

**Federal Motor Carrier Safety Administration**

**49 CFR Parts 385 and 395**

**[Docket No. FMCSA-2004-19608]**

**RIN-2126-AB14**

**Hours of Service of Drivers**

**Agency:** Federal Motor Carrier Safety Administration (FMCSA), DOT.

**Action:** Interim final rule (IFR); request for comments.

**SUMMARY:** FMCSA amends the Federal Motor Carrier Safety Regulations effective December 27 to allow commercial motor vehicle (CMV) drivers up to 11 hours of driving time within a 14-hour, non-extendable window from the start of the workday, following 10 consecutive hours off duty (11-hour limit). This interim rule also allows motor carriers and drivers to restart calculations of the weekly on-duty time limits after the driver has at least 34 consecutive hours off duty (34-hour restart). The 11-hour limit and 34-hour restart were vacated by the U.S. Court of Appeals for the District of Columbia Circuit on July 24, 2007 in Owner-Operator Independent Drivers Association, Inc. v. Federal Motor Carrier Safety Administration, 494 F.3d 188 (D.C. Cir. 2007). On September 28, 2007, in response to a motion from the American Trucking Associations, Inc. and FMCSA's response thereto, the Court stayed the issuance of its mandate for 90 days until December 27, 2007. An IFR is necessary to prevent disruption to enforcement and compliance with the hours-of-service (HOS) rules when the stay expires, as well as possible effects on the timely delivery of essential goods and services. This IFR will ensure that a familiar and uniform set of national rules governs motor

carrier transportation, while FMCSA gathers public comments on all aspects of this interim final rule, conducts peer review of our analysis, and considers the appropriate final rule that addresses the issues identified by the Court. FMCSA is fully committed to issuing a final rule in 2008.

**DATES:** This rule is effective December 27, 2007. Comments must be received on or before [INSERT DATE 60 DAYS FROM THE DATE OF PUBLICATION IN THE **FEDERAL REGISTER**].

**ADDRESSES:** You may submit comments identified by Federal Docket Management System Number FMCSA-2004-19608 by any of the following methods:

- Web Site: <http://www.regulations.gov>. Follow the instructions for submitting comments on the Federal electronic docket site.
- Fax: 1-202-493-2251.
- Mail: Docket Management Facility, U.S. Department of Transportation, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590-0001.
- Hand Delivery: Ground Floor, Room W12-140, DOT Building, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m. e.t., Monday through Friday, except Federal holidays.

Instructions: All submissions must include the Agency name and docket number or Regulatory Identification Number (RIN) for this rulemaking. For detailed instructions on submitting comments and additional information on the rulemaking process, see the Public Participation heading below. Note that all comments received will be posted without change to <http://www.regulations.gov>, including any personal information provided. Please see the Privacy Act heading below.

Docket: For access to the docket to read background documents or comments received, go to <http://www.regulations.gov> at any time or to the ground floor, room W12-140, DOT Building, New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m. e.t., Monday through Friday, except Federal holidays.

Privacy Act: Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78) or you may visit <http://docketsinfo.dot.gov>.

Public participation: The <http://www.regulations.gov> web site is generally available 24 hours each day, 365 days each year. You can get electronic submission and retrieval help and guidelines under the “help” section of the <http://www.regulations.gov> web site and also at the DOT’s <http://docketsinfo.dot.gov> web site. If you want us to notify you that we received your comments, please include a self-addressed, stamped envelope or postcard or print the acknowledgement page that appears after submitting comments online.

Comments received after the comment closing date will be included in the docket, and we will consider late comments to the extent practicable. FMCSA may, however, issue a final rule at any time after the close of the comment period.

**FOR FURTHER INFORMATION CONTACT**: Mr. Thomas Yager, Driver and Carrier Operations; or [MCPSD@dot.gov](mailto:MCPSD@dot.gov). Telephone (202) 366-4325. Office hours are from 7:45 a.m. to 4:15 p.m., e.t., Monday through Friday, except Federal holidays.

## **SUPPLEMENTARY INFORMATION:**

### **Table of Contents**

- A. Legal Basis for the Rulemaking
- B. Why This Interim Final Rule Is Necessary
- C. Background
- D. FMCSA's Response to the Court's Decision
- E. Evaluation of Issues Concerning the Regulatory Impact Analysis
- F. Evaluation of Recent Safety and Operational Data Under the 11-Hour and 34-Hour Rules
- G. Regulatory Analyses and Notices

### **A. Legal Basis for the Rulemaking**

This rule is based on the authority of the Motor Carrier Act of 1935 and the Motor Carrier Safety Act of 1984.

The Motor Carrier Act of 1935 provides that “The Secretary of Transportation may prescribe requirements for (1) qualifications and maximum hours of service of employees of, and safety of operation and equipment of, a motor carrier; and, (2) qualifications and maximum hours of service of employees of, and standards of equipment of, a motor private carrier, when needed to promote safety of operation” [49 U.S.C. 31502(b)].

The hours-of-service (HOS) regulations adopted in this interim rule pertain directly to the “maximum hours of service of employees of . . . a motor carrier [49

U.S.C. 31502(b)(1)] and the “maximum hours of service of employees of . . . a motor private carrier” [49 U.S.C. 31502(b)(2)]. The adoption and enforcement of such rules was specifically authorized by the Motor Carrier Act of 1935. This rule rests squarely on that authority.

The Motor Carrier Safety Act of 1984 provides concurrent authority to regulate drivers, motor carriers, and vehicle equipment. It requires the Secretary of Transportation to “prescribe regulations on commercial motor vehicle safety. The regulations shall prescribe minimum safety standards for commercial motor vehicles.” Although this authority is very broad, the Act also includes specific requirements: “At a minimum, the regulations shall ensure that (1) commercial motor vehicles are maintained, equipped, loaded, and operated safely; (2) the responsibilities imposed on operators of commercial motor vehicles do not impair their ability to operate the vehicles safely; (3) the physical condition of operators of commercial motor vehicles is adequate to enable them to operate the vehicles safely; and (4) the operation of commercial motor vehicles does not have a deleterious effect on the physical condition of the operators” [49 U.S.C. 31136(a)].

This rule is based on the authority of the 1984 Act and addresses the specific mandates of 49 U.S.C. 31136(a)(2), (3), and (4). Section 31136(a)(1) of 49 U.S.C. deals almost entirely with the mechanical condition of commercial motor vehicles (CMVs), a subject not included in this rulemaking. The phrase “operated safely” in paragraph (a)(1) refers primarily to the safe operation of the vehicle’s equipment, but to the extent it encompasses safe driving, this rule also addresses that mandate.

Before prescribing any regulations, the Federal Motor Carrier Safety Administration (FMCSA) must also consider their “costs and benefits” [49 U.S.C. 31136(c)(2)(A) and 31502(d)]. Those factors are also discussed in this interim rule.

## **B. Why This Interim Final Rule Is Necessary**

After the United States Court of Appeals for the District of Columbia Circuit (the Court or D.C. Circuit) decision in Owner-Operator Independent Drivers Association, Inc. v. Federal Motor Carrier Safety Administration, 494 F.3d 188 (D.C. Cir. 2007), FMCSA carefully analyzed the current situation to determine the appropriate action to take in response to the decision. It is important to note that the D.C. Circuit found fault with various procedures related to the Agency’s adoption of the 11-hour limit and the 34-hour restart, but not with their substance. This analysis included a review of the safety data concerning motor carrier operations, particularly with respect to fatigue-related fatal crashes. The discussion below further explains the analysis and reasoning that has led FMCSA to determine this IFR is necessary to ensure that a familiar and uniform set of national rules governs motor carrier transportation, while FMCSA gathers public comments and information and considers the appropriate final rule, which FMCSA is fully committed to issuing in 2008.

We found that the 2005 rule has maintained highway safety outcomes while enhancing operational flexibility for the motor carrier industry. Every alternative, including immediate restoration of a 10-hour driving limit with no 34-hour restart, entails a risk of disrupting that achievement. As mentioned above, in the years since 2003, when the 11-hour driving limit and 34-hour restart provision were adopted (along with the

critically important 10-hour minimum daily off-duty period), there has been no upward trend in the number of fatal crashes as a whole or fatigue-related fatal crashes in particular. In fact, the 2006 fatality rate per 100 million vehicle miles traveled (VMT) by combination unit trucks (mostly standard tractor-trailer combinations) is the lowest since the Department of Transportation began keeping such statistics over 30 years ago. The percentage of large truck fatal crashes where the driver was coded as fatigued has remained essentially the same since 2003, despite small fluctuations. Similarly, the percentage of large-truck fatalities in the 11<sup>th</sup> hour of driving where the driver was coded as fatigued has remained below the average of the years 1991-2002 since 2003. The D.C. Circuit found fault with various procedures related to the Agency's adoption of the 11-hour limit and the 34-hour restart, but not with their substance. These provisions are part of an effective safety rule and must be preserved while the Department addresses the issues identified by the Court.

We then examined the alternatives available to the Agency in light of the Court's decision and our statutory responsibilities. We believe, based on reading the Court's decision in conjunction with the current text of the regulation, that there is strong likelihood of confusion regarding what HOS rules will be in effect on December 27, 2007, when the Court's mandate issues. For example, drivers and motor carriers could read the Court's decision to vacate certain provisions of the 2005 HOS rule in light of 49 CFR 395.0 and conclude that there is no daily driving limit in effect. Alternatively, issuance of the Court's mandate could be viewed as an immediate restoration of the former 10-hour driving limit with no 34-hour restart. Regardless of how the Court's action is interpreted, we are certain that issuance of the mandate will lead to sufficient

confusion and uncertainty concerning what HOS rules govern, and result in poor compliance by the motor carrier industry, as well as reduced and inconsistent enforcement by Federal and State officials. FMCSA provides grants to States that agree to adopt and enforce State laws or regulations compatible with the Federal safety regulations. Some adopt Federal rules by reference, while others require the legislature to enact a special measure adopting the Federal rule; many allow an administrative agency to adopt a rule, but only after publishing a notice and giving the public a chance to comment. Because of wide variations in adoption procedures and schedules, States have three years to adopt such regulations. In order to respond adequately to the Court's procedural concerns we believe that, to respond to the Court's decision, we need to issue an IFR, with an opportunity for public comment, to ensure there will not be a patchwork of laws across the nation – with some States enforcing a 10-hour limit while others enforce no limit, and still others retained the 2005 limits – without a clear general understanding of what Federal regulation is in place . Undoubtedly, this would create confusion, inconsistency, and have an unpredictable impact on safety, since law enforcement may reduce its enforcement as a result of varying State laws. To remain legal, each driver would need to know the HOS limits in each State where he or she operated; this is simply impractical. Drivers could not be sure how their actions in one State would be treated in a State with a different HOS regime; officers might reduce their enforcement efforts to avoid the perception of unfairness. Uncertainty is the enemy of enforcement and compliance; it can only impair highway safety. This IFR will ensure that a familiar, uniform set of national rules govern motor carrier transportation, while FMCSA gathers additional public comments on all aspects of this interim final rule,

conducts peer review of our analysis, and considers an appropriate final rule that addresses the issues identified by the Court. FMCSA is fully committed to issuing a final rule in 2008.

Additionally, an immediate restoration of a 10-hour driving limit with no restart provision or entirely eliminating the daily driving limit would cause disruption and transition costs. The affidavits of motor carrier officials filed by American Trucking Associations, Inc.'s (ATA) in support of its stay motion in the D.C. Circuit (and described in more detail below) bear witness to the recruitment, training, operational, and equipment costs motor carriers would face, amounting in the aggregate to scores and perhaps hundreds of millions of dollars. The costs are not merely transitional, however. Our failure to issue an IFR could inflict a loss of scheduling flexibility on the industry and ultimately raise the cost of highway transportation. There could also be adverse safety implications, as new and inexperienced drivers are hired to handle loads that could not consistently be delivered in the absence of the provisions vacated by the Court. New drivers are less safe than veteran operators and would inevitably become involved in crashes that a more experienced driver population would avoid. The costs of added crashes are very substantial. The IFR avoids all of these problems.

The IFR will also allow FMCSA and commenters to the docket additional time to evaluate more recent data and determine the appropriate final hours of service rule while avoiding shifting the requirements back and forth. Although our analysis indicates these policies are the right ones to adopt on an interim basis, FMCSA specifically requests comment on all the conclusions reached in this preamble and Regulatory Impact Analysis

(RIA). FMCSA is also submitting its analysis to peer review. FMCSA is committed to issuing in 2008 a final rule fully responding to all comments to this IFR.

For example, with respect to the 11-hour driving limit and the 34-hour restart, the more recent data continue to support them. Although the D.C. Circuit raised concerns with the Agency's treatment of the Trucks Involved in Fatal Accidents (TIFA) data for crashes that occurred beyond the 11<sup>th</sup> hour in the 2005 rule, the Agency has employed a more sophisticated analysis discussed below that shows a lower risk from driving in the 11<sup>th</sup> hour than under FMCSA's earlier method. The modeling of time on task (TOT) developed for the 2005 rule was complex and comprehensive and remains the best available study of its kind. The D.C. Circuit faulted the Agency for failing to make this model available for notice and comment; this IFR corrects that oversight, and the RIA provides a more detailed explanation of the Agency's methods. Analysis of further data collected for the Virginia Tech Transportation Institute (VTTI) operational study supports the preliminary results described in the 2005 rule: there is no increase in "critical incidents" (a surrogate for crash risk) in the 11<sup>th</sup> hour of driving. FMCSA's very recent survey data show that, while the 11<sup>th</sup> hour and the 34-hour restart provisions are being used more often than in 2005, virtually no one attempts to use every minute of driving or on-duty time theoretically allowed by the regulations, just as the Agency predicted in the 2005 rule. Furthermore, the analysis of fatigue-related crashes by day of the week, described in detail later in the preamble, also supports the belief that the 34-hour restart is not resulting in increases in fatigue-related fatal crashes. FMCSA is not required to demonstrate that constant, maximum utilization of the HOS rules is as safe as the pre-2003 rules, when operational constraints (heavy traffic, shortages of parking and truck

driver sleeping facilities, waiting time at terminals, eating and refueling, etc.) make it impossible to achieve that degree of utilization except for brief periods. The 2005 rule analyzed the safety implications of the HOS rules in the real world, and all of the safety data for subsequent years have borne out the Agency's conclusion that the rule skillfully and successfully combines safety with operational benefits. These are the outcomes this IFR seeks to maintain.

