Mileage markers: Argonne researchers recharge plug-in vehicle standards

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Engineer Mike Duoba tests a car at Argonne's Advanced Powertrain Research Facility, where colleagues celebrated the SAE approval of a new set of standards to test the fuel economy and emissions of plug-in hybrid electric vehicles.

(PhysOrg.com) -- Mike Duoba, a principal mechanical engineer at the U.S. Department of Energy's Argonne National Laboratory, and his colleagues are celebrating the recent approval of SAE J1711, the revised recommended practice for figuring out the fuel economy and exhaust emissions test procedures of hybrid and plug-in hybrid vehicles (PHEVs). The Argonne engineers primarily revised the test procedures to better evaluate PHEV technologies.

Duoba had led for the past three years the SAE International (Society of Automotive Engineers) task force charged with updating uniform chassis dynamometer test procedures for PHEVs and HEVs. SAE J1711 was

recently approved by SAE members during a two-phase voting process. This important accomplishment will encourage and support the nation's move to electrified vehicles for petroleum savings.

"Until now, the fuel economy claims for plug-in hybrids were not calculated according to similar procedures, making car-to-car comparisons virtually impossible," Duoba said. "What makes this procedure - and other SAE-developed recommended practices - significant is that EPA typically considers them as the basis for the automotive regulations it promulgates." Ultimately, the consumer benefits with valuable vehicle information that can help guide a purchase.

The U.S. Environmental Protection Agency is expected to issue later this year a new regulation that will define PHEV fuel economy reporting protocol. Much of the new EPA regulation is likely to be based on SAE J1711.

Argonne's experienced automotive research staff conducted several hundred tests on PHEVs in the lab's state-of-the-art Advanced Powertrain Research Facility (APRF) during the development of this recommended practice. The APRF is DOE's principal facility for assessing advanced vehicle technologies.

With the completion of SAE J1711, Duoba and his colleagues are now focused on supporting the development of testing standards for all-electric vehicles, known as SAE J1634. The development of this standard may be finished by year's end, with voting by SAE members to take place shortly thereafter, he said.

To help in that task, Argonne automotive researchers are in process of testing many electric vehicles to generate a test procedure that is unbiased from the technology approach. As a neutrally positioned

research organization, Argonne's technical leadership in this and other SAE recommended practices provide assurance to stakeholders—including the automotive industry, suppliers and EPA with other regulators—that a standard's development was handled in an unbiased manner.

Provided by Argonne National Laboratory