



- 7) Safety Organizations Collaboration & Partnerships
  - a. Fire Protection Research Association (FPRF), the International Association of Firefighters (IAFF), the International Association of Fire Chiefs (IAFC), the National Volunteer Fire Council (NVFC), the International Fire Marshals Association (IFMA), the National Association State Fire Marshals (NASFM), the Metro Fire Chiefs, the United States Fire Administration (USFA), the North American Fire Training Directors (NAFTD), the International Association of Chiefs of Police (IACP), the National Sheriffs Association (NSA), the New York State Police (NYSP), the Society of Automobile Engineers (SAE), The Department of Transportation (DOT), The National Highway Transportation and Safety Administration (NHTSA) and the American National Standards Institute (ANSI).
- 8) Auto Manufacturer Partnerships
  - a. 18 manufacturers of Electric & Hybrid Vehicles are partners
  - b. Ford, GM, Nissan, BMW, Mitsubishi, VW, Toyota, Porsche, Honda, Lexus, Mercedes-Benz, Chrysler, Hyundai, Kia, Fisker, Coda, Alt-e, and Tesla
- **9)** Training Toolkit Development
  - a. Delivered to all train-the-trainer class participants
- 10) Emergency Field Guide
  - a. 3,200 Distributed nation-wide
- 11) NFPA Interim Guidance
  - a. Assisted forming and distributing nation-wide
- 12) Law Enforcement Training
  - a. 2 successful pilot trainings
  - b. Course embedded in New York State Police Academy's Training Program

### **Paid Advertisements by the Numbers**

- 35 total advertising placements
- 19 online placements
- 16 print placements
- o **3,416,000** total impressions from advertising placements







### **Paid Advertisement Schedule**

Advertising						
Outlet	Issue	Advertisement	Impressions			
	2011					
Firehouse	March (FDIC Issue)	Print (Half Page)	74,735			
Firehouse	May	Print (Half Page)	74,735			
EMS World	June (Education Issue)	Print (Half Page)	49,995			
Firehouse	June	Print (Half Page)	74,735			
Firehouse	July (Firehouse Expo Issue)	Print (Half Page)	74,735			
Fire Chief	August (Extrication Training Issue)	August (Extrication Training Issue) Print (Half Page)				
EMS World	September (World Expo Issue)	Print (Full page)	49,995			
Firehouse	September (Firehouse World Issue)	Print (Half Page)	74,735			
Fire Rescue	October (Extrication Issue)	Print (Full page)	50,264			
	2011 Totals		574,829			
	2012					
Firehouse.com	August 2, 2012	Online (E-Blast)	122,971			
Firehouse	September (Technical Rescue Issue)	Print (Half Page)	74,735			
Firehouse	October (EMS World Issue)	Print (Half Page)	74,735			
Fire Rescue	October (Hybrid Vehicles Issue)	Print (Full page)	50,264			
FirefighterNation.com	October	Online (Page Peel)	425,037			
Law Enforcement	October (Traffic Safety Issue)	Print (Half Page)	30,006			

### **Deliverables:**

The deliverables produced during this project include:

- 1) Web Portal (www.EVSafetyTraining.org)
- 2) A Fire Service Train-the-Trainer EV/Hybrid Safety Course 8 hours
- 3) Fire Service EV/Hybrid Safety Training Course 4 hours
- 4) Law Enforcement Train-the-Trainer Course 6 hours
- 5) Law Enforcement Training Course 6 hours
- 6) Emergency Responder Online Course (Self Paced) 2 hours
- 7) Vehicle Specific Online Chevrolet Volt Course (Self Paced) 45 minutes
- 8) Instructor Guides, Student Guides, Pre/Post Tests
- 9) Emergency Field Guide 125 pages (Print edition and PDF)
- 10) Law Enforcement Emergency Field Card 1 Page
- 11) Fire Service 'Prepare to Respond' EV Video 19 minutes
- 12) Law Enforcement 'Prepare to Respond' Video 21 minutes
- 13) Mitsubishi 'l' Extrication EV Video 45 minutes
- 14) Draft of Interim Guidelines for Vehicles with High Voltage Batteries.





### **Financial Resources Overview**

NFPA's total project budget, with both DOE and NFPA's share of the grant was \$5,442,669. When program income earned and NFPA's contribution is taken into account, NFPA contributed more than 20% of the total budget spent of \$5,524,842.

U.S. Emergency Responder Safety Training for Advanced Electric Drive Vehicles	Budget Overview
Direct Labor Total      Labor     Overhead	
Travel  Research Trainings Conference and Expositions Trade Shows	1,157,081 272,544
<ul><li>Supplies</li><li>Office Supplies</li><li>General Office Expenses</li></ul>	13,160
<ul> <li>Contractual</li> <li>Professional Services</li> <li>Consultants</li> <li>Subject Matter Experts</li> </ul>	2,681,810
Other      Mailing     Printing     Meeting Expenses     Exposition Booth     Promotional Materials	218,615
Indirect Costs	1,181,632
Total	\$5,524,842

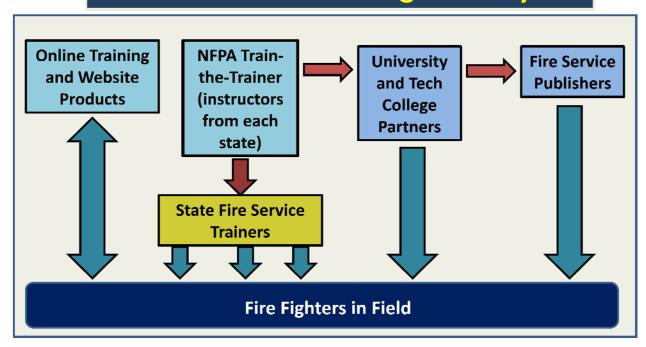




### National Plan for EV/Hybrid Education Delivery:

Having a goal of reaching the United States fire service, with over 1.1 million members, requires a exponentially multiplying plan. NFPA set out to partner with each state, with assistance from the North American Fire Training Directors, and then to teach a full day train-the-trainer session to up to 100 training officers in that state. Each of those officers would receive the necessary course materials, in digital form, to continue to train others. They would in turn provide training classes to additional training officers and peer firefighters, who would continue the cascading effect down through the ranks. To date, this method of a cascading delivery plan has worked well and will continue its propagation in the future. Online training continues to be available on NFPA's EV portal and is being accessed on a daily basis by the responder community.

## **Fire Service Training Delivery**







### **Sample Materials Developed**

### Fact Sheet



### National Fire Protection Association (NFPA): Electric Vehicle Safety Training

NFPA's Electric Vehicle Safety Training project is a nationwide program to help firefighters and other first responders prepare for the growing number of hybrid and electric vehicles on the road in the United States.

The NFPA project, funded by a \$4.4 million grant from the U.S. Department of Energy, provides first responders with information they need to most effectively deal with potential emergency situations involving all electric vehicles and hybrid vehicles on the road today.

The project is being developed in support of the Department of Energy's overarching goal of increasing the number of electric vehicles on the road. Knowing that firefighters and first responders are equipped with the information they need about electric vehicles will be crucial to the public's acceptance of these vehicles.

### Five Things to Know About Electric Vehicle Safety:

NFPA's EV Safety Training covers a variety of topics to help firefighters and first responders prepare for the influx of electric vehicles on the road in the United States. While the training will cover a significant amount of information, the following are five things to consider when dealing with electric vehicles:

- > Emergency responders need to be able to properly identify an electric or hybrid vehicle
- Understanding proper shutdown procedures for the high voltage system is important when responding to a vehicle crash
- Hybrid and electric vehicles may be running without traditional engine noise. This noise is what typically warms first responders that the vehicle is running and can move under its own power.
- > Upon arrival, immediate immobilization and disabling of these vehicles is especially important.
- > Due to the increased use of high strength steel in these vehicles, responders must be aware of proper extrication operations and utilize the appropriate equipment.
- > Firefighters and first responders have always metthe challenge of dealing with new technologies. This program is specifically designed to educate our country's responders regarding the proper methods of treating these new vehicles.

Firefighters interested in more information about electric vehicle safety and updates regarding the full training courses that will be offered this year should visit www.evsafetytraining.org.





FAQ



#### NFPA Electric Vehicle Safety Training—FAQ

What is the overall goal of the EV Safety Training?
The overall goal is widespread training participation and to ensure that firefighters and first responders are prepared for emergencies involving electric vehicles.

In addition, the safety training program is being developed in support of the Department of Energy's overarching goal of increasing the number of electric vehicles on the road. Knowing that firefighters and first responders are equipped with the information they need about electric vehicles will be crucial to the public's acceptance of these vehicles.

What are the specific goals of training? The training seeks to:

- · Create awareness of unique emergency response needs for electric vehicles
- Drive awareness of availability of training modules
- Remove concern about inherent safety of electric vehicles and ability to safely respond in emergency situations
- Reassure public that trained first responders know what to do in emergency situations involving electric vehicles

Who should participate in the EV safety training? It is important that members of the fire service and EMS personnel participate in the training.

Where can I find more information about the EV safety training?

NFPA is in the process of developing the training curriculum and will announce information about the training and other electric vehicle updates at <a href="https://www.evsafetytraining.org">www.evsafetytraining.org</a>.

In addition, NFPA developed a blog to provide updates, news, and thoughts on all things related to electric vehicle safety. The blogging team is made up of subject matter experts with years of training and fire service experience, NFPA employees, and guest bloggers to talk about this important topic from a variety of perspectives. http://nfps.typepad.com/evsafetytraining/





### When will these trainings be offered?

Pilot training courses will be offered in select cities starting in April 2011. Check for regular updates regarding training and other resources at <a href="https://www.evsafetytraining.org">www.evsafetytraining.org</a>

### Why is this training being offered?

Firefighters and other first responders put their lives on the line every day. It is critical that they have all of the specific information they need about electric vehicles when preparing to deal with hazardous situations. They deserve to know what is coming down the road.

### Who is developing the training?

The training is based on extensive research and findings from the Fire Protection Research Foundation, NFPA and others.

### What topics will be covered in the training?

The training will help first responders identify electric vehicles and respond to common hazards. Training topics will include:

- · locations of high strength steel
- · cut points for extrication
- electrical shut-off procedures
- airbag inflator locations.
- new challenges presented by vehicle charging stations and infrastructure associated with electric vehicles.

#### How are you working with auto manufacturers?

NFPA is working in a joint effort with Chevrolet, OnStar, Nissan, Ford and others to develop this training program. The joint effort with these automanufacturers is a crucial step in making sure that firefighters have access to the details on each of these vehicles and, in many instances, are able to get an up-close look at the instance outs of electric vehicles such as the Volt, Leaf, Focus Electric and other advanced electric vehicles.





### **Example Training Announcement**



Lorraine Carli National Fire Protection Association (617) 984-7275 publicaffairs@nfpa.org

### NFPA Unveils Online Electric Vehicle Safety Training for Firefighters and First Responders

July 26, 2012 — The National Fire Protection Association (NFPA) announced the launch of its online electric vehicle safety training course for first responders. The online curriculum is based on the classroom-style sessions currently being delivered across the country. The online version, which allows students to participate regardless of their location, aims to ensure that members of the fire service and other first responder communities have access to this important training.

The self-paced program will provide first responders with the knowledge they need to safely handle emergency situations involving EVs, HEVs, PHEVs and charging stations. The online curriculum includes information about the newest technology and safety systems found in the growing number of hybrid and electric vehicles on the road.

"We are delighted to release the online version of our popular and growing EV training course," said Andrew Klock, senior project manager of NFPA's Electric Vehicle Safety Training. "This invaluable training gives firefighters and first responders easy access to resources and materials necessary to respond to emergencies involving electric vehicles and is an important part of our overall electric vehicle education program."

NFPA's training was developed to address the growing number of electric and hybrid vehicles on the roads today. NFPA began a nationwide training tour to deliver train-the-trainer courses in the summer of 2011 and has been completed in 32 states to date. The project's goal is to train first responders in all 50 states by 2013.

The introduction of the online course complements existing in-person, train-the-trainer sessions, allowing first responders everywhere to select a method that works best for their particular preferences and circumstances. Firefighters and first responders who use the online training will have access to a dynamic, interactive training session with all the same topics covered in the classroom course, including:

- · Introduction to hybrid and electric vehicles
- Basic electrical concepts
- · Vehicle systems and charging stations
- · Identification methods
- Immobilization process
- Disabling procedures
- Extrication operations
- · Vehicle and battery fires
- Submersions
- · Incidents involving charging stations
- · High voltage battery damage

-MORE-





Making sure that the training course was comprehensive was a top priority for NFPA. The launch of NFPA's online training comes after months of research and development by NFPA, subject matter experts, and the automobile manufacturers.

To access the online training, and for more information and resources about NFPA's Electric Vehicle Safety Training, visit <a href="https://www.evsafetytraining.org/training">www.evsafetytraining.org/training</a>

#### About NFPA's Electric Vehicle Safety Training Project

NFPA's Electric Vehicle Safety Training Project is a nationwide program to help firefighters, law enforcement and other first responders prepare for the growing number of electric vehicles on the road in the United States. The NFPA project, funded by a \$4.4 million grant from the U.S. Department of Energy, provides first responders with information they need to most effectively deal with potential emergency situations involving electric vehicles. Visit the Electric Vehicle Safety Training Project website at <a href="https://www.evsafetytraining.org">www.evsafetytraining.org</a>.

#### About the National Fire Protection Association (NFPA)

NFPA is a worldwide leader in fire, electrical, building and life safety. The mission of the international nonprofit organization founded in 1896 is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training and education. Visit NFPA's website at <a href="https://www.nfpa.org">www.nfpa.org</a> for more information.

Subscribe to NFPA RSS News feeds

FOR MORE INFORMATION: Lorraine Carli NFPA Public Affairs (617) 984-7275 publicaffairs @nfpa.org

###





### Logos







### **Advertising Samples**

**Online Banner Example** 



### Page Peel Example







**Email Blast Example** 







Full Page Advertisement Example



ADVANCED ELECTRIC VEHICLES

ARE EXPECTED TO BE ON THE ROAD BY 2015...



## TRAINING WILL BEGIN APRIL 2011

For more information go to www.EVsafetytraining.org

#### Are you prepared to respond?

NEPA's electric vehicle training will provide fire fighters and first responders with the information and materials necessary to respond to emergency situations involving all vehicles.

The training will help first responders identify electric vehicles and respond to common hazards.

Training topics will include:

- · Identification of electric vehicles
- · Electrical power-down procedures
- · Locations of high strength steel
- · Cut points for extrication
- · Air bag inflator locations
- New challenges presented by vehicle charging stations and infrastructure





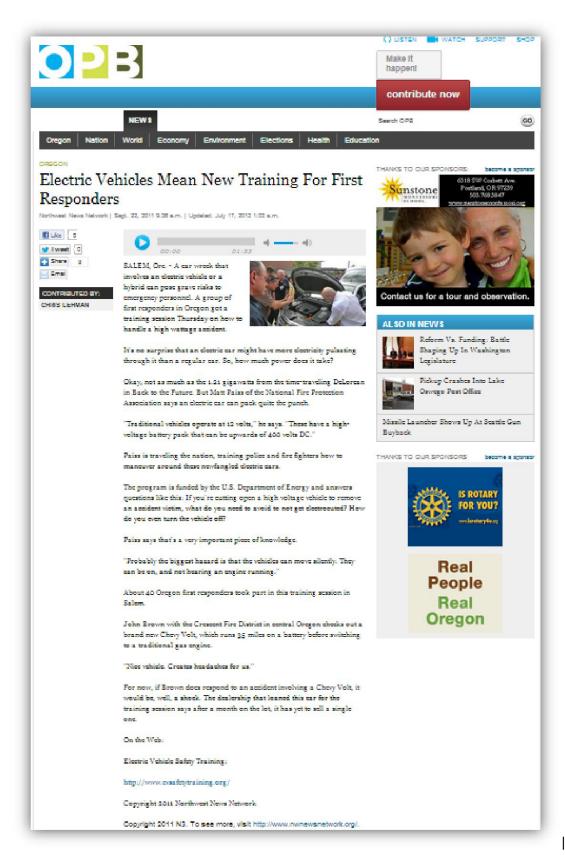








## Sample Media Coverage















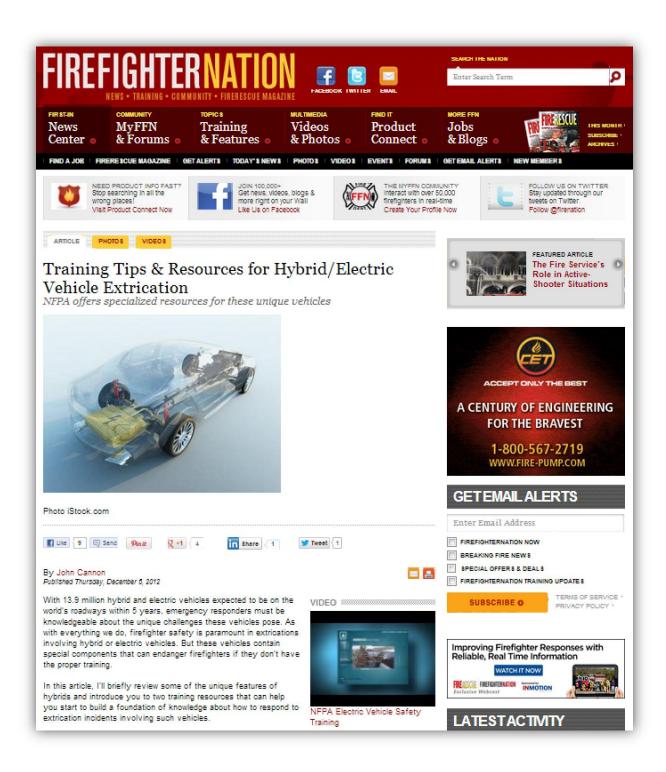






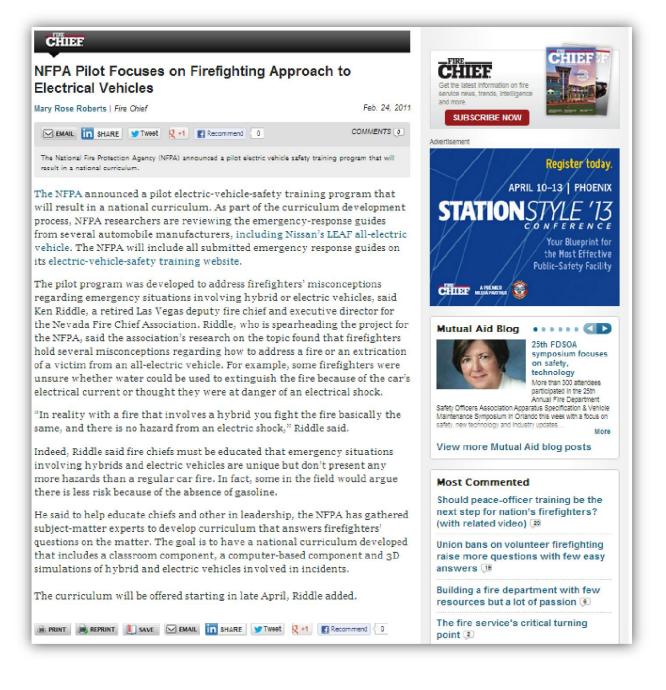






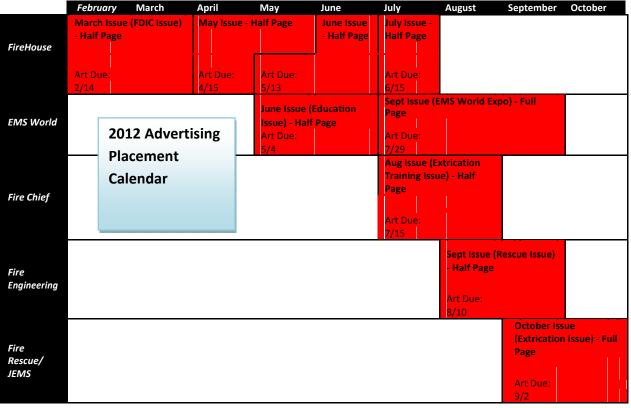


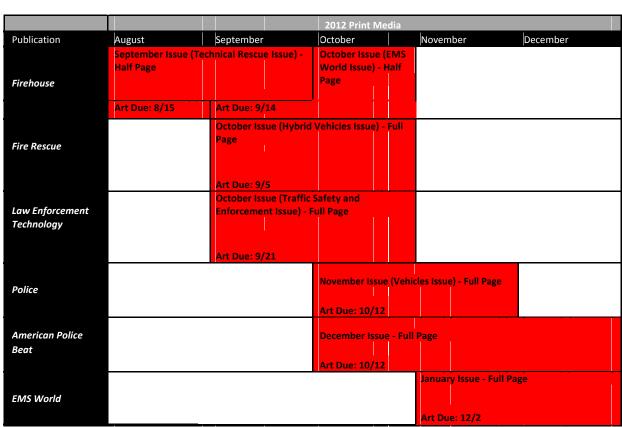
















	2012 Online Media
Publication	Advertising Details
Policemag.com	Homepage Top Leaderboard Video Channel Position 2 Email Blast (November 1)
Officer.com	Homepage Leaderboard: 3 months, 100,000 impressions
EMSWorld.com	Large Box Above the Fold:
Firefighternation.com	Banner Page Peel
Firehouse	Email blast (newsletter)











