ultimately adopted by the Commission. An attempt has been made to streamline compliance requirements. For example, we have sought comment on streamlining the must carry complaint process for digital television station carriage.

120. Federal Rules Which Duplicate, Overlap, or Conflict with the Commission's Proposals. None.

121. Report to Congress. The Commission will send a copy of the NPRM, including this IRFA, in a report to be sent to Congress pursuant to the Small Business Regulatory Enforcement Fairness Act of 1996. In addition, the Commission will send a copy of the NPRM, including IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

122. It is ordered that, pursuant to Sections 1, 4 (i) and (j), 325, 336, 614, and 615 of the Communications Act of 1934, as amended, 47 U.S.C. 151, 154 (i) and (j), 325, 336, 534, and 535, notice is hereby given of proposed amendments to part 76, in accordance with the proposals, discussions and statements of issues in this NPRM, and that comment is sought regarding such proposals, discussions and statements of issues.

123. It is further ordered that the Commission's Office of Public Affairs, Reference Operations Division, shall send a copy of this NPRM, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

List of Subjects in 47 CFR Part 76

Cable television.

Federal Communications Commission.

Magalie Roman Salas,

Secretary.

[FR Doc. 98–21085 Filed 8–6–98; 8:45 am]

BILLING CODE 6712–10–U

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. NHTSA 98–4124; Notice 1]

RIN 2127–AG86

Federal Motor Vehicle Safety Standards Lamps, Reflective Devices, and Associated Equipment

AGENCY: National Highway Traffic Safety Administration (NHTSA), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: This document proposes to amend the Federal motor vehicle safety standard on lighting to reduce glare from daytime running lamps (DRLs). It would do this in three stages. One year after publication of the final rule, DRLs utilizing the upper headlamp beam would not be permitted to exceed 3,000 candela at any point, thus becoming subject to the maximum candela (cd) permitted for DRLs other than headlamps. This same limit would be applied to the upper half of lower beam DRLs two years after publication of the final rule. Finally, four years after publication of the final rule, all DRLs, except lower beam DRLs, would be subject to a flat 1,500 cd limit. Lower beam DRLs would be limited to 1500 cd at horizontal or above. This action is intended to provide the public with all the conspicuity benefits of DRLs while reducing glare and is based on research that has become available since the final rule establishing DRLs was published in 1993.

DATES: Comments are due on the proposal September 21, 1998. The proposed effective date of the final rule is one year after its publication.

ADDRESSES: Comments should refer to the docket number and notice number, and be submitted to: Docket Management, Room PL–401, 400 Seventh Street, S.W., Washington, D.C. 20590 (Docket hours are from 10:00 a.m. to 5:00 p.m.)

FOR FURTHER INFORMATION CONTACT: Jere Medlin, Office of Safety Performance Standards (202–366–5276).

SUPPLEMENTARY INFORMATION: In 1987, NHTSA opened a docket to receive comments on a proposed amendment to Federal Motor Vehicle Safety Standard No. 108 *Lamps, Reflective Devices and Associated Equipment* to allow daytime running lamps (DRLs) as optional lighting equipment. This rulemaking was terminated the following year. In a petition dated November 19, 1990, General Motors Corporation (GM) petitioned the Agency for rulemaking to permit, but not require, DRLs. GM indicated that it had three concerns that it felt would best be addressed by a permissive Federal standard as requested in the petition. These concerns were as follows:

1. A need to preempt certain state laws that inadvertently prohibited certain forms of daytime running lamps;

2. A desire for a single national law regarding DRLs, instead of a patchwork of different state laws on this subject. California had already enacted its own DRL requirements; and

3. A desire to harmonize any new U.S. requirements for DRLs with the existing Canadian mandate for new vehicle DRLs.

The petition for rulemaking was granted and a proposed rule was published on August 12, 1991. The agency agreed that a permissive Federal standard should be proposed to deal with the first two concerns expressed in the GM petition (inadvertent prohibition of DRLs and a patchwork of differing state requirements). However, the agency decided that its proposal should regulate DRLs only to assure that these new, optional lamps not detract from existing levels of safety. NHTSA explained that: ''The two chief considerations in this regard are that the lamps not create excessive glare, and that their use does not mask the ability of the front turn signal to send its message.'' Based on the available agency research, NHTSA proposed to limit DRL intensity to 2600 cd. This proposed limit was well below the 7000 cd maximum intensity Canada had established, but more than double the 1200 cd limit then in effect or proposed in some European countries for DRLs.

The intensity limits in the NPRM were very controversial, many commenters objected to the proposal's failure to harmonize the permissive U.S. standard for DRLs with other countries' DRL standards. Domestic manufacturers were particularly concerned that the proposal was not harmonized with Canada's DRL requirements. In its comment to the NPRM, GM asserted that 7000 cd DRL are dimmer than 35,000 cd full intensity lower beams. While 35,000 cd. is certainly a greater intensity than 7000 cd, NHTSA observed in the preamble to the final rule that GM had failed to also explain the effects of the different aim used for the upper beam and lower beam. The bright spot of lower beam lamps is directed down and to the right one to two degrees. Viewed straight-on, earlier data indicated that lower beams conforming to Standard No. 108 are not brighter than 3000 cd with 2200 cd as a typical intensity at the H–V axis. The bright spot of upper beam lamps is directed straight out and as far down the road as possible. Viewed straight-on, the full intensity of the upper beams would be directed at the H–V axis—up to 7000 cd in the case of DRLs.

GM also commented that the range between the Canadian minimum of 2000 cd for DRLs and NHTSA's proposed maximum of 2600 cd for DRLs was too narrow for practicability. GM urged NHTSA to set the proposed maximum brightness for DRLs slightly higher to recognize the practicability issues.

The comments to the proposal from the Insurance Institute for Highway Safety and vehicle and equipment manufacturers, with two exceptions,

called for the adoption of the Canadian provisions which permit DRL as bright as 7000 cd. The normal harmonization concerns (existence of equipment already designed for Canada and the pursuit of free trade) were given as reasons. Further, the commenters who opposed limiting DRL brightness below 7000 cd noted that there were almost no glare complaints in Canada. This remains true in 1998; only a few letters of complaint have been received by Transport Canada. However, Volkswagen and General Electric supported the proposed 2600 cd. maximum.

The commenters who supported 7000 cd as the upper intensity limit for DRLs also noted that this would permit cost savings. The simplest and least expensive way to add DRLs to a vehicle is simply to wire the upper beam headlamps in series. This halves the voltage and produces approximately one tenth the light intensity, which corresponds to about 7000 cd. as a maximum.

Ford Motor Company, GM, Chrysler Corporation, and American Automobile Manufacturers Association commented that the agency's research on glare was not sufficiently convincing to be the basis for a 2600 cd limit.

Advocates for Highway and Auto Safety, John Kovrik, and most of the commenting state agencies expressed concerns about glare and supported the NHTSA proposal for a 2600 cd maximum intensity for DRLs. Virginia and Ohio favored 2600 cd; Michigan favored full intensity lower beams which are roughly equivalent. Minnesota supported the proposed intensity limits, and asked for other requirements to limit the mounting height of DRLs, as a further control on glare.

In response to these comments, NHTSA sought to find a middle ground that would achieve the agency's goals of preventing excessive glare and masking of turn signals, and accommodating the commenters' desire for harmonization and the chance to use the simplest DRL system. NHTSA published a final rule on January 11, 1993 that announced this middle ground. In the final rule, reduced intensity upper beam DRLs up to 7000 cd were permitted, but only if they were mounted below side mirror and inside mirror mounting heights (34 inches or 864 mm) to avoid direct mirror glare from the rear. The final rule explained that the upward intensity of upper beam lamps ''diminishes rapidly as the angle above the horizontal increases,'' and that NHTSA's calculations show that no more than 350 cd would be directed into the rearview mirror of a Honda Civic CRX by DRLs of 6600 cd on a Ford Taurus trailing one car length behind. In addition, the agency calculated that the steady intensity of light in the mirrors of cars being followed by cars with 7000 cd DRLs would be ''only about one eighth of the level considered to be discomforting'' and that the driver of a small car would not be exposed to an intensity greater than 2600 cd unless the mounting height of the DRL of the vehicle behind exceeded 34 inches. Accordingly, NHTSA concluded that 7000 cd upper beam DRLs could be permitted, as long as they were mounted no higher than 34 inches. A 3000 cd intensity limit was established for other DRLs.