### **C. Background**

The HOS rules limit the number of hours a driver may operate a commercial motor vehicle (CMV) during each workday, the length of the workday within which driving may occur, the minimum off-duty period before starting the next workday, and the cumulative number of on-duty hours during the work week after which a CMV may not be driven. The rules also allow for the use of a sleeper berth to accumulate the equivalent of 10 consecutive hours off duty. Prior to April 2003, FMCSA and its predecessor agencies limited driving time to 10 hours within a 15-hour, extendable workday or window. In practice, the 15-hour window could be substantially longer than 15 hours because miscellaneous off-duty periods were not counted as part of the 15 hours. Drivers were required to have at least 8 consecutive hours off duty prior to the beginning of a new 15-hour duty window. Drivers using a sleeper berth could split their time in the sleeper berth into two separate periods to accumulate the equivalent of 8 consecutive hours off duty provided neither period was less than 2 hours. Drivers working for a carrier that operated 6 days each week could not drive CMVs after 60 hours on duty in a 7 consecutive-day period; drivers working for a carrier that

operated CMVs 7 days each week and which chose to operate under an alternate work schedule to the 60-hour rule, could not drive CMVs after 70 hours on duty in an 8 consecutive-day period. In practice, drivers on certain schedules could “run out” of available on-duty time within a few days and be forced to go off duty for approximately 3 full days before being allowed to drive again, regardless of whether the driver may have fully recovered from the work demands in a shorter period of time.

In April 2003, FMCSA published a final rule that changed the requirements for drivers of property-carrying CMVs. (68 FR 22456, April 28, 2003) (“2003 Rule”) Driving was limited to 11 hours within a 14-hour, non-extendable window after coming on duty, following 10 consecutive hours off duty (known as the 11-hour limit). Although the 60- and 70-hour rules were unchanged, drivers could restart the calculation during any weekly time period after they took 34 consecutive hours off duty (known as the 34-hour restart provision). Drivers using sleeper berths were allowed to continue to split the mandatory off duty period, with the minimum period in the sleeper berth being 2 hours. (Drivers of passenger-carrying CMVs are still required to operate under the pre-2003 rules.)

The 2003 rule contained several provisions that, when taken together, improved the opportunity for drivers to obtain restorative sleep, thus decreasing the likelihood of driver fatigue. For example, among the most significant provisions, the rule established a 14-hour, non-extendable window within which a driver could drive up to 11 hours, following a 10 consecutive hour off-duty period. This provision moved drivers toward a work-rest schedule that more closely matched the natural circadian cycle of 24 hours and gave drivers the opportunity to obtain the 7 to 8 hours of uninterrupted sleep per day that

most adults need. The 34-hour restart provision also gave drivers the opportunity for two 8-hour sleep periods, which research has shown can overcome cumulative fatigue associated with sleep deprivation. Because the duty period within which an operator could drive was more limited than under the pre-2003 rule and because the rest period was long enough to provide an opportunity for 7 to 8 hours of uninterrupted sleep time, FMCSA concluded it was safe and reasonable to extend the number of hours an operator could drive within the 14-hour window from 10 hours to 11 hours. The 34-hour restart provision also gave drivers and carriers operational flexibility and an improved quality of life, particularly for long haul operations, where the 7- and 8-day limits may limit flexibility by forcing drivers to go off duty for periods longer than necessary to fully recover from a typical work week. FMCSA concluded that the 14-hour rule and the mandatory 10-hour off-duty period improved safety while providing operational flexibility that the 11 hours of driving time and the 34-hour restart provide.

In April 2004, the Court overturned the 2003 rule on the grounds that FMCSA did not address the issue of driver health, as required by 49 U.S.C. 31136(a)(4). (Public Citizen v. FMCSA, 374 F.3d 1209, D.C. Cir. 2004) The Court also indicated that it had concerns about the rationale for other provisions in the rule. However, to avoid industry disruption and burden on the States, Congress enacted section 7(f) of the Surface Transportation Extension Act of 2004. This section provided that the 2003 rule would remain in effect until a new final rule addressed the Court's issues or until September 30, 2005, whichever occurred first.

After reviewing the decision and considering the concerns raised by the Court, FMCSA decided to re-propose the rule as originally published in 2003 and to seek public

comments. (70 FR 3339, Jan. 24, 2005) On August 25, 2005, FMCSA published a final HOS rule that retained most of the provisions of the 2003 rule. (70 FR 49978, Aug. 25, 2005) (“2005 Rule”) The Agency significantly strengthened the 2003 rule by requiring drivers using sleeper berths to spend at least 8 but less than 10 consecutive hours in the sleeper berth and take an additional 2 hours either off duty or in the sleeper berth. The new requirement provided drivers the opportunity to obtain 7 to 8 hours of uninterrupted sleep each day. Also, the Agency required that the shorter sleeper berth period be counted against the 14-hour on-duty limit decreasing the extent to which the workday could be extended. The 2005 rule also provided relief to some short-haul operations using lighter trucks.

The purpose of the HOS rules is to reduce the likelihood of driver fatigue and of fatigue-related crashes. Although the rules that existed before 2004 (the effective year of the 2003 rule) allowed less daily driving time than the 2003 and 2005 rules (10 hours versus 11 hours), the driving could occur 15 hours or more after the driver started working without any opportunity for intervening restorative rest or sleep, and followed a shorter minimum rest period (8 hours versus 10 hours). The change to a 14-hour non-extendable window and a 10-hour rather than an 8-hour rest period was intended to limit the period in which a driver could operate a CMV and provide the driver with a work schedule that was consistent with the normal 24-hour biological clock. The 2005 rule did not limit the number of hours a driver can perform work other than driving, but if a driver worked after the 14<sup>th</sup> hour, he or she must take at least 10 consecutive hours off duty after finishing work before again operating a CMV. The change to a 10-hour off-duty requirement also recognized that drivers may do other things in their off-duty time

besides sleeping; the 10-hour break gives them an opportunity to obtain the 7 to 8 hours of sleep most people need to be rested and to carry out other day-to-day personal activities. The 34-hour restart provision provides drivers with an opportunity to obtain two 8-hour rest periods, which research indicates can overcome cumulative sleep deprivation. Similarly, the 2005 change to the sleeper berth provisions eliminated the practice of splitting time in the sleeper berth into increments that were too short to provide an opportunity for 7 to 8 consecutive hours of sleep.

FMCSA addressed the issue of driver health in the 2005 rule, as required by 49 U.S.C. 31136(a)(4). In preparing the 2005 rule, FMCSA researched both U.S. and international health and fatigue studies and consulted with Federal safety and health experts. In addition, FMCSA asked the Transportation Research Board (TRB) of the National Academies to contract with a research team of experts in the field of health and fatigue to prepare a summary of relevant literature through the TRB Commercial Truck and Bus Safety Synthesis Program. The literature review was conducted using two teams of health and transportation experts to identify and summarize the available research literature relevant to the 2005 rule. This review included research findings that discussed the relationship between the hours a commercial motor vehicle driver works, drives, and the structure of the work schedule (on-duty/off-duty cycles, time-on-task, especially time in continuous driving, sleep time, etc.), and the impact on his/her health. The research studies cited in this interim rule are included in the List of References in the 2005 final rule (70 FR 49978, at 50067). Copies or abstracts are in the docket referenced at the beginning of this notice.

FMCSA re-affirms its findings on driver health outlined in the 2005 final rule. For a complete discussion of the health of drivers operating under the HOS rules, see the August 25, 2005 final rule (70 FR 49978, at 49982).

Public Citizen and others challenged the August 2005 rule on several grounds, as did the Owner-Operator Independent Drivers Association (OOIDA). On July 24, 2007, the Court rejected OOIDA's arguments, which focused on the sleeper berth provision, but accepted part of Public Citizen's arguments and vacated the 11-hour driving time and 34-hour restart provisions (Owner-Operator Independent Drivers Association, Inc. v. Federal Motor Carrier Safety Administration, 494 F.3d 188 (D.C. Cir. 2007)). Public Citizen challenged the provisions on four grounds. First, Public Citizen contended that FMCSA's actions were inconsistent with the Administrative Procedure Act (APA) requirement for notice and comment rulemaking because the Agency did not disclose in time for comment the methodology of a model central to the Agency's justification for the rule. Second, when the methodology was disclosed, FMCSA did not provide an explanation for some of its critical elements, thus rendering the rule arbitrary and capricious. Third, FMCSA's treatment of a number of other safety considerations was also arbitrary and capricious. Finally, Public Citizen argued that the rule failed to protect driver health. The Court vacated the rule provisions based on the first two arguments and did not address the last two.

The Court concluded that FMCSA did not satisfy the APA's requirements because the Agency failed to provide an opportunity for public comment on the methodology of the Agency's operator-fatigue model, which FMCSA used to assess the costs and benefits of alternative changes to the HOS rules. In particular, the Court found

the Agency had not adequately disclosed and made available for review the modifications it made to the 2003 operator-fatigue model to account for time-on-task effects in the 2005 analysis. The Court concluded that the methodology the Agency used changed and did not remain constant from 2003 to 2005 because the time-on-task element in the model was new and constituted the Agency's response to a defect in its previous methodology. The Court listed several elements of the process by which the Agency calculated the impact of time-on-task that it held could not have been anticipated and that were not disclosed in time to allow for public comment.

The Court also found, turning to Public Citizen's second argument, that FMCSA did not provide an adequate explanation for certain critical elements in the model's methodology. As its basis for vacating the increase in the daily driving limit from 10 to 11 hours, the Court found arbitrary and capricious what it described as FMCSA's "complete lack of explanation for an important step in the Agency's analysis," i.e., the manner in which it had plotted crash risk as a function of time-on-task/hours of driving. The Court also found that FMCSA failed to provide an explanation for its method for calculating risk relative to average driving hours in determining its estimate of the increased risk of driving in the 11<sup>th</sup> hour. As its basis for vacating the 34-hour restart provision, the Court found that FMCSA also provided no explanation for the failure of its operator-fatigue model to account for cumulative fatigue due to the increased weekly driving and working hours permitted by the 34-hour restart provision.

Based on these two findings, the Court found it unnecessary to reach Public Citizen's other two arguments. In addition, the Court rejected three additional challenges to the 2005 Rule raised by OOIDA.

In an order filed on September 28, 2007, the Court granted a 90-day stay of the mandate. The Court directed that issuance of the mandate be withheld until December 27, 2007.

#### **D. FMCSA's Response to the Court's Decision**

This rulemaking addresses the issues that were identified by the Court in overturning two provisions of the 2005 rule. It seeks comment on the methodology of the model central to the justification for this IFR. It is based on the Agency's evaluation of new safety and operational data, additional analysis and modeling of the relationship between hours of driving and fatigue-related large truck crashes, discussion of the concept of cumulative fatigue in the context of driving activity, and the collection and evaluation of new data on the benefits and costs of the 11-hour driving limit and the 34-hour restart provisions. As an additional step to ensure the soundness of the Agency's analytical methods, we are subjecting our analysis to peer review.

By re-adopting the 11-hour limit and the 34-hour restart, the Agency's intent is to allow motor carriers and drivers to combine work-rest schedules that follow the optimal 24-hour circadian cycle (10 hours off duty and 14 hours on duty) while maintaining highway safety with operational flexibility. By adopting these rules as interim, the Agency is seeking to avoid significant and costly disruption of existing industry compliance and State enforcement practices while ensuring that the actions and underlying safety analysis are available for comment from all interested parties before issuing a final rule. In the meantime, this will ensure that an uninterrupted safety regime remains in place with State enforcement laws, policies, and personnel.

The 2005 rule includes a provision stating that “[a]ny regulations on hours of service of drivers in effect before April 28, 2003, which were amended or replaced by the final rule adopted on April 28, 2003 [69 FR 22456] are rescinded and not in effect” (§ 395.0). Because the D.C. Circuit did not address this provision, either in OOIDA v. FMCSA or in its response to FMCSA’s response in support of ATA’s motion for a stay, the Agency must now adopt an IFR to forestall the significant confusion that would otherwise occur in the motor carrier industry, interfering with efforts to restore an orderly HOS regime.

The two provisions being adopted in this rule, on an interim basis, are part of a broader, critical set of five HOS provisions included in this IFR. The other three critical provisions of the 2005 rule are: (1) the increase in the minimum off-duty period from 8 consecutive hours to 10 consecutive hours to ensure drivers have an opportunity to obtain up to 8 hours of sleep; (2) the establishment of a 14-hour, non-extendable window from the start of the workday within which all driving must be completed; and (3) the modification of the sleeper-berth rule to require an 8-hour sleeper berth period, thereby ensuring that drivers have an opportunity to obtain up to 8 hours of uninterrupted sleep. These provisions function along with the 11-hour limit and the 34-hour restart provision to protect against degradation of driver’s cognitive or psychomotor skills due to fatigue.

