* characterize Treasury, in direct contradiction to Chairman Jordan’s statement and in support of Mr. Bloom’s answer to a previous Jordan inquiry. As requested by Treasury, GM moved its reference to Treasury to the third paragraph:

The New GM, under agreement with the U.S. Treasury, will consist of GM’s strongest operations and brands from around the world, resulting in substantially less debt and lower operating costs than GM historically has carried.

GM issued this press release on June 1, 2009.<sup>13</sup> Thus, Mr. Bloom’s previous response -- that in asking GM to make a change to this press release, Treasury was only exercising its interest in clarifying how GM characterized the Treasury Department -- applied to this e-mail as well. The majority would have known that to be the case, since it possessed all the e-mails, as well as the draft of the news release. Only Mr. Bloom seemed to be confused about this, since the majority failed to provide the copy of the draft press release to him.

#### **Lasting Implications That are Supported by Evidence**

Despite the baseless claims or misrepresentations made by some Members, I hope the record accurately reflects the most important “Lasting Implications of the General Motors Bailout.” In December 2008, the Economic Policy Institute (EPI) predicted that:

The bankruptcy of one or more of the U.S. automakers and a collapse of the domestic auto assembly industry could eliminate up to 3.3 million U.S. jobs within the [following] year. The collapse of just one company, General Motors (GM), would lead to an estimated reduction of 900,000 jobs. Using this range of job-loss estimates, unemployment would rise by 3.0 to 8.9 percentage points in the nine hardest hit states in the United States.<sup>14</sup>

In contrast to the potential economic calamity that was feared just two and a half years ago, the results of the Federal investment in the domestic automotive industry are clear. Specifically, as MIT Professor Thomas A. Kochan testified:

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<sup>13</sup> GM Press Release, *GM Pulls Ahead U.S. Plant Closures; Reaffirms Intent to Build Future Small Car in U.S.* (June 1, 2009) (online at [http://media.gm.com/content/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2009/Jun/0601\\_PlantClosures](http://media.gm.com/content/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2009/Jun/0601_PlantClosures)).

<sup>14</sup> Economic Policy Institute, *When Giants Fall: Shutdown of One or More U.S. Automakers Could Eliminate up to 3.3 Million U.S. Jobs* (Dec. 3, 2008) (online at [www.epi.org/publications/entry/bp227/](http://www.epi.org/publications/entry/bp227/)).

The combined actions of the Bush and Obama Administrations to support the restructuring of the U.S. auto industry in 2008 and 2009 will likely be assessed by historians as one of the most important and effective steps taken during that perilous time to avoid the Great Recession from descending into a second Great Depression. These actions saved somewhere between 1 and 3 million jobs in 2009 and perhaps more in subsequent years. They also avoided setting off a cascading set of costs and revenue losses to state, federal, and local government budgets that would have resulted from the increased unemployment insurance costs of between \$8 billion and \$25 billion, losses in GDP that would in turn reduce revenues to state governments between \$15 and \$48 billion, and reduced federal revenues between \$59 and \$177 billion.<sup>15</sup>

A November 2010 EPI analysis, which was introduced for the record at the hearing, contained similar findings regarding the impact of the federal investment in the auto industry.<sup>16</sup>

More than the raw numbers indicate, the federal support for the auto industry had a significant impact on the families and communities across the country that depend on the car companies, their suppliers, and all of the businesses that manufacture the equipment goods and services that auto industry relies on, and that symbiotically rely upon the auto industry.

Following its successful restructuring in bankruptcy, GM has now posted its fifth consecutive profitable quarter with revenue jumping 15% in the first quarter of 2011 for a profit of \$3.2 billion.<sup>17</sup> As the Bankruptcy Court has pointed out, GM's successful emergence from bankruptcy could not have occurred absent the Debtor-In-Possession (DIP) financing provided by Treasury.<sup>18</sup> According to the Court:

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<sup>15</sup> House Committee on Oversight and Government Reform Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending, Testimony of Thomas A. Kochan, *Hearing on Lasting Implications of the General Motors Bailout*, (June 22, 2011).

<sup>16</sup> Economic Policy Institute, *Huge Return on Investment* (Nov. 18, 2010) (online at [www.epi.org/page/-/IssueBrief290\\_FINAL.pdf?nocdn=1](http://www.epi.org/page/-/IssueBrief290_FINAL.pdf?nocdn=1))

<sup>17</sup> *G.M. Reports Earnings Tripled in First Quarter, as Revenue Jumped 15%*, The New York Times (May 5, 2011) (online at [www.nytimes.com/2011/05/06/business/06motors.html](http://www.nytimes.com/2011/05/06/business/06motors.html))

<sup>18</sup> *In re General Motors Corp., et al.*, 407 B.R. 463 (S.D.N.Y. 2009).

Absent adequate DIP financing, GM will have [had] no choice but to liquidate.... Only the U.S. and Canadian Governmental authorities were prepared to invest in GM.<sup>19</sup>

The weight of the evidence, both at the hearing and in bankruptcy court, reveals that private decisions between private parties have helped lead GM to its successful outcome, and are also responsible for the some of the unfortunate results of the auto industry's recent troubles. For instance, with regard to the Delphi pension issue, the bankruptcy court noted:

UAW retirees will get a better result [than others], but that is not by reason of any violation of the Code or applicable caselaw. It is because as a matter of reality ... the [need for] a properly motivated workforce to enable New GM to succeed, requiring it to enter into satisfactory agreements with the UAW--which includes arrangements satisfactory to the UAW for UAW retirees.<sup>20</sup>

Furthermore, as Prof. Kochan testified, opining on the GM's pension obligations as the company emerged from bankruptcy:

[T]here is a well-established principle (the contract assumption provision in Section 365 of the Bankruptcy Code) of honoring prior contracts of suppliers or other stakeholders with critical on-going relationships with a company. This is exactly the case here.

**The Majority's Misuse of Documents and Mistreatment of the Witness  
Compromised the Credibility of the Committee's Proceedings**

Despite the opportunity presented for the Subcommittee to examine the results of the federal investment in GM and explore constructive solutions to the regrettable situation still faced by some individuals, such as certain Delphi retirees, certain Members of the majority instead chose to use the hearing as a forum to smear a public servant.

Mr. Bloom served this country at a time when we needed a knowledgeable, experienced hand to guide the saving of a whole industry. Failure to do so would have greatly worsened the economic recession and possibly crippled the Midwest. Congress has an absolute right to conduct oversight on this and any other matter, but an objective approach would have acknowledged Mr. Bloom's efforts and accomplishments, and it would have accorded him respect. Instead, the majority's approach to this hearing resulted in grossly unfair treatment of Mr. Bloom -- by means of unsubstantiated allegations, selective use of evidence, mischaracterization of documents, and withholding of evidence and key facts.

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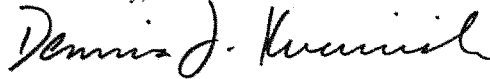
<sup>19</sup> *Id.*

<sup>20</sup> *Id.*



This regrettable conduct not only squandered an opportunity to perform oversight, but it damaged the credibility and integrity of the Committee. For the forgoing reasons, I must express my dissatisfaction with the conduct of this Committee and formally request that this letter be included in the official hearing record.

Sincerely,

A handwritten signature in black ink, reading "Dennis J. Kucinich". The signature is written in a cursive, slightly slanted style.

Dennis J. Kucinich  
Ranking Member,  
Subcommittee on Regulatory Affairs,  
Stimulus Oversight and Government Spending

Mr. JORDAN. I would just point out the e-mails are the e-mails, and when you have people in the administration telling people at the company how they should structure a press release, how they should write things, I think that speaks for itself as well.

Mr. KUCINICH. If I may, to my friend, Mr. Chairman, it is a tautology and it is true to say the e-mails are the e-mails. However, there is no evidence of collusion between GM and the Department of Treasury that would suggest that the government is running GM.

I would say, given the philosophy of some of my friends on this side of the aisle and that GM has had such success recently, to assert that the government was running GM would probably create a feeling that the government is either more competent than you think it is or that GM is less competent than you think it is. I think either of those two assertions might be interesting to have to cognize.

Mr. JORDAN. To my good friend, I would certainly say I think everyone on the committee, everyone in Congress, every American is pleased by the success of General Motors. But that doesn't dismiss the fact that, even today, half of the board—approximately half of the board were selected by the administration to sit on the board; that the taxpayers have invested \$50 billion in this company; and that there are all kinds of incentives, tax breaks, etc., for people to purchase this product. Those are the facts.

Mr. KUCINICH. The gentleman is correct about that. But the e-mails were about the government's position—

Mr. JORDAN. You talk about the totality of the situation. I just want to make sure we saw the whole situation.

Mr. KUCINICH. My friend is correct in asserting how this thing was structured. I supported it. I know some of my friends did not.

But I just want to say that if you look at the e-mails, they were about the government's role in characterizing what the government was doing, I believe not trying to direct GM.

So I just want to thank you for giving me the opportunity to present that. Thank you.

Mr. JORDAN. And while we are on the subject, if I could also enter into the record the Committee on Oversight and Government Reform preliminary report on the effects of the bailouts and the policy of the Obama administration on this issue.

Without objection, so entered.

[The information referred to follows:]

**U.S. House of Representatives**  
**Committee on Oversight and Government Reform**  
Darrell Issa (CA-49), Chairman  
Jim Jordan (OH-04), Chairman of the Subcommittee on Regulatory Affairs, Stimulus  
Oversight & Government Spending



**Government Motors: A Preliminary Report on the Effects of Bailouts and  
Politics on the Obama Administration's Ability to Protect American  
Consumers**

STAFF REPORT  
U.S. HOUSE OF REPRESENTATIVES  
112<sup>th</sup> CONGRESS  
January 25, 2012

**Executive Summary:**

The delayed public notification of serious safety concerns relating to the Chevy Volt raises significant concerns regarding the unnatural relationship between General Motors (GM), Chrysler and the Obama Administration. Rather than allowing GM and Chrysler to enter into a traditional bankruptcy process, the Obama Administration intervened and forced the companies to participate in a politically orchestrated process. The result was that GM and Chrysler emerged as quasi-private entities, partially owned by the United States government.

President Obama has used this unusual blurring of public and private sector boundaries to openly tout the results of this partnership as a top accomplishment of his Administration – creating a dynamic where the President is politically reliant on the success of GM and Chrysler. Moreover, in the case of GM, the Administration has offered substantial taxpayer funded subsidies to encourage production of the Volt, such as \$151.4 million in stimulus funds for a Michigan-based company that produces lithium-ion polymer battery cells for the Volt as well as \$105 million directly to GM. It has also extended a significant subsidy to encourage consumers to purchase the vehicle, offering buyers of the Volt a federal tax credit of up to \$7,500 per vehicle.

In the face of that political dependency, it is deeply troubling that public notification of the safety concerns related to the Volt was inexplicably delayed for six months – a period of time that also coincides with the negotiation over the 2017-2025 fuel economy standards. The necessity of a full explanation for NHTSA's silence concerning the Volt's safety risk has been compounded by its lack of cooperation with the Committee.

### Introduction:

In 2008, the domestic automobile industry was failing under the crushing burden of immense legacy costs caused by unrealistic commitments to retired workers, expensive union contracts, and the threat of economically crippling state fuel economy regulations. Reacting to these circumstances, the Obama Administration bypassed the opportunity to push General Motors (GM) and Chrysler into the traditional bankruptcy processes, and instead forced the companies through politically orchestrated bankruptcy procedures. GM and Chrysler emerged as quasi-private entities, partially owned by the United States government.<sup>1</sup> This unnatural relationship has blurred the lines between the public and private sector as President Obama touts the survival of General Motors as one of the top accomplishment of his Administration.<sup>2</sup> On a policy level, this relationship raises serious questions about whether or not the Administration is too heavily invested in the success of GM to be an effective regulator. Moreover, questions have been raised as to whether or not GM receives special deference from the Administration because of its status as a ward of the state. In the case of the Chevy Volt, it is well known that the Administration has heavily incentivized, through taxpayer subsidy, the production of the vehicle and touted it as the car of the future.<sup>3</sup> Accordingly, it is concerning that the Administration delayed public notification of serious safety concerns relating to the Chevy Volt for over six months, a time period that coincides with the negotiation over the Model Year 2017-2025 fuel economy standards.<sup>4</sup>

The necessity of a full explanation for NHTSA's silence concerning the Volt's safety risk has been compounded by its lack of cooperation with the Committee. On October 12, 2011, Administrator Strickland testified before the Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending. When several members, including Chairman Jordan and Vice Chairman Buerkle, questioned the Administrator about safety concerns surrounding cars that could meet the new fuel economy standards, he failed to mention the Volt fires and NHTSA's ongoing investigation.<sup>5</sup> Upon learning of the vehicle fire through press reports, Chairman Issa, Chairman Jordan, and Rep. Kelly wrote to NHTSA Administrator Strickland on December 7, 2011, asking for answers about the Volt fires and NHTSA's investigation of the matter.<sup>6</sup> After failing to respond before a December 21, 2011 deadline, NHTSA promised to respond in full by January 6, 2012.<sup>7</sup> However, NHTSA once again failed to respond to the new

<sup>1</sup> See "The Lasting Implications of the General Motors Bailout": Hearing before Subcomm. on Regulatory Affairs, Stimulus Oversight and Gov't Spending of the H. Comm. on Oversight and Gov't Reform, 112th Cong. (2011).

