

THE FUTURE OF RACING

**Remarks by Peter M. DeLorenzo
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Good Morning.

It is my distinct pleasure to greet senior executives from Audi, DaimlerChrysler, Ford General Motors, Honda, Hyundai, Nissan, Toyota, Bridgestone-Firestone and Michelin in the audience this morning.

I'd especially like to thank Larry Burns from General Motors for his guidance and encouragement, and also Bob Lutz for his support in helping me bring my vision forward today.

Welcome to you all and thank you for coming.

And welcome to the Future of Racing.

Today marks a truly historic occasion in the annals of the automobile industry and for motorsport around the world, because today we are embarking on a compelling first step into the realm of on-track competition for hydrogen electric fuel cell-powered racing machines.

But before I get to this exciting new concept, I think it's important that we take a moment and look at where the automobile industry is today in terms of the growing environmental imperative around the world and the acceleration of developing advanced technologies to meet these challenges head-on.

It is no secret that as citizens of the world we're all becoming acutely aware of the overall health and well-being of our planet and the ever-increasing need to make the most efficient use and re-use of its natural resources. At the same time, we're seeing emerging economies put even more demands on the world's resources.

The ongoing stewardship of our global environmental resources has become a very public national and international concern, and it has become a priority for industries, economies and individual citizens around the world.

This is no secret to anyone in this room. Far from it, in fact. Every single automobile manufacturer represented here today has been aggressively investigating advanced automotive technologies for decades – in safety, in emissions, and especially in advanced propulsion. And the ongoing developmental process has begun to yield impressive strides in the continuing evolution of the automobile – particularly in alternative power and propulsion systems.

From gas-electric hybrids and dramatic innovations in diesel technology, to the ultimate challenge – bringing hydrogen electric fuel cell-powered vehicles to mass production – the

automobile industry is in a race to develop the most energy-efficient transportation and mobility options ever created, while at the same time delivering the most attractive and desirable vehicles possible to consumers around the world.

Today, we find ourselves on the cusp of the most radical transformation of the automobile since its invention. Bob Lutz had the perfect analogy for this transformation a couple of weeks ago at the media preview for the exciting Chevy Volt concept. He reminded everyone that piston-powered aircraft dominated aviation for the better part of 60 years, but that all changed with the onset of the jet age. He opined that the onset of the “electrification of the automobile” would fundamentally transform the automobile industry as we know it.

And I wholeheartedly agree.

From this day forward, we will see internal combustion engines in automobiles inevitably give way to electric power sources. And whether these take the form of electric vehicles with ICE assist, full electric “plug-in” vehicles, or electric vehicles powered by hydrogen fuel cells – ladies and gentlemen, we are at the crossroads of the future of the automobile as we know it.

And the time has come for the automobile industry to embrace the future vigorously – and in no uncertain terms.

It is time for the automobile industry to take its advanced research away from the reassuring glare of the computer screen and out of the comfortably sterile environment of the

research laboratory, and let innovation and technical creativity run free and unfettered on the racetrack – with the most advanced automotive technology in the world – hydrogen electric fuel cell-powered vehicles.

We have formed the Hydrogen Electric Racing Federation for one very important reason – and it goes far beyond the fact that the management of the world's resources has become a global concern and priority – a priority that we of course share.

The real heart of the matter is that I believe racing needs a new idea.

As much as I love the sport and as much as many people in this room love the sport, it's clear that we can't continue on the path we've been going. Racing has devolved into a constant battle of wrestling with technology in order to rein it in, so that it can be made to conform to a particular rules “package” in order to keep speeds down to a target number.

Because of this, much of the “reason for being” for racing, which always centered on the idea of “improving the breed,” has been lost in this shuffle of constant corrective regulations which inherently stunt creativity and dramatically limit innovation – essentially stifling the two essential elements that racing has always thrived on.