Section E describes additional analysis conducted since 2005 that validates the modeling relied upon by the Agency to examine the relationship between the risk of a fatigue-related large truck crash during the 11<sup>th</sup> hour of driving. It also addresses cumulative fatigue as it relates to the driving and restart provisions. In its analysis of the 34-hour restart provisions being adopted in this IFR, the Agency re-examined the

research pertaining to long work hours and sought additional research completed after the 2005 rule. The Agency found no new research that addressed the relationship of long work hours to motor-vehicle driving safety.

Safety data collected and analyzed since the 2003 HOS rule became effective, described below in Section F, address the impact of the 11-hour driving limit and the 34-hour restart provisions and validate the Agency's argument that safety has been maintained under these provisions. The Agency has collected new operational data, described in Section F, that support its prior conclusions with regard to the cost-benefit analysis of the 11-hour driving limit and the 34-hour restart provision. These data also suggest that reverting to the pre-2003 rule 10-hour driving limit and eliminating the 34-hour restart provisions would be significantly disruptive to drivers, carriers, and to the States where most of the enforcement of HOS violations occur. It would also be disruptive to the safe and efficient movement of freight and cause delays in the delivery of essential goods and services to the American people.

#### **E. Evaluation of Issues Concerning the Regulatory Impact Analysis**

The D.C. Circuit's 2007 decision held that FMCSA failed to provide an adequate opportunity for review of certain aspects of the RIA. The Agency is providing a 60-day opportunity for review and comment on the RIA supporting this interim rule and the interim rule itself. Since the public has submitted comment on many aspects of this analysis in previous rulemakings, and given the Agency's desire to issue a final rule in a timely fashion, FMCSA believes 60 days is an adequate amount of time to afford the public opportunity for comment.

The Court also held that the Agency had not provided an adequate explanation for two critical elements of the model in the RIA accompanying the 2005 rule: 1) the analysis of time-on-task; and 2) the analysis of how the 34-hour restart affected cumulative fatigue. This section addresses these two topics. First, in support of this interim rule the Agency has reevaluated how the effects of extended driving hours (i.e., time-on-task or TOT) were taken into account in its cost-benefit model. This section summarizes how, in the RIA accompanying this rule, the Agency has responded to questions about the TOT analysis raised by Public Citizen and the Court in its July 2007 opinion. FMCSA's careful analysis uncovered several necessary revisions, but the net effects of these revisions are minor. Second, this section addresses the issue of cumulative fatigue and describes the Agency's conclusion, based on recent crash data and operational data, that there is no evidence that the 34-hour restart provision has led to harmful cumulative fatigue.

### **Original Analysis**

The goal of the Agency's 2005 analysis was to assess the change in fatigue-related crash risks that would result from eliminating driving in an 11<sup>th</sup> hour of driving. Assuming motor carriers will still deliver the same volume of freight even without the 11<sup>th</sup> hour, FMCSA concluded that driving that could not be completed in the 11<sup>th</sup> hour would be completed by additional drivers in somewhat shorter trips. Crashes, including some that are fatigue-related, will occur in those shorter trips. The 2005 RIA calculated the average fatigue-related crash rate in trips that allow the 11<sup>th</sup> hour compared to the rate in the replacement trips that do not.

A TOT effect was added to the fatigue model by establishing a function relating TOT and the percentage of crashes attributable to fatigue, relative to typical fatigue levels, and using that relative risk to scale up the fatigue crash risk for hours with above-average fatigue. The model was then calibrated by scaling the results to bring the average fatigue crash risk in the baseline in line with the rate projected for long-haul driving in earlier modeling of the impacts of the 2003 rule.

To find the relationship between TOT and fatigue, FMCSA used Trucks Involved in Fatal Accidents (TIFA) data from 1991 through 2002 (A general discussion of the TIFA data set can be found later in this IFR under section F's subheading "Trucks Involved in Fatal Accidents (TIFA) Data"). For each TOT level from the first hour through the 12<sup>th</sup>, FMCSA computed the average percentage of crashes caused by fatigue. Few data points were available for TOT levels beyond the 12<sup>th</sup> hour, not least because it was illegal, in most cases, to drive past 10 hours during this time period. To use the limited data on fatigue percentages at high TOT levels without introducing too much variability, FMCSA pooled the data for all crashes beyond 12 hours: we constructed an observation that assigned the average percent fatigue related crashes to the average TOT for all crashes beyond 12 hours, and used this as an additional data point in the analysis. Specifically, the average percentage of fatigue-related crashes for these crashes was 24.75 percent; and the average TOT was 16.7 hours.

A regression analysis included this combined data point and showed a clear pattern of increasing fatigue-crash percentages at high TOT levels, as shown in Exhibit 1. A cubic function fit the data well, including the final, combined point.

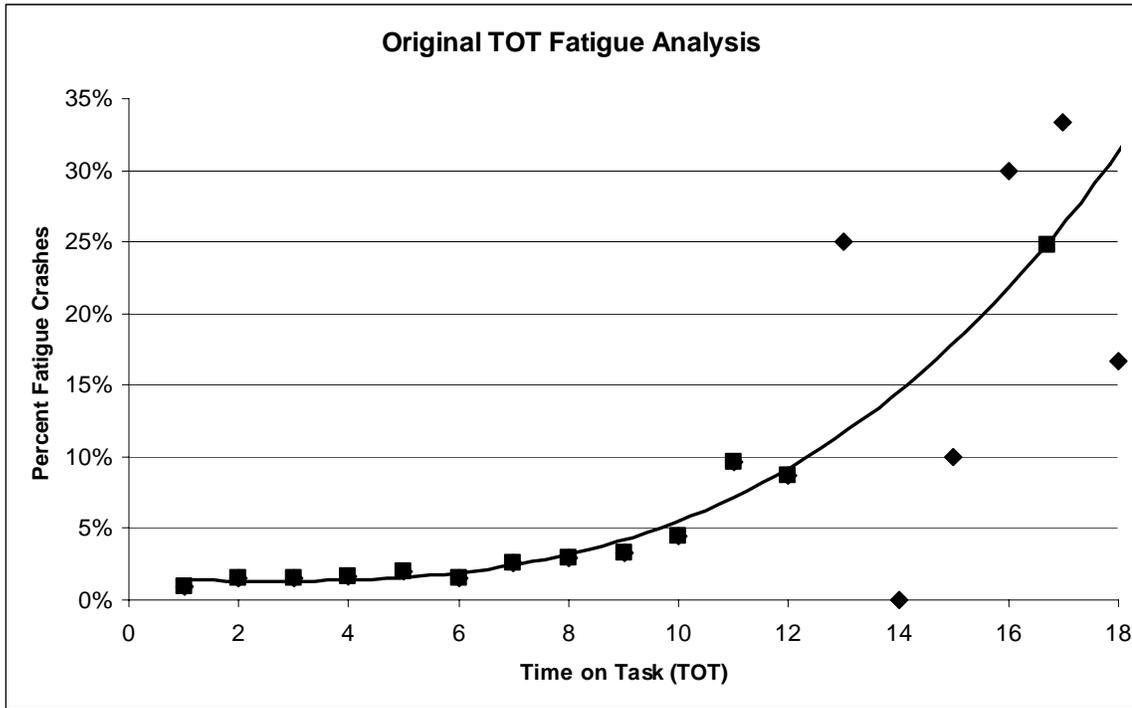
From Exhibit 1, it appears that the data point for the 11<sup>th</sup> hour by itself lies well above the general pattern of most of the data. In the years from 1991 through 2002 during which the data were collected, driving beyond 10 hours violated the HOS rules. There were two exceptions when driving beyond 10 hours would not have violated the HOS rules. First, driving beyond 10 hours would not have violated the HOS rules when the driver was driving in intrastate commerce under State HOS rules. Second, driving beyond 10 hours would not have violated the HOS rules when the driver was driving under the Federal adverse driving conditions<sup>1</sup> exception, 49 CFR 395.1(b)(1), which by its very nature suggests a more stressful work environment at the time of the 11<sup>th</sup> hour of driving. Thus, the only drivers represented were those who were willing to violate the rules or who were exempt from the rule and may, therefore, have been unusually fatigued for reasons other than TOT.

As shown in exhibit 1, the model's predicted relative risk at the 11<sup>th</sup> hour is lower than the raw percent of fatigue related crashes at the 11<sup>th</sup> hour. This is not surprising, however, given the standard errors of the estimates at the longer driving times. There were 94 crashes in the 11<sup>th</sup> hour in the data set; even if the predicted value of about 7 percent fatigue is correct, a random selection of 94 crashes would frequently show 9 or more due to fatigue.

---

<sup>1</sup> "Adverse driving conditions" means snow, sleet, fog, other adverse weather conditions, a highway covered with snow or ice, or unusual road and traffic conditions, none of which were apparent on the basis of information known to the person dispatching the run at the time it was begun.

### Exhibit 1 - Original Time on Task (TOT) Fatigue Analysis



Using the cubic function, FMCSA calculated the probability that a crash at a given TOT would be coded as fatigue-related. In order to calculate the impacts of allowing the 11<sup>th</sup> hour of driving, FMCSA then had to take these results and apply them to a model of what would happen to driving patterns with and without the 11<sup>th</sup> hour provision. FMCSA used these modeling results to calculate a TOT “adjustment factor” to calculate a total risk of fatigue-related large truck crashes, incorporating both TOT and non-TOT fatigue risk factors. In order to scale the effects, in the modeling, each fatigue probability for TOT levels of 8 hours or more was divided by a measure of the average fatigue probability across the first 11 hours, as seen in the TIFA data. This was simply to prepare the TOT results for use in the overall model, and is explained in more detail in the RIA. If properly performed, this rescaling should not affect the results of the analysis

of each option, since the relative relationship of fatigue-related risk to driving hours is unaffected by the scaling factor. In the 2003 model, for TOT less than 8 hours, no incremental fatigue risk was calculated on the grounds that for these hours fatigue was at or below average. As discussed later on in this preamble, the lack of adjustment for the hours before 8 biased the results, and needed to be addressed in revising the analysis.

This approach created fatigue adjustment factors. For each hour of driving that was modeled, the predicted fatigue crash levels in the absence of a TOT effect were multiplied by these factors.

This analysis was used to calculate the reduction in crash risks resulting from eliminating the 11<sup>th</sup> hour. In a model run that allowed the 11<sup>th</sup> hour, some hours of driving would fall into the 11<sup>th</sup> hour; their predicted non-TOT-adjusted fatigue crash likelihoods would be multiplied by a factor greater than 1.0, based on the modeling results, which would increase the values to reflect the higher fatigue levels expected at high TOT levels. In runs that eliminated the 11<sup>th</sup> hour, the predicted non-TOT fatigue crash risks would be multiplied by generally smaller TOT multipliers, and so the predicted average crash risk would be lower than in the run that allowed the 11<sup>th</sup> hour. Using this method, and calibrating the model so that the baseline run would show 7 percent fatigue-related crashes, FMCSA found that eliminating the 11<sup>th</sup> hour would reduce crash-related damages by about 0.3 percent, worth about \$60 million annually.

### **Challenges to the Analysis**

In the 2007 challenge by Public Citizen, the original analysis was disputed in several ways. First, petitioners questioned the use of a function that combined the data

points beyond 12 hours and treated them as though they fell near the 17<sup>th</sup>, rather than at some other point on the graph (e.g., at the 13<sup>th</sup> hour). Second, the reason for dividing the predicted fatigue levels from the TOT function by the average fatigue-related crash rate was questioned. Third, the value used to adjust the total crash risk to the fatigue-related crash risk was criticized as being based on TOT hours 1-11, rather than the hours 1-10 that would be allowed in the alternative that eliminated the 11<sup>th</sup> hour. FMCSA's responses to these challenges, and the revisions to the analysis that were made as a consequence, are explained here.

Statistical Approach. FMCSA's basic approach of fitting a function to the entire range of TOT hours rather than relying on the percentage of crashes at a particular hour is a widely accepted statistical method. Relying on the percentage of fatigue crashes for individual TOT hours would subject the analysis to great uncertainty, because random factors can cause large changes in measured percentages of small numbers. The data used in the 2005 analysis, for example, shows that in the 13<sup>th</sup> hour, 25 percent of fatal crashes are fatigue-related, while the 14<sup>th</sup> hour shows 0 percent fatigue crashes; the 11<sup>th</sup> hour shows 9.6 percent, while the 12<sup>th</sup> shows only 8.7 percent. Further, data can vary across years. For example, in data and analysis explained below, in 2004 there was not a single fatigue-related fatal crash in the 11<sup>th</sup> hour. None of these widely varying values are precise measures of what would be seen if more observations were available. If TOT affects fatigue crash risks, it is more likely to be due to an underlying tendency to become more fatigued with longer periods of driving than to the individual effects of particular hours of driving. The need to fit a function to the data, extrapolating from the large

volumes of crash experience at low TOT levels, was in fact recognized by the Court in its 2004 decision:

“The mere fact that the magnitude of time-on-task effects is uncertain is no justification for disregarding the effect entirely. The agency, for example, could have extrapolated the time-on-task effects of driving longer hours using crash-risk data derived from drivers who drove for shorter periods of time.” (Public Citizen v. FMCSA, 374 F.3d 1209, D.C. Cir. 2004, Slip opinion at 16)

FMCSA believes the use of a combined data point at the average TOT and average fatigue crash risk along with the use of a cubic function were reasonable approaches to the need to fit a function and use the limited data available for high TOT values.

Moreover, in reassessing this model, we have evaluated the suggestions made by Public Citizen and found that they would have been inappropriate. Specifically, Public Citizen suggested a method by which the average crash risk shown in the data for longer driving hours could have been combined and then placed at 13 hours for the purposes of modeling. If fatigue goes up steadily with TOT, one would expect the average fatigue percentage of crashes at and beyond 13 hours will be higher than the fatigue percentage at exactly 13 hours. Thus, combining all the high-TOT data at 13 hours would have biased upward the estimated relationship between TOT and fatigue-related crash risk.