### **APPENDIX A**

National Fire Protection Association – FINAL TECHNICAL REPORT (APPENDIX A)					
Final Version / May 2, 2013					
U.S. Emergency Responder Safety Training for Advanced Electric Drive Vehicles					
Primary Recipient: National Fire Protection Association, Andrew Klock, Sr. Project Manager					
Project Start Date: February 1, 2011					
Project End Date: January 31, 2013					
Classification					
This report is: Check all that is applicable					
Draft					
Final X					
Internal					
Public X					
Recipient Address and Contact Information					

Andrew Klock, Sr. Project Manager 1 Batterymarch Park Quincy, MA, 02169 617-984-7089 (phone) 617-984-7528 (fax) aklock@nfpa.org National Fire Protection Association 1 Batterymarch Park Quincy, MA, 02169 617-770-3000 (phone) 617-770-0700

## Appendix A: NFPA Electric Vehicle Safety Training Media Coverage Report

Article	Outlet	Training		Impressions		
			Print	Broadcast	Online	Total
		2010				
New York Area First	CNN iReport	N/A			607,328	607,328
Responders Receive						
Electric Vehicle Safety						
<u>Training</u>	2010 Totals		0	0	607,328	607,328
	2010 Totals	2011	0	0	007,320	007,320
NFPA is Bullish About	Fire Chief	N/A	50,900		10,371	61,271
Electric-Vehicle	T II O OTIIOI	14/7	00,000		10,071	01,271
Training Program						
Hybrid Vehicles: Are	Firefighter Nation	N/A			49,570	49,570
You Prepared?						
Electric Car Safety	FireRescue1	N/A			14,958	14,958
Tips for Firefighters	(FlashOverTV)				,	,
NFPA, Chevrolet	FireRescue1	N/A			104,345	104,345
Launch Virtual Electric	i ilenescue i	IN/A			104,545	104,343
Vehicle Training for						
Firefighters						
5 Things To Know	FireRescue1	N/A			104,345	104,345
About Electric Vehicle						
Safety	E' 5				101015	101015
Electric and Hybrid	FireRescue1	N/A			104,345	104,345
Vehicle Response Safety: Myths and						
Facts						
Electric and Hybrid	EMS1	N/A			38,868	38,868
Vehicle Response					•	,
Safety: Myths and						
<u>Facts</u>						
Electric Car Safety	Firehouse	N/A			169,623	169,623
<u>Tips Shared at</u> Firehouse Expo						
NFPA Develops	Firehouse	N/A			169,623	169,623
Electric Car Safety	T II CHOUSE	14/71			100,020	103,023
Training						
NFPA Pilot Focuses	Fire Chief	N/A			12,011	12,011
on Firefighting						
Approach to Electric						
Vehicles NEDA Partners With	Fire Chief	N/A			12.014	12.044
NFPA Partners With Chevrolet for Virtual	FIIE GIIIEI	IN/A			12,011	12,011
Electric Vehicle						
Training						
NFPA, SAE Announce	Fire Apparatus	N/A			6,029	6,029
Additions to SAE	Magazine					
Summit						
NFPA Electric Vehicle	Daily Dispatch	N/A			12,201	12,201
Safety Training  Project Download for						
Project- Download for Nissan LEAF						
INISSAII LLAI						

Article	Outlet	Training		Impre	ssions	
			Print	Broadcast	Online	Total
Phoenix Firefighters	KPHO-TV	Pilot (Phoenix,		N/A	123,483	123,483
Train On Electric Car		AZ)				
Rescue		·				
Austin Pilot Training	WWBT-TV	Pilot (Austin,		N/A		
		TX)				
Oregon Fire Chiefs	Electrifying Times	Pilot (Oregon)			2,984	2,984
Receive Training in						
Electric Vehicle Crash						
Response						
Electric cars spark	Telegram & Gazette	Massachusetts	76,456		82,761	159,217
firefighter risks;	_					
Identification, shock						
pose peril						
MA Firefighting	Fire Engineering	Massachusetts			55,996	55,996
Academy, NFPA to						
Host Electric Vehicle						
Safety Training						
Hybrid Vehicle Safety	Stow Independent	Massachusetts				N/A
New York Firefighters	EnergyBoom	New York			9,604	9,604
Take Part in Electric						
Vehicle Safety						
Training Program						
Electric car used to	Elmira Star-Gazette	New York	16,909		77,176	94,085
teach firefighters						·
Electric car used to	The Ithaca Journal	New York	10,811		60,817	71,628
teach firefighters						
New York State and	NY-Alert	New York			39,823	39,823
NFPA to Host Electric						·
Vehicle Safety						
Training for NY						
Firefighters						
Safety Training	WENY-TV	New York		N/A	7,669	7,669
Program Makes Local						
<u>Stop</u>						
Safety Training	WETM-TV	New York		N/A	39,039	39,039
Program Makes Local						
Stop						
Firefighters Train on	WGHP-TV	North Carolina		N/A	316,111	316,111
Emergency Safety						
with Electric Cars						
Electric Cars Spark	KTVZ-TV	Oregon		N/A	84,065	84,065
New Firefighter Issues						
<u>First responders get</u>	KPLU-FM	Oregon		N/A	28,821	28,821
electric vehicle training						
Electric Vehicles Mean	Oregon Public	Oregon			83,270	83,270
New Training For	Broadcasting					
<u>First Responders</u>						
Electric Vehicles Mean	Salem Accident	Oregon			238,104	238,104
New Training For						
<u>First Responders</u>						
<u>Class teaches</u>	Statesman-Journal	Oregon	37,639		193,217	230,856
responders about						
<u>electric vehicles</u>						
Firefighters Train for	KPTV-TV	Oregon		N/A	241,870	241,870
Electric Car Crashes				<u> </u>		

Article	Outlet	Training	Impressions			
			Print	Broadcast	Online	Total
Responders train for hybrid, electric car rescues	Automotive Industry Today	Connecticut			2,044	2,044
Responders train for hybrid, electric car rescues	AviaEd's Blog	Connecticut				N/A
Responders train for hybrid, electric car rescues	Bahcesel	Connecticut			493	493
Responders train for hybrid, electric car rescues	British Energy	Connecticut			6,773	6,773
Responders train for hybrid, electric car rescues	Claims Journal	Connecticut			8,479	8,479
Responders train for hybrid, electric car rescues	Daily Dispatch	Connecticut			16,717	16,717
Responders train for hybrid, electric car rescues	Electric Cars News	Connecticut				N/A
Responders train for hybrid, electric car rescues	EnergyNOW!	Connecticut			13,246	13,246
Responders train for hybrid, electric car rescues	Engine Nuts	Connecticut			309	309
Responders train for hybrid, electric car rescues	Facebook Page: 1 Million Fans Pledging To Buy An Electric Vehicle As Purchase	Connecticut				N/A
Responders train for hybrid, electric car rescues	Ford Escape Hybrid Blog	Connecticut			2,640	2,640
Responders train for hybrid, electric car rescues	Fuel Fix	Connecticut			74,890	74,890
Responders train for hybrid, electric car rescues	Going Solar Blog	Connecticut				N/A
Responders train for hybrid, electric car rescues	Hartford Courant	Connecticut			679,309	679,309
Responders train for hybrid, electric car rescues	Hybrid Cars News Today	Connecticut				N/A
Responders train for hybrid, electric car rescues	Hybrid Plug In Cars	Connecticut				N/A
Responders train for hybrid, electric car rescues	ITS For Home	Connecticut			235	235
Responders train for hybrid, electric car	JoelFinnigan.com (blog)	Connecticut				N/A

Article	Outlet	Training		Impre		
	İ		Print	Broadcast	Online	Total
rescues						
Responders train for	Puckett's Projects	Connecticut			142	142
hybrid, electric car						
rescues  Decreaders train for	Tuestan Tuellan	Commontinut				NI/A
Responders train for hybrid, electric car	Tractor-Trailer-	Connecticut				N/A
rescues	Lawyers					
Responders train for	TreeHugger	Connecticut			712,679	712,679
hybrid, electric car	, rooriagger				,	11=,010
rescues						
Responders train for	USA Today Topics	Connecticut			7,503,628	7,503,628
hybrid, electric car						
rescues						
Responders train for	U.S. Department of	Connecticut			790,846	790,846
<u>hybrid, electric car</u> rescues	Homeland Security					
Responders train for	U.S. Judicial	Connecticut			1,262	1,262
hybrid, electric car	Corruption	Connecticut			1,202	1,202
rescues	Corraption					
Responders train for	Windsor Locks Fire	Connecticut			1,056	1,056
hybrid, electric car	Department				,	,
rescues						
Responders train for	World News, Inc.	Connecticut			2,756,199	2,756,199
hybrid, electric car						
NEDA Holdo Flootrio	Fire Dretestion	lavva				NI/A
NFPA Holds Electric Vehicle Safety	Fire Protection Reviews	lowa				N/A
Training for Iowa First	Reviews					
Responders						
NFPA Hold Electric	Iowa DPS Alert	lowa			17,730	17,730
Vehicle Safety					,	,
Training for Iowa First						
Responders						
NFPA Holds Electric	Targeted News	lowa			11,574	11,574
Vehicle Safety  Training for Java First	Service					
Training for Iowa First Responders						
First Responders	KFBB-TV	Montana		N/A	20,929	20,929
Attend Electric Car	10 66 77	Montana		1071	20,020	20,020
Safety Training						
Vehicle Fire Training	KXNET-TV	North Dakota		N/A	64,508	64,508
	2011 Totals		192,715	0	15,178,798	15,371,513
		2012				
Emergency  Decreased are Learn to	Nashville Public	N/A		N/A	9,263	9,263
Responders Learn to	Radio					
<u>Deal with Electric</u> <u>Vehicle Issues</u>						
Electric Vehicle Safety	WICD-TV/WICS-TV	Illinois		70,435	7,709	78,144
Hybrid & Electric	WAND-TV	Illinois		13,983	26,794	40,777
Emergency				. 5,555		,
Responders						
Safety: Subject of	WCIA-TV	Illinois		68,837	68,345	137,182
"Train the Trainer"						
Electric vehicle safety	WJAR-TV	Rhode Island		N/A	161,712	161,712
training						

Article	Outlet	Training		Impre	essions		
			Print	Broadcast	Online	Total	
Missouri first	Gas Buddy	Missouri			530,052	530,052	
responders attend	·						
Electric Vehicle Safety							
Training							
Missouri First	KOMU-TV	Missouri		N/A	42,716	42,716	
Responders Receive						·	
Training in Electric							
Vehicle Safety							
Firefighter's attend	Connect Mid	Missouri			76,794	76,794	
program for electric	Missouri (KRCG-TV)				,	,	
and hybrid cars	,						
Missouri first	Columbia	Missouri	6,003		93,079	99,082	
responders attend	Missourian		,,,,,			,	
Training	· · · · · · · · · · · · · · · · · · ·						
MU to co-host electric	Columbia	Missouri	6,003		93,079	99,082	
vehicle safety training	Missourian	Micocan	0,000		00,070	00,002	
for first responders	Wilderian						
Missouri Training on	AgDay	Missouri			178,487	178,487	
AgDay	AgDay	Missouri			170,407	170,407	
Missouri Training on	KEYC-TV (Mankato,	Missouri		1,240		1,240	
_	MN)	MISSOUTI		1,240		1,240	
AgDay Missouri Training on	KFXL-TV (Lincoln,	Missouri		170		170	
	NE)	MISSOUTI		170		170	
AgDay	/	Misser		4.000		4.000	
Missouri Training on	KGET-TV	Missouri		1,088		1,088	
AgDay	(Bakersfield, CA)			1.005		4.005	
Missouri Training on	KSNF-TV (Joplin,	Missouri		1,965		1,965	
AgDay	MO)			10		40	
Missouri Training on	KWYB-TV (Butte,	Missouri		16		16	
AgDay	MT)						
Missouri Training on	KYTV-TV	Missouri		58,187		58,187	
AgDay	(Springfield, MO)						
Missouri Training on	WABG-TV	Missouri		2,437		2,437	
AgDay	(Greenville, MS)						
Missouri Training on	RFD-TV (U.S.	Missouri		N/A		N/A	
AgDay	Cable)						
Missouri Training on	WHIZ-TV	Missouri		653		653	
AgDay	(Zanesville, OH)						
Missouri Training on	WZDX-TV	Missouri		2,026		2,026	
AgDay	(Huntsville, AL)						
Firefighters get special	Ocala StarBanner	Florida	34,011		249,732	283,743	
training							
Firefighters From	KAPP-TV	Washington		N/A	9,898	9,898	
Across State In		-					
Yakima For Training							
Firefighters	KNDO-TV	Washington		N/A	44,890	44,890	
participated in electric		<b>-</b>				·	
vehicle safety training							
Firefighters brush up	Yakima Herald-	Washington	30,253		108,084	138,337	
on electric cars at	Republic	<b>J</b>	<u> </u>			, , , , , , , , , , , , , , , , , , ,	
course in Yakima	<b>'</b>						
Firefighters	MSNBC	Washington		1	33,194,462	33,194,462	
participated in electric					55,151,152	20,.0.,.02	
vehicle safety training							
Recharging first	WCAX-TV	Vermont		N/A	139,797	139,797	
responders	WORK IV	VCITIOIIL		IN/A	100,101	100,101	
<u>responders</u>			<u> </u>	1	I		

Article	Outlet	Training		Impressions			
			Print	Broadcast	Online	Total	
Responders get	The Daily News	Tennessee	11,655		50,838	62,493	
lesson in electric-	Journal						
hybrid emergencies							
National Fire	WDXE-AM	Tennessee		N/A	20,977	20,977	
Protection Assoc. to							
train at state							
firefighting academy							
Louisiana Firefighters	WVLA-TV and	Louisiana		N/A	37,764	37,764	
train to pull victims out	WGMB-TV						
of Electric Cars					101051	404054	
Automotive Rescue	Firehouse	N/A			124,354	124,354	
and Extrication Expert							
Ron Moore Joins							
NFPA's Electric Vehicle Safety							
Training Project							
One Million Advanced	Fire Engineering	N/A			48,812	48,812	
Electric Vehicles	The Linghieening	IN/A			40,012	40,012	
Expected by 2015							
Bay Area firefighters	KTVU-TV	California (San		N/A			
received electric	1,4,40,14	Jose)		14/7			
vehicle training		33337					
Rescue Workers Train	KXNT-AM	Nevada		N/A	179,716	179,716	
for Hybrid Hazards		1.0.000		1	,	,	
Ohio Firefighters Get	WCMH-TV	Ohio		N/A	307,273	307,273	
Electric Vehicle Safety						,	
Training							
Ohio Firefighters Get	Fire Engineering	Ohio			43,484	43,484	
Electric Vehicle Safety							
<u>Training</u>							
Firefighters plugged	The Columbus	Ohio	129,737		542,516	672,253	
<u>into electric-car safety</u>	Dispatch						
NFPA unveils online	Charged EVs	Online			1,292	1,292	
EV safety training for							
<u>first responders</u>		-					
NFPA unveils online	Daily Dispatch	Online			12,230	12,230	
Electric Vehicle Safety							
and first responders	<u></u>	0 "			0.775		
NFPA Unveils Online	Fire Apparatus	Online			6,775	6,775	
Electric Vehicle Safety	Magazine						
Training NFPA Unveils Online	Firehouse	Online			100 044	402 244	
Electric Vehicle Safety	Firehouse	Online			123,344	123,344	
Training for							
Firefighters and First							
Responders							
First responders train	Portland Daily Sun	Maine	15,000		1,356	16,356	
on emergency tips	. Ordana Dany Guil	ividitio	. 5,550		1,000	. 0,000	
with electric, hybrid							
vehicles							
Maine firefighters get	WMTW-TV	Maine		N/A	147,945	147,945	
tutorial in electric and					,	,- <del></del>	
hybrid vehicles							
First Responders train	KTTC-TV and	Minnesota		N/A	51,081	51,081	
for electric vehicle	KXLT-TV						

Article	Outlet	Training		Impre		
			Print	Broadcast	Online	Total
<u>emergencies</u>						
First Responders Get	KCBS-AM	California (San		N/A	263,400	263,400
Crash Course On		Francisco)				
<u>Roadside</u>						
Emergencies Involving						
Green Vehicles						
Idaho Electric Vehicle	KBOI-AM	Idaho		N/A		
Safety Training						
Firefighters prepare for	KTVB-TV	Idaho			219,347	219,347
electric car fires		N//A			07.470	
Training Tips &	Firefighter Nation	N/A			67,450	67,450
Resources for						
Hybrid/Electric Vehicle						
<u>Extrication</u>	KABC-TV	California /Las		450 440	2 404 004	2 622 000
1st responders train for hybrid car crashes	KABC-TV	California (Los		150,119	3,481,881	3,632,000
lor Hybrid car crashes	2012 Totals	Angeles)	22 2662	371,156	40 766 720	41,370,546
	2012 10tais	2013	23,2662	371,130	40,766,728	41,370,546
Electric Vehicle Press	VA Department of	Virginia			4,672	4,672
Release – Virginia	Fire Programs	Viigiila			4,072	4,072
Department of Fire	The Frograms					
Programs						
South Dakota Electric	KSFY-TV	South Dakota		25,732		25,732
Vehicle Safety				_==,. ==		,
Training						
	2013 Totals		0	25,732	4,672	30,404
To Date Totals			425,377	396,888	56,557,526	57,379,791
				·		



New York Area First Responders Receive Electric Vehicle Safety Training (VIDEO)

November 11, 2010 Michelle Makori CNN iReport

As America drives forward into the future with electric cars, emergency first responders will require specialized training.

