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Race is on for smart grid hookup for hybrids

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By Cathy Cash

Ford Motor and the Electric Power Research Institute on Thursday entered a three-year agreement to develop and evaluate ways to integrate plug-in hybrid electric vehicles into the electricity grid — considered by many to be a necessary milestone to ensure widespread use of these vehicles

“This effort should accelerate the pace of PHEV development while enabling the utility industry to prepare for the introduction of these vehicles,” said Mark Duvall, EPRI’s program manager for Electric Transportation.

Ford is the first automaker to provide the utility industry with a sizable fleet of PHEVs to use, evaluate and examine how they work with their customers, according to EPRI, the utility industry’s non-profit research arm.

“PHEVs have great promise, but still face significant obstacles to commercialization, including battery costs and charging strategies,” said Nancy Gioia, Ford’s director of Sustainable Mobility Technologies. “EPRI brings our collaborative efforts related to the potential of plug-in electric vehicle technology to a new level.”

Under the agreement, Ford, which has already been working with Southern California Edison, will make 20 Ford Escape PHEVs available for testing in the Los Angeles area and within a group of utilities in New York and New Jersey area, EPRI said.

Through its collaboration with Ford, SCE and EPRI will examine regional differences in how these electric vehicles can impact the electric transmission grid, battery technology, vehicle systems, customer usage, and grid infrastructure. Their analysis will also explore possible stationary and secondary usages for advanced batteries, they said.

“It’s really about interface — how people charge [PHEVs], how utilities provide energy to them,” said Duvall.

Also on Thursday, Duke Energy and Gridpoint said their tests of a new “smart-charging” technology, GridPoint SmartGrid Platform, showed that the utility can completely charge a PHEV at night during its off-peak generation hours.

GridPoint of Arlington, Virginia, said it tested its platform technology in a residential garage where Duke Energy began charging a PHEV at 10 pm through a wall outlet controlled by the technology.

The goal for utilities is to optimize their generation assets — including wind which generates strongest at night — for charging PHEVs to keep costs low for customers and maximize environmental benefits.

“Smart charging is an essential capability for Duke and all electric utilities as PHEVs enter the market,” said David Mohler, Duke Energy chief technology officer. “Through this capability, we’re able to reduce stress on the grid during peak periods and keep rates low.”

EPRI said it would be looking at several different technologies and approaches to enable smart-charging of PHEVs. And time could be of the essence for the electric utility industry to ensure that it can make the most of PHEVs when these vehicles are forecast to hit the market in 2010.

“We want to integrate with the grid because early next decade [PHEVs] could be out, commercialized. We need to start now, to get as much in place as we can,” said Duvall. “It is important to start soon.”