It is true that FMCSA did not use more recent statistical modeling techniques that utilize all of the individual observations of crashes across all TOT levels, but rather aggregated observations at specific hours of TOT to calculate and model those percentages<sup>2</sup>. One flaw in the original approach is that the cubic functional form allows

---

<sup>2</sup> In an analysis recently submitted to the Court by ATA, an expert statistician states that there is a “reasonable basis in statistical theory and practice for FMCSA’s approach.” He has concluded that

for fatigue percentages that are greater than 100 percent or less than zero, which are outside the range of possible values for fatigue percentages. Another issue is that, by combining the data beyond the 12<sup>th</sup> hour, the analysis leaves out some of the available information: for example, it does not consider the relative numbers of crashes at different TOT levels. The revised analysis, described below, addresses these shortcomings in the original approach and employs a superior statistical method for analyzing binary outcomes, i.e., whether the crash was fatigue-related crash or not. FMCSA specifically requests comment on this new modeling approach.

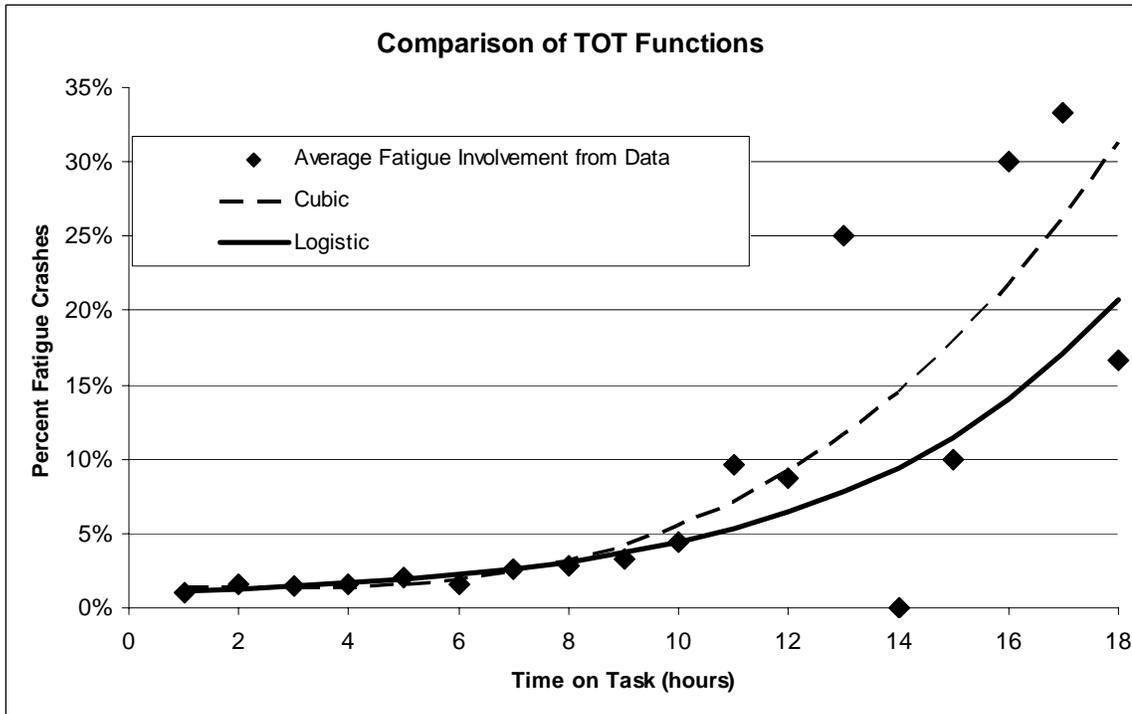
In response to the D.C. Circuit, FMCSA has re-estimated the function using a flexible logistic function, which lets predicted fatigue values range only from 0 to 100 percent. In this approach, every available crash data point was used, and several variants were tested to find the best-fitting logistic curve. See the RIA's Appendix V for details. The RIA is in the docket referenced at the beginning of this notice. In addition, because there are other determinants of fatigue-related crash risk besides the number of hours driving, FMCSA also explored taking other variables into account, including time of day, day of the week, and type of power unit (truck tractors or straight trucks). Again, this multivariate approach to predicting risk is a standard statistical technique. These extra factors did not change the simple relationship of TOT to fatigue crash risk; however, there are other interesting results relevant to the restart provision we will explain further below. This approach yielded a TOT fatigue crash risk function that was generally similar

---

FMCSA's approach "has a reasonable basis, in contrast with [Public Citizen's] illustrative example, which is virtually guaranteed to produce a biased result." The expert found that "FMCSA's cubic regression curve matches the curves produced by more sophisticated methods quite closely over the relevant range of driving hours, in contrast to [Public Citizen's] illustrative alternative curve, which departs substantially from the curves produced by more sophisticated methods." Declaration of Dr. M. Laurentius Marais, Ph.D. at ¶ 6. See Tab F of the ATA Motion's Addendum to read Dr. Marais's declaration. It is in the docket referenced at the beginning of this notice.

to the original cubic function for low TOT levels, but lay somewhat lower at the 11<sup>th</sup> hour as shown in Exhibit 2.

**Exhibit 2 - Comparison of Time on Task (TOT) Functions**



Note for Exhibit 2. A point may appear to be “missing,” if one compares Exhibit 2 to Exhibit 1. The missing data point is not in Exhibit 2 because it averages the data above 12 hours into a single point. FMCSA used this point to estimate the cubic function in Exhibit 1. FMCSA did not use this point in estimating the logistic function and left it off of Exhibit 2.

Division of the Fatigue Percentage by its Average. Dividing the predicted fatigue crash risk by an average value is a reasonable way to create a TOT adjustment factor that changes relative fatigue values within a set of data without changing the average value of that set. The fatigue model used in the original analysis yielded raw fatigue predictions for each simulated driving hour, but did not take TOT explicitly into account. Suppose these raw predictions happened to average 7 percent fatigue. To adjust these predictions to account for TOT effects, each simulated hour’s fatigue percentage should be multiplied by an adjustment factor based on the TOT fatigue function: the raw predicted

value for an 11<sup>th</sup> hour of driving, for example, should be multiplied by a larger value than for a 1<sup>st</sup> or 8<sup>th</sup> hour.

FMCSA could have used the TOT fatigue function directly as an adjustment factor: raw predicted values for the 11<sup>th</sup> hours could have been multiplied by 0.072, and those for the 1<sup>st</sup> hours by 0.014. On average, however, the resulting values would have been much smaller than the original values, because the average value of the TOT fatigue function across all hours is less than 0.03. To return the typical fatigue value to a more realistic level, the adjusted values would have had to be scaled up by close to two orders of magnitude. As an alternative, the TOT fatigue function can first be divided by its average. This step creates an adjustment factor that averages 1.0, with some values above 1 and some below. Using this adjustment factor will take the TOT effect into account while leaving the typical measured fatigue level relatively unchanged.

Choice of the Divisor. In the original analysis, the TOT adjustment factor was created by dividing the TOT fatigue function by 2.92 percent, which was the average relative fatigue-related crash risk level for the first 11 hours as seen in the underlying data. It was argued by Public Citizen that the average value of the function for the first 10 hours would have been more appropriate. Because of the details of the analysis, however, and the way the results were scaled, the choice of divisor has no effect on the results. As demonstrated in Appendix V of the RIA, when the fatigue adjustment factors are applied to both the baseline and policy options, the divisor cancels itself out, and has no effect on the estimate of the relative fatigue crash percentages with or without the 11<sup>th</sup> hour.

Thus, FMCSA concluded both that there is a conceptual basis for dividing the predicted fatigue levels by TOT by the average fatigue level – to create an adjustment

factor centered on 1.0 – and also that the choice of an exact divisor is unimportant because that factor cancels out in the mathematical calculation.

### **Updates to the Analysis**

FMCSA concluded that two issues newly identified by the D.C. Circuit needed to be addressed in revising the estimated benefits of eliminating the 11<sup>th</sup> hour. First, the function used by the Agency was not ideal. As discussed above, although we continue to believe our original approach is reasonable, we have developed a more sophisticated model. Second, the approach laid out above was implemented incorrectly. Although all TOT hours should have been adjusted, in the 2005 analysis, only hour 8 or more were given adjustment factors. The Agency has calculated how these two issues would have affected the estimated benefits of eliminating the 11<sup>th</sup> hour by estimating the change in the average fatigue crash risk twice: once with the original approach, and once with an updated approach. For each approach, this was accomplished by

- Estimating the fraction of driving that was done in each TOT hour, assuming that driving 11 hours was legal;
- Multiplying the fraction for each TOT hour by a TOT fatigue adjustment factor;
- Summing the results of this multiplication;
- Repeating these calculations for a case that allowed only 10 hours of driving; and
- Finding the percentage change in the fatigue percentages between the 11 and 10 hour cases.

The details of these calculations are shown in Appendix V of the RIA. Under the original analysis, the fatigue crash risk appeared to fall by almost 3.6 percent if the 11<sup>th</sup> driving

hour were restricted. Under the revised analysis, the fatigue crash risk fell by 5.1 percent. Thus, correcting the TOT approach is expected to increase the projected TOT safety benefits by a factor of about 5.1 percent/3.6 percent, or about 1.42 times. Thus, if the analysis had been done correctly, the true benefits would be about 1.42 times the original estimate of \$60 million, or about \$85 million per year.

### **Comparisons of Revised Benefits to Estimated Costs**

The increase of \$25 million in benefits per year still leaves the projected benefits of restricting the 11<sup>th</sup> hour of driving of \$85 million per year far short of the projected costs. The costs of prohibiting the 11<sup>th</sup> hour were estimated by finding the average reduction in driver productivity in shifting between a case that assumed driving time is capped at 11 hours and a variant that capped driving time at 10 hours. As described in Appendix V of the RIA, the change in productivity of almost 2 percent, valued at almost \$300 million per percentage point, led to an estimated cost of \$586 million per year for eliminating the 11<sup>th</sup> hour. In the original analysis, subtracting the benefits of \$60 million left estimated net costs of \$526 million; with the revised TOT analysis, the net costs are now estimated to be \$501 million. This reduction in net costs from \$526 million to \$501 million amounts to less than 5 percent of total net costs. Thus, the revisions to the TOT analysis have very little effect on the estimated cost-effectiveness of eliminating the 11<sup>th</sup> hour.

The RIA did present a sensitivity analysis that showed, under a variety of unique circumstances, the net costs could fall from \$526 million to about \$240 million. As such, the conclusion reached in the RIA accompanying this rule was that, regardless of

the assumptions made, whether they were related to the percent of all large truck crashes that are fatigue-related, the relative risk associated with fatigue-related large truck crashes in the 11th hour, or the value of a statistical life, there would still be a minimum annual net cost of approximately \$160 million to eliminate the 11<sup>th</sup> hour of driving.

The 34-hour restart provision.

The 34-hour restart provision gives drivers, particularly long-haul drivers, operational flexibility in planning their trips that previously was not available with the 7- and 8-day limits. FMCSA set the limit at 34 hours because that would provide drivers with an opportunity to obtain two 8-hour sleep periods while keeping them on a 24-hour cycle. The Agency adopted the 34-hour restart after reviewing studies considering the time periods necessary for overcoming cumulative fatigue caused by sleep debt. [Dinges, D.F., et al. (1997), p. 267; Balkin, T., et al. (2000), p. ES-8; Belenky, G., et al. (2003), p. 11; Van Dongen, H.P.A., et al. (2003), p. 125. The research studies cited in this interim rule are included in the List of References in the 2005 final rule (70 FR 49978, at 50067). Copies or abstracts are in the docket referenced at the beginning of this notice.] As the Agency explained in 2005, fatigue resulting from sleep loss is usually characterized as acute, resulting from a single insufficient sleep period; or cumulative, resulting from two or more insufficient sleep periods [Rosekind, M.R., et al. (1997), p. 7.2]. Rosekind describes three types of sleep loss (i.e., total sleep loss, partial sleep loss, and sleep debt): “Sleep loss can occur either totally or as a partial loss. Total sleep loss involves a completely missed sleep opportunity and continuous wakefulness for about 24 hours or longer. Partial sleep loss occurs when sleep is obtained within a 24-hour period but in an amount that is reduced from the physiologically required amount or habitual total. Sleep

loss also can accumulate over time into what is often referred to as ‘sleep debt.’ Sleep loss, whether total or partial, acute or cumulative, results in significantly degraded performance, alertness and mood” [Id.].

Public Citizen’s challenge to the 2005 rule argued that the restart provision allows drivers to work more hours each week, leading to cumulative fatigue that is different from sleep debt. In its opinion invalidating the 34-hour restart the Court agreed, explaining that it was interested in a “different kind” of cumulative fatigue, the cumulative fatigue “associated with the increased driving and working hours that [the 34-hour restart] would permit,” and not “the ‘sleep deficit’ that ‘accumulates with successive sleep-deprived days.’” The Court concluded that FMCSA had not adequately considered this “cumulative fatigue.”