The reader is referred to the previously published notices for background information on this topic (52 FR 6316, 53 FR 23673, 53 FR 40921, 56 FR 38100, and 58 FR 3500).

The final rule amended the special wiring provisions of Standard No. 108 by adding paragraph S5.5.11 with appropriate specifications. Under the rule, an upper limit of 3000 cd at any place in the beam was established for all DRLs including headlamps. However, as an alternative, an upper beam headlamp mounted not higher than 864 mm (34 in.) above the road surface and operating as a DRL was limited to a maximum of 7000 cd at test point H–V. The alternative for a lower beam headlamp as a DRL is operation at full lower beam voltage or less.

DRLs, permitted since February 10, 1993, have been utilized by General Motors (GM), Freightliner, Saab, Volkswagen, and Volvo. During the last two years, the agency has received over 400 complaints from the public about glare from these lamps, in the form of letters, telephone calls, and Internet E-mail messages. Most of these (Congressional letters and responses and other letters to the agency) have been placed in Docket NHTSA 98–3319. Many of these complained of the DRLs on Saturn cars.

In response to those complaints, during 1997, agency staff conducted DRL voltage and intensity testing on a vehicle that was identified in some of the complaints as particularly offensive, a Saturn sedan. The vehicle's reduced intensity upper beam DRL was found to have about 6000 cd with the measured voltage of 7V, half the measured battery voltage on the running vehicle (because the DRLs are wired in series). It was noted that the DRL was operating well above the laboratory test voltage of 6.4V (half the normal laboratory test value of 12.8V) Later in 1997, laboratory tests made by members of the agency's safety assurance staff found that Saturn upper beam headlamps used as half-voltage DRLs (6.4V) achieved 5080, 5160 and 5670 cd. This voltage was 6.4V because, when installed, the Saturn DRLs are wired in series. Thus, the laboratory test voltage is one half the specified laboratory test voltage of 12.8V. These intensity readings were less than the current specified maximum intensity limit of 7000 cd for DRLs mounted below 864 mm (34 in.). However, the actual voltage on Saturn DRLs is higher than the 6.4V specified for the laboratory tests. The DRL voltages in three Saturn vehicles tested in-house by the agency ranged from 6.7V to 7.1V. The effect of this higher voltage on DRLs in service is to increase the intensity. The three DRLs, when tested at 7V, achieved 7040, 7050, and 7790 cd, all above the maximum permissible intensity. This increase in on-road intensity above laboratory intensity is one of the reasons for the higher glare that has caused complaints.

This alone does not account for the number of complaints received about glare from Saturn DRLs. With most upper beam DRLs operating at 10 percent of their normal upper beam intensity, the performance is typically 10 percent of an intensity that, when tested in a laboratory, should be between 40,000 to 70,000 cd or 4000 to 7000 cd for the DRL on most GM headlamp systems. Thus, vehicles other than Saturn can have high intensity DRLs. Even on vehicles using lower beam headlamps as DRLs but which are mounted higher than on typical passenger cars, the intensities perceived by other drivers can be as high as the reduced intensity upper beam DRLs.

Research by the University of Michigan Transportation Research Institute (UMTRI) Industry Affiliates Program for Human Factors in Transportation Safety, ''Glare and Mounting Height of High Beams Used as Daytime Running Lamps'' UMTRI–95–40, November 1995, by Sivak, Flannagan and Aoki, was an analytical study that found that discomfort glare caused by reduced intensity upper beam headlamps used as DRLs did not appreciably increase when those lamps were mounted above 34 inches compared with their mounting below 34 inches. The study compared the relative effects of mounting height and beam pattern to a 7,000 cd. DRL that was presumed acceptable when mounted at 34 inches. The value of this research depends entirely on the premise that the glare from a 7,000 cd. DRL mounted at 34 inches is acceptable. The complaints from the U.S. public indicate that this premise is probably incorrect, thus

limiting the value of this research in determining the intensity limits relative to mounting height of DRLs.

GM has changed its product distribution of DRLs from almost 100 percent of reduced intensity upper beam headlamps in 1994 model year vehicles to a significant portion of lower beam headlamps, and some turn signal lamps in its 1997 model year vehicles, nevertheless retaining DRL on many upper beam headlamps. Many of the lower beam headlamp DRLs are on vehicles whose headlamps are not subject to the mounting height/intensity limit. GM could have used the reduced intensity upper beam headlamps for the DRLs but chose not to do so. The latest Freightliner aerodynamic tractors use a turn signal DRL. This is a more expensive approach that may cause more frequent than normal bulb replacement; however, bulb manufacturers are responding to the need for longer life turn signal bulbs. It appears that this choice of DRL was motivated primarily by Freightliner not wanting to cause glare with its DRLs. These acts by vehicle designers and manufacturers suggests that they are aware of public concerns about DRL glare.

NHTSA received a September 1997 UMTRI Report (No. 97–37) titled ''A Market-Weighted Description of Low-Beam Headlighting Patterns in the U.S.'' by Sivak, Flannagan, Kojima and Traube. The report lists intensities (in cd.) of 35 lower beam headlamps used on the 23 best-selling passenger cars, light trucks and vans for model year 1997. These data allowed the agency to compare intensity levels in potential glare-causing regions such as along the H–H line and above.

The first table below shows lower beam photometric data for both cars and trucks of 1997 vintage extracted from Table 3 in UMTRI Report 97–37 and illustrates the potential for lower beam glare problems. The second table illustrates the glare problem by calculating the intensity that will be seen by other drivers when the same full voltage lower beam headlamps are used as DRLs at typical real world operating voltages of 13.5V or 14V. These intensities are from 1.2 to 1.35 times more intense than the values in the first table because higher voltage caused the intensity to increase disproportionately. The third table is the reduced intensity lower beam operated at 11.78V (about 92 percent of the required laboratory voltage of 12.8V). The fourth table is this same reduced intensity lower beam operating at real world voltages of 13.5 and 14V.

LOWER BEAM H–H TEST POINTS (CD.) BRIGHTER THAN 3000 CD AT LABORATORY VOLTAGE

Volts	Percentile	H-V	H–1R	H–2R	H–3R	H–4R	H–5R
12.8	25th	.....	.....	5040	5720	4211	.....
	50th	.....	5414	6838	6992	5445	.....
	75th	4907	7405	8142	8386	7548	6164

LOWER BEAM H-H TEST POINTS (CD.) BRIGHTER THAN 3000 CD WHEN OPERATED AS FULL VOLTAGE DRLS AT REAL WORLD VOLTAGES

Volts	Percentile	H-V	H–1R	H–2R	H–3R	H–4R	H–5R
13.5	25th	.....	.....	5987	6795	5003	.....
	50th	.....	6431	8123	8306	6489	.....
	75th	5829	8797	9673	9962	8967	7322
14.0	25th	.....	.....	6804	7722	5685	.....
	50th	.....	7309	9231	9439	7351	.....
	75th	6624	9997	10992	11321	10190	8321

LOWER BEAM H–H TEST POINTS (CD.) BRIGHTER THAN 3000 CD AT REDUCED VOLTAGE

[DRL voltage=92 percent of Laboratory Voltage]

Volts	Percentile	H–V	H–1R	H–2R	H–3R	H–4R	H–5R
12.8 red. to 11.78	25th	.....	.....	3782	4290	3158	.....
	50th	.....	4061	5129	5244	4083	.....
	75th	3675	5554	6107	6290	5661	4623

LOWER BEAM H–H TEST POINTS (CD.) BRIGHTER THAN 3000 CD WHEN OPERATED AS REDUCED VOLTAGE

[DRLs Using Real World Voltages]