Chevrolet and OnStar, in a joint effort with The National Fire Protection Association (NFPA), hosted electric vehicle safety training for New York-area first responders at the FDNY Fire Academy on Randall's Island—the sixth in a series of training sessions taking place this fall in cities across the country.

First responders participated in a three-hour program to prepare for emergency situations involving electric vehicles such as the Chevrolet Volt, an electric vehicle with extended-range capability available in select markets late this year.

In addition to New York, the tour has made stops in Detroit, Los Angeles, San Francisco, Austin, and Washington D.C.

Safety trainers delivered presentations covering topics specific to electric vehicles such as power shut -off procedures, lithium ion battery details, locations of high-strength steel and cut points for extrication. In addition, a Volt – recently used during an extrication exercise – was on-site for hands-on training for first responders.

The collaboration with Chevrolet and OnStar includes the co-development of safety resources, including webbased training materials, an extrication video and shared resources for instructor-led safety presentations.

The New York City Fire Department is participating in these trainings solely in the interest of public safety. Familiarizing Fire Department personnel with electric vehicles will help ensure they can properly respond to any emergency. The Fire Department does not endorse Chevrolet, OnStar or any other products.

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### NFPA is Bullish About Electric-Vehicle Training Program

August 25, 2011 Glenn Bischoff Fire Chief

Print Impressions: 50,900 Online Impressions: 10,371

This summer, the NFPA completed the pilot phase of a new training program created to instruct firefighters on how to properly deal with electric vehicles — or electric/gas-combustion hybrids — that are on fire or have been involved in a crash.

The response to the program generally was positive and the pilot didn't reveal any "gotcha" lessons, according to Jason Emery, an NFPA consultant who is the lead trainer within the association's electric-vehicle training program. However, some graphics and language will undergo minor revisions to make them clearer.

"When more than one group asked the same question about the same section, it made us realize that the language needed to be tweaked a little bit to ensure that the point was being made," Emery said.

The pilot was intended to determine whether the program's instructional materials were appropriate and effective. "We wanted the most efficient delivery system possible," Emery said.

There are two aspects of the training program. One is an interactive online experience that is expected to be ready by October. It requires students to correctly answer a series of questions before they're allowed to move on to the next module. There also is an instructor-led, PowerPoint-based presentation. Both incorporate video to help instructors hammer home key points.

Regarding the latter, the NFPA currently is working with the state fire academies — or the organization in each state that oversees fire service training — to schedule classes.

Ease of accessibility is an important attribute of the online version, especially given the budget constraints that many departments are experiencing, which might prevent some firefighters from traveling to attend classes held at the fire academies. "All they have to do is jump onto a computer and log in," Emery said.

The goal is to reach as many firefighters as quickly as possible.

"The current administration wants to have 1 million electric cars on the road by 2015," Emery said. "That doesn't count all of the hybrid vehicles that already are on the road."

So, there's considerable need for such training, which the fire service seems to understand, Emery said.

"The general response that we got was, 'We really need this training,'" he said. "The fire service as a whole has come to the realization that there are quite a few of these vehicles on the road."

An important goal of the training program is to clear up misconceptions about how these vehicles operate. "We've always been taught that high-voltage electricity and water don't mix," Emery said.

Specifically, firefighters always have been taught that they can't pour water on an electrical system that's on fire when the system is attached to a structure, because the electricity will travel back to the firefighter via the water stream. Emery explained that structures in the U.S. are wired in such a manner that everything is grounded. So, if a firefighter standing on the ground interacts with an electrical circuit in a building, a potential path for the electricity to flow is created, i.e., the water stream.

"The biggest risk associated with electrocution is placing yourself in the path of the electricity," Emery said.

However, because electric and hybrid cars aren't grounded, there is no pathway back to the firefighter; thus, using water on them isn't an issue. "In fact, most vehicle manufacturers recommend copious amounts of water," Emery said.

Emery added that most electric cars have numerous safety systems that are designed to shut down the high -voltage system that powers the vehicle in the event of a catastrophic event such as a crash. But because they are electromechanical devices, he advised that firefighters always err on the side of caution when dealing with them.

"There's never 100% certainty that everything is going to operate like it's supposed to," he said. "So, we always instruct that firefighters should operate as if the system hasn't shut down, which means you don't cut the orange wires or pull batteries out of the car, and you don't interact with the high-voltage system at all."

Firefighters also need to be aware that, unlike a gas-combustion vehicle, electric vehicles — as well as hybrids when operating in electric mode — are silent. Consequently, first responders should not approach an electric or hybrid vehicle directly from the front or rear — essentially the path of travel — just in case the vehicle still is running.

"We have to get emergency responders to understand that, just because they don't hear the vehicle running, it doesn't mean that it's shut down — that's a key point," Emery said.

Also because so many of these vehicles are built on existing chassis, it's often not easy to identify them as electric vehicles right off the bat.

"These are not your futuristic 'George Jetson' cars," Emery said. "They look like regular Toyota Camrys and Ford Escapes and other cars that we see every day. So, taking the approach that, until proven otherwise, it is an electric or alternative-fuel vehicle is a sound practice."

When encountering an electric-powered vehicle, Emery further advises that firefighters use the best practices they have been taught regarding conventional vehicles, such as chocking the wheels in order to prevent the vehicle from rolling, shutting off the ignition, ensuring that the vehicle is in park and setting the parking brake.

Perhaps the most important best practice is disconnecting the 12-volt battery. This is done with a conventional vehicle in order to disconnect its restraint systems, but doing so offers an added benefit when dealing with an electric-powered vehicle, Emery said.

"The system is designed so that, when you remove the 12-volt power, a relay that is built into the high-voltage battery opens up and shuts down the high-voltage current," he said.

However, because no system works perfectly every time, "this is not a license to start cutting orange wires," Emery said.

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<u>Hybrid Vehicles: Are You Prepared?</u> An interview with Jason Emery on the challenges of and resources for hybrid and electric vehicle response

September 30, 2011 Timothy E. Sendelbach Firefighter Nation

Online Impressions: 49,570

Hybrid and electric vehicles are becoming more prevalent, even outside of urban areas. And since hybrids are often built on existing commercial chassis, they can be difficult to spot when rescuers are responding to a motor vehicle accident. In this interview, FireRescue Editor-in-Chief Tim Sendelbach interviews Jason Emery, an 18-year firefighter with the City of Waterbury, Conn., and a frequent instructor on hybrid vehicles. Emery currently instructs with the NFPA's electric vehicle safety training program.

Emery first identifies what exactly is a hybrid vehicle, then discusses some free training resources for firefighters who want more information on this subject. Finally, he offers some sage advice for firefighters responding to accidents with these vehicles.

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### **Electric Car Safety Tips for Firefighters**

August 3, 2011 FlashOverTV - FireRescue1

Online Impressions: 14,958

NFPA consultant Lt. Jason Emery discusses various safety precautions for fire/rescue personnel in dealing with incidents that involve electric cars. Also check out our article on FireRescue1, Electric and hybrid vehicle response safety: Myths and facts.

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NFPA, Chevrolet launch virtual electric vehicle training for firefighters

August 27, 2011

**NFPA** 

#### FireRescue1

Online Impressions: 104,345

The collaboration with Chevrolet and OnStar stems from NFPA's electric vehicle safety training initiative, a result of a \$4.4 million grant.

The National Fire Protection Association (NFPA), Chevrolet and OnStar today announced the launch of its virtual electric vehicle safety training for first responders. The online training — which is hosted by NFPA and can be accessed at http://evsafetytraining.org/training — features an inside look at the newest technology and safety systems on the all-new 2011 Chevrolet Volt, an electric vehicle with extended-range capabilities that hit the roads last fall.

The collaboration with Chevrolet and OnStar stems from NFPA's electric vehicle safety training initiative, a result of a \$4.4 million grant from the U.S. Department of Energy, which supports the growing number of electric vehicles in the United States.

NFPA and Chevrolet/OnStar began collaboration last fall with a national tour that included a series of live training sessions featuring the Chevrolet Volt. The launch of the virtual training is a result of months of research and development between Chevrolet and OnStar training specialists, engineers, firefighters and subject matter experts associated with NFPA. Firefighters and first responders who use the online training will have access to an interactive training session including videos, virtual trainers and a variety of downloadable resources about the technology and inner workings of the Chevrolet Volt.

"We are excited to launch this invaluable training resource with Chevrolet and OnStar," said Andrew Klock, NFPA's senior project manager for the program. "With electric vehicles hitting the road across the country, this interactive training gives firefighters and first responders easy access to resources and materials necessary when it comes to the new Chevrolet Volt. This virtual training is an important part of our overall electric vehicle education program, which provides training to firefighters and first responders in a variety of formats to ensure that it's accessible to all."

"The launch of this training and our partnership with the NFPA is an important part in reaching firefighters and first responders with information about the Chevrolet Volt," said Gay Kent, GM director of vehicle safety for Chevrolet. "Our objective with the training is for firefighters and first responders to be as comfortable working around electric vehicles, like the Chevrolet Volt, as they are today with conventional vehicles."

NFPA is currently conducting its own live pilot training courses in a handful of locations across the country and trainings for all firefighters and first responders will be available nationwide this summer.

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5 things to know about electric vehicle safety

November 3, 2010 Ken Willette FireRescue1

Online Impressions: 104,345

With any new technology comes the need for firefighters and other first responders to understand how to respond in the event of an accident.

Electric vehicles are finally hitting the roads in the United States. Technology that was once thought of as futuristic is fast becoming reality.

The introduction of these vehicles is being met with a great deal of enthusiasm from car fans and the public in general. Whether or not these cars have hit the road in your city, it is hard to ignore the attention surrounding the first wide-scale introduction of this new technology.

However, with any new technology comes the need for firefighters and other first responders to understand how to respond in the event of an accident.

For this reason, NFPA, through a grant from the U.S. Department of Energy, is developing an Electric Vehicle Safety Training program to provide firefighters and other first responders with information they need to most effectively deal with emergency situations involving these electric vehicles.

Working with auto manufacturers, including Chevrolet and others, the trainings will give first responders the information and resources to prepare and respond.

The trainings will begin in early 2011, but here is a teaser of the five things to know about electric vehicle safety and topics that will be covered in NFPA's Electric Vehicle Safety Training:

- 1. High strength steel is used in certain locations of most electric vehicle models. Identifying the location of this steel is important when it comes to knowing the right tools to use when responding to an incident.
- 2. Proper procedures for the identification of appropriate cut points for electrical shut-off will be important in the event of extrication.
- 3. Like many hybrid models recently introduced, electric vehicles emit very little sound and it is important to ensure that vehicles are properly turned off prior to engagement.
- 4. There will be new challenges presented by vehicle charging stations and other infrastructure associated with electric vehicles.
- 5. Just like with any new technology, training is important. Firefighters and first responders have always met any challenges coming their way. The introduction of electric vehicles is simply the latest one.

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**Electric and hybrid vehicle response safety: Myths and facts** 

May 11, 2011 Jamie Thompson FireRescue1

Online Impressions: 104,345

The influx of hybrid electric vehicles and the recent nationwide release of two electric vehicles came under the spotlight during a session at Fire-Rescue Med.

As part of an ongoing push for clean energy, President Obama called earlier this year for one million electric cars to be on U.S. roads by 2015.

What was once thought of as futuristic technology is fast becoming a reality. With it, comes new challenges for responders.

The influx of hybrid electric vehicles (HEVs) and the recent nationwide release of two electric vehicles (EVs) — and the implications for responders — came under the spotlight during a session at Fire-Rescue Med in Las Vegas on Wednesday.

Last summer, the NFPA announced a joint effort with Chevrolet and OnStar to provide electric vehicle safety training for first responders to the scene of an accident, which has resulted in www.evsafetytraining.org.

As part of the program, teams have also toured the country to bring training directly to departments and agencies.

"What we have found is there's a lot of interesting stuff floating around about these vehicles, we've heard interesting stories about what you have to do to make them safe," said George Baker, public policy manager for OnStar.

Baker said the investment, both from the public and private sector, is huge, meaning these new vehicles are here to stay for good.

"It's not like these are going to disappear tomorrow," he said. "But I think what you need to keep in mind is we have always adapted to changing technology in emergency services."

A common misconception concerning the new vehicles, according to Baker, is that they look different to regular cars.

"When it comes to identifying them, some people think they look really different, that they are bubbles, when in reality they look like standard models. The bulk of them are all based on standard vehicles chassis," he said.

Jason Emery, fire service training consultant at the NFPA, went on to outline some of the main response concerns that they have come across — specifically, perception versus reality.

The first, he said, is that high voltage batteries will leak dangerous amounts of fluid if damaged. This is not the case, the session was told, as the batteries are not lead acid, NiMH and Li-lon are dry cell batteries, electrolyte is absorbed in a medium, and only a few drops may be produced if a cell is crushed.

Another concern from many responders is that they risk electrocution by touching an HEV/EV involved in a crash or is submerged.

Again, the reality of the matter is different, with Emery telling the session that the high voltage system is completely isolated from the chassis and that integrated safety systems and basic electrical theory protect occupants and responders.

Another misconception, Emery said, is that it is difficult to disable the HV electrical safety system. In reality, these new vehicles have integrated shutdowns in the event of crash, shutting of the vehicle's ignition will shut down the HV.

In addition, the concern that special equipment is needed for fires in these vehicles is misplaced — attendees at the conference learned that fires in HEVs and EVs are extinguished with standard firefighting procedures.

However, there are some issues responders need to be aware of, with one of the main challenges being unexpected movement of the vehicle.

"You really have to keep in mind that these make no engine noises," Emery said. "You have to be careful. Nowadays, when approaching any scene, you should never approach the vehicle from the front or rear."

The solution? Always ensure the vehicle is shut down and secured from moving, according to Emery. Wheels should be chocked, the emergency brake engaged and the vehicle should be placed in park.

With these vehicles becoming evermore commonplace on roads across the United States, Emery said responders should begin to develop the mindset that vehicles involved in incidents are HEVs or EVs until proven otherwise.

"It's easier to start that way and work your way back," he said. "We need to respect them. There's some stuff in there that can hurt if you're not careful, but we shouldn't see this growth as the end of the world."

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### Electric and hybrid vehicle response safety: Myths and facts

May 11, 2011 Jamie Thompson EMS1

Online Impressions: 38,868

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**Electric Car Safety Tips Shared at Firehouse Expo** 

July 22, 2011 Ed Ballam Firehouse

Online Impressions: 169,623

Not all the training at Firehouse Expo in Baltimore was in the conference room. In fact, there was plenty of learning happening on the exhibit floor as well. One of the classes on the trade show floor was about electric plug-in cars and hazards they present to responders.

Coverage of Firehouse Expo 2011

The classroom right on the show floor is a new feature of this year's event. One of Thursday's instructors was Ron Moore, a battalion chief with the McKinney (Texas) Fire Department and a long-time Firehouse writer, and author of the University of Extrication series in the magazine and on Firehouse.com.

In an hour-long presentation, which included a \$1 million cut-up prototype Chevy Volt as a learning prop, Moore gave a spirited presentation on the things that can bite firefighters and EMS personnel in electric plug-in vehicles.

"By 2012, these will be in every state," Moore said, noting that there has been a steady roll out of electric plug-in vehicles from two major manufacturers, Chevrolet and Nissan. "They're going full blast now."

Each of the two vehicles, the Volt and Nissan's Leaf, have two electrical systems, one that is purely high-voltage, up to 400 volts, used to propel the vehicle and another 12-volt system that is used much as a conventional vehicle to power accessories and lights.

"You must disconnect both," Moore said to the more than 200 people gathered to listen to his words of wisdom.

Throughout the presentation, Moore had several tips that he called "teaching points." Among those were the paramount need to make sure the vehicle is completely off while tending to patients or trying to make extrications. He said both the Volt and the Leaf have keyless, push-button "start" systems that can be de-activated by pushing the button on the dash or console once, if the vehicle is still on. Both vehicles' start mechanisms are illuminated, although Moore said neither is easy to see, especially in daylight.

Moore said both vehicles, which are not to be confused with hybrid vehicles, like the Toyota Prius, have master disconnects which are plugs in the center tunnel of the car accessible from inside the vehicle. It's also important to cut the 12-volt battery systems as well in accordance with manufacturers' requirements.

In both the Volt and the Nissan, the batteries are under the vehicle and cribbing and jacking is not recommended, Moore said.

"You will puncture the batteries if you do that and that would not be a good thing," he said. There are places were vehicles can be jacked and he recommended firefighters visit a dealership to crawl around under the rigs to get an idea where jacking can be done safely. He commented that the manufacturers do not offer suggestions on that score.

The batteries in the plug-in vehicle are remarkably different, he said, noting the Leaf and Nissan use lithium ion batteries, not the nickel hydride batteries found in hybrid vehicles.

"If you ever come across one of these that are burning, you must wear full packs," Moore said, noting that respiratory protection is essential. "It will be a respiratory problem. We are talking lethal, lethal gases. It's a very big deal. Pack up and keep it on to the very end when it's completely cooled and there are no more fumes or vapors coming off of it."

The hybrid vehicles are built a little tougher, at least the Volt, than many other cars on the road, Moore said, which presents further challenges for responders.

High tech designs and boron steel make the older extrication tools obsolete, Moore said. "If you have older equipment, you will not be able to cut this B-pillar," Moore said, holding up the previously removed pillar from the silver Volt on the exhibit floor.

That, however, doesn't mean rescuers can't do anything. Moore said the roofs of the Volts are good, old -fashion sheet steel which can be cut with an ordinary reciprocating saw. By removing the roof, Moore said some of the structural integrity of the vehicle has been removed and the B-pillar can then be spread and bent away from the victim with extrication rams.

