

illumination may cause misdirection of any driver's gaze toward the newly lighted or intensified area, or away from objects that are still important for driving safety? Please describe the evaluations and provide copies if available.

**Question 9:** Do moving beams (from bending light or the increase or decrease in intensity) either increase or decrease the level of driver fatigue compared to non-AFS lighting? Please provide all available research information about this issue.

**Question 10:** Have vehicle manufacturers evaluated prototype AFS-equipped vehicles at night as occupants of other vehicles to evaluate the potential glare from AFS? If so, please describe the evaluation and the results. Are there other assessment methods used to assess the glare from the AFS before vehicle manufacturers commit to a particular AFS design? Please provide the results of all alternative assessments conducted for AFS.

**Question 11:** What assessment is made of potential glare from AFS at points in the beam pattern that are currently unregulated?

**Question 12:** Are there any current lamp or vehicle manufacturer corporate design guidelines for AFS that deal with unregulated points in the beam pattern? If so, please indicate what those guidelines are and explain why the manufacturer believes they are appropriate.

**Question 13:** To what extent do lamp and vehicle manufacturers consider the reports and work by the Society of Automotive Engineers and other non-governmental bodies on the subject of glare in designing the performance of AFS on their vehicles? In answering this question, manufacturers are asked to provide a list of the reports, papers and data that they found useful in establishing design guidelines. Please provide specific examples of internal glare limits that have been adopted as a result of these references.

**Question 14:** While we are aware of many studies to demonstrate and promote the efficacy of AFS, we are not aware of a single study that has been done on the effects on other drivers facing AFS-equipped vehicles or on drivers using AFS-equipped vehicles. Please identify any such studies.

**Question 15:** Has glare been studied specifically for younger and older drivers facing or preceding the various modes of AFS operation on vehicles? If so, please list the studies.

**Question 16:** Has diminished recognition of presence, or the perception of distance or closure rate to an oncoming AFS vehicle ever been

studied? If so, please list the studies and findings.

**Question 17:** What fail-safe features for each possible mode of AFS operation have been developed and studied that will prevent glare to oncoming and preceding drivers? Please describe them.

**Question 18:** What fail-safe features for each possible mode of AFS operation have been developed and studied that will prevent no greater risk to the driver using it than when non-AFS headlighting fails?

**Question 19:** What studies have been done to demonstrate whether AFS adds safety value? What value is that and how was it measured? Please identify and provide the findings of such studies.

**Question 20:** What are the anticipated incremental costs of adding the various designs of AFS features to halogen headlighting systems?

**Question 21:** What are the anticipated incremental costs of adding the various designs of AFS features to high intensity discharge headlighting systems?

**Question 22:** What are the anticipated incremental costs of adding the various designs of AFS features to light emitting diode headlighting systems?

**Question 23:** Presumably, the added illumination in curves is intended to reduce the risk of a crash. However, because most crashes are on straight roads (because of the predominance of straight roads), how does the presumed incremental benefit compare to the added cost of AFS? Does the incremental benefit outweigh the potential for additional glare to oncoming or preceding drivers in a curve or intersections or during an AFS failure? Why?

**Question 24:** Should AFS designs be incorporated as separate, regulated lighting systems that operate independently of the primary headlighting system?

**Question 25:** Given that known AFS prototype designs are intended to use more headlamp replaceable light sources than currently permitted, should AFS headlamps be limited in total luminous flux?

**Question 26:** Should AFS headlamps have unlimited luminous flux if automatic headlamp leveling and cleaning are incorporated, as currently mandated in Europe for headlamps that have light sources that are rated at 2000 lumen or more?

**Question 27:** What is the feasibility of reducing the intensity of AFS lamps during low speed, dense traffic, or high ambient illumination conditions? Please describe how this might be accomplished.

**Question 28:** Are there requirements in Standard No. 108 that are barriers to the implementation of AFS? If there are barriers, in accordance with the published lighting policy of the agency (see NHTSA docket 98-4281, at: <http://dms.dot.gov/search/document.cfm?documentid=46284&docketid=4281>), what data exist showing safety benefits to justify amending the Standard to permit AFS?

**Question 29:** Should AFS be mandatory? What data exists showing safety benefits to justify amending the Standard to require AFS? If not mandatory, why not?

**Question 30:** Should AFS be permitted as a replacement for non-AFS headlighting systems. If so, why, and what safeguards are necessary beyond that necessary for new OEM installations? If not, why not?

## Rulemaking Analyses and Notices

### Executive Order 12866 and DOT Regulatory Policies and Procedures

This request for comment was not reviewed under Executive Order 12866 (Regulatory Planning and Review). NHTSA has analyzed the impact of this request for comment and determined that it is not significant within the meaning of the Department of Transportation's regulatory policies and procedures. The agency anticipates if a proposal and ultimately a final rule should result from this request for comment, new requirements would apply to the applicable vehicles and items after the specified implementation date. The request for comment seeks to determine the ramifications of the introduction of adaptive frontal headlighting systems that are intended to enhance safety under a variety of driving conditions. The systems do so by varying the performance and aim of each headlamp's beam in a manner coincident with providing, for example, more illumination in the direction of a motor vehicle's turn, and other situations where the vehicle's manufacturer deems that more or less light is desired by the driver.

### How do I Prepare and Submit Comments?

Your comments must be written and in English. To ensure that your comments are correctly filed in the Docket, please include the docket number of this document in your comments.

Your comments must not be more than 15 pages long (49 CFR 553.21). We established this limit to encourage you to write your primary comments in a concise fashion. However, you may