Volts	Percentile	H–V	H–1R	H–2R	H–3R	H–4R	H–5R
13.5 red. to 12.42	25th	.....	.....	4550	5164	3802	.....
	50th	.....	4888	6173	6313	4932	.....
	75th	4430	6686	7351	7571	6815	5565
14.0 red. to 12.88	25th	.....	.....	5171	5869	4321	.....
	50th	.....	5554	7016	7174	5587	.....
	75th	5034	7598	8354	8604	7744	6324

As stated above, the basis of these calculations is the information from UMTRI Report 97–37. The current market headlamp performance is markedly more intense than the headlamp performance from the 1985–

1990 vintage headlamps used by NHTSA as a basis to decide on the intensity levels in the 1993 final rule on DRLs. Because this basic headlamp performance increase continues to be an influence on DRL intensity, today's DRLs have a far higher intensity than expected by NHTSA in 1993. Thus, a 50th percentile lower beam intensity at one degree to the right of center along the horizontal axis of a beam (point H–1R), is about 6400 cd at 13.5V and 7300 at 14V. Half of the lamps have greater intensity than this. On those vehicles with higher mounted lamps, such as pick-ups, vans and sport utility vehicles, this could be substantially glaring based on past NHTSA research about DRL glare intensities.

The National Motorists Association of Waunakee, Wisconsin, (''NMA'') opposes the use of DRLs in response to continuing and increasing complaints by its members. The member complaints can be summarized as follows: increased glare, obscuration of turn signal lights, increased visual clutter, masking other roadway users, reduction in the conspicuity of motorcycles, distortion of distance perception, reduction of detectability of emergency vehicles, and failure to use the normal headlighting system at night.

NMA petitioned for rulemaking in August 1997 to:

1. Amend Standard No. 108 to prohibit hard wired DRLs on all vehicles manufactured for sale in the United States;

2. Require retrofit of all vehicles currently equipped with DRLs with a switch that permits the DRLs to be turned off or on at the discretion of the vehicle operator;

3. Amend Standard No. 108 to prohibit the use of high beam headlamps as a component of a DRL system; and

4. Recall, disconnect, or convert to lower beam any DRL system that currently uses the upper beam.

The agency also received a petition for rulemaking in September 1997 from JCW Consulting of Ann Arbor, Michigan. This petition objects to the ''excessive'' glare from current DRLs. It requests the following actions:

1. Amend Standard No. 108 so that no new DRL lamps with a power of more than 1200 cd are allowed, regardless of mounting location, effective with the 1999 model year;

2. Amend Standard No. 108 so that no DRL lamps may use upper beam components;

3. Order the recall of all existing upper beam based DRL systems, and require that they be either entirely dismantled, or converted to lower beam or turn signal components, with a maximum output of 1200 cd; and

4. Order that all existing vehicles currently equipped with DRLs based on lower beam or turn signal components, and which emit more than 1200 cd, be recalled and equipped with a switch that permits the vehicle owner to have the systems on or off as desired (with the default position of ''off''). Alternatively, the manufacturer could reduce the output to a maximum of 1200 cd, and leave the automatic functions operative.

These petitions indicate public concern about excessive DRL intensity and the resulting glare. NHTSA had become aware of public concern and began to study the issue before receiving these petitions. NHTSA is granting them, to the extent that it is proposing to reduce the intensity levels of DRLs with the intent of reducing glare complaints.

One of NHTSA's stated goals when it permitted DRLs as optional lamps was that they should not create excessive glare. To achieve this goal, NHTSA established carefully considered, but higher than proposed, limits on DRL intensity. NHTSA believed that the compromise intensity limits established in the January 1993 final rule would assure that DRLs would not cause excessive glare. However, the widespread voluntary introduction of DRLs since 1993 has demonstrated real-world experience with many varieties of DRLs. This real-world experience indicates that the glare problems are substantially greater than was anticipated in 1993. NHTSA's goal of no undue glare was not accomplished. In response to this problem, NHTSA has developed a three-step approach to address DRL glare, which would be phased in over four years after publication of the final rule.

Phase One: Eliminate the Special Provision Allowing Upper Beam Headlamp DRLs to Have a 7000 cd Maximum Intensity

NHTSA proposes that the provision in Standard No. 108 permitting upper beam headlamps to be used at intensities up to 7000 cd, at H–V, when mounted below 864 mm. be deleted, effective one year after issuance of the final rule. The consequence of this will be that upper beam headlamps operating at reduced voltage will be required to have a beam intensity limit of no more than 3000 cd at any point in the beam.

Commenters may argue, as GM did previously, that the lower beam is permitted to be much more intense than the current 7000 cd maximum for upper beam DRLs. As explained in justification of the existing rule, correctly aimed lower beam headlamps at lower mounting heights do not pose the upward glare problem that correctly aimed upper beam headlamp DRLs do. A check of photometric data on 71 lower beam headlamps of vintage 1985–1990 showed that they were not brighter than 3,000 cd at the H–V (center) test point. Data collected by UMTRI for NHTSA (DTNH22–88–C–07011, ''Development of a Headlight System Performance Evaluation Tool'') indicated that 2200 cd was a typical intensity at the H–V test point. This is the original basis for the existing 3000 cd intensity limits for upper beam DRLs when they are mounted above 34 inches. The intent was to constrain the intensity to that similar to a lower beam headlamp when viewed from straight ahead. The 1997 UMTRI data referenced and discussed above show current headlamps are substantially more intense than the earlier headlamps. When used as reduced intensity DRLs, the lamps will be more intense than the 3000 cd deemed to be the acceptable limit in 1993.

In addition, drivers seem to accept more glare from headlamps at night than from DRLs during daylight because of their willingness to trade off some glare for increases in critically needed seeing distance visibility. Headlamps are intended to allow the driver to see at night and to allow the vehicle to be seen by other drivers. Thus, a headlamp designer must make a trade off between nighttime visibility for the driver of the vehicle and glare for other drivers. Reasonable people may make that trade off at very different places. Consider, for example, the very different lower beam pattern in European headlamps with a sharp cutoff of light above the horizontal (to prevent glare for other drivers) and the U.S. requirement for substantially more light above the horizontal (to assure visibility of signs and other roadside objects for the driver).

DRLs, on the other hand, have only one function—to improve vehicle conspicuity during daylight. The only consideration is to assure that the DRL is sufficiently intense to achieve this purpose. More intense DRLs do not offset the problems of glare with any significant increase in conspicuity. Because there is no tradeoff, the agency should be less tolerant of glare from DRLs than it is for headlamps. Thus, Phase Two is proposed.

Phase Two: Reduce the Intensity for any DRL to 3000 cd at Horizontal and Above

The September 1997 UMTRI Report (UMTRI–97–37) titled ''A Market-Weighted Description of Lower-Beam Headlighting Patterns in the U. S.'' provides photometric test data on a sample of 35 lower-beam headlamps manufactured for use on the 23 best selling passenger cars, light trucks, and vans for model year 1997. This new sales-weighted data reveal 50th percentile lower beam intensity (at 12.8V—not 14V, and 1.35 times the laboratory intensity possible in the actual on-road scenario) for cars, light trucks, and vans is 2615 cd at H–V, 4015 cd at H–0.5R, 5414 cd at H–1R, 6838 cd at H–2R, 2111 cd at H–0.5L, and 1724 cd at H–1L (See Fig. 1). The corresponding values on the 1985–90 headlamps were 2215, 3198, 4173, 5239, 1579, and 1235 cd at 12.8V, respectively. In all instances light levels have markedly increased and thus glare potential has increased for the headlamps on 1997 cars, light trucks, vans, and sport utility vehicles. The problem is even more significant, because the real world voltage on the lamps can be 13.5 to 14V, giving intensity increases of 35 percent or more.