Doors, hinges and latches remain the same as other vehicles on the road today, so popping a door for patient extrication shouldn't be any difficulty, Moore said.

In concluding his presentation, Moore offered the National Fire Protection Association's (NFPA) training program and web site as a resource to learn more about electric vehicles and hybrids.

Using money from a federal grant, NFPA has developed response plans and training for the increasingly popular electric vehicles on the road today, Moore said.

"I would encourage you to go visit them or go their web site," Moore said.

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## **NFPA Develops Electric Car Response Training**

May 17, 2011 Ed Ballam Firehouse

Online Impressions: 169,623

The National Fire Protection Association has developed a training program specifically aimed at helping first responders with crashes involving electric vehicles.

The program, aptly called "Electric Vehicle Safety: Prepare to Respond," was funded by a grant from the U.S. Department of Energy and partnered with several auto manufacturers, particularly General Motors, Nissan and Ford.

The project encompasses training material, a video, programming and a website, all designed to help responders learn more about an increasingly popular mode of transportation that is now found on highways nationwide.

## A Training Video is Born

Have you ever been to an auto collision that has a dedicated concession stand to feed the rescuers? How about a simple pop-the-door extrication that takes two days?

How about responding to the same crash repeatedly, each time with someone saying, "action"? Or a scene where the "director" says "CUT," but doesn't mean to take the roof off the vehicle?

There's a group of firefighters in northern New Hampshire who have experienced that kind of scene. They were part of a training video produced by the National Fire Protection Association (NFPA).

NFPA was awarded a \$4.4 million grant from the U.S. Department of Energy to develop an electric vehicle training program for the nation's first responders. It was part of an initiative to develop alternative energy sources and provide training for people who would be responding to crashes involving electric and hybrid vehicles. Within the next year, it's anticipated that more than one million hybrid vehicles will be on the road.

Last fall, firefighters from Haverhill Corner and Piermont, two fire departments in the Upper Connecticut River Valley of New Hampshire, spent two days rehearsing and filming a simple, single -person extrication from a mock head-on collision. It was preceded by several fire academy-level extrication training and practice sessions — all to get prepared for a moment of fame in front of the cameras.

On the other side of the country, firefighters in Reno, Nev., participated in the same filming, doing much of the same scenario. The NFPA told participants the idea was to show "generic" firefighters and equipment, therefore viewers won't know what departments they are seeing, without some inside knowledge.

As a matter of full-disclosure, I am a firefighter and EMT with the Haverhill Corner Fire Department. As such, I participated in the training and filming of the video, although I do not believe I appear on camera in any of the shots made available so far – so don't go looking.

## The Collaboration Begins

It was an interesting experience that began with a conversation late last summer. A member of the Piermont Fire Department, Rich Dion, was hired as an NFPA consultant to work on the electric vehicle project. He thought it would be a good idea to use volunteers in rural New England communities for the filming of the video.

"NFPA has often used paid actors and career firefighters for their videos, but not volunteers," Dion told us, indicating it was the first time NFPA agreed to the concept. "I believe volunteers can do just as well as the career guys."

And so, the collaborative venture between Piermont and Haverhill Corner fire departments and NFPA was created.

The first step was to see if the members of the department were interested in the project. The initial meeting showed strong interest from many of the departments – participation by the end, however, was somewhat diminished as the firefighters began to realize it was going to take a huge time commitment to complete. For me, I used the training toward my continuing education credits to keep my national EMT certification updated.

## Preparing for the Role

As it turns out, neither department has extrication tools and we all needed training on how to use them. We didn't want to appear inexperienced on a video that was going to be distributed nationwide as part of a NFPA training video.

So, we were all given extensive training in auto extrication, with oversight from the New Hampshire Fire Academy.

After we got the basics of auto extrication down, it was time for some practical experience. After two donated cars, (one was a high-mileage commuter car I contributed) and a Saturday, we all had a working knowledge of how the tools worked. It was interesting cutting apart a car that I had driven for years.

Then, it was time for our auditions for different roles. Each of us who were going to be part of the video needed an assignment for the duration of the filming.

For me, it was easy. I am most often the engine chauffeur and pump operator, so that was my role for the filming. My chief, Mike Lavoie, was named the incident commander and the Piermont chief, Bruce Henry, was named the safety officer for the incident. In all, about 10 members of my department participated, each with assignments ranging from chocking wheels, to retrieving tools, to standing by with charged hose lines - much as one would do for a real extrication.

And that was the goal, to make the extrication appear as real as possible with the only substantive difference being the fact that one of the vehicles was electric.

## On the Set

For us, it was a green, two-door 2002 Toyota Prius that was purchased from a local dealer. It was a pretty nice looking car, until our film and training crew did a number on it with the bucket of a Kubota tractor to simulate damage. Our counterparts in Reno cut up a silvery-blue Prius that's seen in the video.

The other vehicle in the two-car collision in New Hampshire was a derelict four-door Buick that was positioned, and also damaged by the Kubota, to simulate a near head-on collision.

Once the scene was set, the film crew from Boston came in and set up booms, lighting, sound equipment and a wide variety of supporting gear.

Like a Hollywood set, there were spectators, police, the catering trailer, ATVs to move staff and equipment around the "set" and, of course, a lot of fire apparatus.

For our filming, we used the vacant parking lot of a grocery store that burned more than a decade ago. We did use the surrounding roads, however, for response.

## "Action"

Starting at 6 a.m. on a cool November Sunday morning, the apparatus responded to the parking lot. It was show time.

For the most part, the filming was done in the sequence of how any response would be done.

The director told us to take our places for filming the first scene that was the response. Apparatus was staged about a quarter of a mile up the road, with a police SUV in the lead, followed by an engine and then a rescue truck.

It took about five tries for the director to be satisfied that he had the shot he wanted of the trucks arriving on the scene. Over a tactical channel of our radio, the director would say "Engine 3, respond."

We would sign on the radio, which was recorded for uses as the sound track for the video. It was odd having someone on the radio telling me to turn on my siren - especially because it was an early Sunday morning in a residential area and we weren't going to a real wreck.

Once on the scene, the four of us in the engine, each with our jobs, would pile of f the apparatus and assume our roles. My chief, the incident commander was in the officers' seat of my engine and he had to bail out and do a walk around and scene size up, checking with the victim to assess his condition.

My job was to park the apparatus, chock the wheels, engage the pump and get water flowing for two of our firefighters to stand by for the extrication.

One of the hose guys was a complete rookie who spent nearly two days with an SCBA pack on his back and a mask on his face, ready to deploy, which never happened – remember it was a simulated wreck. He certainly got used how to don an air pack and how it felt for extended periods of time.

Firefighters and EMTs on the other apparatus were to start getting the car ready for extrication, but it took numerous takes to get exactly what they wanted.

## Maintaining Accuracy

All the while we were doing our jobs, an inspector from the NFPA was keeping a watchful eye. The goal was to make sure our operations were in keeping with NFPA standards.

For us, that meant if we were in the hot zone, closest to the vehicle, we had to have full compliant turnout gear, goggles, hoods, and gloves. And everyone was checked before being in the shot. Even if we were just in the background, we had to keep in character with full gear. For us in Haverhill Corner, we suddenly realized that most of our gear was more than 10 years old, no longer compliant with NFPA standards, so it was a good time to buy new gear. Hence, you'll see a lot of new bunker pants and coats in our section of the video.

Although many scenes were done over and over again, there were some that could only be done in one take for obvious reasons, like breaking the glass, or taking the windshield out. Our guys are the ones using the reciprocating saw on the front glass in the preview video.

Popping the door and cutting the B-pillar were a couple of other scenes that could only be done in one take for continuity.

And, we had only one shot with the air ambulance from Dartmouth-Hitchcock Medical Center, in Lebanon. They actually came the day before extrication was done, but through the magic of editing, the scenes appear to have blended seamlessly.

As the daylight waned, the film crews stepped up the pace and the extrication was complete with the patient loaded on his way.

## It's a Wrap

For the cast, there was no glamorous Hollywood after wrap party – but there was lots of great "country fair" kind of food and a bunch of equipment that needed to be refueled and put back in service for next "real" call.

Several months later, Rich Dion, the NFPA consultant and neighboring firefighter who got us involved with the project, gave us a private screening at the fire station.

We had a chance to see ourselves in the video, laugh a little at ourselves and get some nicknames. For instance, my deputy, Richard Morris, earned the title of "Hollywood" because he had a couple of close -ups. And for our parts, at the end of the video, when the credits roll, we'll all see our names on the big screen.

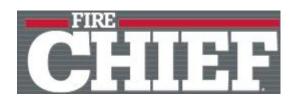
## **Coming Soon**

"NPFA's Electric Vehicle Safety Training is helping to make the novelty of EVs turn into familiarity and acceptance," said Andrew Klock, NFPA's senior project manager of training development and head of the electric vehicle project. "Simple training and understanding of how these cars should be handled in a potential crash is another step in adapting our nation's infrastructure. It is our goal that by the time you see a sign on the highway indicating a charging station at your next exit, as a first responder, you'll be ready to handle any car that pulls in for a charge."

Jim Shannon, president of NFPA, said the organization's mission is to provide the nation's responder with specific training and information to respond appropriately to electric and hybrid vehicle incidents.

"Our goal is to ensure firefighters, first responders, law enforcement and others are as comfortable working around electric vehicles as they are with conventional vehicles today," Shannon said. "...Hands-on training is not always possible. For this reason, our program will be delivered through a number of channels and will use videos and simulations to ensure trainees have the opportunity to get a real world understanding of these new vehicles."

Much of the training program and video was unveiled this spring and roll-out nationwide is expected soon.



## **NFPA Pilot Focuses on Firefighting Approach to Electrical Vehicles**

February 24, 2011 Mary Rose Roberts Fire Chief

Online Impressions: 12,011

The NFPA announced a pilot electric-vehicle-safety training program that will result in a national curriculum. As part of the curriculum development process, NFPA researchers are reviewing the emergency-response guides from several automobile manufacturers, including Nissan's LEAF all-electric vehicle. The NFPA will include all submitted emergency response guides on its electric-vehicle-safety training website.

The pilot program was developed to address firefighters' misconceptions regarding emergency situations involving hybrid or electric vehicles, said Ken Riddle, a retired Las Vegas deputy fire chief and executive director for the Nevada Fire Chief Association. Riddle, who is spearheading the project for the NFPA, said the association's research on the topic found that firefighters hold several misconceptions regarding how to address a fire or an extrication of a victim from an all-electric vehicle. For example, some firefighters were unsure whether water could be used to extinguish the fire because of the car's electrical current or thought they were at danger of an electrical shock.

"In reality with a fire that involves a hybrid you fight the fire basically the same, and there is no hazard from an electric shock," Riddle said.

Indeed, Riddle said fire chiefs must be educated that emergency situations involving hybrids and electric vehicles are unique but don't present any more hazards than a regular car fire. In fact, some in the field would argue there is less risk because of the absence of gasoline.

He said to help educate chiefs and other in leadership, the NFPA has gathered subject-matter experts to develop curriculum that answers firefighters' questions on the matter. The goal is to have a national curriculum developed that includes a classroom component, a computer-based component and 3D simulations of hybrid and electric vehicles involved in incidents.

The curriculum will be offered starting in late April, Riddle added.

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## **NFPA Partners with Chevrolet for Virtual Electric-Vehicle Training**

April 28, 2011 Fire Chief

Online Impressions: 12,011

The National Fire Protection Association, Chevrolet and OnStar have launched virtual electric-vehicle safety training for first responders. The online training — which is hosted by NFPA and can be accessed at http://evsafetytraining.org/training —features an inside look at the newest technology and safety systems on the 2011 Chevrolet Volt.

The collaboration with Chevrolet and OnStar stems from NFPA's electric vehicle safety training initiative, a result of a \$4.4 million grant from the U.S. Department of Energy, which supports the growing number of electric vehicles in the United States.

NFPA and Chevrolet/OnStar began collaboration last fall with a national tour that included a series of live training sessions featuring the Chevrolet Volt. The launch of the virtual training is a result of months of research and development between Chevrolet and OnStar training specialists, engineers, firefighters and subject matter experts associated with NFPA. Firefighters and first responders who use the online training will have access to an interactive training session including videos, virtual trainers and a variety of downloadable resources about the technology and inner workings of the Chevrolet Volt.

NFPA is currently conducting its own live pilot training courses in a handful of locations across the country and trainings for all firefighters and first responders will be available nationwide this summer.

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## NFPA, SAE Announce Additions to EV Safety Summit

September 6, 2011 Fire Apparatus Magazine

Online Impressions: 6,029

Stakeholders share information to guide development of engineering safety codes and standards.

The National Fire Protection Association (NFPA) and SAE International announce additional key speakers and special events at the 2nd Annual Electric Vehicle Safety Standards Summit to be held on September 27 – 28, 2011, at the Marriott Detroit Renaissance Center Hotel in Detroit, Michigan.

The 2nd Annual Electric Vehicle Safety Standards Summit is a continuation of the work begun at the October 2010 summit initiated to support the rapid implementation of electric and hybrid electric vehicles in North America. The 2010 summary report is available at http://www.nfpa.org/assets/files/PDF/Research/RFUSNEVSSSummit.pdf.

Safety representatives of vehicle and equipment manufacturers, fire protection specialists, electrical safety organizations and emergency responders, as well as governmental entities at the federal, state and local level involved in enhancing consumer safety and interagency communications, are encouraged to participate and contribute to the development of action plans regarding the codes and standards necessary to effectively address safety as it relates to electrified vehicles and their infrastructure.

Added to this year's list of current speakers and categories are the following:

Regulatory Perspective:

Phil Gorney, U.S. Department of Transportation

Built Infrastructure:

Lonny Simonian, California Polytechnic – EV Charging Codes and Standards Mark Earley, NFPA – National Electrical Code® Updates Seth Gerber, Consumers Energy – The utility perspective Ken Boyce, Underwriter's Lab – EVSE standardization

**Emergency Responders:** 

Andrew Klock, NFPA – Emergency Responder EV Training Project Bob Duval, NFPA – EV fire issues

Support and End User:

Bill Giorges, Michigan Towing – The tow and salvage perspective Rich Gallagher, Zurich Services – Infrastructure insurance Carl Rivkin, NREL – Electric highway case studies

In addition, participants are invited to attend two special events including a reception featuring a Chevy Volt Safety Walk-Through and a GM On-Star Command Center tour.

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NFPA Electric Vehicle Safety Training Project - Download for Nissan LEAF

January 19, 2011 Daily Dispatch

Online Impressions: 12,201

The National Fire Protection Association's (NFPA) Electric Vehicle Safety Training project is a nationwide program to help firefighters and first responders prepare for the growing number of electric vehicles on the road in the United States. Providing firefighters and first responders with the information they need about electric vehicles will be critical to their safety and crucial to the public's acceptance of these vehicles. This program will provide first responders with

information they need to most effectively deal with potential emergency situations involving electric and hybrid vehicles. Part of this NFPA project includes reviewing and helping to disseminate automobile manufacturer's emergency response guides (ERG) for hybrid-electric and all electric vehicles.

The Nissan LEAF, a fully electric vehicle, will soon be released to the public, and Nissan has provided a First Responder's Guide for firefighters and first responders to safely respond to emergency incidents involving the LEAF. Please assist NFPA in distributing this guide to firefighters and first responders. For more information on the NFPA Electric Vehicle Safety Training project and for the latest releases on electric vehicle emergency response guides, additional EV information, training programs and a calendar of events, please visit the website: http://www.evsafetytraining.org

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## **Phoenix Firefighters Train On Electric Car Rescue**

April 26, 2011 KPHO-TV

Online Impressions: 123,483

PHOENIX -- With the high price of gas these days, many are switching to electric or hybrid vehicles, but what you may not know is that safety issues with these cars can be different than with regular cars.

On Tuesday, the National Fire Protection Association trained Phoenix firefighters on how to respond to accidents involving electric vehicles. The hands-on training featured a live demo on a Toyota Prius.

The techniques included shutting off power to the battery and finding specific points on the car's high-strength steel that could be cut during when trying to extract a passenger from the vehicle.

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## **Oregon Fire Chiefs Receive Training in Electric Vehicle Crash Response**

October 16, 2011 Bruce Meland Electrifying Times

Online Impressions: 2,984

The National Fire Protection Association (NFPA) hosted a electric vehicle safety training course and live demonstration for attendees at the Oregon Fire Chiefs Conference held at Eagle Crest Resort and Conference Center October 16th 2011 near Redmond, Oregon.

With the help of Chevrolet and OnStar, Oregon firefighters and first responders experienced hands-on training and live demo of safety techniques on the all-new 2011 Chevrolet Volt that was halfway demolished to expose all electric vehicle components and all electrical safety fuse locations.

The Firefighters and first responders were given instruction by Jason Emery, instructor, NFPA Electric Vehicle Training Center. The instruction focused on electric vehicle specifics such as shutting off power to the high power batteries as well as the 12 volt battery. Live training also focused on specific cut points on the high-strength steel body during an extrication. Also present were Jeff Johnson Western Fire Chiefs Association, and CEO Taylor Robertson, Oregon Fire Chiefs Association, Board President.

This was only the second NFPA Electric Vehicle Training Course in the U.S. with further coursed to be held nationwide.

For more information about NFPA's Electric Vehicle Safety Training, please visit: http://www.evsafetytraining.org

The course was sponsored by www.onstar.com/publicsafety

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Electric cars spark firefighter risks; Identification, shock pose peril

July 29, 2011 Karen Nugent Telegram & Gazette

Print Impressions: 82,761

STOW - Firefighters arrive on the highway to find a car engulfed in flames. The first task is to make sure the engine is shut off.

If it's one of the increasing popular electric or hybrid cars, disconnecting power is much different than it used to be. Batteries are in hidden compartments in trunks - not under the hood. High voltage cables run under the car. Highly enforced steel is used to protect passengers from electric wiring, but the steel may be too strong for older extrication devices to cut. And if a firefighter cuts through headlights or an engine block with a metal instrument - as with past practices - he could receive a dangerous, even deadly, electric shock.

About 75 Massachusetts firefighters yesterday took part in the first state -level electric vehicle safety training, hosted by the state fire academy and the Boston-based National Fire Protection Association. Massachusetts is the first state to utilize a "train the trainer" session, allowing designated firefighters from each department to take what they learned back to their cities and towns.

Such training sessions will be held in every state.

James M. Shannon, president of the fire protection association, said training is crucial as the number of electric vehicles on the road continues to grow.

The eight-hour session covered topics specific to electric vehicles, including the extrication process, risk of electric shock, handling new types of batteries and safety at charging stations. Last week, state officials announced new electric car charging stations in Athol, Lancaster, and Worcester, along with 22 others across Massachusetts.

As part of yesterday's demonstration, the group experimented on a Ford Escape hybrid, a new Hyundai Sonata hybrid, and one of eight hybrid vehicles used by the Department of Fire Services.