<sup>2</sup> Kerry Picket, *Axelrod ponders 'GM is Alive Bin Laden is Dead'*, THE WASHINGTON TIMES (Nov. 1, 2011), available at <http://www.washingtontimes.com/blog/watercooler/2011/nov/1/picket-axelrod-ponders-gm-alive-osama-dead-campaig/> [hereinafter Picket].

<sup>3</sup> Press Release, White House, *Remarks by the President at a Backyard Discussion in Des Moines, Iowa*, (Sept. 29, 2010).

<sup>4</sup> Press Release, White House, *President Obama Announces Historic 54.5 mpg Fuel Efficiency Standard*, (July 29, 2011).

<sup>5</sup> See "Running on Empty: How the Obama Administration's Green Energy Gamble Will Impact Small Businesses & Consumers": Hearing before the Subcomm. on Regulatory Affairs, Stimulus Oversight and Gov't Spending of the H. Comm. on Oversight and Gov't Reform, 112th Cong. (2011) [hereinafter *Running on Empty*].

<sup>6</sup> Letter from Darrell Issa, Jim Jordan, and Mike Kelly, H. Comm. on Oversight and Gov't Reform, to David L. Strickland, Nat'l Highway Traffic Safety Admin. (Dec. 7, 2011).

<sup>7</sup> Email from Chan Lieu, Nat'l Highway Traffic Safety Admin., to David Brewer, H. Comm. on Oversight and Gov't Reform (Dec. 21, 2011).

deadline, providing the Committee with no response and no explanation for the delay. Moreover, NHTSA delayed the Committee's investigation of the safety concerns surrounding the Volt by failing to schedule a briefing with Committee staff as requested on December 7, 2011. Only after a second letter sent on January 10, 2012, reiterating the Committee's request for cooperation,<sup>8</sup> did the Committee finally receive an incomplete response to the narrative questions posed in the letter on January 12, 2012,<sup>9</sup> followed by a staff briefing on January 17, 2012. After six weeks of stonewalling, NHTSA provided the Committee with some documents on Thursday, January 19, 2012. In contrast to NHTSA's unresponsiveness, GM has cooperated with the Committee's investigation, providing two substantial document productions by January 20, 2012.

This preliminary staff report explores the evolving relationship between GM and the Federal government. The report provides insight into NHTSA's approach to the investigation of the Volt battery fires and explores the question of whether government ownership of the company or political considerations created an unacceptable conflict-of-interest.

### **I. Government Motors**

Like many sectors of the U.S. economy, the automotive manufacturing industry came under extreme hardship during the financial crisis of 2008. By late 2008, it was clear that General Motors and Chrysler would have to undergo substantial restructuring in order to remain solvent. After a failed attempt by the Bush Administration to pass legislation authorizing the use of Troubled Asset Relief Program ("TARP") funds for the automotive industry in December 2008, the Obama Administration entered into dialogues with General Motors and Chrysler about possible government assistance.<sup>10</sup> Ultimately, these discussions led to a \$50 billion taxpayer-funded bailout of GM via a unilateral decision by the Obama Administration to authorize the use of funds from TARP. This process involved a bailout-bankruptcy hybrid that resulted in Treasury owning "60.8% of the new company, with the rest of New GM held by the United Auto Workers (UAW) retiree health care trust fund, the government of Canada and Ontario provincial government, and holders of Old GM's bonds."<sup>11</sup>

Currently, taxpayers still own 26 percent of General Motors, after having received \$13.5 billion in exchange for 412 million shares of GM stock sold in GM's November 2010 initial public offering.<sup>12</sup> Taxpayers will only be made whole on their \$50 billion bailout if GM's stock price reaches \$52 per share.<sup>13</sup> This is unlikely to occur in the near future considering the stock price remained between \$19 and \$39 for all of 2011 and is currently at around \$24 per share.<sup>14</sup>

<sup>8</sup> Letter from Darrell Issa, Chairman, H. Comm. on Oversight and Gov't Reform, to David L. Strickland, Administrator, Nat'l Highway Traffic Safety Admin. (Jan. 10, 2012).

<sup>9</sup> Letter from David L. Strickland, Administrator, Nat'l Highway Traffic Safety Admin., to Darrell Issa, Chairman, H. Comm. on Oversight and Gov't Reform, (Jan. 12, 2012) [hereinafter Strickland].

<sup>10</sup> Bill Canis and Baird Webel, Cong. Research Serv., R41978, THE ROLE OF TARP ASSISTANCE IN THE RESTRUCTURING OF GENERAL MOTORS (2011).

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

As is the case with bailouts, the government's stake in the automotive industry led to business decisions being dictated by political pressure, not market forces. Despite assurances by the Administration that it would not be involved in day-to-day decision making at the auto companies, this was a widespread occurrence. Documents turned over to the Committee on Oversight and Government Reform show the degree to which Administration officials were involved in operational decisions at GM. For instance, a May 2009 e-mail shows Treasury officials directing GM on how it should structure press releases, asking that references to the government's ownership of GM be moved, "taking it out of the lede."<sup>15</sup> Another e-mail shows a member of the Automotive Task Force telling GM to coordinate with the United Auto Workers ("UAW") about the pending termination of pension plans for which GM is responsible: "At a minimum this could get messy and the UAW should probably be brought into the loop."<sup>16</sup> The politicized nature of the bailout and the efficacy of the decisions made by the Obama Administration have created a situation in which the President's political prospects are tied to the success or failure of GM. One of President Obama's 2012 presidential campaign advisors quipped that the campaign's slogan should be: "GM is Alive; bin Laden is Dead."<sup>17</sup>

The Obama Administration has not been shy about expressing its enthusiasm for the Chevy Volt, a new electric car, heavily subsidized by the President's policies, which many hope will brand GM as a revitalized company with a bright future. Since January 2010, Obama Administration officials have made at least four public appearances at factories involved in the production of the Chevy Volt. When the first Chevy Volt electric battery came off the assembly line at a GM battery plant in Michigan, Secretary of Energy Steven Chu was present to publicly applaud the company.<sup>18</sup> Secretary of Labor Hilda Solis also visited a GM factory to observe the manufacturing of the Volt.<sup>19</sup> In addition to factory observations, President Obama test drove the Volt for a crowd at GM's Detroit-Hamtramck factory months before the Volt was released for retail purchase.<sup>20</sup> Thereafter, President Obama referred to the Volt as a "car of the future" and declared the Volt "drives really well."<sup>21</sup> Like in the case of Solyndra, the President has closely tied his reputation to the success of the Volt.

## II. Government Investment in the Electric Car

The Obama Administration touts EPA and NHTSA's recently proposed fuel economy standards for MY 2017-2025 as "one of the hallmark achievements" of his Administration:

<sup>15</sup> E-mail from Jenni Engebretsen, U.S. Treasury Department, to Greg Martin, General Motors, and Jennifer Psaki, Brian Deese, and Amy Brundage, White House. May 29, 2009.

<sup>16</sup> E-mail from Matthew Feldman, U.S. Treasury Department, to Walter Borst, Rick Westenberg, Adil Mistry, Francis Jaworski, and Thomas Croskey, General Motors. June 30, 2009.

<sup>17</sup> Picket, *supra* note 2.

<sup>18</sup> Sec'y Steven Chu, The White House Blog, *An Electrifying Event* (Jan. 7, 2010), <http://www.whitehouse.gov/blog/2010/01/07/electrifying-event>.

<sup>19</sup> Sec'y Hilda Solis, The White House Blog, *Going Further with America's Auto Industry* (Mar. 2, 2011), <http://www.whitehouse.gov/blog/2011/03/02/going-further-americas-auto-industry>.

<sup>20</sup> The White House, *Weekly Address: President Obama Hails Success of Restructuring of the Auto Industry* (July 31, 2010), <http://www.whitehouse.gov/photos-and-video/video/weekly-address-good-news-autos-obstruction-small-business#transcript>.

<sup>21</sup> See White House, *supra* note 4; see also Press Release, White House, *Remarks by the President in a Town Hall in Reno, Nevada*, (Apr. 21, 2011), <http://www.whitehouse.gov/the-press-office/2011/04/21/remarks-president-town-hall-reno-nevada>.

“something that will have a tangible impact on the environment, but also on our economy over the long term.”<sup>22</sup> These standards rely heavily on the commercial deployment of electric vehicle technology and provide manufacturers significant incentives to produce electric vehicles. As described in the joint proposed rulemaking, “After MY 2020, the only current vehicles that continue to meet the proposed footprint-based CO<sub>2</sub> targets (assuming improvements in air conditioning) are hybrid-electric, plug-in hybrid-electric (PHEVs), and fully electric vehicles (EVs).... Today’s Toyota Prius, Ford Fusion Hybrid, Chevrolet Volt, Nissan Leaf, Honda Civic Hybrid, and Hyundai Sonata Hybrid all meet or surpass the proposed footprint-based CO<sub>2</sub> targets through MY 2025.”<sup>23</sup> In order to encourage the production of these vehicles, the proposed rule offers manufacturers several large credits that provide incentives to produce electric cars. The most significant of these credits is an advanced technology credit (or the advanced technology “multiplier”) that would allow manufacturers to count vehicles more than once in CO<sub>2</sub> fleet average calculation.<sup>24</sup> This incentive would allow manufacturers to continue producing their more popular and more profitable cars (which have lower fuel economy ratings) while also giving them an incentive to produce electric cars, whether or not the market demands them. EPA describes this scheme as “temporary regulatory incentives for the commercialization of EVs, PHEVs, and FCVs...”<sup>25</sup>

The Obama Administration has also invested heavily in the development of new technology for electric cars: The American Recovery and Reinvestment Act of 2009 (ARRA) appropriated \$2.4 billion for domestic production of batteries and components for electric cars.<sup>26</sup> Of this, \$1.5 billion in grants were directed toward manufacturing the batteries<sup>27</sup> while the remaining \$900 million went to building new facilities or improving existing facilities to produce electric drive components.<sup>28</sup> This included \$151.4 million to Michigan-based Compact Power, Inc., for production of lithium-ion polymer battery cells for the GM Volt, \$105.9 million directly to GM for production of high-volume battery packs for the Volt, \$105 million to GM to construct facilities for electric drive systems, and \$89.3 million to Delphi Automotive Systems, a former division of GM, to expand manufacturing facilities for electric drive power components.<sup>29</sup> According to a new report by the non-partisan Mackinac Center, over \$2.99 billion – the equivalent of \$250,000 per Volt sold – of federal and state taxpayer money has been invested in the development and promotion of the Chevy Volt (as of December 2011).<sup>30</sup>

In addition to the subsidies and incentives going to auto and battery manufacturers, the Obama Administration has also made available tax credits to consumers in order to bring down

<sup>22</sup> Press Release, White House, *Press Briefing by Principal Deputy Press Secretary Josh Earnest* (Aug. 24, 2011), <http://www.whitehouse.gov/the-press-office/2011/08/24/press-briefing-principal-deputy-press-secretary-josh-earnest-8242011>.

<sup>23</sup> 76 Fed. Reg. 74,854, 75,010 (Dec. 1, 2011).

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> Bill Canis, Cong. Research Serv., R41709, BATTERY MANUFACTURING FOR HYBRID AND ELECTRIC VEHICLES: POLICY ISSUES (2011).

<sup>27</sup> *Id.*

<sup>28</sup> U.S. Dept. of Energy, Recovery Act Awards for Electric Drive Vehicle Battery and Component Manufacturing Initiative (Oct. 2011), [http://www1.eere.energy.gov/recovery/pdfs/battery\\_awardee\\_list.pdf](http://www1.eere.energy.gov/recovery/pdfs/battery_awardee_list.pdf).