This interim rule responds to this finding by the Court in two parts. First, the Agency found in 2005 that few studies address the effect of recovery periods between work periods spanning multiple days, such as a workweek [O’Neill, T.R., et al. (1999), p. 2; Wylie, C.D., et al. (1997), p. 27; Smiley, A., & Heslegrave, R. (1997), p. 14]. After reviewing the studies relevant to the 34-hour recovery period, as cited in the 2003 rule and those submitted by commenters to the 2005 NPRM, the Agency determined that current scientific evidence is limited with respect to the type of cumulative fatigue raised by Public Citizen and the Court. Studies of time-on-task frequently measure “fatigue” as a function of drowsiness. For example, Wylie, C.D., et al.’s 1996 operational study of 80 long-haul drivers engaged in revenue-generating runs in the U.S. (under the 10-hour driving limit) and Canada (under that country’s 13-hour driving limit), reported that time-on-task was not a strong or consistent predictor of observed fatigue, measured as

drowsiness, as observed in video records of comparable daytime segments of driving. In Wylie's study, no difference in drowsiness was found between 10 and 13 hours of driving. Some measures of performance, such as lane tracking and individual cognitive performance, as well as self-rating of fatigue, were better at 10 hours of driving time than at 13 (lane tracking was confounded by difference in driving routes and road conditions in the two countries). Conversely, reaction time was better at 13 hours of driving than at 10. The authors noted that the lack of variance in drowsiness between driving periods may be attributable to the fact that the study measured only daytime drowsiness. Other research suggests the body's circadian rhythm limits the negative effects of more hours of work during daytime operations. [Wylie, C.D., et al. (1996) pp. 5.13-5.14].

A 1999 study evaluated the effects on fatigue and performance during a daytime schedule of 14 hours on duty and 10 hours off duty, with drivers performing simulated driving and loading/unloading tasks. The authors found mild cumulative effects on subjective measurements of sleepiness; a slight but statistically significant deterioration in duty-day subjective sleepiness, reaction time response, and measures of driving performance over the course of a week; but no cumulative deterioration of driver response in crash-likely situations. The authors reported that a schedule of 14 hours on duty (with 12 hours of driving) and 10 hours off duty for 5 consecutive day periods did not appear to produce significant cumulative fatigue over the 2-week testing period [O'Neill, T.R., et al. (1999), p. 48].

Additionally, as its second part of its response to the Court's finding, FMCSA sought recent (i.e., post-2005) scientific studies addressing cumulative fatigue of the type focused upon by the Court. Although some popular literature discusses "burnout," the

Agency does not consider these anecdotal narratives to be evidence that cumulative fatigue is a significant concern under normal driving conditions. While the Agency concluded based on a reasonable review of the literature that cumulative fatigue associated with increased weekly truck driving activity under the conditions similar to that studied in the literature was not a substantial problem, the critics of the 2005 rule did not provide any scientific literature supporting their claims of cumulative fatigue specific to truck driving. It is therefore not surprising that FMCSA has been unable at this time to identify an available model that it could use to evaluate the effects of cumulative fatigue as a factor separate from fatigue caused by sleep deficits in a motor carrier context. FMCSA seeks existing studies or models that could be used to further analyze and validate the veracity of these claims regarding cumulative fatigue, specifically studies or models analyzing or focused on truck driving.

Furthermore, Public Citizen discussed a scenario by which the new rulemaking would allow for a substantially higher number of hours than would be found under the more normal driving conditions similar to those studied in the literature. This would be accomplished by driving 11 hours, immediately going off duty for 10 hours, and repeating this pattern.

First, although such a pattern could develop in certain operations for certain periods, nothing like this was observed in FMCSA's 2005 and 2007 Field Surveys. Additionally, non-standard driving patterns were allowed under the pre-2003 rule that had the potential to result in significantly more sleep-associated fatigue than the driving patterns that would be allowed even under Public Citizen's unlikely scenario. For example, under the pre-2003 HOS rules, a driver was permitted to exclude intermittent

periods of off duty time from the maximum 15 hours of on-duty time, after which the driver could not drive a CMV. Therefore, a driver having several off-duty periods (e.g., meal breaks, inactivity awaiting dispatch, personal business) of several hours each during the day could legally drive a CMV in the 24<sup>th</sup> or later hour after the start of the duty day. Under the current HOS rules, this driver could not drive a CMV after the 14<sup>th</sup> hour of coming on duty following 10 or more consecutive hours off duty, regardless of any intermittent off-duty periods. FMCSA therefore believes the pre-2003 possibilities of “extreme” driving behavior are actually eliminated under the 2003 or 2005 rule. FMCSA specifically requests comment on this conclusion.

Furthermore, FMCSA has conducted additional technical analysis of the Trucks Involved in Fatal Accidents (TIFA) data (referenced later in this IFR) to examine the potential relationship between the probability of a fatigue-related large truck crash and other factors that one might expect to influence the likelihood of a fatigue-related crash. We believe this further analysis is relevant to both the more standard driving schedules commonly observed in the industry, and work schedules where commercial drivers may be pressing the daily driving and weekly on duty limits. This is because TIFA data captures various types of commercial drivers involved in fatal large truck crashes, without regard to specific operating schedules. As such, if cumulative driving hours across a non-interrupted series of days independently caused an increase in fatigue-related crash risk, FMCSA believes this analysis would identify it. After studying the pattern of restarts in the industry, FMCSA determined that a reasonable proxy for the time spent driving over multiple days after a restart is the day of the week. This is

because the majority of restarts happen over a weekend, as revealed in the 2007 Field Survey discussed later in this preamble.

Specifically, a logistic regression modeling approach was used for this analysis and TIFA data covering the period 1991-2004. Several additional TIFA variables of interest were included in the logistic regression beyond the “hours of driving” used to address time on task (TOT) in the regulatory impact analysis (see RIA in docket for details of that analysis). These additional variables included day of the week of the crash, time of day of the crash, the number of vehicles involved in the crash, and the type of vehicle involved (i.e., straight truck versus tractor-trailer combination). The additional variables made it possible to broaden the analysis of potential causes of large truck fatigue-related crashes, which added interesting insights but did not, in the end, change the TOT analysis itself (as is fully discussed in the RIA). For instance, FMCSA modeled single and multi-vehicle crashes. For these analyses we excluded cases where the hours of driving were not reported, where the vehicle was government operated and exempt under 49 CFR 390.3(f)(2), or where the vehicle was a daily rental and the gross vehicle weight rating (GVWR) was 26,000 pounds or less. We fitted various logistic models to the data. Specifically FMCSA estimated five unique logistical regression models which included the following independent variables:

- Model 1: Hours of Driving;
- Model 2: Hours of Driving, Day of week, Time of day (0 to 24), Large Truck Type (Single or Tractor/Trailer);

- Model 3: Hours of Driving, Day of week grouped (Mon, Tue-Thu, Fri, Sat-Sun), Time of day in 3-hour groups, Large Truck Type (Single or Tractor/Trailer);
- Model 4: Hours of Driving, Time of day (0 to 24), Large Truck Type; and
- Model 5: Hours of Driving, Time of day in 3-hour groups, Large Truck Type.

The day-of-week variables in Models 2 and 3 were found not to be significant and so were excluded from Models 4 and 5. The fact that fatigue did not appear to change systematically throughout the week has a direct bearing on the question of the accumulation of fatigue with long hours of work over multi-day periods. Drivers of large trucks tend to take their extended breaks (i.e., restart periods) over the weekend as was revealed by the 2007 FMCSA Field Survey data discussed in an later section of this preamble. If heavy working schedules of truck drivers actually led to substantial increases in cumulative fatigue, we would expect to see driving performance deteriorate over the course of the week. FMCSA believes this provides sound evidence that drivers are not accumulating significant levels of “time on task” (TOT) cumulative fatigue over the course of the week.

The Agency has not identified any evidence that cumulative fatigue represents a significant problem under the 2003 or 2005 rule. As it stated in the 2005 final rule (70 FR 50022) with respect to the impacts of the 11-hour driving rule and the 34-hour restart, FMCSA continues to believe that “the average driver [does] not, and cannot realistically, drive and work the longer weekly hours, on a regular basis,” as suggested by opponents of those two provisions. It is virtually impossible for a driver to drive 77/88 hours over

7/8 days and to be on duty 84/98 hours over the same 7/8 day period. To follow the scenario identified by these opponents, the driver would be severely limited in his or her ability to obtain fuel and food, to attend to personal hygiene needs, to park large trucks, to communicate with dispatchers, to pick up loads, to unload, and to do paperwork. FMCSA believes this is so unrealistic that seeing this type of driving behavior during the course of an inspection would cast doubt on the accuracy of the logbooks. Recent operational data do not show that drivers are working or driving these maximum amounts of hours. FMCSA believes that it is a valid exercise of its judgment to base its decision regarding the 11-hour limit and 34-hour restart on the emerging factual data about actual driving behavior and not exclusively on hypothetical and speculative calculations about the potential behavior of drivers. Affidavits submitted to the Court by ATA in support of its motion to stay the mandate provide evidence that weekly driving hours have not increased significantly under the new HOS rules. Instead, the rules, and the 34-hour restart provision in particular, are described by several trucking officials as having increased the operational flexibility available to drivers and carriers to schedule and complete work. There is, furthermore, no evidence in the crash data of the harmful effects of the “cumulative fatigue” expected by the critics of the 2005 rule to result from their extreme estimates of increased duty hours. Recent data in fact show that vehicle miles have only slightly increased, while the fatal crash rate for the same period has declined.

Although the Court did not reach the issue of the implications for drivers’ health of the 11-hour driving limit and the 34-hour restart, the Agency continues to affirm its previous conclusions, reached after a careful examination of the available evidence, that changes to HOS under the 2005 rule, including its 11-hour limit and 34-hour restart, do

not have a deleterious effect on the physical condition of drivers. FMCSA continues to believe that its conclusions accurately reflect a preponderance of the scientific data.

FMCSA refers interested parties to 70 FR 49978, at 49982-49992.

## **F. Evaluation of Recent Safety and Operational Data Under 11-Hour and 34-Hour Rules**

The 11-hour driving limit and the 34-hour restart provisions have been in place since January 2004. Thus, FMCSA has been able to compile and review a significant amount of new safety and operational data throughout the industry (data that were not available for consideration during the Court's review of the 2005 Rule). The data from this period of more than 3 years has enabled the Agency to assess the impacts of the 11-hour limit and 34-hour restart on safety, and to assess compliance with the current rules compared to the pre-2003 rules.

### **Safety Data**

This section focuses on the most current safety data, including reviews of the following studies and data sources: (1) Fatality Analysis Reporting System (FARS) data for calendar years 2003 and 2006; (2) Trucks Involved in Fatal Accidents (TIFA) data for calendar years 2003 through 2005; (3) a Virginia Tech Study of the 10<sup>th</sup> and 11<sup>th</sup> Driving Hours; (4) an American Trucking Research Institute HOS Safety Study (2006); (5) FMCSA HOS compliance rate data between 2003 and 2006; and (6) industry crash data filed with the Court docket by ATA in 2007.

## **Fatality Analysis Reporting System (FARS)**

FARS is a national census of fatal crashes involving motor vehicles, including large trucks. FARS data are reported annually by the States, maintained by the National Highway Traffic Safety Administration (NHTSA), and are generally recognized as the most reliable national motor vehicle crash data available. FARS data through 2006 are available to the public at: [www-fars.nhtsa.dot.gov/Main/index.aspx](http://www-fars.nhtsa.dot.gov/Main/index.aspx). As discussed in the preamble to the HOS final rule in 2005, FMCSA analyzed the 2003 and 2004 FARS data to examine trends in large truck fatal crashes, and fatigue-related fatal crashes before and after initial implementation of the 11-hour driving limit and the 34-hour restart, in January 2004. Analysis of the first 9 months of data from the 2003 Annual FARS Report and the 2004 Early FARS Assessment Files (which have traditionally contained most of the fatal crashes that eventually appear in the FARS Final Report File) revealed that fatigue-coded large truck crashes, as a percent of the total large truck fatal crashes in those years, decreased from 1.7 percent to 1.5 percent. (For 2003, 54 fatigue-coded large truck crashes divided by 3,120 total large truck fatal crashes equals 1.7 percent; for 2004, 43 fatigue-coded large truck crashes divided by 2,954 total large truck fatal crashes equals 1.5 percent.) This 0.2 percent difference in the percent of fatigue-coded fatal large truck crashes represented a one-year decrease of 11.8 percent (0.2 divided by 1.7), using 2003 as the baseline.

It should be noted that NHTSA releases the annual FARS data in three waves: the first release is the Early Assessment File, which represents a projection of a partial year's worth of data to full-year and is released in the spring of the calendar year following the crash data year on interest (i.e., 2004 FARS Early Assessment data were

released in Spring 2005); the second release is the Annual Report File, which represents a full year's worth of data and is released in the Fall of the calendar year following the crash data year of interest (i.e., 2003 FARS Annual Report File data were released in Fall 2004); finally, the Final Report File represents a full year's worth of data but additional data related to the crashes in the file are added. The Final Report File is released in the Fall of the second calendar year following the crash data year of interest (i.e., 2003 FARS Final Report File data were released in Fall 2005).

Since the issuance of the 2005 rule, NHTSA has released the final versions of the 2003 and 2004 FARS data files. While the numbers of fatigue-coded fatal large truck crashes were revised minimally upward in both years (as would be expected moving from Early Assessment and Annual Report files to Final Report Files), the percent of these crashes where the large truck driver was coded as fatigued (1.7 percent in CY2003 and 1.5 percent in CY2004) did not change. See Table 1.

<b>Table 1: Fatal and Fatigue-Related Fatal Crashes Involving Large Trucks, by Calendar Year.</b>					
Year	Total Large Truck Fatal Crashes	Fatigue-Coded Large Truck Crashes	Fatigue-Coded Large Truck Fatal Crashes, as percent of total	Large Truck Vehicle Miles Traveled (VMT) (millions)	Large Truck Fatal Crash Rate* (Per 100 million VMT)
2000	4,573	99	2.2 percent	205,520	2.23
2001	4,451	65	1.5 percent	209,032	2.13
2002	4,224	70	1.7 percent	214,603	1.97
2003	4,335	74	1.7 percent	217,917	1.99
2004	4,478	66	1.5 percent	220,811	2.03
2005	4,551	82	1.8 percent	222,836	2.04
2006	4,321	69	1.6 percent	223,282**	1.94

Fatigue-related large truck crashes are defined as those where the large truck driver was coded as fatigued at the time of the crash.