The earlier UMTRI tests of 71 vintage 1985–1990 lower beams showed that they were not brighter than 3000 cd at H–V, and furthermore, 2215 cd was the mean value. The 5239 cd value found at 2R on the new headlamps means that they are far more likely to cause glare problems for other drivers than the less intense 1985–1990 lamps, even at the reduced voltage (92 percent voltage and approximately 75 percent intensity) used for Canada. Thus, it is likely that complaints about DRL glare from lower beam headlamps will supplant complaints about DRL glare from reduced intensity upper beam headlamps when manufacturers shift from a preponderance of upper to a greater number of lower beam DRLs if nothing is done to establish maximum intensity limits for lower beam DRLs.

In the current DRL specifications in Standard No. 108, lower beam DRLs are the only type of DRL not subject to any maximum intensity limit. Given the 1997 UMTRI information on the intensity of current lower beams, it seems appropriate now to include a maximum intensity limit for lower beam DRLs to ensure that glare from those DRLs is also limited. The maximum value already in place for all other types of DRLs is 3000 cd, and there is no information suggesting that a higher intensity value for lower beam DRLs will not produce glare for other drivers. Accordingly, the agency is proposing to adopt a 3000 cd. limit for lower beam DRLs, to be effective one year after that limit is extended to upper beam DRLs, that is to say, two years after publication of the final rule.

However, one difference is needed for the maximum intensity limit for lower beam DRLs compared with that for all other DRLs, which are limited to no more than 3000 cd at any point in the beam. Because lower beam headlamps can have hot spot intensities (usually around 2D–2R) of more than 35,000 cd, the agency is concerned that limiting these lamps to 3000 cd anywhere in the beam would in effect preclude the use of lower beams as DRLs. NHTSA does not want to do this; it simply wants to establish performance criteria that will assure that the public is not bothered by excessive glare from DRLs, and allow vehicle manufacturers to decide how to design complying non-glare DRLs. In this case, the agency has tentatively concluded that it can prevent excessive glare from lower beam DRLs by proposing that they have no test point that is more intense that 3000 cd at horizontal or above. More intense points in the beam pattern below horizontal should not produce significant glare complaints for other drivers, unless the beam projects near or above the eye height of passenger car drivers. To address this last issue about mounting height and glare, the agency is proposing Phase Three.

Phase Three: Final Glare Reduction

After adequate lead time has elapsed, which the agency has tentatively decided should be four years after issuance of the final rule, NHTSA believes that lower beam DRLs should be limited to a maximum intensity of 1500 cd at horizontal or above and any other DRL be limited to a maximum intensity of 1500 cd *anywhere in the beam,* when measured at 12.8V. This action will lower the intensity on the brightest DRLs on cars operating on public roads to about 2020 cd at 14V (near the real-world worst case DRL glare condition).

Requiring lower intensity by reducing intensities to 1500 cd at 12.8V is important in ensuring that glare is limited under typical and reasonable real-world conditions. In determining this limit, the agency seeks a level which is a balance between the need to make DRLs bright enough to be conspicuous and effective in reducing crashes, the need to minimize glare problems, and the desire for a practical/cost effective system. By providing a long lead time, the agency believes that practical and low cost solutions can be achieved that permit manufacturers to modify their DRL modules, and use more turn signal lamps as DRLs.

The challenge in determining a maximum intensity limit arises because the glare response of the eye to light intensity and the ability of the vision system to detect objects depends on the ambient illumination. As the sky and roadway background become brighter, DRLs appear less glaring to an observer. But in order to make a light source more detectable against brighter backgrounds, it has to have higher intensities, which will increase the glare when it is seen under lower ambient light levels. If future technical advances lead to the development of DRLs which automatically adjust their intensity in response to changing ambient light levels, the balance between glare and conspicuity could be optimized. However, with the current fixed intensity lighting technology, a maximum value needs to be selected which strikes a compromise between providing potential safety benefits and minimizing the glare achieved.

The balance between glare and effectiveness is illustrated in Figure 2 from a 1990 Dutch Study by Hagenzieker, titled, ''Visual Perception and Daytime Running Lights.'' Figure 2 has been placed in Docket No. NHTSA 98–4124 and is available for public inspection.

That report described a model of how DRL intensity and drivers' visual adaptation level interact to determine the degree of discomfort glare and detectability of DRL. Figure 2 plots data from DRL research showing results from glare and visual performance studies. The data for glare represent conditions under which discomfort did or did not occur. The data for visual performance represent conditions under which DRL improved conspicuity performance compared to a no-DRL baseline. The area above the top broken line shows the conditions causing increased discomfort glare. The area above the lower broken line shows the conditions leading to increased visual conspicuity performance compared to performance without DRL.

The area between the two broken lines illustrates the conditions where conspicuity performance improves without causing discomfort glare. The difference between the two lines shows how there is always a tradeoff between glare and detectability at any level of DRL intensity. For example, if DRL intensity is 2000 cd glare will not be a significant problem in daylight but may cause some discomfort in twilight.

Vehicle detection will be improved in twilight and overcast conditions, but may not increase under bright daytime conditions. If DRL intensity is increased to 3000 cd, glare becomes a concern at even brighter ambient light levels, but vehicle contrast and detection will be improved. Thus, to determine the maximum DRL intensity, the glare levels acceptable under twilight conditions needs to be balanced against the intensity levels required for increased vehicle detectability under daytime light conditions.

NHTSA-sponsored research quantified how drivers react to the glare from different DRL intensities. Kirkpatrick et al. assessed the response of 32 subjects to DRL glare from a following car at 6 m behind the subjects (''Evaluation of Glare From Daytime Running Lights,'' DOT HS 807 502, 1989). Subjects were asked to look into the rear view mirror and rate the glare discomfort. The ratings were based on a 9-point scale, with 1 being the most disturbing and 9 being just noticeable glare. Discomfort was also measured in terms of the desire of the subjects to switch the mirror to the low reflectance, night position. The experiment was run during a time period from two hours before sunset to one half hour after sunset during the months of January and February. The illumination on the road surface varied from 4 to 30,000 lux. Below 7000 lux corresponds to dusk light levels. The higher light levels are typical of heavy overcast daytime conditions.

The discomfort rating scale results are described below in Figure 3 extracted from the report, in terms of the cumulative percent of subject responses equal to or less than a particular rating scale.

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"from Kirkpatrick et. al "Evaluation of Glare from Daytime Running Lights 1989"