<sup>29</sup> *Id.*

<sup>30</sup> E-mail from James Hohman, Mackinac Center for Public Policy, to Tyler Grimm, H. Comm. on Oversight and Gov’t Reform. (Jan. 6, 2012).



the price of EVs and stimulate sales. Buyers of the Volt will receive a federal tax credit of up to \$7,500 of per vehicle.<sup>31</sup> Many states also offer additional tax credits ranging from \$1,500 to \$6,000<sup>32</sup> and other states offer other incentives such as rebates or sales tax exemptions for electric car buyers.<sup>33</sup> There is some evidence that the tax credits are being used by auto dealers as well: a few dealers have bought Volts from other dealers, claimed the \$7,500 tax credit for the dealership, and resold the “used” car to a buyer (who wouldn’t be eligible for a tax credit).<sup>34</sup>

Accordingly, the Obama Administration has tied the political reputation of the President closely to the success of GM generally, and to the Chevy Volt specifically. Not only has the Administration offered substantial taxpayer funded subsidy to encourage the Volts production; it has also extended a significant subsidy to encourage consumers to purchase the vehicle; and the President has even offered the vehicle his personal endorsement.

### III. Consumer Demand for the Chevrolet Volt

The Administration has predicted widespread deployment of electric vehicles, like the Chevy Volt. However, real world sales call these optimistic projections into question. In his 2011 State of the Union address, President Obama announced his intention for the United States to “become the first country to have a million electric vehicles on the road by 2015.”<sup>35</sup> A February 2011 report from the Department of Energy reinforced these ambitions by projecting that there will be an ambitious supply of 1.222 million electric vehicles by 2015, including 505,000 Volts on the road.<sup>36</sup> Similarly, EPA’s proposed Greenhouse Gas rule for light duty vehicles projects 1.9 to 2.8 million cumulative electric vehicles (EVs), plug-in hybrid vehicles (PHEV), and fuel cell vehicle (FCVs) sales from 2017-2025. This estimate includes 1.3 to 2.0 million cumulative sales from 2022-2025 in order to justify the incentives described in section II of this report.<sup>37</sup> However, not every government report is as optimistic about the widespread penetration of the electric vehicle. For example, the U.S. Energy Information Administration projects automakers will only sell approximately 281,000 electric cars and light trucks between 2011 and 2015.<sup>38</sup> Similarly, GM’s sales target for 2012 is a more modest 45,000 Volts in the U.S. plus an additional 15,000 in Europe.<sup>39</sup>

<sup>31</sup> This tax credit is good until the second quarter after the manufacturer has produced 200,000 eligible vehicles, at which point a phase out of the credit will begin. Internal Revenue Serv., *Qualified Vehicles Acquired after 12-31-2009*, <http://www.irs.gov/businesses/article/0,,id=219867,00.html> (last visited Jan. 19, 2012).

<sup>32</sup> State and Federal Incentives, PLUG IN AMERICA, <http://www.pluginamerica.org/why-plug-vehicles/state-federal-incentives> (last visited Jan. 19, 2012).

<sup>33</sup> *Id.*

<sup>34</sup> Tiffany Hsu, Chevy Volt dealers inflate prices, take tax credits, L.A. TIMES (June 3, 2011), available at <http://articles.latimes.com/2011/jun/03/business/la-fi-autos-volt-20110603>.

<sup>35</sup> Press Release, White House, *Remarks by the President in State of Union Address* (Jan. 25, 2011), <http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address>.

<sup>36</sup> U.S. Dep’t of Energy, *One Million Electric Vehicles by 2015*, Status Report (Feb. 2011).

<sup>37</sup> Fed. Reg., *supra* note 24.

<sup>38</sup> Ariel Schwartz, *Can the U.S. Put One Million Electric Vehicles on the Road by 2015?*, FAST COMPANY (Jan. 31, 2011), available at <http://www.fastcompany.com/1722701/can-the-us-put-one-million-electric-vehicles-on-the-road-by-2015>.

<sup>39</sup> Sharon Terlep, *Volt Sales Rise Despite Safety Investigation*, WALL ST. J. BLOGS (Jan. 4, 2012), <http://blogs.wsj.com/drivers-seat/2012/01/04/volt-sales-rise-despite-safety-probe/>.

Despite its optimistic projections, EPA correctly noted in its proposed rule that vehicle cost, fuel cost, and “consumer acceptance” are major near-term market barriers, which could prevent saturation of the American market with electric and other alternative fuel cars.<sup>40</sup> GM’s experience with the Volt in 2011 appears to prove EPA’s predictions of challenges with consumer acceptance to be accurate. General Motors sold 7,671 Chevy Volts in the United States in 2011, more than 23 percent short of GM’s stated goal of selling 10,000 Volts in 2011.<sup>41</sup> Many of these sales, along with the fleet purchases, occurred in December 2011, providing a positive spin for GM in light of the negative issues surrounding the Volt fires. “The story that GM gave us that Volt sales were constrained by supply doesn’t hit the nail on the head. It was constrained by demand,” said Jeremy Anwyl, vice chairman of Edmunds.com, an automotive research website based in Santa Monica, California. “GM asked the dealers to sell the demonstration models but it didn’t seem to make a difference.”<sup>42</sup>

The majority of these cars were sold to households whose annual income is greater than \$100,000, to corporate owned fleets, and to the government. Deloitte’s early adopter profile for 2011-2020 predicts that most of the electric cars will be bought by young, very high-income individuals from households who already own more one or more vehicles.<sup>43</sup> Volt sales data for 2011 has demonstrated the accuracy of Deloitte’s predictions. According to data analyzed by Edmunds.com, the average annual income of Chevy Volt buyers is \$175,000<sup>44</sup> and over 50% of all electric car buyers have household incomes of \$100,000 or more per year.<sup>45</sup> Specifically, of the 5,221 Volts registered through October 2011, over 50 percent were sold to households with income of \$100,000 or more with over 30 percent of the total sales going to households with income of \$150,000 or more.<sup>46</sup> Less than 9.3 percent of Volts are purchased by households with income below \$50,000.<sup>47</sup>

GM and other manufacturers of EVs face significant hurdles as they try to convince more Americans to purchase these vehicles. According to analysis conducted by Deloitte, many potential car buyers cite that electric vehicles are “more expensive,” “have a limited range”, and they “don’t want a small car” as the top factors preventing them from purchasing electric cars.<sup>48</sup> Seventy percent of potential buyers surveyed state an electric vehicle would have to be able to

<sup>40</sup> Fed. Reg., *supra* note 23.

<sup>41</sup> General Motors, Sales Reporting and Data Management, *GM U.S. Deliveries for December 2011 by Model* (2011), [http://media.gm.com/content/Pages/news/us/en/2012/Jan/gmsales/\\_jcr\\_content/rightpar/sectioncontainer/par/download/file.res/Deliveries%20December%202011.pdf](http://media.gm.com/content/Pages/news/us/en/2012/Jan/gmsales/_jcr_content/rightpar/sectioncontainer/par/download/file.res/Deliveries%20December%202011.pdf).

<sup>42</sup> David Welch, *GM’s Chevy Volt Misses 2011 U.S. Sales Goal as Safety Probed*, BLOOMBERG (Jan. 4, 2012), <http://www.bloomberg.com/news/2012-01-04/gm-s-chevy-volt-misses-2011-sales-target-as-safety-probe-goes-on.html>.

<sup>43</sup> Deloitte Development LLC, *Gaining Traction: A Customer View of Electric Vehicle Mass Adoption in the U.S. Automotive Market* (2010), [http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us\\_automotive\\_Gaining%20Traction%20FINAL\\_061710.pdf](http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_automotive_Gaining%20Traction%20FINAL_061710.pdf).

<sup>44</sup> Rep. Mike Kelly, *Pull plug on electric vehicle subsidies*, USA TODAY (Dec. 1, 2011).

<sup>45</sup> E-mail from Jeremy Anwyl, Edmunds.com, to Kristina Moore, H. Comm. on Oversight and Gov’t Reform (Jan. 5, 2012).

<sup>46</sup> *Id.*

<sup>47</sup> *Id.* (this number may be even smaller when Volts received as gifts are factored in).

<sup>48</sup> Deloitte, *supra* note 43.

travel 300 miles before they would consider purchasing one; no electric car currently available has a battery range of more than 160 miles and there is little or no increase in range expected through 2013 according to announced vehicle introductions.<sup>49</sup> A follow-up survey in October 2011 reports that most Americans will not consider purchasing electric cars at the prices, ranges, and charging times currently available because they are too expensive to purchase and maintain and are not practical as a primary or sole vehicle.<sup>50</sup> The ability to recharge the Volt battery is also a significant barrier. According to the Deloitte survey, 61 percent of consumers surveyed do not have access to home-charging capabilities and only 17 percent would be willing to spend eight hours charging their vehicle at home.<sup>51</sup>

In addition to the challenges GM must overcome to broaden the appeal of the Chevy Volt, there are also startling differences in regional interest in the vehicle. Volt sales have been concentrated in two regions of the United States: California and Michigan. Twenty-nine percent of Volts have been sold to buyers in California. Rep. Jackie Speier, a member of the House Committee on Oversight and Government Reform, described the increased interest in Volts in California at a recent hearing: “there is a waiting list in my district at my Chevrolet dealership of six months to get a Chevy Volt.”<sup>52</sup> Notably, a quarter of the total U.S. Chevy Volts sold have gone to buyers in Southern California.<sup>53</sup> An additional 14 percent of Volts were sold to buyers in Michigan. Many of the Volts sold in Michigan can be attributed to discounts offered to GM employees and their friends and family through the GM Family First program.<sup>54</sup> No other state is home to more than eight percent of the Volt owners.<sup>55</sup>

It appears that fleet sales and purchases by the Federal government have provided a boost to the Volt’s anemic 2011 sales numbers. Over nine percent of Volt sales so far are from fleet sales to corporate buyers and rental car companies.<sup>56</sup> Many of the fleet sales were to General Electric Co. (GE), who promised in 2010 to buy 25,000 electric vehicles by 2015.<sup>57</sup> Interestingly, GE manufactures the WattStation, a charging station used by cities, businesses, and consumers.<sup>58</sup> From 2010-2011 buyers could receive a tax credit up to \$2,000 or 30-50% of the cost of the WattStation.<sup>59</sup> While GM continuously blames supply for missing its sales targets, industry analysts believe given the current lack of demand for Volts, only strong fleet sales will allow GM to meet its lofty sales targets: “I think fleet customers will help but it is going to be

<sup>49</sup> Deloitte Development LLC, *Unplugged: Electric Vehicle Realities Versus Consumer Expectations* (2011), [http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us\\_auto\\_DTTGlobalAutoSurvey\\_ElectricVehicles\\_100411.pdf](http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_auto_DTTGlobalAutoSurvey_ElectricVehicles_100411.pdf).

<sup>50</sup> *Id.*

<sup>51</sup> Deloitte, *supra* note 43.

<sup>52</sup> *Running on Empty*, *supra* note 6 (statement of Rep. Jackie Speier (D-Calif. 12)).

<sup>53</sup> M.G. Lord, *How Hollywood Sells the Electric Car*, THE HOLLYWOOD REPORTER (Aug. 5, 2011).

<sup>54</sup> General Motors, [https://www.gmfamilyfirst.com/GMVPP/content/media/pdf/employee\\_handout.pdf](https://www.gmfamilyfirst.com/GMVPP/content/media/pdf/employee_handout.pdf) (last visited Jan. 19, 2012).

<sup>55</sup> Anwyl, *supra* note 45.

<sup>56</sup> *Id.*

<sup>57</sup> Paul Glader and Michael Ramsey, *GE to buy 25,000 Electric Vehicles*, WALL STREET J. (Nov. 12, 2010).

<sup>58</sup> General Electric, *Meet the WattStation from GE: Commercial and Residential charging options for your electric vehicles*, <http://www.geindustrial.com/products/static/ecomagination-electric-vehicles/ge-wattstation.html> (last visited Jan. 19, 2012).