\*Large Truck Fatal Crash Rate is defined as the number of fatal large truck crashes per 100 million large truck vehicle miles traveled.

\*\* 2006 Large Truck Vehicle Miles Traveled (VMT) Projection based on 2006 FHWA Total VMT projection.

A large truck is defined as a truck with a gross vehicle weight rating (GVWR) greater than 10,000 pounds (includes medium and heavy trucks).

Source: FMCSA Analysis of Fatality Analysis Reporting System (FARS), NHTSA.

The FARS data for calendar years 2000 through 2006 (where all but the 2006 file have been finalized by NHTSA) show that the percent of fatigue-coded large truck crashes fluctuated from a high of 2.2 percent in 2000 to a low of 1.5 percent in 2001 and 2004. In the 3 years since the 2003 HOS rule has been in effect, the number of fatigue-related large truck crashes as a percent of all large truck fatal crashes each year has remained relatively stable. And although the coding of driver fatigue at the time of a crash may be under-reported in some cases (given the difficulty in verifying fatigue-related crashes), there is no reason to believe that this under-reporting varied from year to year during this period. From these data sets, FMCSA determined that the 2005 rule, including the 11-hour limit and 34-hour restart provisions, has not had a negative impact on safety;

overall large truck safety has not been compromised by the 11-hour limit or the 34-hour restart.

Also, more broadly, FARS and General Estimates System<sup>3</sup> (GES) data indicate that the total number of large truck fatalities fell significantly between 2005 and 2006 (by 4.7 percent), while large truck injuries fell by 7 percent. In calendar year 2000 large truck fatalities totaled 5,282 and injuries totaled 140,000. In contrast, in calendar year 2006 large truck fatalities dropped to 4,995 (or a decrease of 5.4 percent), while large truck injuries fell to 106,000 (a decrease of 24 percent). Using 2006 vehicle miles traveled (VMT) forecast data from the Federal Highway Administration and applying it to large trucks, the large truck fatal crash rate in 2006 is estimated to have decreased to 1.94 fatal crashes per 100 million large truck VMT, from 2.23 fatal crashes per 100 million large truck VMT in 2000, for a reduction of 13 percent over the last seven year period (see Table 1). The 1.94 fatal crashes per 100 million large truck VMT represents the lowest large-truck fatal crash rate recorded since the U.S. Department of Transportation began collecting data in 1975.

It is particularly relevant for analyzing the effect of the new rules, and the 34-hour restart provision in particular, to examine the crash profile of combination unit trucks (CUTs), because they have average vehicle weights greater than 26,000 pounds and are the principal heavy trucks used in the long-haul operations covered by today's 11-hour and 34-hour restart interim rules. In addition, drivers of CUTs are most likely to be involved in a fatal large truck crash<sup>4</sup>. Data from the 2002 Vehicle Inventory and Use

---

<sup>3</sup> General Estimates System is a nationally representative sample of motor vehicle crash data that are produced annually by NHTSA and used in traffic safety analyses by NHTSA as well as other DOT agencies. For more information, see <http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/GES.html>.

<sup>4</sup> Source Trucks Involved in Fatal Accidents (TIFA) data.

Survey (VIUS) of the Department of Commerce's Census Bureau indicate that the primary range of operations for 29 percent of heavy vehicles were trips of greater than 200 miles, compared to only 12 percent of medium and light-duty trucks (with average vehicle weights of 10,001 to 26,000 pounds). In addition, FMCSA's examination of the records of duty status of over-the-road and local drivers reviewed as part of its 2005 Field Survey found that 247 of 421 (or 59 percent) of the over-the-road drivers used the restart provision at least once, while 57 of 125 (or 46 percent) of local drivers did so. In 2006, CUTs were involved in a total of 3,194 fatal crashes. This total of CUT-involved fatal crashes is the lowest since 1995. Applying Federal Highway Administration projections for VMT in 2006 to CUTs, the fatal crash rate for 2006 for combination unit trucks equaled 2.22 per 100 million VMT, which is the lowest CUT fatal crash rate since records began being collected in 1975. In addition, according to NHTSA's GES data, the CUT injury-crash rate in 2006 was 27.5 per 100 million VMT, and the property-damage-only (PDO) crash rate was 99.1 per 100 million VMT. Both the injury crash rate and the PDO crash rate for CUTs in 2006 were also the lowest since records began being collected in 1975.

Such data, in conjunction with other data presented elsewhere in this IFR, indicate clearly that the overall safety performance of the U.S. motor carrier industry has been maintained since implementation of the 2003/2005 HOS rules.

### **Trucks Involved in Fatal Accidents (TIFA) Data**

The Trucks Involved in Fatal Accidents (TIFA) data file, another data set the Agency relies on to evaluate and make determinations regarding the HOS rule, combines

large truck fatal crash data obtained annually from NHTSA's FARS with additional data items collected by the University of Michigan Transportation Research Institute (UMTRI). The UMTRI collects the additional data items through telephone interviews with truck drivers, carriers, or investigating officers after fatal crashes. UMTRI combines vehicle, crash, and occupant records from FARS with information obtained through TIFA, such as the physical configuration of the large truck, the motor carrier's operating authority, and the hour of daily driving at the time of the crash.

TIFA and FARS variables of particular interest include whether the large truck driver was coded as being fatigued at the time of the crash, the time of day, the intended trip distance, and hours driving since the last mandatory off-duty period (a minimum of 8 hours in the case of data through calendar year 2003 and 10 hours in the case of calendar year 2004 and 2005 data).

TIFA data used in the regulatory impact analysis (RIA) for the 2005 HOS rule were for the years 1991 through 2002 (the most recent data available when the Agency published its 2005 rule). The sample size of this file represents more than 50,000 medium/heavy trucks involved in fatal crashes in the U.S., of which approximately 1,000 involved large trucks where the truck driver was fatigued. TIFA data for this period indicated that there were 94 vehicles involved in fatal crashes in the 11<sup>th</sup> hour of driving, of which 9 were coded as fatigue-related. This represents 94 instances in which the vehicle was being operated in the 11<sup>th</sup> hour following only 8 consecutive hours off duty, a violation under the rules in effect unless the driver was operating in intrastate commerce under State rules or under the adverse driving conditions exception.

The TIFA data covering calendar years 2003 through 2005 were not available for analysis at the time the Agency published the 2005 HOS rule, but these new data are illustrative, particularly with regard to the downward trend in the number of large trucks involved in fatigue-related fatal crashes each year after the Agency published the 2003 HOS rule (see Table 2).

<b>Table 2: Large Trucks Involved in Fatal and Fatigue-Related Fatal Crashes in the 11<sup>th</sup> Hour of Driving, by Calendar Year</b>			
Calendar Year (CY)	Fatal Crashes	Fatigue-Coded (Large Truck Driver)	Fatigue-Coded as Percent of Total
1991-2002	94	9	9.6 percent
2003	13	1	7.7 percent
2004	16	0	0.0 percent
2005	13	1	7.7 percent
Source: Trucks Involved in Fatal Accidents (TIFA), 1991-2005			

Specifically, in CY2003, 13 large trucks were involved in fatal crashes where the large truck driver was operating in the 11<sup>th</sup> hour of driving, but in only one of those crashes was the truck driver coded as being fatigued. In CY2004, the first year under the new HOS rule, a total of 16 large trucks were involved in fatal highway crashes in the 11<sup>th</sup> hour. This total is an increase of three over the 13 large trucks involved in fatal crashes in the 11<sup>th</sup> hour of driving in 2003, when driving in the 11<sup>th</sup> hour was illegal for most drivers. However, in 2004 no large trucks were involved in fatigue-related fatal crashes in the 11<sup>th</sup> driving hour. The 2005 TIFA data show 13 large trucks involved in fatal crashes while the truck driver was in the 11<sup>th</sup> hour of driving. In only one of those crashes was the truck driver coded as fatigued. The 2004 and 2005 TIFA data, represent an improvement over the pre-2003 period, in terms of the percentage of large truck drivers operating in the 11<sup>th</sup> hour who were coded as fatigued at the time of the crash.

## Virginia Tech Transportation Institute (VTTI) Studies

In 2005, FMCSA contracted with the Virginia Tech Transportation Institute (VTTI) to analyze data on crash risk during the 10th and 11th hour of driving as an adjunct to a large on-the-road driving study VTTI was conducting under an FMCSA and NHTSA joint initiative. This study offered an opportunity to analyze empirical data obtained under the 2003 HOS rule. The primary goal was to determine the effect, if any, of the 11th hour of driving on driver performance and drowsiness. This study did not include all drivers who participated in VTTI's large on-the-road driving study; only data collected through May 1, 2005 were available and used in the analysis published with the 2005 HOS rule (August 2005). This study, however, did involve 82 drivers working for three trucking companies who had driven approximately 1.69 million miles, under the 2003 HOS rule. [Hanowski, R. J., et al. (2005)]

In the analysis filed with the 2005 HOS rule, the researchers found no statistically significant difference in the number of critical incidents between the 10th and 11th hours of driving [Hanowski, R. J., et al. (2005), p. 9]. The study defined critical incidents as crashes, near crashes (where a rapid evasive maneuver is needed to avoid a crash), and crash-relevant conflicts (which require a crash-avoidance maneuver less severe than a near-crash, but more severe than normal driving). When the occurrence of critical incidents is used as a surrogate for driver performance decrements, there was no statistically significant difference between the 10th and 11th hour of driving. The VTTI study team meticulously examined video for each critical incident to detect driver drowsiness i.e., slow eyelid closure – a validated measure of drowsiness. VTTI concluded that when a critical incident occurred, drivers were not measurably drowsier in the 11th

than the 10th hour of driving. These results may be related to another finding, showing that drivers appear to be getting more sleep under the 2003 rule than they did when the minimum off-duty period was only 8 hours. Compared to four sleep studies conducted under the pre-2003 rules, the Hanowski study found that drivers operating under the 2003 rule are obtaining on average over one hour of additional sleep per day [Id., p. 8].

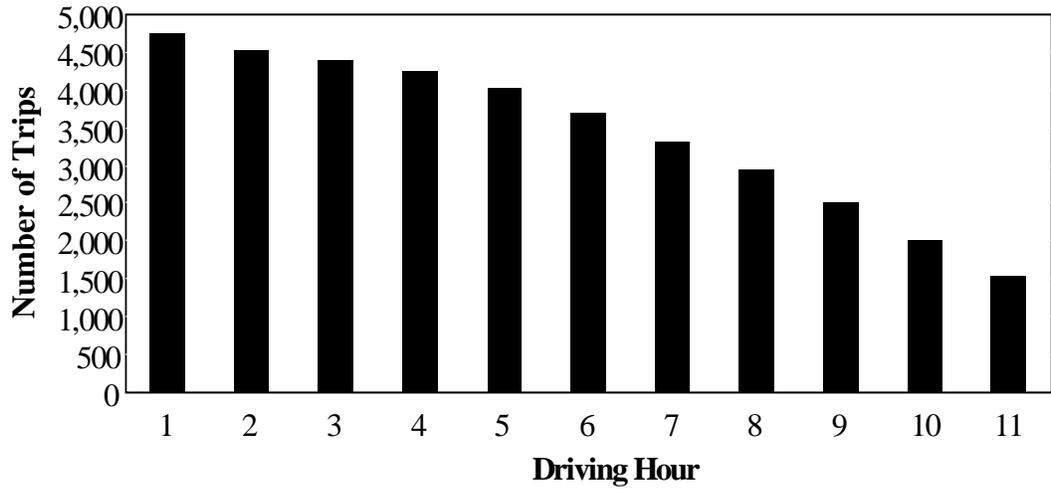
In 2007, American Trucking Research Institute (ATRI), affiliated with the ATA, contracted with VTTI to complete the analysis with all drivers whose data was collected as part of the Drowsy Driver Warning System Field Operational Test. This analysis included data for an additional 16 drivers or a total of 98 drivers (for a total of over 2 million miles of driving data) and the initial study's results and conclusions still hold; namely, that there was no statistically significant difference in the number of critical incidents occurring in the 10th versus the 11th hours of driving [Hanowski, R. J., et al. (2007)]. A copy of this VTTI analysis was submitted by ATRI to FMCSA and placed in the docket for this IFR.

