April 6, 2010

The Honorable Ray LaHood
Secretary
U. S. Department of Transportation
1200 New Jersey Avenue, SE, 9th Floor
Washington, DC 20590

Dear Secretary LaHood:

I am writing on behalf of the Institute of Electrical and Electronics Engineers-United States of America (IEEE-USA) to urge support for an increase in the number of electrical, electronics, computer and software engineers within the National Highway Traffic Safety Administration (NHTSA).

We note with concern a letter dated 22 February to you from House Energy and Commerce Committee Chairman Henry Waxman, which indicated that NHTSA officials told committee staff that the agency has no electrical engineers or software engineers on staff. Although we understand that you later amended the statement at a subsequent Congressional hearing to say there are, in fact, two electrical engineers on staff, we think that this number is still inadequate to allow the agency perform the vital task of ensuring vehicle safety.

Given the increasingly computerized and electronic nature of modern vehicles, we concur with Chairman Waxman’s assertion that this lack of expertise is “hampering the ability of the agency to examine possible electronic defects in vehicles.” Software control helps the vehicle, the operation of its engine, the mapping of the transmission shift points, the interactions among the components of the power train, the traction control system – everything from windshield wiper control to collision avoidance systems. An article by IEEE Spectrum magazine (February 2009) indicates that a premium-class automobile “contains close to 100 million lines of software code” and operates on 70-100 microprocessor-based electronic control units (ECUs) networked throughout the car, and that these numbers are projected to double within the next few years.

NHTSA’s stated mission of saving lives, preventing injuries, and reducing vehicle-related crashes requires skilled electrical and software engineers to investigate and correctly diagnosis the complex systems that are embedded in vehicles using our nation’s highway system. If unable to apply a workforce capable of dealing with these complex systems, NHTSA is severely limited to overseeing much of the safety portion of its mandate.

We understand that the NHTSA has recently enlisted the aid of NASA scientists and engineers to help study alleged acceleration problems in certain vehicles. We urge the Department of Transportation to reevaluate the current electrical, electronics, computer and software engineering staffing levels within NHTSA and other relevant federal and state regulatory bodies to ensure that they have sufficient expertise and resources to adequately analyze and monitor the safety of the...
approximately 62 million registered vehicles that are on U.S. roads today. I would also like to offer the substantial resources of the IEEE to help meet these staffing demands, as needed.

IEEE-USA advances the public good and promotes the careers and public policy interests of more than 210,000 engineers, scientists and allied professionals who are U.S. members of the IEEE. IEEE-USA is part of the IEEE, the world's largest technical professional society with 400,000 members in 160 countries. For more information, please contact Bill Williams at (202) 530-8331, or bill.williams@ieee.org.

Sincerely,

Evelyn Hirt
2010 IEEE-USA President

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