<sup>59</sup> General Electric, *Charging Ahead: Introducing the GE WattStation* (July 2010), <http://www.mass.gov/cea/docs/doer/clean-cities/ge-wattstation.pdf>.

tough to reach that 60,000 [sales target] mark without them” said Rebecca Lindland, an industry analyst with IHS Automotive.<sup>60</sup>

In addition, purchases from the federal government will likely bolster sales of the Volt and other electric vehicles. In response to a directive from the President, the General Services Administration (GSA) has launched a pilot program for electric vehicles with an initial purchase of 101 Volts (and 15 other electric cars) in May 2011.<sup>61</sup> The GSA program was launched as the first phase of compliance with President Obama’s memorandum requiring that by December 31, 2015, all light duty vehicles bought or leased by the federal government must be alternative fuel vehicles.<sup>62</sup>

#### IV. NHTSA and the Chevrolet Volt

As part of its New Car Assessment Program, on May 12, 2011, NHTSA subjected a Volt to a side-pole impact crash test at MGA Research Corporation, a NHTSA crash-test contractor in Burlington, Wisconsin.<sup>63</sup> Because the test dummies fared well, NHTSA awarded the Volt a 5-star Crash Rating – the Agency’s highest rating.<sup>64</sup> Three weeks later, the Volt exploded, igniting a fire that destroyed three vehicles parked nearby at the MGA facility.<sup>65</sup> In his response to the Committee, Administrator Strickland states that NHTSA employees first learned of the fire on Monday, June 6, 2011.<sup>66</sup> NHTSA retained a fire investigation firm to determine the cause of the explosion, and on July 5, NHTSA was notified that the Volt was the source of the fire.<sup>67</sup> Subsequently, NHTSA deconstructed the Volt’s battery, and concluded that the crash test damaged the lithium-ion battery pack and that the damage caused the explosion.<sup>68</sup> Specifically, during the crash, the battery was subject to “battery intrusion by a ferrous instrument” – in plain terms, a piece of the car’s frame or chassis punctured the battery case – piercing the battery and causing a leak in the coolant system. Over the next three weeks the leaking coolant crystallized. When this crystallized coolant came into contact with the fuel cells, which remained in a powered state, the battery was subject to “thermal runaway” and exploded. The explosion was powerful: one of the Volt’s struts – a fairly heavy piece of the suspension – was found almost 80 feet away from the burned-out car.<sup>69</sup>

<sup>60</sup> Tim Higgins, *GM’s Akerson Says He Will Align Volt Production to Sales Demand*, BLOOMBERG (Jan. 8, 2012), <http://www.bloomberg.com/news/2012-01-09/gm-s-akerson-says-he-will-align-volt-production-to-sales-demand.html>.

<sup>61</sup> Sara Merriam, Sahar Wali, and Jen Stutsman, U.S. GEN. SERVS. ADMIN., *Obama Administration Takes Major Step Toward Advanced Vehicles with New Fleet Management Practices and Launch of First Federal Electric Vehicle Pilot* (May 24, 2011), <http://www.gsa.gov/portal/content/281789>.

<sup>62</sup> Press Release, White House, Presidential Memorandum – Federal Fleet Performance (May 24, 2011).

<sup>63</sup> Nat’l Highway Traffic Safety Admin., Summary of NHTSA Action Number PE11037, available at [http://www-odi.nhtsa.dot.gov/defects/results.cfm?action\\_number=PE11037&SearchType=QuickSearch&summary](http://www-odi.nhtsa.dot.gov/defects/results.cfm?action_number=PE11037&SearchType=QuickSearch&summary) [hereinafter NHTSA]; H. Comm. on Oversight and Gov’t Reform Staff Briefing by NHTSA (Jan. 17, 2012).

<sup>64</sup> Nat’l Highway Traffic Safety Admin., Database of Vehicle Safety Ratings, available at <http://www.safercar.gov/Vehicle+Shoppers/5-Star+Safety+Ratings/2011-Newer+Vehicles/Vehicle-Detail?vehicleId=232>.

<sup>65</sup> NHTSA, *supra* note 63.

<sup>66</sup> Strickland, *supra* note 9.

<sup>67</sup> *Id.*

<sup>68</sup> *Id.*

<sup>69</sup> H. Comm. on Oversight and Gov’t Reform Staff Briefing by NHTSA (Jan. 17, 2012).

*Timeline of NHTSA's Response*

Administrator Strickland asserts that after determining the Volt's battery pack was to blame, "NHTSA worked continuously to replicate the May crash test in order to understand the possible safety implications following a severe crash event."<sup>70</sup> However, the Administrator has so far failed to identify any actions taken by NHTSA to investigate the explosion between July 2011 and late September, when the Volt was subjected to a follow-up side pole impact test.

On November 11, 2011, *Bloomberg News* broke the story of the June fire.<sup>71</sup> A week later, after developing component-level testing procedures in conjunction with outside agencies, NHTSA conducted a series of simulated crash tests on Volt lithium-ion battery packs.<sup>72</sup> One battery pack began to emit smoke and sparks within a few hours of the test, and another caught fire on November 24, one week after being tested.<sup>73</sup> NHTSA opened its formal safety defect investigation of the post-crash fire risk in the Chevrolet Volt the next day – almost six months after the initial explosion occurred.<sup>74</sup> On December 6, 2011, Transportation Secretary Ray LaHood declared that the Chevy Volt is safe to drive even though NHTSA was still investigating fires caused by damage to the electric car's battery.<sup>75</sup>

Public statements by GM indicate the company was aware of the dangers of a damaged battery even before NHTSA's May 12 side impact test. After news of the June fire became public in November, GM spokesman Greg Martin insisted that GM had long since established a set of safety protocols to prevent a fire after the Volt's battery had been damaged. "The engineers tested the Volt's battery pack for more than 300,000 hours to come up with the procedures, which include discharge and disposal of the battery pack," he said.<sup>76</sup> Mr. Martin went so far as to claim that "had those protocols been followed after [the May 12<sup>th</sup> test], this incident would not have occurred."<sup>77</sup> Clarence Ditlow, executive director of the Center for Auto Safety, stated he was "surprised NHTSA didn't depower the battery after the first test in May, since it is standard procedure to drain fuel out of a conventional gasoline powered vehicle."<sup>78</sup>

*GM's Remedy*

On January 5<sup>th</sup>, GM announced that all of the 8,000 Volts on the road and another 4,400 still in dealership inventory were eligible for free repairs to battery system.<sup>79</sup> By conducting these repairs under the aegis of what GM North America President Mark Reuss called a

<sup>70</sup> Strickland, *supra* note 9.

<sup>71</sup> Jeff Green, David Welch, and Angela Greiling Keane, *Regulators probe lithium batteries after GM's Volt catches fire*, THE WASHINGTON POST (Nov. 12, 2011).

<sup>72</sup> Strickland, *supra* note 9.

<sup>73</sup> *Id.*

<sup>74</sup> *Id.*

<sup>75</sup> The Associated Press, *LaHood: Chevy Volt is Safe Despite Battery Fires*, MLIVE.COM (Dec. 6, 2011), available at [http://www.mlive.com/auto/index.ssf/2011/12/lahood\\_chevy\\_volt\\_is\\_safe\\_desp.html](http://www.mlive.com/auto/index.ssf/2011/12/lahood_chevy_volt_is_safe_desp.html).

<sup>76</sup> Joan Lowry and Tom Krisher, *Electric car battery catches fire after crash test*, THE ASSOCIATED PRESS (Nov. 11, 2011).

<sup>77</sup> *Id.*

<sup>78</sup> Christina Rogers, *The Volt battery challenge*, AUTOMOTIVE NEWS (Dec. 5, 2011) [hereinafter Rogers].

<sup>79</sup> Tom Krisher and Dee-Ann Durbin, *GM to add more steel to Volt to protect battery*, THE ASSOCIATED PRESS (Jan. 5, 2012).

“voluntary customer satisfaction program,” GM avoided the federal monitoring that would have occurred under a recall conducted in cooperation with the NHTSA.<sup>80</sup> According to a January 5<sup>th</sup> press release:

NHTSA crashed a Chevy Volt retrofitted with GM’s newly designed steel reinforcement device in a side-pole impact test on December 22. The results of that crash showed no intrusion into the vehicle’s battery compartment ... the preliminary results of the crash test indicate the remedy proposed by General Motors today should address the issue of battery intrusion.<sup>81</sup>

NHTSA’s decision not to participate in the recall process stands in marked contrast to the responses of other safety regulatory agencies. For example, the Consumer Products Safety Commission (CPSC) has, to date, conducted thirty-nine unique recalls involving lithium-ion batteries that presented a safety risk. These recalls are often premised on just a few, or even only one, reported incident of overheating, and sometimes just the mere suspicion that overheating may occur.<sup>82</sup> The activism of the CPSC in dealing with the safety risks in lithium-ion batteries calls into question the impetus of NHTSA’s decision to both remain silent on Volt’s safety risk and to decline to participate in a formal recall plan.

*Is NHTSA Prepared to Regulate Lithium-Ion Battery Technology in Motor Vehicles?*

NHTSA’s handling of the Volt fire also reveals a broader, and more distressing, unfamiliarity with lithium-ion battery technology, which will necessarily become more widespread as a result of government mandates. It is unclear why NHTSA engineers failed to drain the battery of the vehicle used in the May 12 crash at the conclusion of the simulation. It appears NHTSA did not even contemplate a “delayed thermal heating and pressure release” – in layman’s terms, an explosion – as a result of the impact, as is evidenced by the fact that the vehicle was stored in close proximity to other vehicles at the facility in Wisconsin.<sup>83</sup> The overheating risk associated with lithium-ion batteries should not have taken NHTSA by surprise. Paul Denholm, a senior energy analyst at the National Renewable Energy Laboratory, explains that it has long been understood that storing so much energy in a small space like a lithium-ion battery “creates the risk of an uncontrolled energy release like a fire or explosion.”<sup>84</sup> This threat becomes especially pronounced when the battery is subject to abuse – as in a vehicle test crash.<sup>85</sup> NHTSA’s apparent ignorance of these safety risks is alarming given the growing prevalence of lithium-ion batteries on our nation’s roadways.

*NHTSA’s Six Month Silence*

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<sup>80</sup> *Id.*

<sup>81</sup> Press Release, Nat’l Highway Traffic Safety Admin., *Statement of NHTSA on GM’s Plan to Address Potential Fire Risk in Chevy Volts* (Jan. 5, 2012).

<sup>82</sup> Consumer Products Safety Commission, Database of Product Recalls, *available at* [www.saferproducts.gov](http://www.saferproducts.gov) (last visited Jan. 19, 2012).

<sup>83</sup> NHTSA, *supra* note 63.

<sup>84</sup> Umair Irfan, *The emerging risks and benefits of energy storage systems*, CLIMATEWIRE (Nov. 30, 2011).

<sup>85</sup> *Id.* (quoting statement of Joe Redfield, principal engineer at the Southwest Research Institute).

Moreover, the delayed notification of the public is also cause for concern. NHTSA's six month silence on the Volt's fire risks has baffled automotive safety advocates. Joan Claybrook, a former Administrator of NHTSA and well known auto-safety advocate, told the industry newspaper *Automotive News* that "not to tell [the public] anything for six months makes no sense to me. NHTSA could have put out a consumer alert and I think they should have done so."<sup>86</sup> She went on to say, "I believe they delayed it because of the fragility of sales."<sup>87</sup> Clearly, it would be inappropriate for NHTSA to take into account factors other than safety when determining public notification of a vehicle hazard.

In addition to not wishing to suppress vehicle sales, it is also possible that the ongoing negotiations between NHTSA, EPA, GM, and other manufacturers to agree on fuel economy standards for MY 2017 – 2025 incentivized NHTSA to remain silent on the issue. As noted earlier, the Chevy Volt has been touted as one of the few vehicles that could comply with the stringent standards. On May 21, 2010, the Obama Administration announced that it was beginning the rulemaking process for new fuel economy standards for MY 2017-2025.<sup>88</sup> According to internal documents obtained by the Committee, it appears that negotiations over the fuel economy standards began in earnest during the spring of 2011. The fire occurred on June 2, 2011.<sup>89</sup> NHTSA's investigation and response to that fire proceeded concurrently as the agency finalized negotiations on fuel economy and emissions regulation for model years 2017-2025. *Bloomberg News* broke the story of the Volt fires on November 11, 2011.<sup>90</sup> NHTSA and EPA formally proposed the joint rulemaking for fuel economy on November 16, 2011, and nine days after the joint proposal was official, on November 25, 2011, NHTSA officially addressed the questions raised by the Volt fire and announced a formal defect investigation.<sup>91</sup> Clearly, it would be inappropriate if NHTSA had stayed silent on the Volt battery's safety risks in exchange for GM's cooperation on the rulemaking.