And so, racing too often regresses into a form of “racertainment” - an orchestrated dance that exists in a vacuum unto itself, one that isn't focused on advancing the development of future technologies for our production automobiles as much as it exists for pure entertainment value.

Not that there's anything wrong with the scintillating entertainment that a crackling good motor race can provide, I might add. But I think that as automobile manufacturers, it is time for you to re-assess the reasons for your involvement in motorsport.

Are you there to win? Of course. At least I would hope so. If you aren't, then something is critically wrong with the way you're going about it. But are you actually learning anything while you're doing it? Or are you merely advancing the status quo to meet the vagaries of the next rules package?

To me, this is the ultimate question before us today. And that is why I believe it is time to press the “reset” button for racing, not only to usher in a new era of creativity and innovation to the sport, but also to enable racing to take its rightful place again as the principal conduit for the transference of advanced technologies and innovations directly to our future production vehicles.

In short, it is time for the Future of Racing.

It is time for the Hydrogen 500.

The Hydrogen 500 is a new concept for racing that will introduce an entirely new category of racing machines to the world – machines powered by hydrogen electric fuel cells.

This is unprecedented and historic, simply because for the first time in many, many years, racing will undertake a key role in the development of radical new technologies for production

vehicles that are still on the horizon.

So, what is the Hydrogen 500?

The Hydrogen 500 is first and foremost a serious, 500-mile race – one that will challenge the designers and engineers of the world's automobile manufacturers on the following fronts:

How to creatively package advanced technical components in a compact, maximum-performance racing machine.

How to address issues of on-board hydrogen fuel storage and delivery – and all aspects of re-fueling.

How to manage the heat and energy generated by the electronic systems, with a crucial emphasis on overall durability.

And how to achieve high average speeds, while balancing the pursuit of those speeds with the frequency necessary for refueling stops, as well as the durability required to go the entire 500-mile race distance.

The beauty of competition is that it not only requires innovation, it demands it – which is why this new category of racing has an opportunity to “improve the breed” like no other form of motorsport in the world.

Unleashing the best and brightest minds of the world's leading automobile manufacturers and the racing community on the challenges posed by racing hydrogen electric fuel cell-powered vehicles will accelerate the development of the

critical systems and components used in future production cars, while also bringing fresh thinking to the hydrogen storage, delivery and refueling issues that will play such a key role in building the hydrogen infrastructure and instilling confidence in this new technology with the consumer.

In addition, the Hydrogen 500 will be designed to be a glittering showcase for this advanced technology – with the focused goal of making an emotional connection with auto enthusiast consumers and early adopters.

And that emotional connection is critically important because these influencers will generate huge word-of-mouth “buzz” and help encourage acceptance for this new technology so that it can graduate from the realm of being something that's “future-think” and down the road into something that's exciting, imminent, desirable – and cool.

I can think of no better place to showcase the world's most technologically advanced racing machines than the Ultimate Proving Ground: The Indianapolis Motor Speedway.

Since the first Indy 500 was staged in 1911 – when Ray Harroun won using the invention called a “rearview” mirror – the Indianapolis Motor Speedway has been home to countless new developments in automotive engineering, aerodynamics, vehicle dynamics, safety and alternative fuels. And that legacy continues this year, when the entire Indy 500 field will be using ethanol fuel made from renewable resources.

The Indianapolis Motor Speedway is not only a national and international shrine to speed – it is a monument to automotive

engineering innovation. And at the dawn of a new automotive propulsion age, it is only fitting that The Speedway be one of the venues under consideration for the inaugural Hydrogen 500.

Certainly another excellent choice would be to take advantage of the California Speedway's location in the center of the Green Universe in Southern California. That would present us with a great opportunity to present this advanced technology to a massive, environmentally savvy audience. And an East Coast venue, such as the Lowe's Motor Speedway in Charlotte, North Carolina, could present an interesting opportunity as well.

We have a detailed packet of information about this intriguing new concept for you to take with you at the end of the program, but let me share with you a few of the highlights.