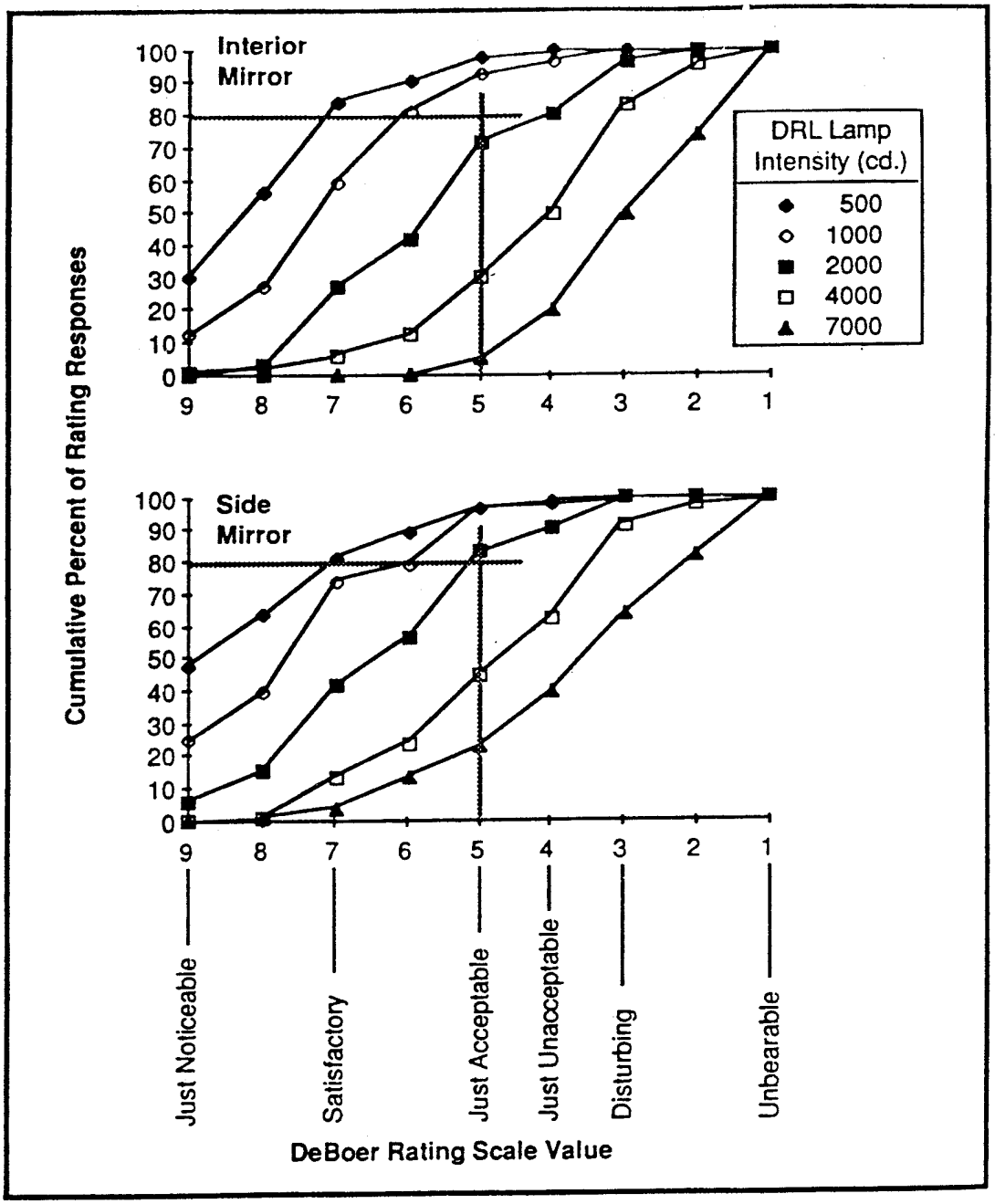

Figure 3. **Cumulative Percent of Responses Equal to or Less Than Rating Scale Value as a Function of Mirror Condition and DRL Lamp Intensity**

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These data can be used to determine maximum intensity levels that are associated with specified percentages of the responses made by subjects. For example, the graph in Figure 3 shows that only 500 and 1000 cd levels are rated no worse than ''just acceptable'' in 80 percent of the responses. These results mean that if a DRL is 1000 cd, only 20 per cent of the ratings will find the intensity to be at some degree of unacceptable glare. At 2000 cd, the glare was rated as no worse than ''just unacceptable'' in 80 percent of the responses. At 4000 cd, the glare was rated as no worse than ''disturbing'' in 80 percent of the responses. The corresponding results for the interior mirror dimming probability show that at 4000 cd, mirrors would be dimmed about 70 percent of the time; at 2000 cd the dimming probability is about 40 percent; at 1000 cd the dimming probability is about 10 percent. Dimming the mirror in daytime would reduce the utility of the mirror because its dimmed reflectance is about 4 percent. Drivers would have their eyes adapted to brighter daytime light levels and would not be able to see objects in the low reflectance, dark mirror.

The data discussed above show the problems of glare from DRL viewed in rearview mirrors. The Society of Automotive Engineers Lighting Committee conducted several tests of DRL glare from oncoming vehicles. Their tests were conducted to obtain the subjective reactions of committee members to different intensities, and were reported in a memorandum on SAE J2087 Daytime Running Lamps on Motor Vehicles, dated April 9, 1991, from D.W. Moore to John Krueger, SAE. Its test in October 1982 in Ottawa found that under dusk conditions, 12 percent of the observers reported that 1000 cd caused glare at a distance of 400m and 39 percent reported that it caused glare at 50m.

While glare reduction is important to driver acceptance of DRL, NHTSA also wants to assure that the potential effectiveness of DRL in improving safety is not severely compromised. The extent to which DRL effectiveness may be reduced by reducing intensity can not be predicted with certainty, but data regarding the improved detectability of vehicles provides some guidance. The ambient light level affects the detectability of a DRL-equipped vehicle. The difference in detectability of a vehicle with DRL versus one without DRL, when observed at higher light levels, is smaller than the difference at lower light levels. This was shown in NHTSA sponsored research on the conspicuity of DRL. (W. Burger, R. Smith, and K. Ziedman. ''Evaluation of the Conspicuity of Daytime Running Lights.'' DOT HS 807 609, April 1990) The research evaluated the relationship between DRL intensity and detection distance, and how detection distance is influenced by ambient light level, which was measured in terms of the illuminance measured on a horizontal surface. Twenty three subjects were asked to detect a vehicle driving toward them in their peripheral visual field. The subjects were asked to perform a task to keep their attention away from the approaching car and had to press a switch as soon as they became aware of the test vehicle in their peripheral vision. The DRL intensity on the test vehicle varied from 0 to 1,600 cd. The results showed that the mean improvement in detection distance with 1600 cd DRLs is about 200 feet for low ambient conditions, but only about 80 feet for high ambient conditions.

Thus, under the low ambient conditions in this test, intensities below approximately 2000 cd can be effective in improving vehicle detectability, even at a peripheral viewing angle. Under high ambient light conditions, a 1600 cd DRL shows some effectiveness in catching drivers' attention when they are not directly looking at the light.

With direct viewing of a vehicle, lower intensities should be effective in increasing detectability. This finding was supported by the results of numerous tests conducted by the SAE Lighting Committee to subjectively determine what DRL intensities were needed to make a vehicle more noticeable under daytime conditions. For example, in a 1982 SAE daytime test of DRLs in Ottawa, observers rated a vehicle with a 100 cd DRL to be more noticeable than a car with no lamps or parking lamps. A 1984 test in Detroit found that 80 percent of observers could clearly see a vehicle with 600 cd DRL at 0.5 mile. A 1985 SAE test in Mesa, Arizona evaluated the effectiveness of DRL signal intensities as determined by observers looking at an approaching vehicle. During daytime, 80 percent of the observers judged 1500 cd to be effective at 150 feet. In 1985, a test in Indianapolis found that an amber turn signal was effective at 600 cd. In 1988, a test in Kansas City found that 500 cd was considered effective by more than 70 percent of the observers. In September 1989, SAE conducted a test in Washington, D.C. All intensities tested (from 200 cd to 7000 cd) were judged effective by more than 80 percent of the observers. What all of these SAE tests show is that on the basis of subjective ratings, DRLs below 2000 cd are consistently judged effective in enhancing vehicle conspicuity in situations where the observers look in the direction of the vehicle.

In summary, NHTSA believes that based on glare considerations alone, the research data strongly point to the need to keep the maximum intensity level somewhere between 1000 and 2000 cd so that the majority of drivers are not discomforted under overcast and twilight conditions. NHTSA believes that, if a 2000 cd level is prescribed as the upper limit, the actual intensities on the road will likely be within the 1000 to 2000 cd range and thus, acceptable to most drivers under most driving conditions. Past testing indicates that DRLs at these levels still have the ability to enhance vehicle detectability in bright daytime conditions. Under low ambient conditions, where detectability of some vehicles without DRLs may be marginal, low intensity DRLs can boost detection distances more significantly.

The question then becomes what level should be specified in a Standard No. 108 test to achieve a DRL intensity of no more than 2000 cd in the real world, under actual operating conditions. The 12.8V used in NHTSA testing represented typical vehicle voltages in 1968, but typical vehicle voltages in 1997 have increased. A typical voltage in current vehicles is about 13.5V, with some vehicles running at 14.0V. Using the conversion table shown below, 2000 cd at 13.5V corresponds to 1660 cd. at 12.8V ($2{,}000 \times 0.83$), while 2000 cd at 14.0V corresponds to 1480 cd at 12.8V ($2{,}000 \times 0.74$). Because the demand by vehicle designers for greater voltages in the vehicle electric systems responds to the increase in electric features on vehicles, there is no reason to expect this will abate in the near future. Thus, it seems likely that today's worst-case (14.0V) could become the typical voltage in the next five or ten years. To respond to this, NHTSA proposes to specify a maximum candela limit that assumes many vehicles will operate with 14.0V, and round the 1480 cd up to 1500 cd in the standard. It should also be noted that the recommended 1500 cd limit is identical to ECE requirements for maximum DRL intensity (1200 cd tested at 12.0V is 1500 cd tested at 12.8V).

