January 30, 2009

Ms. Kathleen C. DeMeter, Director
Office of Defects Investigation Safety Assurance
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E. W45-302
Washington, D.C. 20590

Dear Ms. DeMeter:

Subject: PE08-066:NVS-212

The Ford Motor Company (Ford) response to the agency's December 9, 2008, letter concerning reports of alleged lighting control module (LCM) failure resulting in headlight failure in 2003 through 2005 model year Crown Victoria and Grand Marquis vehicles is attached.

The LCM provides power to the headlamps based on inputs received from the headlamp switch and the steering column mounted multifunction switch. The LCM uses an internal relay, mounted to a cir uit board, to transmit power to the headlamps. Power interruptions through the solder joint connecting the relay terminals to the circuit board can affect headlamp function.

Review of modules obtained from complaint vehicles found that the solder joints between the terminals and the circuit board can experience fatigue cracking. Fatigue cracking may be caused by repeated thermal cycling and/or physical vibration. In the context of this subject, fatigue crackin of the headlamp relay solder joints is evidenced by the significant percentage of reports indicating that headlamp function is "intermittent." Such intermittent performance provides clear indication to a driver that the vehicle should be serviced. If left unrepaired, the cracks could grow until the headlamps will not turn on or off or are inoperative. Nevertheless, even in the event that a vehicle experiences a more prolonged loss of headlamp function while driving, the parking lamps and tail lamps remain illuminated and the turn signals and brake lamps continue to function normally. These lamps provide conspicuity and indication of driver intent to surrounding vehicles, such as lane changes or vehicle braking to exit the roadway. Additionally, the driver can also use the flash-to-pass featu - to provide forward illumination while maneuvering the vehicle off of the roadway or to another safe location.

The overall rate of reports provided with this response is 6.7R/1000 which is significantly lower than rates relation to vehicles campaigned for headlamp outages, and similar to agency investigations t at were closed without action. Further, this rate includes reports for all malfunctions, including headlamps that will not come on at vehicle start-up, headlamps that will not go off at vehicle shutdown, and intermittent outages where function quickly returns. The rate of reports for non-intermittent headlamp outage while driving is notably smaller, and significantly lower than in other agency investigations that have been closed without a field action.

A review of the reports provided with this response found that Crown Victoria Police Interceptor (CVPI) vehicles experience the subject condition at twice the rate of civilian Crown Victoria and Grand Marquis vehicles. Crown Victoria taxis experience a higher rate than civilian units, but not as high as the CVPI. These differences are likely a result of the unique duty cycles experienced by these vehicles and because the condition relates to solder joint fatigue cracking.

A fair reading of the reports provided with this response and other similar investigations find that

drivers are able to consistently and safely maneuver their vehicles immediately following headlamp outage. In fact, a review of the available real world data finds no crash or injury allegations associated with the subject of this investigation despite the number of vehicle repairs. The real world data demonstrate that drivers of vehicles that have experienced headlamp outage have successfully controlled their vehicles, without incident, and subsequently sought repair. The most common and notable complaint is relate to cost-of-repair. The repair cost can be substantial, especially for municipal fleets or retirees. Overall, cost, not safety, is the focus of calls to Ford's customer relationship center.

Ford recognizes that lighting malfunctions can potentially pose unreasonable risks of accidents and injuries and we take our responsibility to identify those situations very seriously. To that end, Ford had begun monitoring this subject in the fall of 2007 with the ensuing investigation focusing on CVPI vehicles because of the notably higher report rate associated with these vehicles as compared to the civilian units. Actions were undertaken to incorporate design improvements into LCM service parts to provide a more robust design, and to build up a supply of the improved parts for service. Ford has continued to monitor reports and the field performance of these modules to evaluate whether some type of action may be warranted. Based on the results of these ongoing analyses, the fact that other lighting systems remain functional during headlamp outage, and the low rate of reports compared to prior campaigns, no field service action recommendations have been brought to Ford's Field Review Committee. Ford continues to believe that balanced consideration of all of the factors support a conclusion that this condition in these vehicles does not present an unreasonable risk to safety.
If you have any questions concerning this response, please feel free to contact me.