#### V. NHTSA and Regulatory Competence

Cars powered by lithium ion batteries are not inherently less safe to drive than those powered by gasoline engines. However, both the government and the private sector's knowledge of how to cope with the risks posed by traditional automotive technology have grown with the evolution and consumer acceptance of the vehicles. Lithium-ion batteries clearly implicate different risks than combustion engines and these risks are not well understood. In light of NHTSA's recent experience with the Volt fires, and its failure to drain the battery after a significant collision, it is evident that the technology is not well understood by the federal agency responsible for enforcing vehicle safety mandates. However, government mandates and incentives are seeking to put more of these vehicles on the road at an exponential pace. In addition to the Chevrolet Volt, lithium-ion batteries power the Nissan Leaf, the Tesla Roadster,

<sup>86</sup> Rogers, *supra* note 78.

<sup>87</sup> *Id.*

<sup>88</sup> Press Release, White House, *Presidential Memorandum Regarding Fuel Efficiency Standards* (May 21, 2010).

<sup>89</sup> NHTSA, *supra* note 63.

<sup>90</sup> Jeff Green, David Welch, and Angela Greiling Keane, *GM Volt Fire After Crash Said to Prompt Lithium-Battery Probe*, BLOOMBERG NEWS (Nov. 12, 2012), available at <http://www.bloomberg.com/news/2011-11-11/gm-volt-battery-fire-is-said-to-prompt-u-s-probe-into-electric-car-safety.html>.

<sup>91</sup> Press Release, Nat'l Highway and Traffic Safety Admin., *Statement of NHTSA on Formal Safety Defect Investigation of Post-Crash Fire Risk in Chevy Volts* (Nov. 25, 2011), available at <http://www.nhtsa.gov/PR/Volt>.

and the Fisker Karma. The risk of such powerful batteries overheating or catching fire calls into question what – if anything – NHTSA is doing to promote the standardization and adoption of safety protocols for this potent battery technology. Standardized protocols are particularly necessary for first-responders to accidents; the lack of such protocols requires first responders to learn numerous idiosyncratic safety procedures dependent upon the particular make or model of electric vehicle.

It does not appear that NHTSA has developed a protocol for responding to severe crashes involving electric vehicles. It is also unclear whether or not GM's plan for responding to accidents involving the Volt will be sufficient. Since the Volt fire in June 2011, GM developed its current plan to send trained response teams to accidents, upon notification by GM's OnStar system of air bag deployment.<sup>92</sup> However, with both GM and the Administration projecting the sales of Volts and other electric cars to dramatically increase by 2015,<sup>93</sup> it is unclear whether or not this "spot treatment" will continue to be adequate or even possible.

The demonstrated safety risks attendant to the use of lithium-ion technology demand that NHTSA approach its regulatory responsibilities – particularly with regards to the post-accident response – with due diligence and full competence. However, the experience of the Volt safety assessment reveals that NHTSA concluded standardized safety protocols for lithium-ion technology were unnecessary before it even had conducted the requisite crash-test research. In fact, this appears to be yet another example of a "decide first, research later" approach endemic to NHTSA. Such a policy was explicitly conceded by Secretary LaHood in a letter to Senator Mark Pryor, admitting that NHTSA had moved forward with CAFE standards for MY 2017-2025, despite the fact that key studies necessary to evaluate the safety performance of certain advanced technology have not been completed.<sup>94</sup>

The seriousness of the post-accident response cannot be overstated: Mary Barra, GM's Senior Vice President for Global Product Development, stated "[w]hen electrical energy is left in a battery after a severe crash, it can be similar to leaving gasoline in a leaking fuel tank after severe damage."<sup>95</sup> The Volt vehicle fire has shined a light on the lack of knowledge and relative unpreparedness of NHTSA to respond to risks associated with lithium-ion battery technology in vehicles. This in turn begs the question of whether the government is inappropriately pushing the wide-spread deployment of these vehicles before the associated risks are understood and managed appropriately.

### **Conclusion**

At a Committee hearing in February 2010, focused on NHTSA's handling of the Toyota "Sticky Gas Pedal" investigation, Secretary LaHood pledged "when it comes to safety, there will be no compromises. There will be no cozy relationships. There will be no sweetheart deals.

<sup>92</sup> Tom Krisher, *Coolant leak likely cause of Volt fires*, THE ASSOCIATED PRESS (Dec. 7, 2011).

<sup>93</sup> See Section III for more detail.

<sup>94</sup> Letter from the Honorable Ray LaHood, Sec'y of Transportation, to the Honorable Mark Pryor, U.S. Senator (May 16, 2011) (on file with author).

<sup>95</sup> Statement of Mary Barra, Senior Vice President for Global Product Development, in General Motors Conference Call Advisory (Nov. 28, 2011).



You have my commitment on that. Not under my watch.”<sup>96</sup> It remains to be seen whether the Obama Administration has provided GM special treatment in responding to the Volt fire in June, 2011. NHTSA’s true motivations for delaying public notice of the Volt fire investigation and its obstruction of this Committee’s investigation are not currently known. However, it is clear that the Administration has tremendous incentives to protect the political investment it has made in the company and the vehicle. The President has made the survival of GM a central campaign issue, he has personally endorsed the Volt, and his Administration has touted the vehicle as one of the few cars currently produced that can satisfy its proposed fuel economy regulations. Accordingly, the American people have a right to know the exact nature of the relationship between GM and the Administration and the implications this relationship has for public safety.

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<sup>96</sup> “*Toyota Gas Pedals: Is the Public at Risk?*”: Hearing before the H. Comm. on Oversight and Gov’t Reform, 111th Cong. (2010) (question and answer with Sec’y Ray LaHood).

**About the Committee**

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The Committee on Oversight and Government Reform is the main investigative committee in the U.S. House of Representatives. It has authority to investigate the subjects within the Committee's legislative jurisdiction as well as "any matter" within the jurisdiction of the other standing House Committees. The Committee's mandate is to investigate and expose waste, fraud and abuse.

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Committee on Oversight and Government Reform  
Chairman, Darrell Issa (CA-49)

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2157 Rayburn House Office Building  
Washington, DC 20515

Mr. KELLY. If I could, Mr. Chairman.

Mr. JORDAN. Mr. Kelly gets the last word, Mr. Akerson.

Mr. KELLY. I don't mean to have the last word, but we use this term "the government's investment." We are talking about this body made a decision. This is taxpayer money. We are not some benevolent monarchy that showers favors on people. We take it out of hardworking American taxpayers' pockets and then we decide who gets it.

I am appalled by this attitude down here that somehow we have the ability to pick and choose winners and losers not with our own money but with taxpayer money. And then we say, well, geez, you know what? We made a great decision for you taxpayer. Really? Really. \$50 billion—that is a B. That is a lot of money, in a town that throws around trillions like it doesn't matter, and it doesn't matter to them because it is not their money.

And I am going to tell you, Mr. Kucinich, you and I agree on a lot of things and we are entitled to our own opinions, but we are not entitled to our own facts. The truth of the matter is the government has been involved in this far deeper than they ever should have been to begin with.

Mr. Akerson knows how to run GM. He has a history of running great companies. He does not need somebody who has never run a company to tell him how he is going to spend the money and we are going to shower this on you.

I am going to tell you, if you want to throw money, if you want to throw \$7,500 in a tax incentive and then Pennsylvania throw another \$3,500 in a tax incentive and you want to talk about rate of sale and days supply, when it is your money that is on the shelf and it is your product that has to turn because it is your dollars and you are damn careful about how you put that money. This is taxpayer money that is being used.

Mr. KUCINICH. Will my friend yield?

Mr. KELLY. No, I am not going to yield, because I got to tell you something. There is such a disconnect in this town with the way the real world works. General Motors does not need the help of the taxpayers to subsidize their cars. You want to move a market? Throw \$7,500 on a Cruze. Not from the General Motors, from the taxpayers. You want to see that needle jump? You want to put thousands of people back to work? You can do it in a lot of different ways. But you know what? Stop taking it out of my wallet.

And I am deeply offended by the attitude down here that somehow this merry-go-round is going to continue to spin and there is no consequence. There are a hell of a lot of important things that happen, unintended consequences, by people who have never done it, don't have any skin in the game, and are spending taxpayer dollars. That is absolutely ridiculous, and that is something we have to stop doing.

This has nothing to do with Mr. Akerson. This has nothing to do with General Motors. This has to do with an administration that can't keep its fingers out of pie.

Mr. KUCINICH. If I may, in response—

Mr. JORDAN. The gentleman is recognized.

Mr. KUCINICH. Just briefly, this hearing was I thought about the safety of the Volt. It may have other dimensions. I want to tell Mr.

Kelly, who is my friend, I did not vote for the bailout of the banks because I didn't want the government to be involved in picking winners and losers.

Now, the American automotive industry was on the verge of collapse; and I felt, given the primacy of that American automotive industry to our strategic industrial base, including automotive, steel, aerospace, and shipping, that the prudent thing to do would be to make an attempt to rescue it. GM's management has helped to conclude it.

But, again, I don't see—and to my good friend, we have strong differences of opinion on this point. I understand and respect that. I really do respect you. But I just think that the evidence of collusion that is being offered here hasn't been supported by the facts. And I again respect you greatly.

Thank you.

Mr. JORDAN. With that, we want to thank Mr. Akerson. I know you are a busy man running a big company. We appreciate what you do, and we appreciate you taking the time to be with us this morning.

Mr. AKERSON. Thank you, Mr. Chairman.

Mr. JORDAN. All right, we will quickly move to our third witness. If the staff can help us set that up. We have to get out of here in about 15 minutes.

I am pleased to welcome to the committee Mr. John German, who is a senior fellow and program director for the International Council on Clean Transportation. I apologize for the long time—for the way the arrangement had to be worked out. So you are the third panel. You get the final say. But, unfortunately, we may not have too many Members here.

Mr. GERMAN. Mr. Chairman, good morning.

Mr. JORDAN. I forgot an important thing. We have to swear you in.

Would you raise your right hand?

Thank you.

[Witness sworn.]

Mr. JORDAN. Let the record show the witness answered in the affirmative.

Now you can go.

**STATEMENT OF JOHN GERMAN, SENIOR FELLOW, THE  
INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION**

Mr. GERMAN. Mr. Chairman, good morning. My name is John German. I am a senior fellow and program director for the International Council on Clean Transportation. Before joining the ICCT, I spent 8 years in Powertrain Engineering at Chrysler, followed by 13 years with EPA's Office of Mobile Sources and 11 years with American Honda Motor Co.

Thank you for the opportunity to present the ICCT's views on lithium-ion battery safety and on the role electric vehicles play in the proposed 2017–2025 CAFE and greenhouse gas standards. Briefly put, our position is that the issues raised by the Chevy Volt battery fire have been seriously misinterpreted by being pulled out of context, that the lithium-ion batteries used in vehicles are far safer than those used in laptops and are far safer than gasoline,

and that in any case these issues are irrelevant to the proposed standards because manufacturers will not need plug-in electric vehicles to comply.

The recall of almost six million Sony laptop battery cells illustrates that lithium-ion batteries have the potential to catch on fire. However, it is important to understand that lithium-ion refers to a broad family of chemistries that vary dramatically in voltage, capacity, durability, and safety, depending on the compounds used.

Cars are not laptops. Every auto manufacturer has worked to develop lithium-ion chemistries that are much more abuse tolerant, as well as more durable. Safety is further improved with cooling systems, internal cell isolation, and external packaging of the battery pack.

Every auto manufacturer also understands that any new automotive technology will be scrutinized minutely. Problems with safety, drivability, and reliability will be highly publicized and may create the perception that the new technology has problems. Thus, manufacturers take great pains to ensure problems with new technologies are minimized and start with low-volume production so that they can closely monitor and quickly correct any unanticipated problems.

The proper context for the Chevy Volt battery fire is this:

This was a single incident that occurred after a highly invasive crash test, not in-use.

It took 3 weeks for the fire to start.

The battery was not discharged after the crash test. Thanks to extensive outreach and education by Toyota and Honda and experience with hybrid vehicles, body shops and junkyards know to disconnect or discharge the battery pack before working on or storing a vehicle, just as they remove any fuel from the tank.

The fire was extremely difficult for NHTSA to reproduce.

There have been no fires related to lithium-ion batteries reported in the Volt, the Nissan Leaf, or any hybrid vehicle using lithium-ion batteries.

More important, the relevant question is not whether lithium-ion batteries can cause a fire under extreme conditions but whether electric vehicles are safer than conventional vehicles. Let me quote here from a 2010 report by the National Fire Protection Association: "In 2003–2007, U.S. fire departments responded to an average of 287,000 vehicle fires per year. These fires caused an average of 480 civilian deaths, 1,525 civilian injuries, and \$1.3 billion in direct property damage annually."