Additionally in 2007, FMCSA contracted with VTTI to expand the analysis on all 98 drivers to examine critical incidence in 1st through the 11th hour driving for all drivers and for those drivers who drove a total of 11 hours. For this analysis, all critical incidents (crashes, near-crashes, crash relevant conflicts) were grouped by driving hour. An analysis of the odds ratios were calculated to estimate the relative risk of increased driving hours on critical incident occurrence. Each hour that a driver drove became a trip and was used to calculate the relative frequency of critical incidents. Figure 1 shows the preliminary findings (final results due by December 31, 2007) for the number of trips that drivers drove over the course of the Field Operational Test. VTTI used the number of

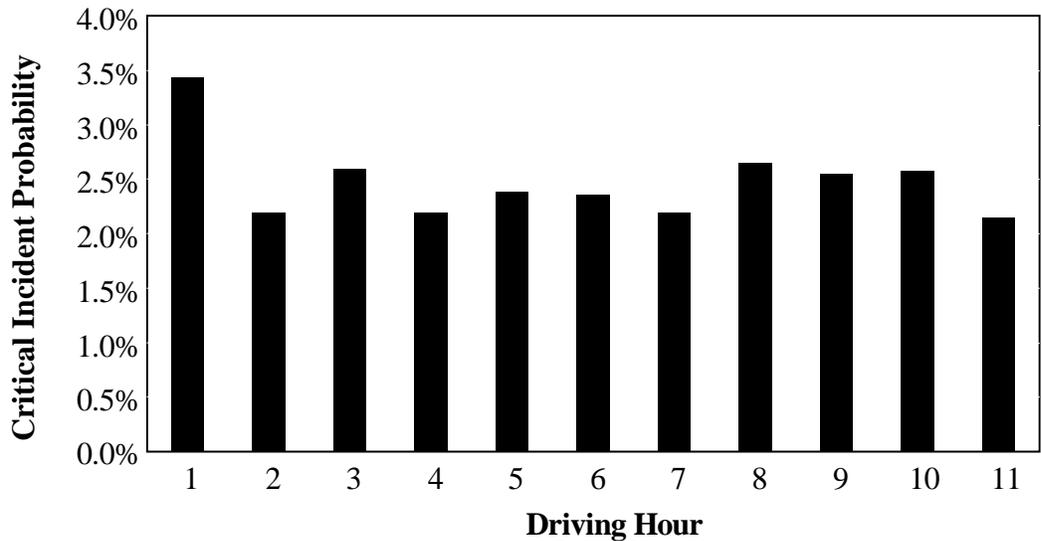
trips shown in Figure 1 to assess the relative frequency of critical incident occurrence by hour of driving and these results are shown in Figure 2. While the data show a slightly elevated risk of critical incidents in the 1st hour of driving there was no discernable trend for driving hours two through eleven. VTTI examined the odds ratios to estimate the relative risk and determined that there was no statistically significant difference in the risk of a critical incident between hours 2 through 11 [Hanowski, R. J., et al. (2007)]. This result also held for drivers who drove an entire 11 hour period. A copy of this VTTI analysis is in the docket for this IFR. These findings are very similar to the findings of the Driver Fatigue and Alertness Study. O'Neill stated that "simple time-on-task is not a uniformly effective determiner of performance. Factors such as time-of-day (and its relation to circadian cycle) and rest break schedule are so influential that other factors customarily associated with performance deterioration over time are dwarfed" [O'Neill, T.R. et al. (1999) p.40]. Wylie concluded that "the strongest and most consistent factor influencing driver fatigue and alertness in this study was time-of-day" [Wylie, C.D. (1998) p.ES-8].

Again, the findings from these three VTTI studies should not be surprising; they were consistent with the research from Wylie's Driver Fatigue and Alertness Study, which at the time of its publication was the largest on-the-road driver fatigue study. These VTTI studies showed that time-on-task or the number of hours driven is not a good predictor of driving degradation. There was no increased risk of critical incidents (crashes, near-crashes, crash relevant conflicts) of driving in the 11th verses the 10th hour of driving.

**Figure 1 - Frequency of Trips by Driving Hour**



**Figure 2 - Critical Incidents Relative Frequency as a Function of Driving Hour**



**Hours of Service Compliance Rates (2003 vs. 2006)**

In addition to examining large truck crash data, FMCSA also examined motor carrier compliance rates with the HOS regulations over time via roadside inspection data collected and reported by States to FMCSA. Specifically, to examine changes in compliance rates with 49 CFR part 395 regulations before and after implementation of

the HOS rules, FMCSA examined differences between CY2003 (the calendar year before implementation of the latest HOS rule) and CY 2006 (the calendar year during which full implementation of the latest HOS rules would be reasonably expected and the latest full year of data available). Results, as seen in table 3, indicate that the total number of driver inspections with HOS violations increased by 3 percent over this period (from 513,393 to 526,992). However, the total number of driver inspections conducted in CY2006 actually increased 8 percent from CY2003. As such, the total HOS violation rate (i.e., those driver inspections with at least one HOS violation divided by total number of driver inspections in that year) decreased from 17.4 percent in 2003 to only 16.5 percent in 2006.

<b>Table 3: Driver Inspections with HOS Violations, Number and Percent Change, Calendar Year 2003 and CY2006</b>					
Part 395 (HOS) Violation Type	CY2003		CY2006		Growth Rate
	Number	Percent*	Number	Percent*	Percent
Total Driver Inspections	2,958,598	NA	3,191,358	NA	8%
Total Number of Inspections With HOS Violations	513,393		526,992		3%
10 or 11 Hour Rule	63,773	12%	55,268	10%	-13%
15 or 14 Hour Rule	12,905	3%	90,489	17%	601%
60 or 70 Hour Rule	18,363	4%	8,144	2%	-56%
No Log	46,379	9%	43,926	8%	-5%
False Log (Out-Of-Service) Violation	22,501	4%	25,149	5%	12%
False Log (Non-Out-Of-Service) Violation	13,465	3%	11,390	2%	-15%
Form & Manner Violation	162,701	32%	157,007	30%	-3%
Log Not Current	243,831	48%	237,498	45%	-3%
<p>* Percentage calculations for individual violations will add to more than 100 percent, as two separate HOS violations may be cited during a single inspection. As such, there is potential double counting, in that the single inspection is counted within both violation rows.</p> <p>Driver Inspections defined as Level 1, 2, or 3 Level Inspection according to Commercial Vehicle Safety Alliance (CVSA) Commercial Driver Inspection Types.</p> <p>Source: FMCSA Motor Carrier Management Information System, Snapshot October 2, 2007.</p>					

Inspections with violations of driving-time limits decreased by 13 percent during this time period. Inspections with violations of the 60-/70- hour rule decreased by approximately 56 percent over this period, as one would expect, given the availability of the 34-hour restart provision. In fact, six of the eight specific HOS violations cited at the roadside during this period decreased and only two increased. As for violations of the daily on-duty (14/15 hour) regulation and logbook falsifications, roadside inspection officials indicate that those citations increased mainly because inspectors can spot violations much more easily under the 2005 rule than they could under the pre-2003 HOS rule (which allowed for an extendable daily on-duty period via breaks). Under the 14-hour rule, safety inspectors need only identify the start of the workday and count to the 14<sup>th</sup> hour, unless the driver has a qualifying sleeper berth period of at least 8 but less than 10 hours. By contrast, under the former 15-hour rule, all miscellaneous off-duty periods had to be considered to potentially extend the window; this includes making a determination whether the period satisfied the requirements to be counted as off duty. The above data show overall improvements in compliance with the HOS regulations and provides additional evidence that overall safety performance has not been compromised by the 2003 and 2005 HOS rules.

### **2006 American Transportation Research Institute Safety Study**

In 2006, ATRI designed a research study to provide empirical data on the safety impacts of the HOS rule. The ATRI study examined aggregated collision and driver injury data from motor carriers before and after implementation of the 2003 HOS rule. The study was significant because it involved 23 medium-to-large trucking fleets,

roughly 100,000 commercial drivers and more than 10 billion vehicle miles of travel each year. The study population was comprised of ATA members and the fleets represented in the study included both for-hire and private fleets, as well as those operating in the truckload (TL) and less-than-truckload (LTL) segments. The participating carriers from the TL and LTL segments represented 16 and 15 percent, respectively, of all total industry activity in those segments. The study's final report, issued March 2006, indicates that the vast majority of trucks examined in the study were heavy trucks, or tractor-trailer combination units (those units with gross vehicle weight ratings above 26,000 pounds). Weighted results (i.e., based on averages of crashes and injuries divided by mileage for participating fleets) showed consistent and meaningful reductions in crash rates from before to after the 2003 rule became effective in January 2004. Specifically, the study found statistically significant reductions in the overall collision rate per million VMT (-3.7 percent), as well as reductions in the preventable collision rate (-4.8 percent), the driver injury rate (-12.6 percent), and the collision-related injury rate (-7.6 percent). Weighted averages were used in the study, meaning each fleet's contribution to the total rate was proportional to its mileage, and the study primarily examined rates, since those allow researchers to normalize any change in the number of large truck crashes by the total vehicle miles driven in those years. Further, these results are consistent with the trends in the FARS data described above.

Data from the ATRI safety study further support the position that overall safety of the motor carrier industry has been maintained since the 2003 and 2005 HOS rules became effective.

## **Carrier Safety Data Filed with ATA Motion**

In addition to the data sets and studies discussed above, ATA filed a series of affidavits or declarations with the Court on September 6, 2007, with its motion for a stay of the Court's mandate. In those documents, ATA highlighted some of the recent safety experiences of its member trucking companies that have operated both before and after the new HOS rules. Although these affidavits are not necessarily a statistically representative sample of the effects of the new rulemakings on safety, their company experiences are consistent with the statistical results described above, and do represent some of the largest and most expansive trucking operations in the United States. Copies of the ATA motion and the complete affidavits and declarations of its member trucking companies that ATA included with its motion can be found in the docket referenced at the beginning of this notice. Schneider National Inc., the eighth largest for-hire trucking company in the United States based on revenues, operates approximately 12,000 over-the-road tractors and directly or indirectly employs more than 15,000 commercial drivers. According to Donald Osterberg<sup>5</sup>, Vice President of Safety and Driver Training, “in almost every category assessed, Schneider [has] experienced improved safety performance under the current HOS rules (as compared with 2003....). With regard to accidents that we describe as “Ultra Major” because they have potential liability exposure in excess of \$250,000, our 2006 numbers were down 41.67% from our 2003 experience. Similarly, in 2006, our potential fatigue related crashes were down 27.39% as compared with 2003...Our fatigue related crashes as a percentage of total preventable crashes were down 17.85% in 2006 as compared with 2003. Our lost time injuries per 10,000 loads

---

<sup>5</sup> See Tab I of the ATA Motion's Addendum to read Mr. Osterberg's declaration. It is in the docket referenced at the beginning of this notice.

was down 24.14% in 2006 as compared with 2003...Our Ultra Major frequency per MM [million miles] was down 35.77% in 2006 as compared with 2003. Our fatigue related major crashes per MM was down 20.05% in 2006 as compared with 2003. And our preventable potential fatigue related crashes was down 9.55% in 2006 as compared with 2003.”

Mr. Greer Woodruff<sup>6</sup>, Senior Vice President for Safety and Security of J.B. Hunt, the tenth largest for-hire trucking company in 2006 based on revenues, stated:

“During the three full years the new hours of service regulations have been in place (2004, 2005, and 2006), J.B. Hunt has seen a 4% decline in its preventable DOT recordable accident rate...In addition, many accident types that could be fatigue related have seen a marked decline in a comparison of the same time frames: Jackknife – down 61.76%; Ran Traffic Control – down 24.53%; Rollaway – down 50%; and Roll Over – down 8.94%. Similarly, J.B. Hunt has seen a significant reduction in driver out-of-service rates related to hours of service in the comparative periods, an average 9.3% drop.”

There were many additional affidavits from safety managers of large U.S.-based trucking companies who attested to the same positive impact on crash rates since the new HOS rules became effective. These statements are also generally consistent with FARS, TIFA, and other data analyzed by FMCSA, and all serve to consistently indicate that the operating environment since January 2004 under the new HOS rules is generally as safe or safer than the conditions before implementation of the 2003 rule.

---

<sup>6</sup> See Tab M of the ATA Motion’s Addendum to read Mr. Woodruff’s affidavit. It is in the docket referenced at the beginning of this notice.

## **Operational Data on 11 Hour Limit and 34 Hour Restart**

To better understand how the motor carrier industry has implemented the 2005 HOS rule and to get a current update on the use of various provisions, FMCSA compiled and reviewed several new data sets on the industry's current use of the 34-hour restart provision and the 11th hour of driving, and on average weekly hours worked after implementation of the 2005 rule. Data compiled or reviewed were obtained from: (1) the 2005 and 2007 FMCSA Field Surveys; (2) ATA's operations survey of its members in 2007; and (3) industry operations data filed in the D.C. Circuit by ATA in 2007.

### **2005 and 2007 FMCSA Field Data Collection Efforts**

In October 2007, FMCSA initiated a data collection effort by its field staff in connection with compliance reviews<sup>7</sup> and safety audits<sup>8</sup> to assess the specific operational ways the motor carrier industry has implemented and used the 2003/2005 HOS rule. The data collected were based upon the drivers' records of duty status or time records, and included the period April 2007 through November 2007. (Motor carriers are only required to maintain records of duty status for six months.) The data show that drivers are using the 11<sup>th</sup> hour of driving time somewhat more often than in the comparable 2005 survey, but few are using the full 11 hours of driving time and none are utilizing the

---

<sup>7</sup> A compliance review is an in-depth review of a motor carrier's compliance with the Federal Motor Carrier Safety Regulations (49 CFR parts 380 to 399) and Hazardous Materials Regulations (49 CFR parts 100 to 180), as applicable. Motor carriers are selected for a compliance review based upon poor safety performance or receipt of a non-frivolous complaint, or in follow-up to previous compliance/enforcement actions.

<sup>8</sup> A safety audit, on the other hand, is a review of the carrier's safety-management practices and controls and is conducted within the first 18 months of the motor carrier beginning interstate operations. The safety audit is used to both educate the carrier and gather data to evaluate and determine whether the carrier has in place basic safety management controls to ensure safe operation of CMVs.

maximum driving and on-duty time allowed by the rule. In addition, most drivers are taking restart periods that far exceed the 34-hour minimum.

The survey results are based upon data collected from a cross-section of industry in compliance reviews and safety audits; driver records from both private and for-hire motor carriers were included, as well as truckload and less-than-truckload carriers. A similar effort was undertaken in late 2004 and early 2005 and discussed in the 2005 HOS rule. A copy of the 2005 and the 2007 FMCSA field data collection reports are in the docket referenced at the beginning of this notice.