"Make sure you keep in mind what a vehicle looks like after the accident," instructor Christopher T. Pepler, of the fire protection association, told the group.

While clues such as logos ("Volt" or "Leaf") and other designations ("hybrid" or "blue drive") are on electric cars, those words can become obscured in a wreck. There are other hints that a car runs on electricity, including distinctive shapes, battery vents, dashboard differences, and "do not cut" signs under the hood.

The first step, Mr. Pepler said, is to cut power to the car by disconnecting its battery.

Jason Emery, lead instructor yesterday, said in past years, firefighters were told to break through headlights to get to an engine fire. Electric vehicles, he said, have wiring connected through headlights.

"If you try to drive something through them, you are going to get whacked," he told the group. "The days of just blindly cutting away are over."

Another difference between cars with combustion engines and those powered by electricity is noise, or lack thereof in electric cars. Backing up, the Hyundai was barely audible yesterday. At a loud accident scene, it would be nearly impossible to tell if an electric engine is running, and someone could easily get run over, Mr. Emery said.

Representatives of several local fire departments were on hand, including Capt. Donald B. MacKenzie of Boylston and Capt. William Brown of Winchendon.

Both said the training was valuable.

"It's very important," Capt. Brown said. "There are several different key things to recognize and look for. Besides the logos, which could be mangled at an accident, there are gauges on the dashboard, and different start buttons."

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MA Firefighting Academy, NFPA to Host Electric Vehicle Safety Training

July 27, 2011
Fire Engineering

Online Impressions: 55,996

The Massachusetts Firefighting Academy (MFA) and the National Fire Protection Association (NFPA) hosted the first official, state-level electric vehicle safety training at the state fire academy on Thursday, July 28.

The training session, which is part of NFPA's nationwide Electric Vehicle Safety Training Project, provided Massach usetts firefighters with information on how to most effectively deal with emergency situations involving extended-range

electric vehicles. Massachusetts is the first state to take part in the "train-the-trainer" session and used the information to train firefighters and first responders across the state.

Stephen D. Coan, Massachusetts state fire marshal and head of the Department of Fire Services, said he is proud that Massachusetts is the first state to provide this training to its first responders.

"Our firefighters have always adapted their response to new types of vehicles and technologies," Coan said. "We are pleased to work with NFPA to provide this invaluable training opportunity to prepare our first responders and better protect the public."

NFPA trainers and subject matter experts covered a range of topics specific to electric vehicles such as the extrication process, risk of electric shock, handling new types of batteries and challenges presented by charging stations.

The course features a live training demo involving the Ford Escape Hybrid and the Hyundai Sonata Hybrid. Participants were able to view the vehicle, with a first-hand overview of new technologies and appropriate cut points.

James M. Shannon, NFPA President, said such training is crucial as the number of advanced electric vehicles on the road continues to grow.

"With the increasing popularity of electric vehicles, it is important to know that first responders are prepared and ready to respond," Shannon said. "The training session will give first responders an opportunity to get accustomed to these vehicles and reassure the public that first responders know what to do in emergency situations involving electric vehicles."

The session consists of eight hours of classroom and hands-on training and each participant received a training manual specific to electric vehicles. Course participants received a Certificate of Completion at the conclusion of the course. For more information about the electric vehicle training series, and to register for upcoming sessions, visit: <a href="https://www.evsafetytraining.org/Training">www.evsafetytraining.org/Training</a>

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# The Stow Independent... Online

#### **Hybrid Vehicle Safety**

August 3, 2011 Ellen Oliver The Stow Independent

Also at the MFA on Thursday was training for firefighters from across the state on responding to accidents involving hybrid cars. As part of the NFPA's nationwide Electric Vehicle Safety Training Project kicking off in the Bay State, Jason Emery, lead instructor for the NFPA's Electric Vehicle Training Division presented the challenges to first responders dealing with these vehicles.

To secure electric and hybrid vehicles, the first step is to disconnect the power. These vehicles contain a high voltage battery (usually found in the trunk, not under the hood) and wiring configurations that pose danger for responders who approach the hybrid car the same as they approach a non-hybrid vehicle.

With the battery in the trunk, high voltage wires run through the car. If a firefighter uses a metal cutter to disable the vehicle through the engine, there's a risk of a dangerous and potentially deadly electric shock. "The days of just cutting are over," said Emery.

As they approach an accident, Emery cautioned the firefighters to look for the labels visible on the sides of most hybrid cars, although they may be obscured in a wreck. Emery also pointed out other signs that the car is electric including dashboard configurations and "Do Not Cut" signs under the hood.

Emery also noted that firefighters need to be absolutely sure the car is secure and off because the nearly -silent hybrids can still be running and able to move. "With the noise of people talking and radios, you're not going to hear this move," he said, as a representative from Hyundai demonstrated the quiet operation of a hybrid Sonata. "If you turn your back on it, you could be hurt."

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## New York Firefighters Take Part in Electric Vehicle Safety Training Program

August 8, 2010 Jace Shoemaker EnergyBoom.com

Online Impressions: 9,604

Although electric vehicles (EVs) and hybrids provide numerous benefits compared to traditional gasoline - powered vehicles, they also pose potential risks to the occupants and emergency responders in case of accidents including electrical shock and fire.

With an estimated one million electric vehicles travelling American roads by 2015, it is important emergency responders are armed with the necessary information and tools to safely respond to emergency situations involving EVs and hybrids.

In an effort to assist emergency personnel effectively deal with emergency situations involving EVs and hybrids, the National Fire Protection Association developed the nationwide Electrical Vehicle Safety Training program, which is funded by a \$4.4 million grant from the United States Department of Energy (DOE).

On Friday, The New York State Office of Fire Prevention and Control (OFPC) along with the National Fire Protection Association (NFPA), hosted a state-level, train-the-trainer Electric Vehicle Safety Training session in Montour Falls, New York. The eight-hour session included both classroom and hands-on training.

About 100 responders were able to get a first-hand look at a training demonstration on a new Chevrolet Volt. Various experts also taught responders about the risks of electric shock, the extrication process, charging station challenges and electric battery hazards. Responders also learned how to identify which cables to disconnect in case of an emergency. And because electric vehicles are so quiet, responders also learned how to disable and shut down procedure in case the EV is still running.

Just last month, more than 70 attended the first Train-the-Trainer session at the Massachusetts Firefighting Academy. And a similar training session will take place in Ames, Iowa, on August 27<sup>th</sup>, 2011. Due to the grant from the DOE, the sessions are free of charge for responders. Online training identical to classroom training will be available beginning in September.



## **Electric car used to teach firefighters**

August 6, 2011 Michael J. Fitzgerald Elmira Star-Gazette

Print Impressions: 16,909 Online Impressions: 77,176

MONTOUR FALLS — Nearly 100 firefighters and other accident-scene first responders poked and prodded a brand-new Chevrolet Volt on Friday afternoon as part of their hands-on training in how to deal safely with electric vehicles. The day-long affair at the New York State Academy of Fire Sciences was sponsored by the National Fire Protection Association, based in Quincy, Mass.

"They need to know how to deal with electric cars and even how to identify them," John Cannon of NFPA said.

While handling fires was part of the curriculum, equally important was understanding what's different about electric vehicles — even knowing how to shut one down.

"Because they are so quiet, a responder could be helping a victim out of car that was still runni ng and not even know it," Cannon said.

In the classroom sessions, various scenarios were presented — and solved — by the participants. One safety tip repeated often: "Don't cut the orange cables."

Those cables carry the current that powers the vehicle and would provide a nasty shock, trainer Jason Emery said.

The trainers showed how to identify which cables to disconnect in an emergency. In the case of the Volt, disconnect points are marked and accessible, Emery said.

"The electric car we use for training depends on what's available. The responders need to understand the basics to deal with any electric vehicle," Cannon said.

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August 6, 2011 Michael J. Fitzgerald Ithaca Journal

Print Impressions: 10,811 Online Impressions: 60,817

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Instead of cutting, the trainers showed how to identify which cables to disconnect in an emergency. In the case of the Volt, disconnect points are marked and accessible, Emery said.

The Volt used Friday was provided by Elm Chevrolet of Elmira.

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## **Safety Training Program Makes Local Stop**

August 5, 2011 Daryl Kirkland-Morgan WENY-TV

Online Impressions: 7,669

MONTOUR FALLS (WENY) – A national safety tour made its only New York stop in Schuyler County on Friday. Two New York fire safety agencies hosted a state-level electric vehicle training session. Over 50 emergency officers from around the state attended.

Firefighters and first responders got hands-on training and live demonstrations with the Chevy Volt.

"The NFPA is really excited about getting out and reaching out to all emergency responders across the coutntry. It's a very important program that keeps our first responders safe as well as the people we try to save at the scenes," said Jason Emery, NFPA Electric Vehicle Safety Trainer.

"For a hundred years everything's been a gas engine and the technology's been out there on how to disable a gas engine, turn off the key and it stops running. With the electrical vehicle it's not as simple as that," said Chris Ionta with Elm Chevrolet.

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## **Firefighters Train on Emergency Safety with Electric Cars**

October 5, 2011 WGHP-TV

Online Impressions: 316,111

GREENSBORO, N.C. (WGHP)— Firefighters from around North Carolina were in Guilford County Tuesday to learn best practices when it comes to handling emergency situations involving electric cars.

Nearly 30 firefighters attended a training session at the Alamance Community Fire Department southeast of Greensboro.

Organizers said the training is crucial as more electric and hybrid vehicles hit the road.

"The President of the United States has the goal of wanting 1 million of these electric vehicles on the road by 2015. So it's important that we deliver the training so that all the first responders feel comfortable while responding to these types of potential incidents," said one organizer.

Crews learned how to deal with risks such as electric shock, as well as how to handle new types of batteries.

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## **Electric Cars Spark New Firefighter Issues** (VIDEO)

April 16, 2011 Joe Burns KTVZ-TV

Online Impressions: 84,065

REDMOND, Ore. -- As more and more electric cars hit the market, firefighters need to become aware of any problems that could occur if they are involved in an emergency situation.

On Saturday, firefighters from all over the state took part in a live electric vehicle safety training demonstration at Eagle Crest Resort. To demonstrate, they used a brand-new 2011 Chevrolet Volt, as it was one of the very first to hit the market late last year.

Participants learned basic concepts on how the electricity works in the vehicle, the ability to shut it down, as well as any concerns the first responders may have during the extraction process.

"The fire service and other emergency organizations have always adapted to new information that is out there," said class lead instructor Jason Emery. "It's just getting that information out to them."

"Obviously, a vehicle like this not only has the traditional hazards associated with many vehicles, but now we added an electrical component to it," Emery said.

Chevrolet and Onstar provided the Oregon firefighters and first responders with a chance to experience the hands -on training and live demo of safety techniques at Saturday's conference.

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First responders get electric vehicle training

September 22, 2011 Chris Lehman KPLU-FM

Online Impressions: 28,821

SALEM, Ore. - A car wreck that involves an electric vehicle or a hybrid can pose grave risks to emergency personnel. A group of first responders in Oregon got a training session Thursday on how to handle a high wattage accident.

It's no surprise that an electric car might have more electricity pulsating through it than a regular car. So, how much power does it take?

Matt Paiss of the National Fire Protection Association says an electric car can pack guite the punch.

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Matt Paiss: "Probably the biggest hazard is that the vehicles can move silently. They can be on, and not hearing an engine running."

About 40 Oregon first responders took part in this training session in Salem.

John Brown with the Crescent Fire District in central Oregon checks out a brand new Chevy Volt, which runs 35 miles on a battery before switching to a traditional gas engine.

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## **Electric Vehicles Mean New Training For First Responders**

September 22, 2011 Chris Lehman Oregon Public Broadcasting

Online Impressions: 83,270

SALEM, Ore. - A car wreck that involves an electric vehicle or a hybrid can pose grave risks to emergency personnel. A group of first responders in Oregon got a training session Thursday on how to handle a high wattage accident.

It's no surprise that an electric car might have more electricity pulsating through it than a regular car. So, how much power does it take?

Okay, not as much as the 1.21 gigawatts from the time-traveling DeLorean in Back to the Future. But Matt Paiss of the National Fire Protection Association says an electric car can pack quite the punch.

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September 22, 2011 Chris Lehman, Oregon Public Broadcasting Salem Accident

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Class teaches emergency responders about electric vehicles

September 23, 2011 Stacey Barchenger Statesman Journal

Print Impressions: 37,639 Online Impressions: 193,217 About 40 public safety officials from around the state gathered for an electric and hybrid vehicle training class Thursday in Salem. The goal was to teach first responders about the dangers that electric and hybrid vehicles pose to them.

"Our firefighters and first responders always have adapted their response to new types of vehicles and technologies," said Eriks Gabliks, director of the Oregon Department of Public Safety Standards and Training. "Oregon is one of the leading states in terms of hybrid and electric vehicle sales. This training will help our first responders prepare and have the knowledge to better protect the communities we serve."

It was the first organized training session of its kind and was offered by the National Fire Protection Association at Oregon Public Safety Academy.

"We've been getting info little bits at a time for 10 years," said Dallas Fire Capt. Shaun Wagner. "What wasn't out there is correct procedures for disabling a high-voltage system."

After a day-long class and a final exam, Wagner and his classmates scrutinized a Toyota Prius hybrid and a Chevrolet Volt electric car, which was donated by Capitol Chevrolet.

In groups they pointed out the batteries, power disconnect locations, and high voltage cables on each vehicle.

John West, academy fire training coordinator, said the National Fire Protection Association offered the training course as part of a \$4.4 million grant. Oregon is the fourth state to take part in the train-the-trainer program.

"Now they can take it back to their agencies and train other fire fighters," West said.

A 37-page handout served as a guide to first responders in incidents that involve a hybrid or electric vehicle.

The guide explains where dangerous equipment, such as a battery and high-voltage power cable, are located, and gives procedures for extrication if there is a crash.

The book features six manufacturer's brands, which is helpful as each car is built differently, West said.

"This has been a growing concern over the years," he said. "A lot of this stuff is learning the little things that will change the way we do things."

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**Firefighters Train for Electric Car Crashes** 

April 19, 2011 KPTV-TV

Online Impressions: 241,870

Some local firefighters are learning how to respond to certain types of car crashes.

On Monday, members of the National Fire Protection Association came to teach firefighters from Tualatin Valley Fire and Rescue about how to respond to crashes involving hybrid or electric cars.

The National Fire Protection Association is currently working on developing a training curriculum under a grant from the Department of Energy.

"There are some additional safety precautions they need to take," said John Cannon, of the National Fire Protection Association.

"Not that the vehicles are any more dangerous, but since the firefighters and first responders interact with vehicles in ways that most normal people don't and never will, there's a slightly increased risk of exposure to one of the se slightly different hazards," he said.

Once the new program is ready to go, the National Fire Protection Association says it hopes to train first responders and firefighters across the country for free.

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# AUTOMOTIVE INDUSTRY TODAY

## Responders train for hybrid, electric car rescues

October 5, 2011
Associated Press
Automotive Industry Today

Online Impressions: 2,044

WINDSOR LOCKS, Conn.— On Interstate 84 recently, a taxi became lodged under a tractor-trailer after being struck from behind.

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The fire association took the data and created a two-page Emergency Response Guide, so emergency crews could focus on critical information when they arrive at the scene of an accident.

"We need to follow three steps: identify, immobilize, and disable," Carroll said. "We need to disconnect that 12-volt battery and kill the power."

Carroll said another problem that firefighters face is locating the battery pack because, depending on the make and model, it could be under the hood, in the trunk, under the seat, or even in the wheel well.

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Pepler said that the high strength steel being used in electric and hybrid cars is creating additional concerns.

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## Responders train for hybrid, electric car rescues

October 5, 2011 Associated Press AviaEd's Blog

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October 5, 2011 Associated Press Bahcesel

Online Impressions: 493

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## Responders train for hybrid, electric car rescues

October 5, 2011 Associated Press British Energy

Online Impressions: 6,773

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Responders train for hybrid, electric car rescues

October 5, 2011 Associated Press Claims Journal

Online Impressions: 8,479

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October 5, 2011 Associated Press Daily Dispatch

Online Impressions: 16,717

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# ELECTRIC CARS NEWS TODAY

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October 5, 2011
Associated Press
Electric Cars News Today

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Responders train for hybrid, electric car rescues

October 5, 2011 Associated Press EnergyNOW! Online Impressions: 13,246

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## Responders train for hybrid, electric car rescues

October 5, 2011 Associated Press Engine Nuts

Online Impressions: 309

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Pepler said that the high strength steel being used in electric and hybrid cars is creating additional concerns.

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October 5, 2011 Associated Press

Facebook Page: 1 Million Fans Pledging To Buy An Electric Vehicle As Next Vehicle Purchase

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## FORD ESCAPE HYBRID BLOG

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October 5, 2011
Associated Press
Ford Escape Hybrid Blog

Online Impressions: 2,640

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October 5, 2011 Associated Press FuelFix.com

Online Impressions: 74,890

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Responders train for hybrid, electric car rescues

October 5, 2011 Associated Press Going Solar Blog

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#### Responders train for hybrid, electric car rescues

October 5, 2011 Associated Press Hartford Courant

Online Impressions: 679,309

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### HYBRID CARS NEWS TODAY

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October 5, 2011 Associated Press Hybrid Cars News Today

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October 5, 2011 Associated Press Hybrid Plug In Cars

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October 5, 2011 Associated Press ITS For Home

Online Impressions: 235

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October 5, 2011
Associated Press
Joel Finnigan.com

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## Pucketts Projects

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October 5, 2011 Associated Press Puckett's Projects

Online Impressions: 142

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## Tractor-Trailer-Lawyers

#### Responders train for hybrid, electric car rescues

October 5, 2011 Associated Press Tractor-Trailer-Lawyers.com

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October 5, 2011 Associated Press TreeHugger.com

Online Impressions: 712,679

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October 5, 2011

Associated Press USA Today Topics

Online Impressions: 7,503,628

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October 5, 2011
Associated Press
U.S. Department of Homeland Security
Daily Open Source Infrastructure Report (October 6, 2011)

Online Impressions: 790,846

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## U.S. Judicial Corruption

Responders train for hybrid, electric car rescues

October 5, 2011 Associated Press U.S. Judicial Corruption

Online Impressions: 1,262

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October 5, 2011
Associated Press
Windsor Locks Fire Department

Online Impressions: 1,056

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Responders train for hybrid, electric vehicles October 5, 2011
Associated Press
World News, Inc.

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**NFPA Holds Electric Vehicle Safety Training For Iowa First Responders** 

August 26, 2011
Fire Protection Reviews

Online Impressions: N/A

The Iowa Fire Service Training Bureau and the National **Fire Protection** Association (NFPA) will host an inclassroom train-the-trainer session on Saturday, August 27, 2011 at the Training Bureau in Ames. As part of NFPAs national Electric Vehicle Safety ...