There are approximately 250 million vehicles in the United States, which means there is about one vehicle fire per year for every 1,000 vehicles. Such a high rate of vehicle fires would be completely unacceptable for any new technology or fuel. It is only a pause of our long familiarity with gasoline fires that we accept this level of risk and fatalities, even as an isolated battery pack fire 3 weeks after a crash test with no one in the vehicle generates headlines for weeks.

Electric vehicles are far safer than gasoline-fueled vehicles with respect to fires.

As I noted, perceived risk can be very different from actual risk, and it is possible that publicity about rare lithium-ion battery fires

could depress electric vehicle sales. However, even if this occurred, it will have no impact on the ability of manufacturers to comply with the proposed standards, as plug-in electric vehicles are not needed to meet them.

The opportunities to reduce fuel consumption in the near term using conventional technology are much greater than most people realize. Computer simulations and computer-aided design are enabling vastly improved designs and technologies. On-board computer controls provide unprecedented optimization of vehicle operation. Rather than slowing down, the pace of technology development has accelerated.

To give a single example, in 2001 the National Research Council estimated that turbocharging and downsizing would improve fuel economy by 5 to 7 percent. Current estimates are 10 to 15 percent, as in the Ford EcoBoost engines. This doubling of the efficiency benefit in 10 years is not because the older estimates were wrong but rather due to rapid improvements in combustion and turbocharging technology. The efficiency estimates in the proposed rule are actually quite conservative.

The enormous advantages to society from reducing the amount of transportation fuel we consume are well documented, from the energy security benefits of reduced oil imports and improved balance of trade to the economy-wide benefits of putting billions of dollars in fuel savings into consumers' pockets. Countries worldwide are adopting comparable efficiency standards. In this dynamic global auto market, the United States must be able to compete on the same technology terms.

The written testimony I submitted to the committee contains more detail on these points, and I would be happy to address any questions. Thank you.

[The prepared statement of Mr. German follows:]

**Statement of John German  
Senior Fellow and Program Director  
International Council on Clean Transportation (ICCT)**

**Before the**

**Subcommittee on Regulatory Affairs, Stimulus Oversight & Government Spending**

**Committee on Oversight and Government Reform**

**U.S. House of Representatives**

**January 25, 2012**

Mr. Chairman, good morning. My name is John German, Senior Fellow and Program Director for the International Council on Clean Transportation (ICCT), with primarily responsibility for technology innovation and U.S. policy development. In earlier stages of my career, I spent 8 years in Powertrain Engineering at Chrysler working on fuel economy issues, followed by 13 years doing research and writing regulations for EPA's Office of Mobile Sources and 11 years as Manager of Environmental and Energy Analyses for American Honda Motor Company. Thank you for the opportunity to appear before the House Committee on Oversight and Government Reform to present our views on safety of Li-ion batteries and electric vehicles and of the role that electric vehicles play in the 2017-2025 proposed CAFE and greenhouse gas (GHG) standards.

**Background: Li-ion battery characteristics**

It is well known that Li-ion batteries have the potential to generate high temperatures and thermal runaway, including fires. Pictures of blazing laptops and the recall of almost 6 million Sony Li-ion laptop battery cells in 2006 made this very clear. Pure Lithium is highly reactive and it generates hydrogen gas when exposed to water. Among other safety measures, the cells are rigorously sealed to exclude water.

It is essential to understand that, unlike lead-acid and nickel-metal-hydrate (NiMH) batteries, Li-ion refers to a broad family of chemistries. Lead-acid and NiMH batteries both have consistent chemistries and there is little difference in the safety characteristics across the range of applications. This is not true of Li-ion batteries, which can have a virtually infinite number of different compounds. These different compounds are all based on Lithium, but depending on material choices the voltage, capacity, durability, and safety of a lithium-ion battery can change dramatically.

Batteries for laptops are generic and sales are highly competitive. Thus, there is massive pressure for laptop battery manufacturers to pack more power into less space, and to do it at lower cost. At least before the Sony battery fires, safety was a secondary consideration. Certainly safety was important, but the consideration was whether safety was "good enough" and it was not a characteristic on which suppliers competed for sales. The most common chemistry

for consumer grade electronics is lithium-cobalt oxide (LCO), which has high energy density and is low cost. However, the reliability, durability, and abuse tolerance of LCO are poor, which makes it a poor choice for vehicle use.

Virtually every manufacturer has worked individually and with battery suppliers to develop Li-ion chemistries that are much more abuse tolerant, as well as being more durable and reliable. Still, there are substantial tradeoffs between these automotive-grade Li-ion chemistries. The following table provides a summary of the more prominent Li-ion cell designs that have developed, although the list is far from exhaustive and may be a little out of date.

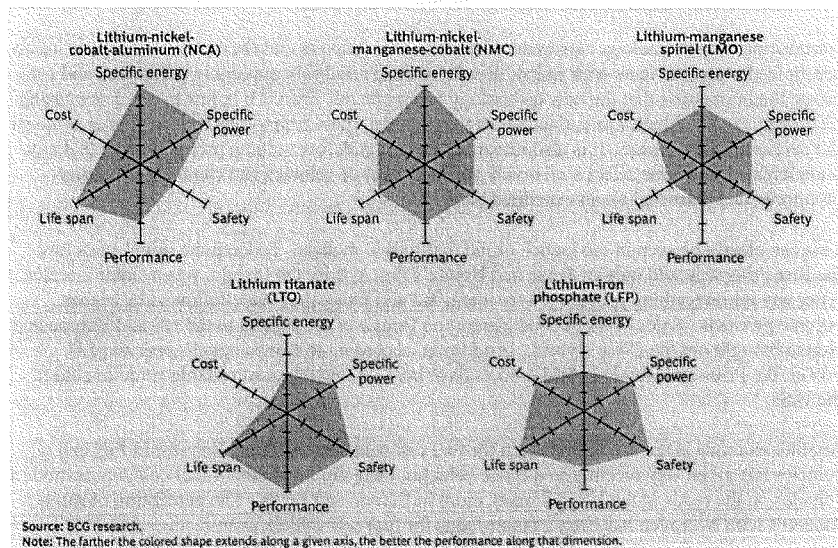
**Properties of Near-Term Li-ion Battery Cells**

Type	Cathode (all include Li)	Anode	Cathode voltage (approx.)	Cell Structure	Battery Developer	OEM customers
NCA	Nickel cobalt aluminum oxide	Graphite	3.6v	Cylindrical	Johnson Controls/Saft	Mercedes, BMW HEV
				Prismatic – metal can	PEVE	Toyota
LMO	Manganese spinel	Graphite	3.7v	Pouch	LG Chem	GM, Ford
				Pouch	AESC (NEC & Nissan)	HEV & Nissan Leaf
				Cylindrical	HVE (Hitachi)	Future GM HEVs
LTO	Manganese spinel	Li Titanium Oxide	2.5v	Prismatic	EnerDel	Think City EV
LFP	Iron Phosphate	Graphite	3.3v	Pouch	A123	Fisker PHEV
				Cylindrical	A123	BMW, Mercedes HEV
NMC	Nickel manganese cobalt		3.6v	Prismatic – metal can	Sanyo	VW, Suzuki HEVs Future Toyota HEVs
				Prismatic – metal can	SB LiMotive (Samsung & Bosch)	BMW
	LMO-NMC blend	Graphite	3.7v	Prismatic	Lithium Energy Japan (GS-Yuasa & Mitsubishi)	Mitsubishi
				Pouch	SK Energy	

(Source: John German, Hybrid Powered Vehicles, SAE Technology Profile T-119, 2<sup>nd</sup> edition, book published by Society of Automotive Engineers, Warrendale, Pa., 2011)



The tradeoffs between these different cell chemistries are somewhat subjective. A 2010 report by the Boston Consulting Group offered their assessment of these tradeoffs, as presented in the following figure.



(Source: The Boston Consulting Group - Batteries for E-cars report 2010)

The battery cells used by the Chevy Volt are supplied by LG-Chem and GM assembles the battery pack itself. LG-Chem uses a magnesium spinel (LMO) cell chemistry. Of the five automotive-grade cell chemistries assessed by the Boston Consulting Group, LMO rates about in the middle on safety. Note that consumer grade cells, such as LCO, are not included in the table. Their safety characteristics are much worse than any of the automotive-grade chemistries in the table.

Of course, overall safety is determined by more than just the cell chemistry. The type and effectiveness of the cooling system, internal pack construction and cell isolation, and external packaging of the battery pack also have major impacts on the safety of the battery pack. To make it even more difficult to assess the relative safety impacts, it is often difficult to assess potential safety effects under laboratory conditions.

### Electric Vehicle Safety

Established vehicle manufacturers are extremely risk averse. They have to be. Just mislocating the position of the acceleration pedal by a fraction of an inch cost Toyota over a billion dollars.

Introducing new technology carries an additional risk, which is that the new technology is highly scrutinized. Any problems with safety, drivability, and reliability are highly publicized and can create the impression that the new technology has problems, even if it is just as good as existing technologies. Established manufacturers know that their new technology must be better to avoid the *perception* of an issue. It is also important to start with low volume production, so that any unanticipated problems affect a relatively small number of vehicles and can be individually monitored and corrected on an expedited basis.

This can clearly be seen in the launch of the first hybrid models. To keep the initial sales low, the first Prius was sold only in Japan and Honda's first hybrid, the Insight, was a small 2-seater. After any initial teething problems were identified and fixed, they were followed by higher volume products. Sales of the second generation Prius were expanded to the US and Europe and Honda brought out the Civic Hybrid. In addition, according to Consumers Report and J.D. Power, the Prius and Honda hybrid models have been among the most reliable vehicles sold in the U.S.

Another example is the use of hydrogen for fuel cell vehicles. Although interest in fuel cell vehicles has given way recently to electric vehicles, there are hundreds of fuel cell demonstration vehicles on the roads in the US and many more in Europe and Japan. The perception of safety concerns with hydrogen has been a major focus for fuel cell vehicle manufacturers. In reality, hydrogen is safer than gasoline, as it dissipates rapidly and is more difficult to ignite. Only if the hydrogen is trapped will it become dense enough to ignite. And, in fact, there has not been a single reported instance of any of these fuel cell demonstration vehicles catching on fire after years of in-use operation. However, many people still believe hydrogen is unsafe, which is one of the obstacles that must be overcome if fuel cell vehicles are ever to achieve widespread use.

The issue of Li-ion batteries catching on fire is similar. Nissan and GM started with limited production of the Leaf and the Volt and have gradually increased production. Even though the battery fire did not occur in a customer's vehicle, GM still showed strong backing by offering to provide loaner cars or to buy back vehicles. This is consistent with the rollout of any new technology and the concern about perceived problems.

It is extremely important to put the Chevy Volt battery fire into context.

- This was a single incidence that occurred after a highly invasive crash test, not in-use.
- It took three weeks for the fire to start.
- The battery was not discharged after the crash test. All junkyards know to discharge the battery pack before storing, just as they remove any fuel from the tank. Thanks to hybrid vehicles, emergency responders know to disconnect the battery pack when necessary and body shops and garages know to disconnect or discharge the battery pack before beginning any work. Toyota and Honda conducted extensive outreach and education to emergency responders and repair organizations when they first introduced hybrids.

- The fire was extremely difficult for NHTSA to reproduce. Simply repeating the crash test did not produce another fire. NHTSA had to design a special test to intentionally damage the battery, rupture the cooling system, and flip the battery in order to generate another fire. This illustrates the care that GM has taken to minimize the risk of fire from their battery pack.
- There have been no fires related to Li-ion batteries reported by any customer on the Volt, the Leaf, or on hybrid vehicle using Li-ion batteries (2011 Hyundai Sonata Hybrid, 2011 Infiniti M35 hybrid, 2012 Buick LaCrosse e-assist, 2010 Mercedes S400 hybrid).

Most importantly, the risk of fire from Li-ion batteries is being evaluated in isolation. The relevant question is not whether Li-ion batteries can cause a fire under extreme conditions, but are electric vehicles safer than conventional vehicles?

A 2010 report from the National Fire Protection Association found that:

“In 2003-2007, U.S. fire departments responded to an average of 287,000 vehicle fires per year. These fires caused an average of 480 civilian deaths, 1,525 civilian injuries, and \$1.3 billion in direct property damage annually. Cars, trucks and other highway vehicles (meaning a vehicle designed for highway use, not that the fire occurred on a highway) accounted for 93% of the vehicle fires and 92% of the vehicle fire deaths.”  
(Source: U.S. VEHICLE FIRE TRENDS AND PATTERNS, Marty Ahrens, National Fire Protection Association, June 2010).

