

**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**

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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.

**Daniel F. Akerson**

GM Chairman and Chief Executive Officer
Joined GM Board July 24, 2009

Daniel F. Akerson became GM Chairman effective January 1, 2011 after serving as CEO since September 1, 2010. Prior to joining General Motors, Akerson was a managing director of The Carlyle Group and the head of global buyout. He served on the firm's executive committee and was based in Washington, D.C. He joined the GM board of directors July 24, 2009.

Akerson is a seasoned executive with extensive operating and management experience, having served as chairman, chief executive officer, or president of several major companies, including General Instrument, MCI, Nextel, and XO Communications. His corporate management experience, private equity track record, and deep understanding of Carlyle's global operation provided a strong foundation for his leadership of Carlyle's buyout activities in Asia, Europe, Financial Services, Infrastructure, Japan, and the United States.

Prior to joining Carlyle, Akerson served in several key roles at MCI Communications Corporation from 1983-1993 including executive vice president and chief financial officer from 1987-1990 and president and chief operating officer from 1992-1993. During his tenure, Akerson formulated and executed MCI's global strategy.

In 1993, Akerson became a general partner of private equity firm Forstmann Little & Company, during which time he served as chairman and chief executive officer of General Instrument Company from 1993-1995. While at General Instrument, he led a successful effort to develop and deploy the first digital video, satellite, and cable systems domestically and internationally.

Akerson served as chairman from 1996-2001 and as chief executive officer of Nextel Communications, Inc., from 1996-1999, where he transitioned the company from a regional analog walkie/talkie provider into a national digital wireless competitor. From late 1999 until January 2003, Akerson served as chairman and chief executive officer of XO Communications, Inc. where he led the successful restructuring of the company.

In addition to serving on GM's Board, Akerson also serves on the Boards of the American Express Company and the U.S. Naval Academy Foundation.

Akerson graduated from the U.S. Naval Academy in 1970 with a bachelor of science in engineering. He earned his master's of science in economics from the London School of Economics.

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