TEST VOLTAGE AND INTENSITY MULTIPLICATION FACTORS

Candela specified at—	Multiplication Factor to Use to Get Candela at—						
	12.0 v	12.42 v	12.8 v	12.88 v	13.2 v	13.5 v	14.0 v
12.0 v	1.00	1.13	1.25	1.28	1.37	1.50	1.68
12.42 v	0.89	1.00	1.11	1.13	1.21	1.33	1.49
12.8 v	0.80	0.90	1.00	1.02	1.10	1.20	1.34
12.88 v	0.78	0.88	0.98	1.00	1.07	1.18	1.32
13.2 v	0.73	0.82	0.90	0.93	1.00	1.07	1.23
13.5 v	0.67	0.76	0.83	0.85	0.93	1.00	1.12
14.0 v	0.60	0.67	0.74	0.76	0.81	0.88	1.00

As may be seen from this chart, lamp intensity increases disproportionately with voltage increase. The consequence for headlamps is the same as for DRLs—they get brighter. In a rulemaking separate from this one, NHTSA will ask whether it should consider a change from the standardized test voltage of 12.8V direct current(VDC) to a new standard such as 13.5 VDC or 14 VDC or consider some other solution such as requiring the voltage at headlamps in real vehicles to be 12.8 VDC. If the voltage were increased, a question is raised as to how the photometric performance should be changed to assure that performance on the road is what researchers, lighting test observers, and Federal regulators determined meets the need for safety and is not brighter and not dimmer than necessary or expected.

Another issue related to DRLs and voltage is that of lower voltage. To date, DRLs that have been based on the use of headlamps have been using full voltage, 75 percent voltage and 50 percent voltage, and it has been presumed that their life as normal headlamps was relatively unaffected. If voltages other than these are used because it is necessary to make the lamps dimmer, will there be any different or additional consequence to lamp life when the lamps are used as normal headlamps? Because DRL installation is voluntary at this time, it could be argued that there would be no burden on manufacturers as a result of changing the DRL requirements because DRL installation is at the manufacturers' discretion. However, NHTSA does not want to discourage the installation of DRLs. Research indicates that DRLs do improve vehicle conspicuity and experience and intuition indicate that enhanced conspicuity should translate into fewer crashes. But there are no data at this time to show DRLs result in fewer crashes in the United States. The agency is awaiting completion of its National Center for Statistics and Analysis study of DRL-equipped GM vehicles. Canada's initial data suggest an 8 percent reduction in two-vehicle, opposing-direction, daytime crashes. More recent Canadian studies show a 5.3 percent reduction in combined data of opposing and angled crashes. For these reasons, the agency wants to carefully consider the burdens associated with this proposal.

For a number of reasons, manufacturers now offer DRLs on many of their vehicles and will continue to do so. Those manufacturers have chosen a variety of DRL implementations, and currently use low voltage lower beams, full voltage lower beams, high intensity turn signals, dedicated DRL lamps, and reduced intensity upper beam headlamps. Most companies use multiple options already, so no large technology burden should occur if changes are proposed to limit maximum DRL intensity to reduce glare. With the proposed intensity limit, those manufacturers that currently use the least expensive DRLs (series wired upper beam headlamps) might not be able to do so. Instead, the choice for such vehicles will be between continuing to use the upper beam DRLs, but replacing series wiring currently used with voltage/current reduction electronics typically used with current reduced intensity lower beam headlamp DRLs, or to use different lamps for the DRLs. It should be noted that using voltage/current reduction electronics for upper beam DRLs is an expensive choice that would produce poor-performing DRLs with little angle/peripheral detection safety value.

This shift in DRL mechanization will affect manufacturers that continue to offer DRLs as standard equipment. Available information indicates the costs for changing from the least expensive type of DRL to others would result in, from a savings of $2.32 to an additional cost of $16.95 (when converting from low voltage upper beam to bright turn signal DRLs) per vehicle based on revised Canadian cost estimates for its law (see ''Preliminary Economic Evaluation of the Costs & Benefits of Daytime Running Lights Regulation'' Transport Canada report TP12517E) and GM 1997 model year production of 4,364,300 cars and trucks less than 8500 pounds GVWR and intended for sale in the U.S. The agency has updated the Canadian cost data (expressed in 1993 Canadian Dollars) converted to 1996 U.S. Dollar costs. The new data are found below. The reader should note the relatively small cost increases associated with this rulemaking.

COSTS OF DRL CHANGE FOR GM

[Based on 1997 Model Year Production of Cars and Trucks Under 8500 Lbs. GVWR intended for Sale in the U. S. [4,364,300 units] and 1996 U.S. Dollars, Using Converted 1993 Canadian DRL Cost Data]

Existing type of DRL system	Vehicle cost of DRL system (dollars)		1997 fleet (percent)	1997 fleet DRL cost, $M		2003 fleet estimate (percent)	2003 fleet cost, $M in 1997 US$	
	Low	High		Low	High		Low	High
Reduced Intensity Upper Beam	2.83	9.98	53.6	6.62	23.34	0	0	0
Reduced Intensity Lower Beam	15.44	21.99	39.3	26.48	37.71	50	33.69	47.99
Turn Signals	7.66	19.78	7.1	2.37	6.13	50	16.72	43.16

COSTS OF DRL CHANGE FOR GM—Continued

[Based on 1997 Model Year Production of Cars and Trucks Under 8500 Lbs. GVWR intended for Sale in the U. S. [4,364,300 units] and 1996 U.S. Dollars, Using Converted 1993 Canadian DRL Cost Data]

Existing type of DRL system	Vehicle cost of DRL system (dollars)		1997 fleet (percent)	1997 fleet DRL cost, $M		2003 fleet estimate (percent)	2003 fleet cost, $M in 1997 US$	
	Low	High		Low	High		Low	High
Total	.....	.....	.....	35.47	67.18	.....	50.41	91.15

This gives an increased cost of about $3.42 to $5.49 per vehicle. The costs could be substantially less should GM choose to install turn signal-based DRLs. Then the cost would be from a savings of $.47 to a cost of $5.65 per vehicle.

From a lighting safety perspective, the use of front turn signals as DRLs is desirable, because it eliminates all possibility of turn-signal masking by other DRLs, increases the angles at which the DRL can be seen (visible at 45 degrees) which should increase the benefit at intersections, virtually eliminates glare to other motorists, prevents incidents where drivers forget to turn on full headlamps (with taillamps) in inclement weather or at twilight because the headlamp DRLs provide so much light; and allows motorcycles to keep a unique conspicuity signature. Additional, non-safety benefits are that turn signal DRLs offer a fuel economy benefit of up to 0.5 m.p.g. compared to headlamp DRLs (according to 1990 test data), lower cost of replacement bulbs (compared with replacement costs for headlamps or headlamp bulbs), and lower costs than the reduced intensity lower beam headlamp according to the 1995 Economic Evaluation of DRLs performed by Transport Canada. In addition, turn signals that conform to Federal requirements when mounted closer than 100mm from a lower beam headlamp or an upper beam DRL already meet DRL minimum requirements.

NHTSA realizes that some turn signal lamps would have to be redesigned for this use, because some present lamps could not withstand the heat load from continuous operation or would need to become more intense than 500 cd. However, GM already has at least nine vehicle models with this option, and Chrysler uses turn signals as DRLs on some of its Canadian models.

NHTSA does not believe that it would be wise to immediately prohibit the higher intensity headlamp DRLs and thus terminate the majority of DRL installations on new vehicles. However, the glare limits in this proposed amendment may well move manufacturers to choose turn signal lamps or dedicated DRL lamps as the preferred DRL option.