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#### NFPA Holds Electric Vehicle Safety Training for Iowa First Responders

August 25, 2011 Iowa DPS Alert

Online Impressions: 17,730

The Iowa Fire Service Training Bureau and the National Fire Protection Association (NFPA) will host an in -classroom "train-the-trainer" session on Saturday, August 27, 2011 at the Training Bureau in Ames. As part of NFPA's national Electric Vehicle Safety Training Project, this course will provide Iowa firefighters with information to help them most effectively respond to emergency situations involving the growing number of electric and hybrid vehicles.

Participants also will be able to use the new information and resources to prepare other firefighters and first responders throughout the state. Iowa is the third state to take part in the NFPA "train-the-trainer" program.

Bureau Chief, Randy Novak, said the Fire Service Training Bureau is pleased to work with NFPA in the effort to train first responders across the country. "The safety training will help prepare firefighters in lowa to protect themselves and citizens when emergency situations occur," he said. "Our firefighters understand the importance of familiarity when it comes to new vehicle technology. Participation in this course is an important step to better protect the communities we serve."

NFPA instructor Christopher Pepler will cover a variety of topics specific to both hybrid and electric vehicles during the 8-hour course, including the extrication process, risk of electric shock, handling new types of batteries, and challenges presented by charging stations.

The training will also feature an live training demonstration involving a Honda Insight. Participants will be able to experience first-hand the new technologies and special features included in the electric-hybrid vehicle.

According to NFPA President James M. Shannon, electric vehicle education is critical to emergency training for first responders across the country. "Technology that was once thought of as futuristic, is fast becoming reality," Shannon said. "NFPA, with state fire academies across the country, is supporting the large scale introduction of electric and hybrid vehicles by helping ensure that firefighters and first responders are familiar with any new car that is coming down the road."

In addition to the classroom experience and hands-on training, each participant will receive an instructor's guide and quick reference manual specific to electric vehicles, as well as a multimedia disc containing all of the course content. Participants also receive a Certificate of Completion at the conclusion of the course.

For more information about the electric vehicle training series, and to register for upcoming sessions, visit: <a href="https://www.evsafetytraining.org/Training">www.evsafetytraining.org/Training</a>

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## **Targeted News Service**

#### **NFPA Holds Electric Vehicle Safety Training for Iowa First Responders**

August 25, 2011 Targeted News Service Online Impressions: 11,574

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#### First Responders Attend Electric Car Safety Training (VIDEO)

October 1, 2011 KFBB-TV

Online Impressions: 20,929

In light of Safety Month Montana first responders attended an electric vehicle safety training Saturday. With the help of the National Fire Protection Association, they learned how to put out fires in electric cars.

The nationwide training is apart of a \$4 million grant from the U.S. Department of Energy. The department says it wants to prepare firefighters and first responders for the growing number of electric cars on the road. The training helps emergency workers identify electric vehicles and the common hazards that come with them.

The Department of Energy says its overarching goal is to increase the number of electric vehicles in the country -- and equipping firefighters and first responders with skills to keep drivers safe is crucial if the public is going to buy them.



#### **Vehicle Fire Training**

October 8, 2011 KXNet-TV

Online Impressions: 64,508

Meanwhile, fire responders closer to home are learning how to contain vehicle fires.

In an emergency, seconds can mean a difference between life and death. Firefighters know that all to well. That's why firefighters from across the state are in Bismarck today to train on vehicle electrical fires.

It's part of the National Fire Prevention's push to teach firefighters how to to deal with electrical fires in hybrid cars.

(Jason Emery) It's not so much why the fires start it's that as a firefighter you are taught not to put water on an electrical fire, but the thing is with fires in hybrid cars its perfectly fine. They do have an electrical system but it's very different from a house fire."

Fires in hybrid cars are no more common than those in regular cars, but because of the electrical system used to run the vehicle the fire may act differently

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# Nashville Public Radio WPLN 90.3 FM · 1430 AM · HD2 · HD3 · wpln.org

#### **Emergency Responders Learn to Deal with Electric Vehicle Issues**

January 6, 2012 Bradley George Nashville Public Radio

Online Impressions: 9,263

More than 200 Tennesseans bought electric cars in 2011. While the actual number of vehicles is relatively small, emergency responders want to be ready in case one of these vehicles is involved in an accident.

High voltage is the biggest danger in a crash. The Nissan Leaf uses a 400 volt battery, more than three times the juice that comes from a household electrical outlet.

The current, traveling through a network of batteries and cables, could be lethal to first responders and accident victims alike. But there's another problem that's not so obvious, according to Andrew Klock of the National Fire Protection Association. Electric cars are quiet. So quiet, that emergency responders aren't tipped off by a revving engine.

"If a passenger was, for instance, unconscious and became conscious and accidentally stepped on the gas or put the vehicle in a gear, it could easily move backwards or forwards. So, as part of our training, we always tell the first responder to approach the vehicle from the side."

Fire departments in Franklin and Nashville have already received some training on what to do with electric vehicles. Later this year, the state fire academy will offer a more comprehensive training for firefighters from around Tennessee .

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#### Electric Vehicle Safety January 18, 2012 WICD-TV

Broadcast Impressions: 70,435

Hybrid cars have been around for more than a decade now, but with electric cars also growing in popularity, it is important for first responders to recognize the dangers. That's why the Illinois Fire Service Institute and the National Fire Protection Association (NFPA) are teaching firefighters how to disable the voltage of the cars when there has been an accident. A spokesman for the fire institute says there have been rumors about crews being electrocuted when responding to an electric car accident, but with the proper training responding to these accidents should be no different than any other accident.

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#### **Hybrid & Electric Vehicle Training For Emergency Responders**

January 18, 2012 WAND-TV

Broadcast Impressions: 13,983 Online Impressions: 26,794

CHAMPAIGN - Firefighters and emergency responders learn how to work with hybrid and electric vehicles.

The Illinois Fire Service Institute on the U of I campus hosted a training session Wednesday.

There were hands-on lessons on how to safely disable hybrid and electrics cars.

Instructors also were talked about common misconceptions when dealing with them.

The goal is to get all responders to understand how to properly work with these new technologies.

(VIDEO)

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Safety: Subject of "Train the Trainer"

January 18, 2012 WCIA-TV

Broadcast Impressions: 68,837 Online Impressions: 68,345

Firefighters are now better prepared to handle emergencies involving hybrid and electric cars. The Illinois Fire Service Institute and the National Fire Protection Association hosted a training session today.

It's part of a nationwide project. It gave firefighters a chance to look inside the vehicles and learn something new.

Illinois is the 18th state to take part in this "Train the Trainer" course. The program started visiting state fire academies last summer.

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#### **Electric vehicle safety training**

January 28, 2012 WJAR-TV

Online Impressions: 161,712

PROVIDENCE – The Rhode Island Fire Academy and the National Fire Protection Association held an electric vehicle safety training session Saturday.

The train-the-trainer session is part of the NFPA's nationwide Electric Vehicle Safety Project.

The training session featured a live demonstration of safety techniques using a Chevy Volt electric car and hands-on training.

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#### Missouri first responders attend Electric Vehicle Safety Training

January 28, 2012 Clyde T Gas Buddy

Online Impressions: 530,052

Hybrid and electric car owners enjoy high mileage rates and reduced carbon emissions, but the vehicles pose a problem for fire fighters at accident scenes.

It's a different process to put out a fire on the newer vehicles, where emergency personnel must deal with electric charges instead of gasoline or diesel.

Fifty-seven representatives of nearly 50 different local fire departments and first-response units met Saturday in the MU Student Center to attend an Electric Vehicle Safety Training project presented by the National Fire Protection Association and the MU Fire and Rescue Training Institute.

The course was designed to give representatives training and safety information that they could use to teach local staff about how to correctly respond to traffic accidents involving electric... Visit Missourian for full article

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#### Missouri First Responders Receive Training in Electric Vehicle Safety

January 28, 2012 Heather Trumpfheller KOMU-TV

Online Impressions: 42,716

COLUMBIA - The National Fire Protection Association met in Columbia today training firefighters and first responders electric vehicle safety. The training began Saturday morning with a classroom portion at the University of Missouri Student Center where approximately 60 participants from across the state attended the session, which teams up with MU Fire and Rescue Training Institute.

This private session is a train-the-trainer course so local precincts and fire districts can learn how to be comfortable when dealing with these types of emergencies. The NFPA teaches the fire districts and local precincts the ins and outs about electrical components to ensure their communities they are getting the best treatment.

From 1:30-3:30 p.m., there is a hands-on training and a live demonstration of safety techniques with both a Chevrolet Volt and a Toyota Prius. The cars were donated by Bob McCosh Chevrolet and Joe Machens Toyota. During this presentation, the NFPA will lift up the hood and demonstrate important battery parts and other things about the vehicles.

The National Fire Protection Association is traveling to all 50 states. Missouri and Rhode Island had their trainings the same day, making them the 19th and 20th states to have already heard this information.



#### Firefighter's attend program for electric and hybrid cars

January 28, 2012 Meghan Lane Connect Mid Missouri (KRCG-TV)

Online Impressions: 76,794

COLUMBIA -- More than 60 firefighters and first responders from across the state were on MU's campus in Columbia Saturday.

They were there for an electric vehicle safety training program hosted by the National Fire Protection Association and the MU Fire and Rescue Training Institute.

The project is a nationwide program to help our firefighters and first responders prepare for the growing number of hybrid and electric vehicles on the road in the United States.

"Its basically updating their existing knowledge with a conventional vehicle and getting them to understand in what ways hybrid and electric vehicles may be a little bit different and how they need to look at them," National Fire Protection Association Safety Trainer Jason Emery said.

Columbia Fire Department's Battalion Chief, James Weaver, was at Saturday's training.

"We're going to be able to reach out to a lot of fire departments and get the information out," Weaver said. "We run a lot of vehicle accidents."

During the session participants got hands on training and live demonstration of safety techniques on a Chevy Volt and a Toyota Prius.

The NFPA project is funded by a \$4.4 million grant from the Department of U.S. Energy.

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# MISSOURIAN

MU to co-host electric vehicle safety training for first responders

January 27, 2012 Allison Pohle Columbia Missourian

Print Impressions: 6,003 Online Impressions: 93,079

COLUMBIA — First responders can learn how to deal with electric vehicles in emergencies during a training session Saturday in the Chamber Auditorium at the MU Student Center.

The National Fire Protection Association and the MU Fire and Rescue Training Institute will host the electric vehicle safety training session beginning at 8 a.m.

The eight-hour session is part of the association's Electric Vehicle Safety Training Project, which originated to educate firefighters on how to act efficiently in emergencies involving electric and hybrid vehicles.

The program aims for first responders to gain enough knowledge to train and implement the program in their individual departments across the state. More than 60 first responders from across the state will participate in the program.

"This is really the first major attempt on a national level to discuss the dangers and safety measures of hybrid and electric vehicles," said Kevin Zumwalt, assistant director of the training institute at MU. "We're providing factual information right from the manufacturers to the first responders in order to protect and inform them."

Jason Emery, a certified instructor with the National Fire Protection Association, will talk about the extrication process, risk of electric shock, managing new types of batteries and difficulties presented by charging stations on the electric and hybrid vehicles, according to a news release.

A live, outdoor demonstration with a Chevrolet Volt and a Toyota Prius will allow participants to interact with battery locations and extrication cut points in the automobiles, organizers said. Two Columbia dealerships are providing the vehicles.

Funded by a \$4.4 million grant from the U.S. Department of Energy, the Electric Vehicle Safety Training Project for states began in the summer of 2011. By the end of 2011, the project trained responders in 17 states. The association intends to train responders in all states by 2013.

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# MISSOURIAN

Missouri first responders attend Electric Vehicle Safety Training

January 28, 2012 Jon McClure Columbia Missourian

Print Impressions: 6,003 Online Impressions: 93,079

COLUMBIA — Hybrid and electric car owners enjoy high mileage rates and reduced carbon emissions, but the firefighters have to assess what type of vehicle they are dealing with at accident scenes.\*

Fifty-seven representatives of nearly 50 local fire departments and first-response units met Saturday in the MU Student Center to attend an Electric Vehicle Safety Training project presented by the National Fire Protection Association and the MU Fire and Rescue Training Institute.

The course was designed to give representatives training and safety information that they could use to teach local staff about how to correctly respond to traffic accidents involving electric and hybrid cars.

In conjunction with the courses, which are scheduled to be conducted in all 50 states within the next year, the MU Fire and Rescue Training Institute is developing electric and hybrid vehicle training materials for national distribution. These materials, called Electric Field Guides, are being compiled with the help of the MU College of Engineering Electric Car Club.

The guides were designed to be used by first responders at the scene of accidents. They will contain easy-to-reference information on how to identify an electric or hybrid vehicle, as well as technical information on how to properly disable the high voltage circuit, which could pose a danger to first responders and accident victims.

Assistant Director Kevin Zumwalt of the Fire and Rescue Training Institute said the goal is to produce the field guides in three formats: print, which will be published nationally; electronic, which can be accessed by mobile data terminals on fire engines; and as downloadable PDF files online.

The courses being conducted nationally were funded by a \$4.4 million grant from the U.S. Department of Energy.

As hybrid and electric cars become more commonplace, the information offered Saturday will "become a normal course of training" for fire and rescue crews, Electric Vehicle Safety Instructor, Jason Emery, said.

Saturday's training included three essential safety steps for first responders: identifying an electric or hybrid vehicle involved in an accident, immobilizing the vehicle and disabling the high voltage circuit connected to the car's power supply.

A Chevrolet Volt and Toyota Prius were on the site Saturday to demonstrate some of the specific design issues Missouri first responders would be encountering between different makes and models of electric cars. These differences will also be detailed in the Electric Field Guides produced by the institute.

While Emery said most of the feedback from training courses has been positive, there were a few discontented voices from firefighters at Saturday's seminar when they were told they would not be allowed to crash the model vehicles for some real hands-on training.

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AgDay: 2/24/2012 February 24, 2012 AgDay

Broadcast Impressions:
KGET-TV (Bakersfield, CA) - 1,088
KSNF-TV (Joplin, MO) - 1,965
WABG-TV (Greenville, MS) - 2,437
WHIZ-TV (Zanesville, OH) - 653
WZDX-TV (Huntsville, AL) - 2,026
KFXL-TV (Lincoln, NE) - 170
KEYC-TV (Mankato, MN) - 1,240
KWYB-TV (Butte, MT) - 16
RFD-TV (U.S. Cable) - N/A
KYTV-TV (Springfield, MO) - 58,187

Online Impressions: 178,487

The dangers of saving lives from hybrid cars. Plus, tips on becoming the farm CEO. But first, the growing debate over housing for hens, and a producer who chose to work with an animal activist group.

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#### Firefighters get special training

February 17, 2012 Fred Hiers Ocala StarBanner

Print Impressions: 34,011 Online Impressions: 249,732

Sherri Millard looks back with a little nostalgia on the days when putting out a vehicle fire was as simple as dragging out the occupants, prying open the hood and dousing the engine with water.

But technology changes, admitted the 46-year-old Millard, taking a break Friday during an eight-hour seminar at the Florida State Fire College.

Millard was one of 100 firefighters and emergency responders attending a class on how to handle hybrid and electric vehicles when they're on fire.

"New technology is going to get here whether you like it or not and you have to keep up with it," Millard said. "And it's still fun to learn about new stuff."

Millard is a lieutenant in the city of Kissimmee fire department.

Three years ago the National Fire Protection Association (NFPA) began working on national standards for fire departments explaining the safest way to stop a fire in a hybrid vehicle, get its passengers out and ensure the vehicle doesn't move. The NFPA is organizing the safety classes in all 50 states. On Friday trainers were at the fire college outside Ocala. The emergency workers attending will go back to their workplaces and train their fellow emergency workers.

The program is funded with a \$4.4 million federal grant and another \$1.2 million from the NFPA.

Andrew Klock of the NFPA said that when a traditional combustible vehicle has an engine fire, emergency workers pry open the hood with a long metal tool. And by disconnecting the vehicle's 12-volt battery, electrical systems inside the car, including the fuel pump, are disengaged.

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**Firefighters From Across State in Yakima for Training** 

February 27, 2012 Shannon McCann KAPP-TV (Yakima, WA)

Online Impressions: 9,898

Firefighters from across the state gather in Yakima today to learn how to use the Jaws of Life on a hybrid vehicle. At the annual Washington State Fire Training Academy firefighters learned valuable leadership tools, and extraction methods from heavy machinery and hybrid vehicles. The conference had two parts, a classroom style portion and hands on learning part of the training. Firefighters say it is necessary to refresh your skills and stay up to date on new techniques and the safest methods every year.

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Firefighters participated in electric vehicle safety training

February 27, 2012 Julie Stern KNDO-TV

Online Impressions: 44,890

YAKIMA, Wash. -- Dozens of first responders from all across the region are in Yakima this week for the annual training officers conference.

On Monday, The National Fire Protection Association, along with the Washington State Fire Training Academy hosted an electric vehicle safety training class at the Yakima Valley Convention Center.

Firefighters came out from all over Washington state, some from Montana, Oregon, Idaho and even Canada to attend the training session.

Experts predict there will be one million hybrid, electric vehicles on America's roads by 2014. These cars pose some new challenges for firefighters responding to emergency situations, including hazards to first responders.

Vehicles like the Chevy Volt hold up to approximately 50,000 volts of electricity.

Yakima County District 5 fire captain and training officer, Dave Martin says their class is the only type being offered in the state of Washington, right now. "When these things crash they're kinda scary, because there's so much electricity there," Martin explained. "And, if you don't know what wires you can and can't cut, and where you can and can't open things up, it makes it so tough."

Before cutting or opening an electric vehicle involved in an accident, Martin says crews have to first "de - energized" the vehicle - by removing the key, and disconnecting both the vehicle's hybrid and main batteries.

California fire captain and NFPA instructor Matt Paiss says the electrical vehicle training classes are being paid for by a grant from the Department of Energy.

"This training is to teach first responders, law enforcement, tow truck operators, and anyone that might interact with a new hybrid electric vehicle," Paiss said.

The eight-hour course covered several areas specific to hybrid and electric vehicles, including the extrication process. Those participating in the safety training will receive a Certificate of Completion for taking the course, and will return to their respective cities to train other firefighters.

The electric vehicle safety training has already taken place in 23 states. Leaders hope to have first responders in all 50 states trained by 2013.

Emergency personnel are also taking other classes at the annual officers conference. The conference runs until Wednesday.

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#### Firefighters brush up on electric cars at course in Yakima

February 27, 2012 Mark Morey Yakima Herald-Republic

Print Impressions: 30,253 Online Impressions: 108,084

To drivers, electric cars pretty much look like other sedans and hatchbacks zipping down the freeway.

But to firefighters, the differences are important. They need to know the particular characteristics and risks associated with the high-voltage systems that help electric and hybrid vehicles save fuel.

That's why the National Fire Protection Association brought its Electric Vehicle Safety Training program to Yakima on Monday as part of an annual conference for firefighters across the Northwest.