There are approximately 250 million vehicles on the road, so there is an average of about one vehicle fire per year for every 1,000 vehicles. This is a high rate of vehicle fires, which would be completely unacceptable for any new technology or fuel. It is only our long familiarity with gasoline fires and related deaths and injuries that has caused us to accept the high risk of gasoline fires - and for news agencies to think that an isolated battery pack fire three weeks after a crash test with no one in the vehicle is somehow far more important than the people who die every day from gasoline-related fires.

At least with respect to fire risk, electric vehicles are far safer than gasoline-fueled vehicles.

#### **Relationship to CAFE fuel economy standards**

Of course, as discussed above, the perceived risk can be very different from the actual risk and it is possible that excessive publicity about rare Li-ion battery fires could impact electric vehicle sales. However, even if this occurs, it will have no impact on the ability of manufactures to comply with the proposed 2017-2025 CAFE/GHG standards from NHTSA and EPA. This is because battery-electric and plug-in hybrid vehicles are not needed to meet the proposed standards.

The opportunities to reduce fuel consumption and climate change emissions in the near term using conventional technology are far larger than most people realize. The internal combustion engine is widely perceived as being a century-old technology that is at the end of its development, but the reality is exactly the opposite. Rapid improvements in computer-based

tools are opening up technology gains that were never possible before. Computer simulations and computer-aided-design are enabling vastly improved designs and technologies. On-board computers controls provide unprecedented integration of engine, transmission, and hybrid operation. Instead of slowing down, the pace of technology development just keeps accelerating.

To support development of 2025 standards, EPA contracted with Ricardo Inc., an engineering services company, to conduct full-system simulation modeling simulations using the latest technology developments. Ricardo is a highly respected engineering organization that does the vast majority of its work for OEMs and suppliers. ICCT highly respects Ricardo's work and recently contracted with Ricardo to conduct simulation modeling specifically for vehicles sold in Europe.

As a result of our work with Ricardo, it is clear to us that the technologies assessed by Ricardo for EPA are on the conservative side. In fact, this is unavoidable due to the restriction to currently available data and engine maps. Engine technology is improving much faster than we can keep up with and engines better than those modeled by Ricardo are already in development. For example, the diesel maps used by Ricardo for the US simulations are already out of date and ICCT paid Ricardo to rerun the diesel simulations for Europe using updated maps representative of the latest diesel technology. Another example is the engine map for the gasoline engine with boosted-EGR. The map used by Ricardo in the simulations is shown in Appendix A. Appendix B shows a boosted-EGR engine map provided by the HEDGE consortium in February 2010. The brake-specific fuel consumption (BSFC) for the HEDGE engine is almost 5% lower than the map used by Ricardo in the simulations. Further, the HEDGE map in Appendix B is for a single stage turbocharger. The HEDGE consortium is already working on a two-stage turbocharger system that will enable larger amounts of EGR, higher compression ratio, and lower fuel consumption.

This rapid technology improvement can also be seen by looking at historical data. For example, the 2001 National Research Council report found that turbocharging and downsizing would improve fuel economy by 5 to 7 percent. Recent estimates generally agree that turbocharging and downsizing alone will provide a 10 to 15 percent improvement, such as the Ford EcoBoost engines. This is a 2 times increase in the efficiency benefit of turbocharging. It is not due to the older estimates being wrong, but rather to rapid improvements in combustion and turbocharging technology over the last 10 years. The 2025 rules are 13 years away. It would be completely irrational to assume that there will be no further technology improvements beyond what is known today. The efficiency estimates in the draft rule are actually quite conservative.

Computer simulations will especially impact lightweight material design. In the past, interactions between the thousands of parts on the vehicles and their impacts on safety, ride, noise, and vibration were impossible to predict. Optimization of materials was a long, slow process of gradually changing a few parts at a time to avoid unanticipated problems. Secondary weight reductions were similarly difficult to achieve. The recent development of sophisticated and accurate vehicle simulations is opening up a new world. The initial use of these models was to improve safety design. The simulations are so effective that 5-star crash ratings became almost universal and NHTSA had to revise their rating criteria for the 2011 model year. The simulations are continuing to rapidly improve, to the point where they are starting to be used to

simultaneously optimize the material composition, shape, and thickness of every individual part, including secondary weight reductions.

Note that weight will be reduced only through the use of lightweight materials and better design, not with vehicle downsizing. NHTSA changed the CAFE standards to be based on footprint, starting with the 2008 to 2011 light truck standards. Footprint-based standards have more stringent targets for smaller vehicles, so there is no incentive to downsize vehicles.

Future weight reduction will be accomplished primarily with the use of high strength steel and aluminum and with better vehicle design. High strength steel and aluminum both have better crash properties than standard steel. Reducing weight using these better materials will improve vehicle crash performance and reduce fatalities, even in small cars. In fact, Honda has moved aggressively towards the use of high-strength steel in small cars in part due to the safety benefits

This shift in material design capabilities also impacts the cost to reduce vehicle weight. Previous lightweight material cost studies did not assess part interactions and secondary weight reductions. While they may have accurately reflected historical costs for lightweight materials, they all overstate the cost of future vehicle weight reduction using better vehicle designs.

The proposed rules include incentives for electric vehicles and may induce some manufacturers to produce additional electric vehicles. However, this is not necessary to meet the standards. Improvements in engine combustion and turbocharging technology, automatically shifted manual transmissions, lightweight materials and part design optimization, and improved aerodynamics and tire rolling resistance, possibly combined with a modest number of conventional hybrid systems, will be more than adequate to meet the standards.

#### **Importance of Role of Government in supporting development of clean vehicle technologies**

There are huge advantages to society from reducing the amount of fuel we consume. The benefits for energy security are the same as investing in new oil wells – reduced oil imports, improved balance of trade, and downward pressure on worldwide oil prices. Plus there are additional benefits to the economy, as the fuel savings are two to three times the cost of the technology. This effectively puts billions of dollars into consumers' pockets to buy other products, raising their standard of living and creating economy-wide jobs.

Efficiency standards or incentives tied directly to vehicle efficiency are necessary to capture these huge benefits for energy security and the economy. There are no other options. Certainly care must be taken to set the standards appropriately, but rolling back or stopping the standards is equivalent to shutting down oil wells in the US. In fact, worse, due to the missed opportunity to improve the economy.

Countries worldwide are also adopting efficiency standards and promoting technology improvements (Appendix C). Similar standards are needed in the US to ensure that our domestic manufacturers remain fully competitive in the world market and maintain domestic employment.

Efficiency standards are a win for consumers, a win for energy security, a win for manufacturers, and a win for the economy. So, who pays for this? The oil exporting countries, as efficiency standards will both reduce their oil exports and depress the amount they get paid per barrel.

### **Conclusion**

In conclusion, vehicle manufacturers understand the negative impact on consumer acceptance should there be any safety defects associated with any new technology. This is also true of Li-ion batteries. All established vehicle manufacturers will use abuse-tolerant Li-ion chemistries and will package them appropriately to prevent virtually all fires. In fact, electric vehicles are far safer than gasoline vehicles, which are responsible for over 200,000 fires and over 400 related deaths each year.

Even if electric vehicle sales are affected by negative publicity, this will not have any impact on the manufacturers' ability to comply with the 2017-2025 efficiency standards. Conventional technology is improving rapidly due to ever more sophisticated computer simulations, computer-aided-design, and onboard computer controls. In fact, the pace of technology development just keeps accelerating. As an engineer with extensive technology experience at two auto manufacturers and the EPA, I can confidently state these are achievable standards that manufacturers can comply with using conventional technology improvements, perhaps combined with a modest number of conventional hybrids. No electric vehicles will be needed.

Efficiency standards are needed to capture huge energy security and economic benefits to society and to ensure that domestic manufacturers remain competitive on technology.

This concludes my statement and I would be happy to address any questions.

Appendix A

EGR-boosted direct-injection (EBDI) engine map. Section 4.2.6.1 of:  
 Project Report: Computer Simulation of Light-Duty Vehicle Technologies for  
 Greenhouse Gas Emission Reduction in the 2020-2025 Timeframe  
 Prepared by Ricardo Inc. for the U.S. EPA, EPA Contract No. EP-C-11-007

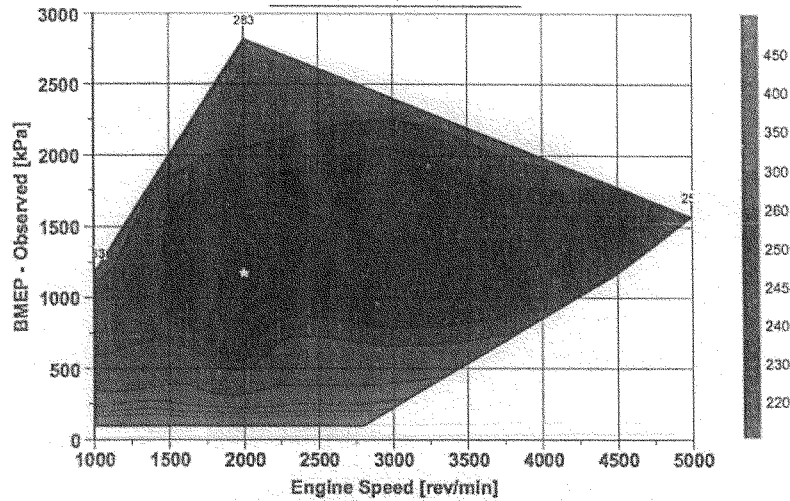
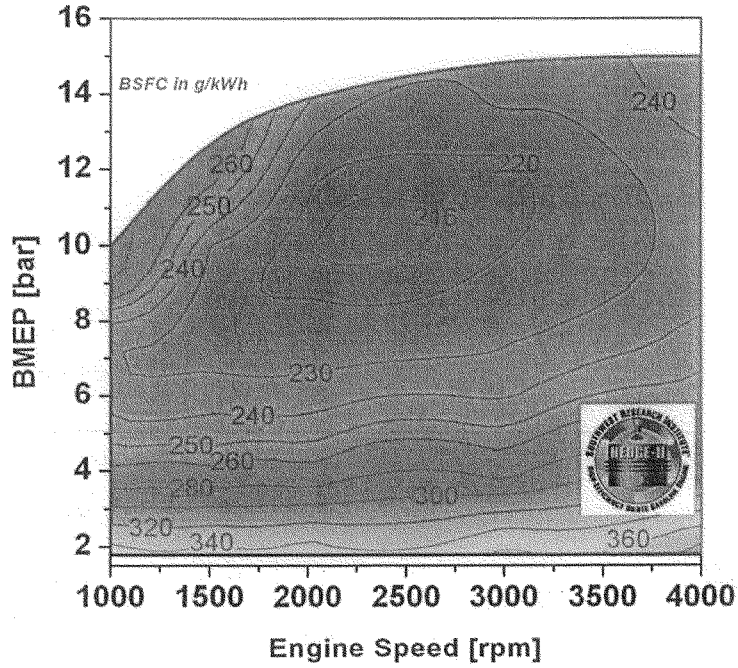


Figure 4.9: BSFC map (in g/kWh) for EBDI<sup>®</sup> engine with EGR. (Beazley, 2010)

Appendix B

High Efficiency Dilute Gasoline Engines (HEDGE) Application.  
 2.4L I4, 11.4:1 CR, Max EGR ~ 30%, boost limited (turbocharger hardware could not provide sufficient air), proprietary SwRI ignition system.