Because the data available to date indicate that there may well be safety benefits from using DRLs, the issue of glare must be seriously addressed. One could argue that the use of glare-producing DRLs should cease as soon as possible because there are no quantified countervailing benefits the public receives along with this glare. However, the intuitive conspicuity benefits of DRLs are appealing and may translate into significant crash avoidance safety benefits. The costs and burdens discussed above could be tempered if manufacturers are given a modest lead time to make any necessary changes to DRLs, and the public would be assured that its glare complaints are being acted upon.

As stated above, NHTSA proposes to allow one year following the publication of the final rule to make the initial change for upper beam DRL from 7000 cd at H-V to 3000 cd. This would give the public near-term relief from the upper beam DRLs that are the subject of many of the DRL glare complaints. While this would require relatively quick corrective action on the part of the vehicle manufacturers, changing the mechanization of DRLs to other DRL designs they already use would not seem to pose any undue technical design or manufacturing challenges.

Two years after the final rule, and one year after the new requirements for upper beam DRLs go into effect, lower beam DRLs would be limited to no more than 3000 cd at any point on the horizontal or above. There are two types of lower beam DRLs currently offered. One is a full intensity lower beam; in essence, the headlamps come on whenever the car is started. The other is a reduced intensity lower beam, which is accomplished by using voltage/current reduction electronics. Most lower beam DRLs already use reduced intensity, because this prolongs bulb life and increases customer satisfaction. All full intensity lower beam DRLs would have to be modified to use reduced intensity. However, this technology is already in place. Most reduced intensity lower beams will have to have the intensity reduced further to comply with this new 3000 cd limit. This is simply a question of adjusting the voltage/current reduction electronics that are already in place to a lower level. An additional year of leadtime should allow plenty of time to make these changes to lower beam DRLs.

Four years after the final rule, and three years after the new requirements for upper beam DRLs go into effect, lower beam DRLS would be limited to no more than 1500 cd at any point on horizontal or above and all other DRLs would be limited to no more than 1500 cd at any point in the beam. This requirement can be met by using turn signal lamps as DRLs, as 7 percent of GM's 1997 vehicles already do, or by further reducing the intensity of lower beam DRLs. The proposed leadtime is intended to give manufacturers time to decide which choice is appropriate for the DRLs on their vehicles and to design and test the changed DRLS as well as making any necessary changes in the manufacturing process.

NHTSA recognizes that this proposed action has an impact on the agency's efforts to harmonize the Federal motor vehicle safety standards with other countries' safety standards. As has been stated, Canada requires DRLs on new vehicles and requires a minimum of 2000 cd for upper beams and permits a maximum intensity of 7000 cd for upper beam DRLs. Canada also permits full or reduced intensity lower beam headlamps, turn signals, fog lamps and separate DRL lamps. The existing DRL provisions in Standard No. 108 permit DRLs to be installed and allow upper beam headlamp DRLs with a maximum intensity of 7000 cd when mounted at or below 864mm, and with a 3000 cd maximum intensity for other DRLs that do not use lower beam headlamps. Essentially, DRLs that comply with the Canadian requirements except fog lamp DRLs and higher mounted upper beam DRLs would also comply with the existing U.S. requirements. The existing requirements in Standard No. 108 explicitly prohibit fog lamp DRLs in

response to states' concern about enforcement issues.

However, the proposed rule would move the performance requirements for DRLs in the U.S. and Canada further apart. As noted above, Canada requires upper beams to have a minimum intensity of 2000 cd, while NHTSA proposes a maximum intensity for upper beam DRLs of 1500 cd in four years. Thus, upper beam DRLs would not be able to comply with both the U.S. and the present Canadian requirements when run at the same voltage. It is also unlikely that lower beam DRLs will be able to simultaneously comply with U.S. and Canadian requirements. This is because Canada requires that lower beam DRLs operate at not less than 75 percent of the normal operating voltage. Voltage reductions below that level will very likely be required on many lower beam lamps to comply with the proposed specifications. Turn signal DRLs and separate DRL lamps would be able to comply simultaneously with the Canadian requirements and the proposed changes to Standard No. 108. In addition, both upper and lower beam DRLs can use voltage/current reduction electronics to achieve the reduced intensity. It would be possible to use the same electronics package in U.S. and Canadian vehicles, but set the U.S. vehicles at 50 percent voltage and the Canadian vehicles at 75 percent voltage for example. Thus, there would still be a window of harmonization between the two countries' DRL standards, but that window would be much smaller.

NHTSA has discussed DRL glare with a representative of Transport Canada, who indicated interest in reducing DRL glare. But there are almost no public complaints in Canada about DRL glare. As part of the glare reduction, Transport Canada was concerned that lower beams not be precluded from being viable DRLs. The agency's proposal addresses that concern by measuring the intensity limit only at horizontal or above. Transport Canada was also concerned that the wide angle performance of DRLs not be reduced substantially, because that would lessen the peripheral illumination of these lamps and their value as conspicuity enhancement at intersections. In layman's terms, lamps at design intensity typically cast a wide cone of light, but as one decreases the intensity of the lamps, the width of the cone of noticeable light narrows dramatically.

NHTSA has carefully considered this latter point. It agrees with Transport Canada that the intensity reductions needed for lower beam lamps to be used as DRLs will reduce wide angle performance of those DRLs if the reductions are solely from voltage reductions without attendant improvements in beam pattern width and intensity. The need for peripheral performance is demonstrated by the recent Canadian study by Tufflemire and Whitehead, ''An Evaluation of the Impact of Daytime running Lights on Traffic Safety in Canada'' Journal of Safety Research, Winter 1997, where a general reduction of 2.5 percent in angular crashes was found. Thus, while small, this benefit of peripheral detection means that DRL performance should not be so constrained that it loses its wide angle intensity. For DRLs that are intended to comply with Canadian rules, the beam pattern of lower beam headlamps would likely need to be wider and more intense below the horizontal to accommodate the above horizontal intensity reduction proposed for glare reduction. Additionally, NHTSA notes that DRLs that use turn signal lamps, lamps intentionally designed to provide wide angle conspicuity, would address Canada's concern for assuring the maintenance of DRL peripheral detection benefits. Nonetheless, given that the reductions in glare may come at the expense of peripheral performance, NHTSA asks whether it should regulate the minimum intensity performance of DRLs to assure such peripheral performance.

Proposed Changes to Standard No. 108 and Their Effective Dates

On the basis of the discussion above, NHTSA is proposing an amendment to paragraph S5.5.11(a) of Standard No. 108 which would become effective one year after publication of the final rule. Within this amendment are differing performance specifications based upon the date of a vehicle's manufacture. Proposed paragraph S5.5.11(a)(1) would apply to vehicles manufactured from the date one year after the publication of the final rule to the date two years after the final rule; it would reduce the maximum permissible intensity for upper beam DRLs from 7000 cd to 3000 cd, and remove specifications that applied before October 1, 1995. Proposed paragraph S5.5.11(a)(2) would apply to vehicles manufactured from two to four years after publication of the final rule; it would limit intensity in a lower beam DRL to a maximum of 3000 candela at any test point at or above the horizontal. Proposed paragraph S5.5.11(a)(3) would apply to vehicles manufactured beginning four years after publication of the final rule; this would limit intensity in a lower beam DRL to a maximum of 1500 cd at any test point at or above the horizontal and limit intensity in any other DRL to 1500 candela at any test point.

Request for Comments

Interested persons are invited to submit comments on the proposal. It is requested but not required that 10 copies be submitted.

All comments must not exceed 15 pages in length (49 CFR 553.21). Necessary attachments may be appended to these submissions without regard to the 15-page limit. This limitation is intended to encourage commenters to detail their primary arguments in a concise fashion.

If a commenter wishes to submit certain information under a claim of confidentiality, three copies of the complete submission, including purportedly confidential business information, should be submitted to the Chief Counsel, NHTSA, at the street address given above, and seven copies from which the purportedly confidential information has been deleted should be submitted to the Docket Section. A request for confidentiality should be accompanied by a cover letter setting for the information specified in the agency's confidential business information regulation, 49 CFR part 512.