The conference, sponsored by the training and safety officer division of the Washington Fire Chiefs Association, attracted some 250 participants to the Yakima Convention Center, including several dozen from Central Washington. The conference started Saturday and continues through Wednesday.

Compared to their gas-powered cousins, electric vehicles aren't any more dangerous or prone to fires, NFPA officials say. But it's important for firefighters, tow truck drivers and other emergency responders to know about different hazards posed by the electric cars.

Those can include a risk of the gas engine coming on while the vehicle is sitting apparently idle and deceptively quiet, which requires turning off both the ignition switch and a separate power-supply button and knowing which wires not to cut.

NFPA, which leads the fire service in setting safety standards for the industry, hopes by 2013 to have trained firefighters in all 50 states about electric-vehicle safety.

Lee Hadden, medical safety officer for Cle Elum-based Kittitas County Fire District 7, said his department hasn't seen a lot of incidents involving electric vehicles. But as the vehicles become more popular, "It's just a matter of time, I'm sure," he said.

Hadden said the class made him aware of the charging systems in different vehicles, which are not standardized across the industry, and appropriate safety steps.

Don Kresse, a captain with the Spokane Valley Fire Department, said he expects to incorporate the material into training for his firefighters. Field manuals with information for different electric vehicles will be stowed on the department's rigs to help prepare crews, he said.

"We always plan for the worst-case scenario, so that's why we pay attention like we do," Kresse said.

Capt. Brandon Dorenbush of the Yakima Fire Department said Yakima firefighters have seen relatively few emergencies involving electrical vehicles. Yakima firefighters already went through a separate course on how to respond to those incidents, he said.

Regardless of the specialized electrical system, firefighters and NFPA trainer Matt Paiss said the biggest danger of the electric car is the same as for a fuel-powered car: being whacked by an airbag that deploys while firefighters are treating occupants still in the vehicle cabin.

Taking the safest possible approach is important no matter the circumstances, said Paiss, who works full time for the San Jose, Calif., fire department.

"This is not worth anyone getting hurt over," he told his class.

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#### Firefighters participated in electric vehicle safety training

February 27, 2012 KNDO-TV MSNBC

Online Impressions: 33,194,462

YAKIMA, Wash. -- Dozens of first responders from all across the region are in Yakima this week for the annual training officers conference.

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**Recharging first responders (VIDEO)** 

March 3, 2012 Cat Viglienzoni WCAX-TV

Broadcast Impressions: N/A Online Impressions: 139,797

Firefighters and fire instructors spent Saturday debunking electric car myths at the Vermont Fire Academy in Pittsford.

"As firefighters, we always make our decisions based on two things: education and experience. And everybody's experience since they were children is that electricity is not always good for you, so we had to dispell myths based on people's personal experience throughout their life."

About 50 firefighters and instructors from across the state showed up to take what they learned back to their departments. This program hopes to reach all 1.2 million firefighters in the United States to better prepare them to deal with electric vehicles at the scene of an accident.

Chris Pepler, Electric Vehicle Safety Instructor said, "One of the myths that I hear all the time is that these vehicles are just a fad. And they're here to stay. Another myth is firefighters were concerned that they were going to get electrocuted if they touched one of these vehicles in a body of water."

Governor Shumlin's energy plan calls for 90 percent renewable energy in the state by mid-century. And part of that plan focuses on alternative fuel vehicles in Vermont -- including battery-electric or plug-in cars that aren't yet the standard in the state.

Dan Zimmer, from the VT Fire Academy comments, "It's just the unknown. Anything that you've never had experience with is always a concern."

As Vermont focuses more on renewable energy, familiarizing responders with the different technologies is key, Instructors say learning about the new features, such as the specialized batteries, allows firefighters to be more

confident on the scene. Though most firefighting procedures remain the same with electric vehicles, there are a few changes.

"The one big thing that is considered special would be the sudden movement hazard. These vehicles actually move silently, some up to 20 mph. So we may in fact let our guard down and assume that the engine has been shut off, and what's really happening is it is in hibernate mode and there's the potential for that vehicle to suddenly lunge forward at one of the firefighters or rescuers."

Drivers of electric cars can help -- by putting the vehicle in park, setting the emergency brake, and shutting off the power. Firefighters hope the training will decrease that risk.

Tom Shive, from the Warren Fire Dept. said, "Every little bit helps. You know, we pick up one or two things every time, we learn a lot."

The Obama administration's wants to have one million electric vehicles on the road by 2015. And this program aims to make sure Vermont responders are ready when the changes hit the roads.

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## The Daily News Journal discom

RUTHERFORD COUNTY'S FIRST NEWS SOURCE

#### Responders get lesson in electric-hybrid emergencies; New cars present new set of challenges

March 31, 2012 Mark Bell The Daily News Journal (Murfreesboro, TN)

Print Impressions: 11,655 Online Impressions: 50,838

BELL BUCKLE — Several local first responders are better prepared to deal with emergency situations involving electric hybrid vehicles thanks to some special training held here Friday.

Smyrna and Murfreesboro firefighters, along with first responders from several other departments across the state, gathered at the Tennessee Fire Academy off Unionville Road for eight hours of instruction on the topic.

National Fire Protection Association Trainer Chris Pepler said the course was focused on bringing area firefighters and first responders "up to speed on how to deal with hybrid-electric vehicle fires and motor vehicle accidents."

More and more such vehicles are appearing on streets and highways as motorists look for cheaper alternatives in transportation in the face of escalating fuel prices. Nissan in Smyrna will begin mass producing its all-electric Leaf model later this year.

Pepler offered video demonstrations and explanations on the major differences between working old -fashioned vehicle fires and ones involving an electric-hybrid vehicle.

"Fire wise, the difference remains that you might need a little extra water in the event that a battery pack is compromised," he explained. "Our firefighting tactics are basically the same unless a battery pack becomes involved. And the only problem is that it is sometimes harder to extinguish a fire in one of these battery packs."

Pepler also dispelled several myths surrounding accidents involving electric vehicles. For instance, some believe that if an electric vehicle becomes submerged in water that the water around the vehicle could become electrified.

He also discussed the extrication process, risk of electric shock, proper handling of new types of batteries and challenges presented by charging stations.

Participants were able to experience firsthand the new technologies and special features included in electric vehicles.

Smyrna Fire Department Lt. James W. Lawrence said the reason he and other Smyrna firefighters attended the train -the-trainer sessions was so they could share what they learned with others in their department.

"We went over the different hybrid vehicles, the locations of the shutoffs and proper procedure, and how to handle them during extrication and fire calls as well," he said. "We have been exposed to these vehicles before at our department, but this training was a good way to get even more informed."

Murfreesboro Fire captain/instructors Ronald Jones and Bob Decker agreed that what made the training most valuable was it offered yet more ways to keep firefighters safe while performing their duties.

"We learned what to do, when to do it and what order to do it (in)," Jones said. Decker added that first responders "also learned that they (electric hybrids) are a lot safer than what people think they are."

In addition to the classroom experience and hands-on training, each participant received an instructor's guide, electric vehicle reference manual and a multimedia disc containing all of the course's content.

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### National Fire Protection Assoc. to train at state firefighting academy

March 30, 2012

WDXE Radio – MIX 106 and Classic Country 1370 (Lawrenceburg, TN)

Online Impressions: 20,977

NASHVILLE, TN – First responders from Tennessee now have the opportunity to learn more about key guidelines for responding to emergency situations involving electric and hybrid vehicles. The National Fire Protection Association (NFPA) and the Tennessee Fire Service and Codes Enforcement Academy (TFACA) will host an electric vehicle safety training session for Tennessee's first responders on today.

The course will be held at the TFACA in Bell Buckle and is part of NFPA's Electric Vehicle Safety Training Pro ject that was recently developed to prepare for the growing number of electric and hybrid vehicles on the roads today. The session will feature a live demonstration with a Chevrolet Volt provided by Stan McNabb Chevrolet.

The state-level, train-the-trainer course began touring state training systems in the summer of 2011. To date, training sessions have been completed in 26 states, with the goal of reaching first responders in all 50 states by the end of 2012. Participants in each state will be able to take what they have learned to prepare other first responders throughout the state.

"We are thrilled to bring the success of this nation-wide educational project to Tennessee," said Roger C. Hawks, director at TFACA. "As electric vehicles continue to grow in popularity, we are confident that this training will equip attendees with the proper information to prepare firefighters throughout Tennessee on electric vehicle safety."

For more than 100 years, NFPA has been a leading voice for public safety. The Electric Vehicle Safety Training Project is based on extensive research and findings from the Fire Protection Research Foundation. Since the launch of the project, NFPA has collaborated with top safety experts and automobile manufacturers to provide a comprehensive curriculum of up-to-date information on the topic.

According to NFPA President James M. Shannon, standardized electric vehicle education is critical to emergency training for first responders across the country.

"NFPA is supporting the large-scale introduction of electric vehicles by helping ensure that firefighters and first responders are familiar with any new car that is coming down the road," said Shannon. "Our goal is to provide first responders with all of the information and materials necessary to respond to emergency situations involving these vehicles."

During the 8-hour course, NFPA instructor Chris Pepler will cover a variety of topics specific to both hybrid and electric vehicles, including the extrication process, risk of electric shock, handling new types of batteries and challenges presented by charging stations. Participants will be able to experience first-hand the new technologies and special features included in the electric vehicle.

In addition to the classroom experience and hands-on training, each participant will also receive an instructor's guide, electric vehicle reference manual and a multimedia disc containing all of the course's content, as well as a Certificate of Completion upon concluding the course.

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Louisiana Firefighters train to pull victims out of Electric Cars (VIDEO)

April 20, 2012 Nicholas Madere WVLA-TV and WGMB-TV

Broadcast Impressions: N/A

Online Impressions: 32,586+5,178=37,764

BATON ROUGE, LA — Louisiana Firefighters spent the day learning all about electric cars.

That's because when these types of vehicles are involved in a crash, and a person is trapped inside, first responders have to think differently.

They have to shut down the electricity, to keep car crash victims and themselves safe.

In order to know how to do that they must be able to recognize what type of car they are dealing with.

An electric car is wired differently than a hybrid car, and way different than gas powered cars.

"As these vehicles become more prevalent in their communities and response areas, it's important that they know how to deal with them safely because if the rescuer gets hurt trying to help a person out of his car, who's gonna help the rescuer?" said LSU FETI Chief Alan Joos.

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# **Automotive Rescue and Extrication Expert Ron Moore Joins NFPA's Electric Vehicle Safety Training Project**

April 6, 2012 Firehouse Magazine

Online Impressions: 124,354

Ron Moore, one of fire service's leading experts in extrication and automobile rescue, has joined the National Fire Protection Association's (NFPA) Electric Vehicle Safety Training Project to serve on the program's roster of subject matter experts and trainers. Moore, who has more than 32 years of experience in the fire service, joins Jason Emery, Chris Pepler and Matt Paiss to lead electric vehicle safety trainings across the United States.

NFPA's Electric Vehicle Safety Training Project, funded by a \$4.4 million grant from the U.S. Department of Energy, was developed to equip the nation's first responders with the necessary abilities to address the growing number of electric and hybrid vehicles on the roads today. The state-level, train-the-trainer course began touring state fire academies in the summer of 2011 and has been delivered in 27 states to-date. NFPA plans to reach first responders in all 50 states by 2013.

"Ron is a great addition to the program as the demand for this training continues to grow," said Andrew Klock, Sr. Project Manager of NFPA's Electric Vehicle Safety Training. "As we move closer to our goal of training first responders in all 50 states and beyond, his experience and talent will prove to be a valuable resource to all those who take part in the course."

Moore has conducted thousands of advanced automobile rescue seminars and training programs across the country and around the globe, including Canada, Sweden, England, Germany and the Netherlands. He has authored one of most widely used training manuals in the field — Vehicle Rescue and Extrication, 2nd Edition — and written more than 200 published articles as a contributing editor for Firehouse magazine.

"NFPA has done a great job working with safety experts and auto manufacturers to put together a comprehensive curriculum of up-to-date information for electric vehicle emergency response," said Moore. "Through the delivery of this train-the-trainer program, I am looking forward to interacting with fellow fire service instructors across the country and feel privileged to be able to assist them as they go forward with the local level implementation of this program."

Moore's work in automotive emergency response has earned him the International Society of Fire Service Instructors George D. Post Instructor of the Year Award and the International Association of Fire Chiefs Excellence in Rescue award.

As NFPA's Electric Vehicle Safety Training continues to make its way to all 50 states, Moore is expected to begin conducting trainings in the Summer of 2012.

To learn more about NFPA's Electric Vehicle Safety Training and to view a calendar of upcoming trainings, visit: <a href="https://www.evsafetytraining.org">www.evsafetytraining.org</a>.



# One Million Advanced Electric Vehicles Expected by 2015

May 1, 2012 Fire Engineering

Online Impressions: 48,812

The National Fire Protection Association's (NFPA) Electric Vehicle Safety Training project is providing firefighters and first responders with the information and materials necessary to respond to emergency situations involving electric vehicles. This training will help first responders identify electric vehicles and respond to common hazards. The project is being funded by a \$4.4 million grant from the U.S. Department of Energy.

### **Online Training**

Electric Vehicle Safety Training team started a nationwide training tour last summer, delivering EV classroom trainings to thousands of first responders. Now, NFPA is going to be bringing the same EV training program to your computer, your department and your community. This soon-to-released training will include all the same topics covered in the classroom course:

- Identification of electric & hybrid vehicles
- Overview of vehicle electrical and safety systems
- Immobilization process
- Power-down procedures
- Emergency operations (battery fire, submersion)
- Vehicle fire recommended practices
- EV extrication awareness, including high-strength steel
- EV charging stations

The online, self-paced program is designed to provide first responders with the tools and information they need to safely handle emergency situations involving EVs, PHEVs, and charging stations. Details coming soon.

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## **Rescue Workers Train for Hybrid Hazards**

May 7, 2012 Samantha Stone KXNT-AM

Online Impressions: 179,716

The list of required knowledge for first responders gets longer all the time. Now firefighters are being alerted to potential danger during rescue procedures involving hybrid or electric vehicles.

At a conference of in Las Vegas this weekend, the National Fire Protection Association provided a day of training for trainers — firefighters who will return home to share with their ranks practical knowledge about the cars.

Safely disabling the the batteries tops the list. High-voltage batteries that operate the vehicle systems carry enough juice to kill or severely injure a rescuer who incorrectly cuts a cable. Students also spent time sorting out the varying features on hybrid and electric models, including airbag trigger mechanisms.

Silent movement is another hazard for a rescuer who might believe a motionless car is off. The cars are silent when they're in battery mode, and can begin to move forward when obstacles blocking their paths are removed. The engine in a hybrid model might unexpectedly kick on when the battery has drained. The first responders are taught always to assume the systems are active.



### Ohio Firefighters Get Electric Vehicle Safety Training (VIDEO)

Rescue Scenes Need Extra Caution When Dealing With Electric, Hybrid Vehicles July 10, 2012

Marshall McPeek

WCMH-TV

Broadcast Impressions: N/A Online Impression: 307,273

REYNOLDSBURG, Ohio --Firefighters have a lot to think about as they roll up on the scene of a car crash. With thousands more electric and hybrid vehicles on the road, the situation becomes even more complicated. New training from the National Fire Protection Agency gives Ohio firefighters a heads up on the new, potential dangers they're facing.

"New technology makes it more difficult for us to protect the public," says Randy Armbruster, chief of the Waverly Fire Department, who has been to hundreds of car crashes in his 25 years with the department. "That adds to the stress level. That adds to the hazard level. And it may complicate the extrication to get the victims out."

Armbruster was part of a train-the-trainer program at the Ohio Fire Academy on Tuesday. Nearly two dozen firefighters from across the state spent time in the classroom and crawling on, around, and through a Chevy Volt, learning about the mechanical systems and safety provisions.

"We're here to learn as instructors so we can go back and teach our departments and other departments," he says. "There's always something new to learn."

The classes are run by the NFPA with a \$4.4 million grant from the US Department of Energy. The NFPA says the education project was developed because of the growing number of electric and hybrid vehicles already on the road (Toyota claims to have sold more than a million Prii as of April 2011) and the Obama administration's goal of having at least a million fully-electric cars on the road by 2015.

"There's different technology that's involved and we just want everyone to feel comfortable because there are a lot of myths that have floated around," says NFPA trainer Chris Pepler. "We want to make sure we dispel the myths and give the most accurate information."

Pepler says one of the prevailing myths is that firefighters can be shocked by a crashed vehicle if it is sitting in puddles or submerged.

"The electrical system of these vehicles is isolated from the chassis," he says. "We explain to the students how the systems actually work and the safety systems that have been put in place by the [manufacturers]."

The biggest real issue, he points out, is that electric and hybrid vehicles are sneaky.

"That's the most substantial hazard of all. These vehicles are silent."

An assistant takes the Volt on a short test drive, rolling past the group of firefighters standing on the sidewalk. There's a slight whir and the quiet sound of rubber rolling over asphalt. Not much else. Stealthy.

Without the sound of a traditional engine, firefighters arriving on a crash scene might not realize the car is still running or even in gear unless they make a special effort to check the car's status.

"That vehicle could suddenly lunge forward at a rescuer if they let their guard down," warns Pepler.

The classroom sessions led students through shut-down procedures, submersion issues, showed them specific danger areas, extrication procedures, exposure hazards, and provided them with handbooks for each of the currently -available makes and models.

"Technology is growing as we know whether it's in our cell phones or in the vehicles," says Pepler. "And we just have to make sure that firefighters have the most accurate information to make the most intelligent decisions in a short amount of time."

"I welcome new challenges. That's what keeps me going," Chief Armbruster says with a chuckle.

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**Ohio Firefighters Get Electric Vehicle Safety Training** 

July 10, 2012 Fire Engineering

Online Impressions: 43,484

With thousands more electric and hybrid vehicles on the road, new training from the National Fire Protection Agency is giving Ohio firefighters a heads up on the new, potential dangers they're facing, reports NBC 4i.

The classes are run by the NFPA with a \$4.4 million grant from the US Department of Energy. The NFPA says the education project was developed because of the growing number of electric and hybrid vehicles already on the road (Toyota claims to have sold more than a million Prii as of April 2011) and the Obama administration's goal of having at least a million fully-electric cars on the road by 2015.

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# The Columbus Dispatch

Firefighters plugged into electric-car safety

July 11, 2012 Ally Marotti The Columbus Dispatch

Print Impressions: 129,737 Online Impressions: 542,516

Firefighters and paramedics are accustomed to being sent to crash scenes to put out fires, pry people out of vehicles and tend to their injuries.

But when the cars involved are electric, some are unsure how to proceed.

"It really poses a new challenge for us when we pull up on an accident scene and we see one of these cars," said Jim Starrett, an Upper Arlington firefighter. "It really shows how little we know about the technology and how fast it's moving."