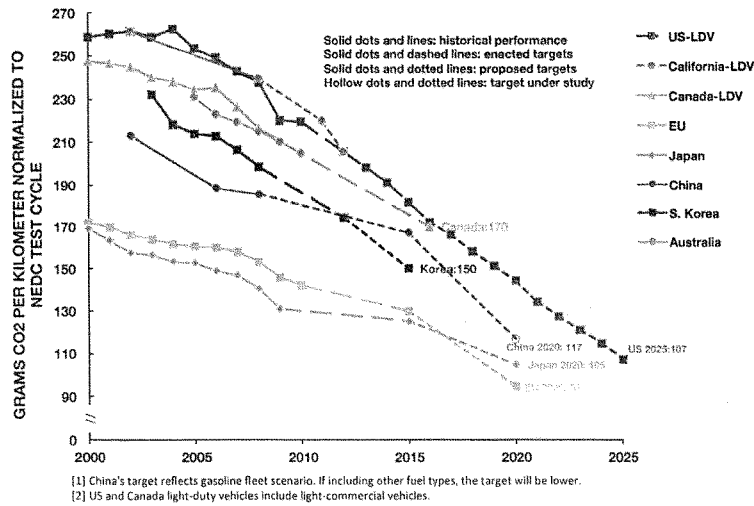
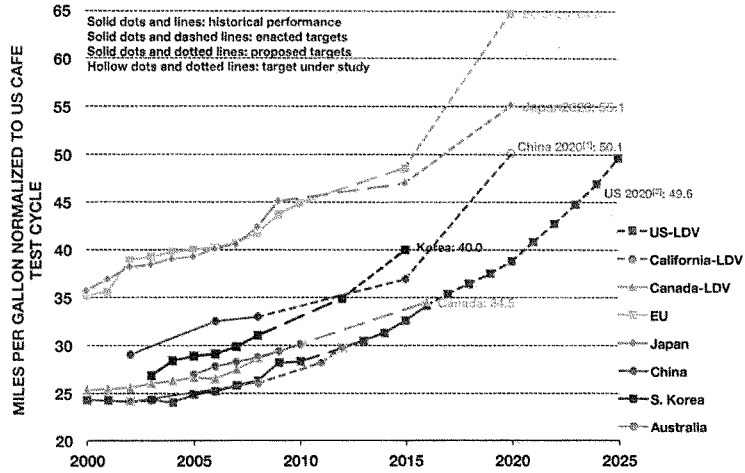
"Examples of HEDGE Engines", Dr. Terry Alger, SwRI, February 2010





Appendix C

Comparison of vehicle fuel economy standards worldwide:  
<http://www.theicct.org/global-passenger-vehicle-standards-update>



Mr. JORDAN. Thank you, Mr. German. I will be brief here.

You have been here all morning. You heard when I asked Mr. Akerson about what the protocols are when there has been a crash and how you drain the battery—or disconnect the battery, excuse me, and drain the gas tank. I believe I got this right. In your testimony you just gave to the committee, you talked about disconnecting the battery. But in your written testimony, and the question I had here was, you say all junkyards know to discharge the battery pack before storing, just as they remove any fuel from the tank. So in your written testimony you used the same term that Mr. Akerson used, discharge the battery.

Do you mean when you say “discharge” what Mr. Akerson described? Is that a term of art and it means the same thing?

Mr. GERMAN. Yes, it means the same thing.

Mr. JORDAN. So if every junkyard knows to discharge the battery, why didn't NHTSA discharge the battery?

Mr. GERMAN. I cannot answer that.

In my written testimony I also may have—I wrote this over the weekend—and even the junkyards, I should have said, disconnect or discharge. The experience that we have—

Mr. JORDAN. But this is important. Because if everybody knows it except NHTSA, and NHTSA didn't do it, and that causes a fire, then that definitely puts into question the capability of NHTSA to deal with the issue that the ranking member has brought up, that all Members are concerned about, the safety. If they can't even figure out, hey, you are supposed to do what the guy at the junkyard knows you are supposed to do, that is a problem.

Mr. GERMAN. Even the relatively small battery packs in conventional hybrids are powerful enough to kill people. Toyota and Honda, when they brought out the first hybrids 10 years ago, went through a great deal of trouble to educate emergency responders, fire departments, about the dangers and how to safely handle the vehicles, how to disconnect the battery pack, what to avoid. So this education didn't start with the Volt. It has actually been going on.

Mr. JORDAN. Well, fill me in. Because maybe you are educating me a little bit with what you just said there.

So you said other car manufacturers have talked about what needs to happen for emergency responders. You were here earlier—Mr. Kelly has now left, but Mr. Kelly talked about the gloves and utensils and the protection that technicians have to use when working on an electric vehicle. Is that a concern for the volunteer fireman who has showed up at the scene who is trying to save a person's life? Is his life in greater danger if he does not know this is an electric car with a lithium-ion battery in it?

Mr. AKERSON. Yes, absolutely.

Mr. JORDAN. What kind of procedures does he or she have to take if they are an emergency personnel called to the scene trying to save someone's life? What kind of things do they have to do when dealing with this type of vehicle?

Mr. GERMAN. They have been given training on location of high-voltage wires and what to avoid, for example, if using jaws of life. They have been given information on how to manually disconnect the battery pack if necessary. There is all kinds of safeguards.

They shut it off automatically. But, just in case, they are still trained with how to deal with this.

Mr. JORDAN. And is it much more extensive procedures they have to go through with an electric vehicle compared to a conventional automobile without this larger battery?

Mr. GERMAN. There is some additional that they have to deal with to make sure they avoid the electrical shocks. The danger is much less than from gasoline, but it is still something that they must be aware of.

Mr. JORDAN. So the volunteer fireman knows real concerns exist, the guy at the junkyard knows real concerns exist, and yet the folks at NHTSA seem not to have known real concerns exist. Is that fair?

Mr. GERMAN. You are now wandering off into areas that I can't comment on.

Mr. JORDAN. You may not comment on, but you wrote about it. You said, all junkyards know to discharge the battery pack before storing, just as they know to remove any fuel from the tank. You also told me that Honda and Toyota and other manufacturers have done extensive training with emergency responders telling them they have to be careful. This is different. This is not just your normal car. This is different. So you need to know more things, go through more procedures—this is what you told the committee—know more procedures, know more protocols, than you do with a typical car.

And we have an administration who says, this car is the cat's meow. It is the most wonderful thing going, and we have to sell more of them.

And you are telling me NHTSA, the organization in this administration charged with safety for consumers, for American purchasers, didn't know what the guy at the junkyard knows and what the volunteer fireman knows in my community.

Mr. GERMAN. Right. Again, those are questions better directed at NHTSA.

The one things I can say is that there has not been a recorded case of a battery pack catching on fire. So it may have just been oversight. I don't know.

Mr. JORDAN. I yield to the gentleman from Ohio.

Mr. KUCINICH. Thank you very much, Mr. Chairman.

Mr. German, in your testimony, you allude to pictures of blazing laptops and a recall of almost six million Sony lithium-ion battery cells in 2006 have caused people to have a misconception that all lithium-ion batteries are highly flammable. Now, can you explain the different types of lithium-ion batteries and what your expert opinion is about the safety of the batteries being used in vehicles like the Volt?

Mr. GERMAN. Yes. Unfortunately, there is a wide variety of lithium-ion batteries out there, but the ones that are being developed for automotive use are all far safer than what is used in consumer laptops.

Mr. KUCINICH. So then do you concur with other witnesses that lithium-ion poses no greater risk than gasoline vehicles for fire hazard and, like gasoline vehicles, those risks can be managed?

Mr. GERMAN. The gasoline vehicles have far higher risks than lithium-ion.

Mr. KUCINICH. Why?

Mr. GERMAN. Because gasoline is highly flammable. It can actually explode under certain conditions. It will ignite under a fairly wide range of air-to-fuel ratios. Whereas lithium-ion—it is because of how the lithium-ion batteries are packaged that they are more isolated from contact.

But the other main thing here is that you can design lithium-ion chemistries in a way—for example, if you exclude oxygen from the chemistry, putting oxygen into the cell causes it to be much more flammable when it reacts to the lithium. So just by excluding oxygen you have taken a major step toward—

Mr. KUCINICH. So what is the role of oxygen in car fires then? Because there is 200,000 car fires every year in the United States where gasoline ignites in seconds. What is the role in that?

Mr. GERMAN. That is because the gasoline is exposed to the oxygen. The gasoline needs oxygen in order to burn.

Mr. KUCINICH. So is it your testimony that these lithium-ion batteries that are used in the Volt are much safer than gasoline-powered cars with internal combustion engines?

Mr. GERMAN. Yes. General Motors has chosen a cell chemistry that is quite good on safety, and they have also gone to a lot of trouble to protect the battery pack in case of an accident, and there is no doubt in my mind that the system is far, far safer than gasoline.

Mr. KUCINICH. You received a pretty prestigious award for excellence in automotive policy analysis, did you not?

Mr. GERMAN. Yes. The Society of Automotive Engineers established an award for excellence in automotive policy analysis. I was the first recipient, not so much because I did better analyses but because my reputation is that my conclusions are always based on the analyses.

Mr. KUCINICH. Thank you very much, Mr. Chairman.

Mr. JORDAN. The gentleman from Virginia is recognized.

Mr. CONNOLLY. Thank you, Mr. Chairman.

Welcome, Mr. German.

Mr. German, you were asked some questions on NHTSA's testing and how come NHTSA didn't get it when tow truck companies got it and storage facilities and junkyards and so forth. Are you an expert on NHTSA and its methodology?

Mr. GERMAN. No, I am not.

Mr. CONNOLLY. Have you ever worked for NHTSA?

Mr. GERMAN. Really the only times I have worked with NHTSA is in connection with the vehicle CAFE standards. There have been instances where I have gotten involved in safety impacts of vehicles as it relates to fuel economy such as light-weighting of vehicles. So that is my one area that I have interacted with NHTSA on the safety front.

Mr. CONNOLLY. Let me ask a follow-up question to that. Were you involved in this particular test?

Mr. GERMAN. No, I was not.

Mr. CONNOLLY. So you have no firsthand knowledge of what they did, how they did it, why they did it, and why it differs from other experience?

Mr. GERMAN. That is correct.

Mr. CONNOLLY. For all you know, this is an isolated—as your predecessor at that table just testified, sometimes tests are outliers. They don't really indicate anything, other than something must have gone wrong. Is that fair?

Mr. GERMAN. That is fair. I think it is also fair to say that NHTSA will always discharge the battery after a crash test in the future.

Mr. CONNOLLY. Okay. Are you aware of any consumer who has experienced a fire, explosion, or any other direct threat to his or her safety in driving the Volt?

Mr. GERMAN. Not related to the battery pack, no.

Mr. CONNOLLY. In response to Mr. Kucinich, you were saying that, actually, the risk—the safety risk from a gas-fueled vehicle is actually higher than that of a lithium-ion-battery propelled vehicle. Would it be fair to say, in understanding your response to Mr. Kucinich, that actually the probability of an explosion or a safety incident with the mechanism of fueling the vehicle is higher when it is gas fired than it is with, frankly, an electric vehicle fueled by a battery?

Mr. GERMAN. It is far higher. We have, on average, over one person die per day from vehicle-related fires, but people are so used to it that it is not national news anymore.

Mr. CONNOLLY. I yield to the chairman.

Mr. JORDAN. I was just going to say that is not the question. The question is, if you drain the gas tank, discharge the 12-volt battery but don't discharge the bigger battery, then the question is which is a greater safety concern?

Mr. GERMAN. Even in that situation, the gasoline is still a much, much greater concern. It is not just that the battery pack was ruptured in the crash test. It is that the coolant leaked into the battery. Without that coolant leakage, there would have been nothing for the lithium-ion chemistry to react with. So it required that combination. And it is not a common situation at all.

Mr. JORDAN. Okay.

Mr. CONNOLLY. Reclaiming my time—and I thank the chair for that clarifying question—but, of course, actually my concern is that unintentionally, of course, we are having a hearing here on the safety of an electric vehicle, and I wouldn't want American consumers to get the wrong impression by virtue of the fact that there is a congressional hearing, just the fact that we do that, raising some questions, could perhaps plant doubts in the minds of potential consumers, doubts that are not so far, based on the testimony we have heard here today, justified.

As a matter of fact, the public can feel somewhat reassured based on the testimony we have heard today that they are actually safer than the normal car you drive with gas. Now that doesn't mean there aren't some concerns and questions that have to be answered, as the chairman indicated. But I just wanted to put it in context to reassure the public that may be watching that we don't

think there is some huge challenge here, especially given the fact that many of us want to see a future for the electric vehicle.

Speaking of which, since I am going to run out of time, your area of expertise is especially clean technologies, vehicular technologies. I noted that the International Energy Agency said that, actually, because of the administration's clean car standards, the United States' dependence on foreign oil is actually going to decline over the next 25 years. Could you corroborate that and/or elaborate on that?

Mr. GERMAN. Yes. The standards will increase the efficiency of vehicles considerably, and that will reduce the amount of fuel consumed. It is actually equivalent to drilling new oil wells in the United States. It has the same impacts on reducing our oil imports and on economy-wide benefits.

Mr. CONNOLLY. Mr. Chairman, my time has just run out. But I just think that is actually an extraordinary statement and an extraordinary fact and a very heartening development when we are looking at the role of technology and lessening our foreign oil dependence.

I yield back.

Mr. JORDAN. I thank the gentleman, and I thank our witness, and we are adjourned.

[Whereupon, at 11:49 a.m., the subcommittee was adjourned.]

