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By Recall Management Division at 6:13 am, Jan 13, 2014

TESLA

January 12, 2014

Nancy Lewis, Associate Administrator for Enforcement
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
West Building, Fourth Floor
Washington, DC 20590

Re: Part 573 Defect Information Report

Dear Ms. Lewis:

Recognizing that a variety of factors such as corrosion, physical damage to receptacles or inappropriate wiring/installation of electrical outlets can cause higher than normal electrical resistance when using the Universal Mobile Connector ("UMC") NEMA 14-50 adapters to charge Tesla Model S vehicles, Tesla Motors, Inc. ("Tesla" or "the Company") has rolled out a software update to address this issue. When charging, higher than normal electrical resistance connections to external energy sources may cause excessive heating of the adapter. Electrical resistance heating in the adapter or at the interface to the wall socket may lead to melting of the adaptor, cord or wall receptacle, and possible electrical arcing that could lead to fire. The software update fully addresses the issue by substantially reducing the heat generated in any high resistance connections outside the vehicle. In addition, while not necessary to address the issue, Tesla has also developed an improved NEMA 14-50 adapter to provide a higher level of assurance to customers in Tesla products. The software update and the improved adapters will be provided to customers at no charge as provided in greater detail below. Accordingly, pursuant to the requirements of 49 C.F.R. Part 573, this letter advises you of Tesla's action.

573.6(c)(1): Manufacturer's Name

ISC Engineering
4351 Schaeffer Avenue
Chino, CA 91710

As designed and specified by:

Tesla Motors, Inc.
3500 Deer Creek Road
Palo Alto, CA 94304

573.6(c)(2): Identification of the Equipment Impacted

Make	Model	Model Year	Inclusive Dates of Manufacture
Tesla	NEMA 14-50 Universal Mobile Connector Adapter	N/A	September 15, 2012 to January 10, 2014

573.6(c)(3): Total Number of Items of Motor Vehicle Equipment Potentially Containing the Defect

29,222 NEMA 14-50 adapter units have been delivered to Tesla to date.

573.6(c)(4): Percentage of Motor Vehicle Equipment Estimated to Contain the Defect

Tesla believes that the possible defect identified will impact less than 3% of the population of affected NEMA 14-50 adapters.

573.6(c)(5): Description of Possible Defect

The NEMA 14-50 adapter plug designed for use with the UMC utilizes a series of blades connected to four pins to conduct electrical energy from a wall socket through to wires in the UMC cable to Tesla vehicles to allow recharging of the vehicle. The pins allow the NEMA 14-50 adapter to plug directly into the UMC through an interchangeable design in the UMC head unit. In the NEMA 14-50 adapter units, higher than normal electrical resistance connections to external energy sources may cause excessive heating of the adapter. In these situations, it is possible that electrical resistance heating in the NEMA 14-50 adapter or at the interface to the wall socket may lead to deformation of the adapter, cord or wall receptacle, and possible electrical arcing that could lead to fire.

573.6(c)(6): Chronology of Principal Events

Since Model S deliveries began in earnest in late 2012, Tesla has received a very small percentage (2.7%) of returned UMCs that showed signs of internal damage only and that stopped vehicle charging. This was not a safety matter since damage was contained wholly within the UMC and resulted in cessation of power flow when the damage occurred – specifically, at the interface between the UMC and NEMA 14-50 adapter. In late 2013, Tesla became aware of several events that resulted in thermal damage external to the UMC. Based on this new information, the Company initiated an internal review of the UMC design, as well as the several external damage incidents, including a highly publicized event that took place in Irvine, California. Initial analysis demonstrated that defective or improperly installed wall receptacles that the NEMA 14-50 adapter plugged into could cause problems including melted adapters and, in a worst case scenario, fire. While the number of incidents remains small, and Tesla's review to date points to the building receptacle or wiring as the primary cause of failed NEMA 14-50 adapters, the Company has determined that a voluntary recall is appropriate as a precautionary measure.

573.6(c)(8): Proposed Remedy

Tesla has issued a new software update to address the issue described above. This update allows the Model S onboard charging system to detect any unexpected fluctuations in the input power or higher resistance connections to the vehicle. If detected, the onboard charging system will automatically reduce the charging current by 25%. For example, this will reduce a 40 amp charge rate to 30 amps. This update fully addresses the issue by substantially reducing the heat generated in any high resistance connections outside of the vehicle.

Tesla Stores and customers were notified of this remedy via release notes that accompanied the software upgrade. As this remedy is an "over-the-air" update, there is no need for customers

to bring their vehicles into a Tesla Service Center or other location. Customers can verify their receipt of the updated software by tapping on the center screen and verifying the vehicle is running software version 5.8.4 or later. Tesla will also independently verify that vehicles have received and are running the updated software. Tesla authorized Service Centers and Tesla Rangers will be able to implement the remedy to any U.S. vehicle not within range of the cellular network or that is not remotely accessible for any other reason.

In addition, above and beyond the software update, which fully addresses the issue, Tesla is providing an additional layer of assurance by engineering a new NEMA 14-50 adapter plug that includes an internal thermal fuse. The improved design and addition of the fuse will act to provide a higher level of reliability thereby demonstrating Tesla's commitment to full customer satisfaction. Tesla does not believe the improved adapters are required to address the issue, but is including this measure to ensure confidence in all Tesla-branded products. Tesla will be providing these improved NEMA 14-50 adapters to customers as production of the new design commences and as soon as stock becomes available. A copy of the proposed customer notification letter is attached. The Recall Service Bulletin will be sent under separate cover.

If you or your staff has any questions, please feel free contact me at (202) 549-9819.

Sincerely,

James C. Chen, Vice President of Regulatory Affairs and Associate General Counsel for Regulatory Affairs

cc: Frank Borris, Director, Office of Defects Investigation
Jennifer Timian, Director, Recall Management Division