That's why the National Fire Protection Association is offering training. The nonprofit group based in Quincy, Mass., was established in 1896 to promote fire prevention, including providing such things as training and model fire codes.

Starrett was among more than 30 firefighters who attended the electric-vehicle safety training at the Ohio Fire Academy in Reynoldsburg yesterday.

He and the others, including two firefighters from Calgary, Canada, who came for the free daylong seminar, will, in turn, teach others, said Chris Pepler, a Torrington, Conn., firefighter who conducted the training for the association.

"These students are actually instructors, and their job is to bring the information back to their communities," Pepler said.

The training included a look at a 2012 Chevrolet Volt so the firefighters could see the engine and learn how to turn it off. Turning it off is the first thing to do at a crash scene, or the wheels could keep turning, Pepler told them. He also pointed out the high-voltage cord, which should never be cut.

"The scariest part about this vehicle is how quiet it is," Pepler told the firefighters as the Volt glided almost soundlessly in front of them.

The firefighters also learned that they will not get electrocuted if the hybrid is in water, which is a common myth, Pepler said.

The training was well worth the nearly 2,000-mile trip, said Geoff Van Steenis, one of the firefighters from Canada. "You don't know what you're doing or getting yourself into. Just like anything new, we always fear the unknown."

Ohio is the 32nd state where the association has offered electric-car safety training, which it started after President Barack Obama set a goal of getting 1 million electric cars on the road by 2015.

"These hybrid electric vehicles are all here to stay," Pepler said.

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NFPA unveils online EV safety training for first responders

July 27, 2012 Charged EVs

Online Impressions: 1,292

The National Fire Protection Association (NFPA) announced the launch of an online version of its electric vehicle safety training course for first responders. The online curriculum is based on the classroom sessions currently being delivered across the country. The NFPA's Electric Vehicle Safety Training Project, funded by a \$4.4 million grant from the DOE, has been completed in 32 states so far, and aims to train first responders in all 50 states by 2013.

The self-paced, interactive program covers the same topics as the classroom course, including basic electrical concepts, vehicle identification methods, immobilization and disabling procedures, extrication operations, battery fires, incidents involving charging stations, and high voltage battery damage.

"We are delighted to release the online version of our popular and growing EV training course," said the NFPA's Andrew Klock. "This invaluable training gives firefighters and first responders easy access to resources and materials necessary to respond to emergencies involving electric vehicles and is an important part of our overall electric vehicle education program."

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NFPA unveils online Electric Vehicle Safety Training for firefighters and first responders

July 27, 2012 The Daily Dispatch

Online Impressions: 12,230

The National Fire Protection Association (NFPA) announced the launch of its online electric vehicle safety training course for first responders. The online curriculum is based on the classroom-style sessions currently being delivered across the

country. The online version, which allows students to participate regardless of their location, aims to ensure that members of the fire service and other first responder communities have access to this important training. The self-paced program will provide first responders with the knowledge they need to safely handle emergency situations involving EVs, HEVs, PHEVs and charging stations.

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### **NFPA Unveils Online Electric Vehicle Safety Training**

Fire Apparatus & Emergency Equipment Magazine July 27, 2012

Online Impressions: 6,775

The National Fire Protection Association (NFPA) announced the launch of its online electric vehicle safety training course for first responders. The online curriculum is based on the classroom-style sessions currently being delivered across the country. The online version, which allows students to participate regardless of their location, aims to ensure that members of the fire service and other first responder communities have access to this important training.

The self-paced program will provide first responders with the knowledge they need to safely handle emergency situations involving EVs, HEVs, PHEVs and charging stations. The online curriculum includes information about the newest technology and safety systems found in the growing number of hybrid and electric vehicles on the road.

"We are delighted to release the online version of our popular and growing EV training course," said Andrew Klock, senior project manager of NFPA's Electric Vehicle Safety Training. "This invaluable training gives firefighters and first responders easy access to resources and materials necessary to respond to emergencies involving electric vehicles and is an important part of our overall electric vehicle education program."

NFPA's training was developed to address the growing number of electric and hybrid vehicles on the roads today. NFPA began a nationwide training tour to deliver train-the-trainer courses in the summer of 2011 which has been completed in 32 states to date. The project's goal is to train first responders in all 50 states by 2013.

The introduction of the online course complements existing in-person, train-the-trainer sessions, allowing first responders everywhere to select a method that works best for their particular preferences and circumstances. Firefighters and first responders who use the online training will have access to a dynamic, interactive training session with all the same topics covered in the classroom course, including:

- Introduction to hybrid and electric vehicles
- Basic electrical concepts
- Vehicle systems and charging stations
- Identification methods
- Immobilization process
- Disabling procedures
- Extrication operations
- Vehicle and battery fires
- Submersions
- Incidents involving charging stations
- High voltage battery damage

Making sure that the training course was comprehensive was a top priority for NFPA. The launch of NFPA's online training comes after months of research and development by NFPA, subject matter experts, and the automobile manufacturers.

To access the online training, and for more information and resources about NFPA's Electric Vehicle Safety Training, visit <a href="www.evsafetytraining.org/training">www.evsafetytraining.org/training</a>.

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# NFPA Unveils Online Electric Vehicle Safety Training for Firefighters and First Responders

July 27, 2012

Firehouse Magazine

Online Impressions: 123,344

July 26, 2012 — The National Fire Protection Association (NFPA) announced the launch of its online electric vehicle safety training course for first responders. The online curriculum is based on the classroom-style sessions currently being delivered across the country. The online version, which allows students to participate regardless of their location, aims to ensure that members of the fire service and other first responder communities have access to this important training.

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First responders train on emergency tips with electric, hybrid vehicles

August 17, 2012 Portland Daily Sun

Print Impressions: 15,000 Online Impressions: 1,356

First responders from across the state of Maine will now have the opportunity to learn more about key guidelines for responding to emergency situations involving electric and hybrid vehicles, the National Fire Protection Association reported. The National Fire Protection Association and the Maine Fire Service Institute, a department of Southern Maine Community College, will host an electric vehicle safety training session for Maine first responders on Saturday, Aug. 18.

The course will be held at the Southern Maine Community College Midcoast campus in Brunswick and is part of NFPA's Electric Vehicle Safety Training Project that was developed to prepare first responders for the growing number of electric and hybrid vehicles on the roads today, organizers reported. The session will feature a live demonstration with a Toyota Prius provided by Lee Toyota of Topsham and a Chevrolet Volt provided by Goodwin Chevrolet.

NFPA began delivering state-level, train-the-trainer courses through state training systems in the summer of 2011. To date, training sessions have been completed in 32 states, with the goal of reaching first responders in all 50 states by the end of 2012. Participants in each state will be able to take what they have learned and train other first responders throughout the state.

During the 8-hour course, NFPA instructor Jason Emery will cover a variety of topics specific to both hybrid and electric vehicles, including the extrication process, risk of electric shock, handling new types of batteries and challenges presented by charging stations. Participants will be able to experience first-hand the new technologies and special features included in the new vehicles. Each participant will also receive an instructor's guide, electric vehicle reference manual and a multimedia disc containing all of the course's content, as well as a Certificate of Completion.

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Maine firefighters get tutorial in electric and hybrid vehicles

Training part of nationwide initiative August 19, 2012 WMTW-TV

Broadcast Impressions: N/A Online Impressions: 147,945

BRUNSWICK, Maine —As a part of the Nation Protection Association's efforts to promote electric vehicle safety, the Maine Fire Service Institute held a training session for Maine firefighters Saturday.

The training was held at Southern Maine Community College.

More than 20 firefighters participated in the hands on training for safety techniques.

Trainers say there's a different way for first responders to approach a hybrid or electric car., as compared to gasoline-powered vehicles.

"There are several things we have to consider," Director of Maine Fire Service Institute Bill Guiden said. "Whether the battery is on, whether it's energized, where the cables are located. There are several factors where it used to be that we could come cut the car open. We don't do that anymore. We've got to it a little more safely and effectively to make sure the victims get out safely."

Goodwin Chevrolet and Lee Toyota provided a Chevy Volt and a Toyota Prius for the training session.

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# First Responders train for electric vehicle emergencies

September 15, 2012 Jared Ransom KTTC-TV and <u>KXLT-TV</u>

Broadcast Impressions: N/A
Online Impressions: 47,210+3,871

ROCHESTER, Minn. (KTTC) -- With the use of electric vehicles on the rise, area fire departments and rescue teams are receiving vital training on how to protect themselves and others during emergencies.

First responders gathered at the Mayo Civic Center Saturday for electric vehicle safety training, put on by the Minnesota State Fire Marshal Division and the National Fire Prevention Association.

Those in attendance were able to learn safety techniques like how to disconnect a battery after an accident.

About 100 participants were in attendance from around the State of Minnesota and northern Iowa.



First Responders Get Crash Course On Roadside Emergencies Involving Green Vehicles (AUDIO)

September 17, 2012 Chris Filippi KCBS-AM (San Francisco, CA)

Broadcast Impressions: N/A Online Impressions: 263,400

SAN FRANCISCO (KCBS) — It's no secret that hybrid and electric vehicles have caught on in the Bay Area. However, the eco-friendly auto trend appears to be presenting some challenges for first responders called to the scene of roadside emergencies and accidents.

About 50 firefighters from across the greater Bay Area attended a training seminar recently, hosted by the San Francisco Fire Department and National Fire Protection Association.

"We have to proceed in different ways because there are some things in these vehicles that can be hazardous to us or to the victims we're trying to help," explained Jose L. Velo, SFFD Director of Training. "The batteries, if they catch on fire, can be an issue for us. Normal techniques of putting water on the fire may not work on some of these vehicles. When we cut the vehicle in order to extricate a victim we have to be very careful and knowledgeable about where those cables are."

Velo described it as "critical" that first responders learn as much as possible about emerging green technology on the road, pointing out that it was two years ago that San Francisco firefighters were trained to respond to fires at buildings that have solar panels.

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Firefighters prepare for electric car fires (VIDEO)

November 10, 2012 Stephanie Zepelin KTVB-TV

Broadcast Impressions: N/A Online Impressions: 219,305

MERIDIAN -- We've seen electric cars become more popular as gas prices rise. Now firefighters are seeing the need to prepare for situations involving hybrid cars.

Firefighters from all over the state came to Meridian Saturday to learn about the dangers from fires involving electric cars. Small logos are the only things that make electric cars look different than other cars on the road. But for first responders, they can be an unexpected danger.

"We had one pull off in a field one time and the tires were still spinning, and the car was sitting there, but you couldn't tell that the car was on," said Jim Hitch, who used to be a firefighter in Moscow. Now he's with the Parma Volunteer Fire Department and Idaho Emergency Services Training.

"Being in the Moscow area, when I was up there, there's a lot of environmentally conscious folks that want to go with the hybrid vehicles," Hitch said. "Since they're silent, you don't know that they're on, so the vehicl es can move without you even knowing."

Captain Rick Marston with the Emmett Fire Department brought some of their crew to the event.

"I think it's a good idea to get them trained ahead of time and see what's going on for their own safety and for the safe ty of the public," said Marston.

"It sneaks up on them. They're not expecting it," Hitch said.

Organizers hope this training will make firefighters all over Idaho more aware of the new technology, and how it could effect them while doing their job.

Those who recieved the training will bring the information back to their department, and teach the rest of the crew. About half of the firefighters at the training are paid, the other half are part of volunteer departments.

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### **Training Tips & Resources for Hybrid/Electric Vehicle Extrication**

NFPA offers specialized resources for these unique vehicles December 6, 2012 John Cannon FirefighterNation.com

Online Impressions: 67,450

With 13.9 million hybrid and electric vehicles expected to be on the world's roadways within 5 years, emergency responders must be knowledgeable about the unique challenges these vehicles pose. As with everything we do, firefighter safety is paramount in extrications involving hybrid or electric vehicles. But these vehicles contain special components that can endanger firefighters if they don't have the proper training.

In this article, I'll briefly review some of the unique features of hybrids and introduce you to two training resources that can help you start to build a foundation of knowledge about how to respond to extrication incidents involving such vehicles.

## **Key Points about Hybrid/Electrics**

Learning to identify a hybrid or electric vehicle is a key part of responding to an emergency situation. Most (but not all) of these vehicles have a logo or badge indicating their type of propulsion system, but they can be difficult to spot in the event of a crash. Determining whether a vehicle is hybrid or electric may seem like a simple step, but it is a critical piece of information for firefighters arriving at the scene of a crash.

Another critical skill: learning how to immobilize and disable the hybrid/electric vehicle. Most first responders use their sense of hearing to determine if a vehicle's ignition is on at a crash scene. Like many hybrid models recently introduced, electric vehicles emit very little sound. In the case of a hybrid, where the vehicle may be in its "ready" mode with the engine shut down, or with an electric vehicle that does not have one, this lack of engine noise can lull the responder into a false sense of security. Firefighters must take the extra step of ensuring that the vehicle is properly turned off prior to engagement, even if there's no engine noise.

Emergency responders should also familiarize themselves with the construction of these vehicles. Many models, and most newer vehicles in general, have high-strength steel in certain areas of the car's frame. Understanding how this impacts extrication operations and equipment is important to ensure the effectiveness of the response objectives.

### **Training Resources**

Knowing that firefighters and first responders have busy schedules that do not always allow time for in-person training, the National Fire Protection Association (NFPA) developed an online training course and field guide to teach emergency responders how to safely deal with emergency situations involving electric and hybrid vehicles.

NFPA's Electric Vehicle Safety for Emergency Responders Online Course and Electric Vehicle Emergency Field Guide explain the many unique features of electric vehicles and some of the components that can lead to potentially dangerous situations if first responders do not equip themselves with the proper training.

NFPA's online training course is a key resource for first responders looking to learn about electric vehicles. It is a self - paced program that takes approximately two hours to effectively train responders through videos, animation, simulations and review exercises. The dynamic online format is highly interactive and covers a wide variety of topics, including high-voltage vehicle and safety systems, basic electrical concepts, identification techniques for electric and hybrid vehicles, and immobilization and power-down procedures. The training course also details extrication challenges, recommended practices for dealing with vehicle and battery fires, and incidents involving charging stations.

In addition, NFPA's full-color Electric Vehicle Emergency Field Guide, 2012 Edition is a single, easy-to-use resource for all first responders. The guide is spiral-bound and organized for easy access, making it ideal for first responders on the road. The guide covers everything from vehicle immobilization to disabling high-voltage and SRS systems, conducting safe extrication cuts, and executing vehicle recovery and disposal.

Both of these training resources are ideal for all first responders, including firefighters and particularly law enforcement officers who are often the very first responders on scene and the first to interact with vehicles and occupants. Other crucial responders are EMTs who may be exposed to toxic fumes, high voltage and fire hazards when attending to patients, and towing/recovery personnel who clean up the accident (which can be toxic and/or hazardous) and store vehicles with a potentially delayed fire hazard.

The ultimate goal of these training resources is to provide firefighters and other first responders with information to help them respond effectively to emergency situations involving electric vehicles and to help keep others at the scene out of danger.

# **A Final Word**

Although electric vehicles present new challenges, the majority of first responders have already begun to adapt their response to these new vehicle technologies. However, proper training and understanding will allow firefighters and first responders to safely deal with incidents involving these new types of vehicles.

The reduction of fire and other hazards on quality of life has been a part of NFPA's mission for more than 100 years. With approximately 185 makes and models of electrical vehicles today, it's important for first responders to have a good understanding of how to approach all categories of electric vehicles. NFPA's Electric Vehicle Safety for Emergency Responders Online Course and Electric Vehicle Emergency Field Guide are the only training resources that have been reviewed by the manufacturers for technical accuracy and feature procedures and graphics specific to each vehicle—not generic, one-size-fits-all solutions. These resources are engaging and easy to use; more importantly, they can help first responders save lives.

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### 1st responders train for hybrid car crashes

(VIDEO) December 11, 2012 Sid Garcia KABC-TV

Broadcast Impressions: 150,119 Online Impressions: 3,481,881

Having more electric and hybrid vehicles on local roads can create new safety issues during emergencies.

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<u>The National Fire Protection Association and Department of Fire Programs Bring Electric Vehicle Safety Training to Virginia</u>

January 24, 2013 VA Department of Fire Programs

First responders from Virginia will now have the opportunity to learn more about key guidelines for responding to emergency situations involving electric and hybrid vehicles. The National Fire Protection Association (NFPA) and the Virginia Department of Fire Programs (VDFP) will host an electric vehicle safety training session for Virginia first responders on Thursday, January 24th.

The course will be held in Glen Allen and is part of NFPA's Electric Vehicle Safety Training Project that was developed to prepare for the growing number of electric and hybrid vehicles on the roads today. The session will feature a live demonstration with a Chevrolet Volt provided by Dominion Chevrolet Buick GMC in Richmond.

NFPA began delivering state-level, train-the-trainer courses through state training systems in the summer of 2011, reaching first responders at nearly 50 trainings across the country. Participants at each training are able to take what they learn and train other first responders throughout the state.

"We pride ourselves in providing Virginia first responders with training for whatever they may face when serving our communities," said David M. Jolly VDFP Curriculum Division Chief. "As we see more and more electric and hybrid vehicles on the road in our state, it is important that our first responders know how to handle a situation should they come upon a crash involving one of them."

For more than 100 years, NFPA has been a leading voice for public safety. The Electric Vehicle Safety Training Project is based on extensive research and findings from the Fire Protection Research Foundation. Since the launch of the project, NFPA has collaborated with top safety experts and automobile manufacturers to provide a comprehensive curriculum of up-to-date information on the topic.

According to NFPA President James M. Shannon, standardized electric vehicle education is critical to emergency training for first responders across the country.

"NFPA is supporting the large-scale introduction of electric vehicles by helping ensure that firefighters and first responders are familiar with any new car that is coming down the road," said Shannon. "Our goal is to provide first responders with all of the information and materials necessary to respond to emergency situations involving these vehicles."

During the 8-hour course, NFPA instructor Chris Pepler will cover a variety of topics specific to both hybrid and electric vehicles, including the extrication process, risk of electric shock, handling new types of batteries and challenges presented by charging stations. Participants will be able to experience first-hand the new technologies and special features included in the electric vehicle.

In addition to the classroom experience and hands-on training, each participant also will receive an instructor's guide, electric vehicle reference manual and a multimedia disc containing all of the course's content, as well as a Ce rtificate of Completion upon concluding the course.

For more information about the electric vehicle training series, including upcoming availability of an online training course and emergency field guide, visit: www.evsafetytraining.org. \

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South Dakota Electric Vehicle Safety Training January 26, 2012 KSFY-TV

In Brookings today, about 75 first responders got their hands on some new training techniques. These pictures from the event were sent to us from Brookings fire chief Darrell Hartmann. You can see it was an interactive event giving the Brookings firefighters a chance to familiarize themselves with hybrid cars and prepare for any emergencies they could face. Chief Darrell Hartman says this was just one example of providing his fire crews with the most up-to-date training.

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