All comments received before the close of business on the comment closing date indicated above for the proposal will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. Comments received too late for consideration in regard to the final rule will be considered as suggestions for further rulemaking action. Comments on the proposal will be available to inspection in the docket. NHTSA will continue to file relevant information as it becomes available in the docket after the closing date and it is recommended that interested persons continue to examine the docket for new material.

Those persons desiring to be notified upon receipt of their comments in the rules docket should enclose a self-addressed stamped postcard in the envelope with their comments. Upon receiving the comments, the docket supervisor will return the postcard by mail.

Rulemaking Analyses

Executive Order 12866 and DOT Regulatory Policies and Procedures

The Office of Management and Budget has informed NHTSA that it will not review this rulemaking action under Executive Order 12866. It has been

determined that the rulemaking action is not significant under Department of Transportation regulatory policies and procedures. The effect of the rulemaking action would be to adopt terminology more suitable to new technologies, and it would not impose any additional burden upon any person. Impacts of the proposed rule are, therefore, so minimal as not to warrant preparation of a full regulatory evaluation.

Regulatory Flexibility Act

The agency has also considered the effects of this rulemaking action in relation to the Regulatory Flexibility Act. I certify that this rulemaking action would not have a significant economic effect upon a substantial number of small entities. Motor vehicle and lighting equipment manufacturers are generally not small businesses within the meaning of the Regulatory Flexibility Act. Further, small organizations and governmental jurisdictions would not be significantly affected as the price of new motor vehicles should not be impacted. Accordingly, no Regulatory Flexibility Analysis has been prepared.

Executive Order 12612 (Federalism)

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 12612 on ''Federalism.'' It has been determined that the rulemaking action does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

National Environmental Policy Act

NHTSA has analyzed this rulemaking action for purposes of the National Environmental Policy Act. The rulemaking action would not have a significant effect upon the environment as it does not affect the present method of manufacturing motor vehicle lighting equipment.

Civil Justice Reform

This rule will not have any retroactive effect. Under section 103(d) of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1392(d)), whenever a Federal motor vehicle safety standard is in effect, a state may not adopt or maintain a safety standard applicable to the same aspect of performance which is not identical to the Federal standard. Section 105 of the Act (15 U.S.C. 1394) sets forth a procedure for judicial review of final rules establishing, amending, or revoking Federal motor vehicle safety standards. That section does not require submission of a petition for reconsideration or other administrative proceedings before parties may file suit in court.

List of Subjects in 49 CFR Part 571

Imports, Motor vehicle safety, Motor vehicles, Reporting and recordkeeping requirements.

In consideration of the foregoing, it is proposed that 49 CFR part 571 be amended as follows:

PART 571—FEDERAL MOTOR VEHICLE SAFETY STANDARDS

1. The authority citation for part 571 continues to read as follows:

Authority: 49 U.S.C. 322, 30111, 30115, 30117, 30166; delegation of authority at 49 CFR 1.50.

2. Section 571.108 would be amended by revising paragraph S5.5.11(a) to read as follows:

§ 571.108 Standard No. 108; Lamps, reflective devices, and associated equipment.

* * * * *

S5.5.11(a) Any pair of lamps on the front of a passenger car, multipurpose passenger vehicle, truck, or bus, whether or not required by this standard, other than parking lamps or fog lamps, may be wired to be automatically activated, as determined by the manufacturer of the vehicle, in a steady burning state as daytime running lamps (DRLs) and to be automatically deactivated when the headlamp control is in any ''on'' position, and as otherwise determined by the manufacturer of the vehicle, provided that each such lamp:

(1) On a vehicle manufactured on or after [one year after publication of the final rule] and before [two years after publication of the final rule]:

(i) Has a luminous intensity not less than 500 candela at test point H–V, nor more than 3,000 candela at any location in the beam, when tested in accordance with S11 of this standard, unless it is a lower beam headlamp intended to operate as a DRL at full voltage, or at a voltage lower than used to operate it as a lower beam headlamp;

(ii) Is permanently marked ''DRL'' on its lens in letters not less than 3 mm high, unless it is optically combined with a headlamp;

(iii) Is designed to provide the same color as the other lamp in the pair, and that it is one of the following colors as defined in SAE Standard J578 MAY88: White, white to yellow, white to selective yellow, selective yellow, or yellow;

(iv) If not optically combined with a turn signal lamp, is located so that the distance from its lighted edge to the optical center of the nearest turn signal lamp is not less than 100 mm. unless:

(A) The luminous intensity of the DRL is not more than 2,600 cd. at any location in the beam and the turn signal meets the requirements of S5.3.1.7; or

(B) The DRL is optically combined with the headlamp and the turn signal lamp meets the requirements of S5.3.1.7; or

(C) The DRL signal is deactivated when the turn signal or hazard warning signal lamp is activated;

(v) If optically combined with a turn signal lamp, is automatically deactivated as a DRL when the turn signal lamp or hazard warning lamp is activated, and automatically reactivated as a DRL when the turn signal lamp or hazard warning lamp is activated;

(2) On a vehicle manufactured between [two years after publication of the final rule] and [four years after publication of the final rule]:

(i) Has a luminous intensity not less than 500 candela at test point H–V, nor more than 3,000 candela at any location in the beam, when tested in accordance with S11 of this standard, unless it is a lower beam headlamp intended to operate as a DRL in which case it shall have a luminous intensity of not less than 500 candela at test point H–V and not more than 3,000 candela at any point on the H–H line or above;

(ii) Is permanently marked ''DRL'' on its lens in letters not less than 3 mm high, unless it is optically combined with a headlamp;

(iii) Is designed to provide the same color as the other lamp in the pair, and that it is one of the following colors as defined in SAE Standard J578 MAY88: White, white to yellow, white to selective yellow, selective yellow, or yellow;

(iv) If not optically combined with a turn signal lamp, is located so that the distance from its lighted edge to the optical center of the nearest turn signal lamp is not less than 100 mm. unless:

(A) The luminous intensity of the DRL is not more than 2,600 cd. at any location in the beam and the turn signal meets the requirements of S5.3.1.7; or

(B) The DRL is optically combined with the headlamp and the turn signal lamp meets the requirements of S5.3.1.7; or

(C) The DRL signal is deactivated when the turn signal or hazard warning signal lamp is activated;

(v) If optically combined with a turn signal lamp, is automatically deactivated as a DRL when the turn signal lamp or hazard warning lamp is activated, and automatically reactivated as a DRL when the turn signal lamp or hazard warning lamp is activated;

(3) On a vehicle manufactured on or after [four years after publication of the final rule]:

(i) Has a luminous intensity not less than 500 candela at test point H–V, nor more than 1,500 candela at any location in the beam, when tested in accordance with S11 of this standard, unless it is a lower beam headlamp intended to operate as a DRL, in which case it shall have a luminous intensity of not less than 500 candela at test point H–V and not more than 1,500 candela at any point on the H–H line or above;

(ii) Is permanently marked ''DRL'' on its lens in letters not less than 3 mm high, unless it is optically combined with a headlamp;

(iii) Is designed to provide the same color as the other lamp in the pair, and that it is one of the following colors as defined in SAE Standard J578 MAY88: White, white to yellow, white to selective yellow, selective yellow, or yellow;

(iv) If not optically combined with a turn signal lamp, is located so that the distance from its lighted edge to the optical center of the nearest turn signal lamp is not less than 100 mm. unless:

(A) The DRL is optically combined with the headlamp and the turn signal lamp meets the requirements of S5.3.1.7; or

(B) The DRL signal is deactivated when the turn signal or hazard warning signal lamp is activated;

(v) If optically combined with a turn signal lamp, is automatically deactivated as a DRL when the turn signal lamp or hazard warning lamp is activated, and automatically reactivated as a DRL when the turn signal lamp or hazard warning lamp is activated.

* * * * *

Issued on: July 31, 1998.

L. Robert Shelton,

Associate Administrator for Safety Performance Standards.

[FR Doc. 98–20918 Filed 8–6–98; 8:45 am]

BILLING CODE 4910–59–P