Obviously, the establishment of a basic specification package for this event and for future races is key. To that end, we have established the following parameters:

Overall vehicle package size in terms of height, width, length and weight. It's absolutely imperative that these vehicles look like proper racing machines. For starters, their envelope or on-track "footprint" will probably closely resemble the current dimensional package used by sports car prototype racing machines – and due to the technological requirements needed for the packaging of the advanced components, these will be closed-bodywork machines.

We will develop the fundamental engineering requirements of

these new racing machines so that they will be able to lap the Indianapolis Motor Speedway and the California Speedway at around 185mph+, but make no mistake, our intent is not to strangle ingenuity, but only to limit expenditures for the participating manufacturers within reason on essential systems. From there, we will insist on introducing an element of “blue sky” thinking to this endeavor because after all, we are talking about the Future of Racing.

Here are some initial specs for these machines:

- Weight: 900kg
- Construction: Free
- Suspension, Steering, Brakes: Free
- Controls: “By-Wire”
- Power: 300kW (minimum), 400 hp
- On-Board Hydrogen (compressed gas): 8 kg
- Tires: One manufacturer, to specification
- Fuel: One manufacturer, to specification

As part of our presentation of this new category of racing, we are going to press the “reset” button again and require that participating manufacturers present these new racing machines in their internationally-approved racing colors. For example, the international racing colors of the United States are white with blue trim.

As for vehicle and driver safety, GM and other manufacturers have participated with the Indy Racing League and with NASCAR on dramatically improving the safety performance of both open- and closed-wheel racing machines. These new hydrogen fuel cell-powered racing machines must not only

exceed current standards – but we expect that new dimensions of safety will be explored and established for the Hydrogen 500. That's another aspect of presenting the world's most technologically advanced racers that goes hand in hand with the mission of the Hydrogen Electric Racing Federation.

The hydrogen fuel supplied for use in the “500” will be generated from renewable sources. This is consistent with the fact that the race will be a promotional showcase for this new technology – one that will draw massive attention from the media around the world. It's critical that the presentation of this new advanced automotive technology be seamless and impressive in order to add to the luster and the impact of the event.

This next aspect of these machines is something that I think you'll find particularly though provoking. We are going to require a mandatory audio “signature” for all of the HERF racers. This means that each vehicle will have to have an audio sound design that will be aurally projected while the machine is in motion. It's essential that these sound “signatures” be distinctive, exciting, and over and above the electro-mechanical sounds the cars will normally produce. We believe it will give the participating manufacturers yet another outlet to demonstrate their creativity and ingenuity.

So, where do we go from here?

Given the fact that the complexities involved in creating an all-new racing series around the technical sophistication of hydrogen fuel cell-powered electric vehicles are varied and challenging, we are targeting May 2009 – a little more than

two years from now – as the date of the first race. A more detailed calendar of events over the next two years is included in your take-away package.

Right now, our plans include two oval races in the U.S. in '09, three races in the U.S. in 2010, including two ovals and a natural-terrain road course venue, and five races in 2011, including two ovals and one road course in the U.S., an oval race in Japan and a road course event in Shanghai, China.

Showcasing this new technology in the best possible light around the world is our priority, and we feel it will present unprecedented promotional opportunities to the manufacturers involved. That's why Japan and China are prime candidates for additional races.

And certainly endurance racing, particularly the most prestigious long-distance race in the world – the 24 Hours of Le Mans – would present another challenging opportunity to test and develop this new technology.

Ladies and gentlemen, we are clearly at the dawn of a new age of automotive propulsion. The onset of the electrification of the automobile is presenting us with a once-in-a-lifetime opportunity to accelerate the development schedule of the hydrogen electric fuel cell-powered vehicle, while at the same time allowing us to reinvent and reposition the sport of racing to be more relevant than it has been in decades.

I'm confident that we will look back on this historic day and see it for the truly momentous event that it was – the day when the Future of Racing was born.

Thank you.