The most recent project was conducted in conjunction with normal motor carrier review activities during the period of October 22, 2007, to November 16, 2007, and where appropriate, results from the 2007 effort were compared to FMCSA's 2005 Field Survey results. To ensure the quality of the data collected, the Agency excluded drivers who were found to have falsified their records.

Overall, daily driving, weekly on-duty, and restart period data were collected from 1035 drivers operating for 337 motor carriers. The majority of the enforcement actions reviewed (70 percent) as part of this data collection effort consisted of compliance reviews; while 30 percent involved a safety audit. By comparison, in 2005, 81 percent of the activity involved a compliance review, with 19 percent representing safety audits. Of the carriers surveyed in the most recent effort, 90 percent were classified as for-hire motor carriers, while 10 percent were private carriers. In the 2005 effort, of the 269 motor carriers reviewed, 85 percent were for-hire carriers.

Of the drivers surveyed in 2007, 86 percent operated primarily beyond a 100 air-mile radius during the period reviewed, while 14 percent primarily operated

within a 100 air-mile radius. By comparison, in 2005 approximately 80 percent of drivers reviewed were classified as over-the-road OTR drivers. It should be noted that in the 2005 effort, an over-the-road driver was defined as a driver who did not return to the terminal (work-reporting location) or home nightly. The definitions were changed slightly in 2007 to “within” and “beyond” a 100 air-mile radius to allow for a more explicitly defined difference between driver types. This made it easier for FMCSA investigators to catalogue drivers in one of two groups, and FMCSA Field managers believed the change in definitions would not significantly impact the data obtained in each of the two efforts.

Results: The data collected in the 2007 effort revealed the following:

Restart Period. Of the 1035 drivers included in the data collection, 869 drivers (84 percent) had at least one continuous off-duty period equal to or greater than 34 hours in length during the typical work week. Of the 542 drivers included in the 2005 survey, 393 (or 73 percent) of all drivers surveyed took at least one restart period during the period evaluated.

Looking at the length of all the restart periods recorded in the 2007 survey (1,925), 8 percent were exactly 34 hours, while 5 percent were between 34-36 hours, 22 percent were between 36 and 44 hours, and 65 percent exceeded 44 hours. The 2005 survey results were fairly similar, in that 5 percent of restart periods were exactly 34 hours, 6 percent were between 34-36 hours, 22 percent were between 36 and 44 hours, and 68 percent exceeded 44 hours, although it should be noted that the 2007 data indicates that 8 percent of periods are exactly 34 hours duration (versus 5 percent in 2005).

In 2007, FMCSA added a new variable to the data collection effort; specifically, the day of week that the restart period began. The distribution was as follows: 16 percent occurred on Monday, 10 percent on Tuesday, 10 percent on Wednesday, 11 percent on Thursday, 23 percent on Friday, 18 percent on Saturday, and 12 percent on Sunday. Thus, the 2007 data revealed that 53 percent of the restarts began between Friday and Sunday. Of these restart periods of 72 hours or less (or what is typically considered a “true” restart), the average number of hours each restart period is 49 hours. In other words, while the restart provision is being used by drivers, the average restart period is far longer than 34 hours.

11th Hour Driving. Of the 16,676 driving periods<sup>9</sup> reviewed in the 2007 effort, 27 percent involved the 11<sup>th</sup> hour of driving, while 4 percent involved driving beyond the 11<sup>th</sup> hour (in the last case, the daily driving hour limits either do not apply (e.g., drivers operating in intrastate commerce under State rules) or the drivers were in violation of the rule). In the 2005 effort, FMCSA found that approximately 17 percent of driving periods involved the 11<sup>th</sup> hour, while 4 percent of driving periods exceeded the 11<sup>th</sup> hour of driving.

Looking just at the driving periods of the “beyond 100 air-mile” drivers in the 2007 survey, FMCSA found that 27 percent of these driving periods involved the 11<sup>th</sup> hour of driving, with 4 percent involved driving beyond the 11<sup>th</sup> hour. The 2005 results showed that 23 percent of the driving periods of over-the-road drivers exceeded 10 hours.

---

<sup>9</sup> A driving period for this study was any work period after the driver had 10 or more consecutive hours off duty.

The percentage of daily driving periods involving the 11<sup>th</sup> hour for the “within 100 air mile” drivers in the 2007 survey equaled 25 percent, with another 10 percent operating beyond the 11<sup>th</sup> hour, leading FMCSA to conclude that this sample of “within 100 air mile” drivers may not be representative of short-haul drivers in the industry overall.

Results from the 2007 FMCSA Field Survey are generally consistent with results from the 2005 effort, although driving in the 11<sup>th</sup> hour is somewhat higher in 2007 than in 2005 (i.e., 27 percent versus 17 percent). However, this is to be expected as the provision remains in place and available for use by industry over a longer time period.

#### **ATA Operational Usage Survey of Members**

ATA conducted a survey of its members in August 2007, requesting data on usage of two important provisions of the 2003/2005 HOS rule; namely, the availability of the 11<sup>th</sup> driving hour and the restart provision. A copy of the ATA survey is in the docket referenced at the beginning of this notice. Data compiled for the study was for the month of June 2007. Information was gathered from 69 motor carriers, representing several industry segments, most frequently the truckload and less-than-truckload segments. The number of drivers represented by these companies total approximately 234,000, or roughly 8 percent of the 3 million professional truck drivers that were estimated to be operating in the 2005 HOS regulatory impact analysis. The survey sample was considered to be quite large. The survey asked about usage of the 11<sup>th</sup> hour of driving by participating companies. Companies surveyed indicated that 46 percent of their drivers were using the 11<sup>th</sup> driving hour, and that the 11<sup>th</sup> driving hour was used an average of

8.42 times during the (30-day) month of June. To examine the number of daily trips by all drivers in the month of June that utilized the 11<sup>th</sup> hour of driving, we multiplied the 46 percent by 8.42 and arrived at an average daily use of the 11<sup>th</sup> driving hour by all drivers of 3.87 (or roughly 4) times per month. Dividing this result by 30 days in the month of June indicates that on average, 13 percent of daily trips utilized the 11<sup>th</sup> hour.

Alternatively, one could divide by 22 working days in the month (i.e., assuming four 2-day weekend breaks during the month), which would indicate the 11<sup>th</sup> driving hour is used in 18 percent of daily driving trips.

For validation purposes, FMCSA compared the ATA results to those generated by the Agency in its regulatory impact analysis for the 2005 HOS rule. These results are generally consistent with the estimates derived from operational modeling conducted by FMCSA for the 2005 HOS regulatory impact analysis, which had estimated that 55 percent of commercial drivers used the 11<sup>th</sup> hour of driving in 28 percent of their daily on-duty periods, yielding an average use of the 11<sup>th</sup> driving hour in approximately 15 percent of trips<sup>10</sup>. Additionally, data from the 2005 FMCSA Field Survey indicated that the 11<sup>th</sup> driving hour was used in 16.2 percent of daily on-duty periods, while the FMCSA's 2007 Field Survey data revealed that 27 percent of daily on duty periods recorded by drivers utilized the 11<sup>th</sup> hour of driving. Data from Schneider National, Inc. indicated that the 11<sup>th</sup> hour was used in only 10.7 percent of daily on-duty periods. Compared with other estimates regarding use of the 11<sup>th</sup> driving hour, FMCSA finds the

---

<sup>10</sup> In its regulatory impact analysis accompanying the 2005 HOS Rule, and as part of a broader sensitivity analysis, FMCSA also assumed higher usage levels of the 11<sup>th</sup> driving hour to determine the impact of its assumptions on the cost-benefit analysis results. Regardless of the assumptions made regarding usage of the 11<sup>th</sup> hour of driving, FMCSA found that eliminating the 11<sup>th</sup> hour driving provision was not cost beneficial.

latest ATA results are generally consistent with earlier findings and reveal that the 11<sup>th</sup> hour is being used by commercial drivers for operational flexibility.

Regarding usage of the 34-hour restart, ATA survey respondents indicated that 65 percent of their drivers utilized the provision, and those that did, used it an average of 3.41 times per month. In its 2005 Field Survey data, FMCSA found that 73 percent of drivers used the restart provision at least once a week. In its 2007 Field Survey, FMCSA indicated that 90 percent of drivers included in the data collection had taken at least one extended off duty (restart) period of at least 34 hours, with the vast majority of drivers taking many more than the minimum 34 hours. In data collected prior to the 2005 rule, the OOIDA reported that almost 90 percent of drivers surveyed used the restart provision at least some of the time<sup>11</sup>. In a survey of private fleets in 2004, Stephen Burks reported that drivers for private carriers used the restart provision in 61 percent of their runs<sup>12</sup>. Depending on which specific source of data is used, the most recently published information regarding use of the restart provision is generally consistent with other information filed by researchers, associations, and others shortly before implementation of the 2005 HOS rule. The most recently published information regarding use of the restart provision indicates that industry is using the restart provision to provide operational flexibility.

---

<sup>11</sup> John H. Siebert, "A Survey of Owner-Operators and Company Drivers on their Use of Three New 'Hours of Service Features,'" OOIDA Foundation, September 15, 2004.

<sup>12</sup> Stephen V. Burks, A Survey of Private Fleets on their Use of Three New 'Hours of Service Features,'" September 15, 2004.

## **Carrier Information Filed with ATA Motion**

Mr. Greer Woodruff<sup>13</sup>, Senior Vice President of J.B. Hunt, stated in an affidavit filed with ATA's Motion for Stay with the D.C. Circuit, that "In terms of usage, J.B. Hunt drivers engaged in nationwide truckload operations on average use the 11<sup>th</sup> hour or some portion of it about 10.8% of their daily driving days (approximately 3 times per month). When used, the operations within the 11<sup>th</sup> hour averaged approximately 40 minutes. While this number is relatively modest, the importance of the availability of the 11<sup>th</sup> hour for scheduling purposes cannot be overstated." Mr. Tom Anderson<sup>14</sup>, Director of Safety and Training for Interstate Distributor Company (IDC), a large truckload carrier based in Tacoma, Washington, attested to similar usage of the 11<sup>th</sup> driving when he filed his declaration. In a random audit of 300 company drivers, Mr. Anderson states that his drivers used the 11<sup>th</sup> driving hour only 3.1 to 3.7 times per month, or that consistent with J.B. Hunt's usage of the provision and other estimates mentioned earlier in this section. Also, Mr. Woodruff of J.B. Hunt states that, "The 11<sup>th</sup> hour has allowed J.B. Hunt and our drivers to more efficiently use their daily drive time with only a modest increase (about 1.8%) in average daily driving hours and with less concern about an hours-of-service violation or being stranded in an inappropriate location." The information submitted by Mr. Woodruff regarding use of the 11<sup>th</sup> driving hour is consistent with estimates from other sources and those used in the 2005 RIA for the HOS rule, as discussed in earlier sections of this preamble. All of these data indicate

---

<sup>13</sup> See Tab M of the ATA Motion's Addendum to read Mr. Woodruff's affidavit. It is in the docket referenced at the beginning of this notice.

<sup>14</sup> See Tab B of the ATA Motion's Addendum to read Mr. Anderson's affidavit. It is in the docket referenced at the beginning of this notice.

that the 11<sup>th</sup> driving hour in particular is an important provision to the industry in terms of allowing drivers to maintain operational flexibility.

### **FMCSA Decision to Re-Adopt the 11-Hour Limit and 34-Hour Restart**

FMCSA concludes it is necessary to re-adopt the 11-hour driving limit and 34-hour restart provisions to avoid significant and costly disruption of existing industry practices while ensuring that the actions and underlying safety analysis are available for comments from all interested parties before issuing a final rule. The Agency's made this decision based on its evaluation of new safety and operational data, additional analysis and modeling of the relationship between hours of driving and fatigue-related large truck crashes, discussion of the concept of cumulative fatigue in the context of driving activity, and the collection and evaluation of new data on the benefits and costs of the 11-hour driving limit and the 34-hour restart provisions, and the affidavits and declarations from some of America's largest trucking companies.

### **G. Regulatory Analyses and Notices**

Administrative Procedure Act. The FMCSA has determined that it has good cause under 5 U.S.C. 553(b) to adopt this interim final rule without prior notice and opportunity for comment and under 5 U.S.C. 553(d) to make the IFR final less than 30 days after publication. Specifically, the agency finds that notice and comment are both "impracticable" and "contrary to the public interest" pursuant to § 553(b). In order to avoid the huge administrative and operational burden that would be imposed on State enforcement agencies and motor carriers and drivers by the issuance of the Court's

mandate at the end of December, this rule must be issued without normal notice and comment procedures. In addition, the variety of State HOS standards that would exist in the absence of this IFR, along with the influx of the 106,000 additional drivers that FMCSA estimates will be needed to handle current freight volume, could offset safety gains made since 2003 (as identified in section F of this IFR), which would obviously be contrary to the public interest.

The 2005 rule includes a provision stating that “[a]ny regulations on hours of service of drivers in effect before April 28, 2003, which were amended or replaced by the final rule adopted on April 28, 2003 [69 FR 22456] are rescinded and not in effect” (§ 395.0). Because the D.C. Circuit did not address the meaning of this provision, either in OOIDA v. FMCSA or in its order responding to FMCSA’s support of ATA’s motion for a stay, the interaction between § 395.0 and the law of the Circuit has created significant doubt whether any daily driving limit would exist when the Court’s mandate issues. The Agency must now adopt an IFR to forestall the confusion and uncertainty that would otherwise occur within the motor carrier industry, interfering with efforts to restore an orderly HOS regime.

There are precedents in the D.C. Circuit for the proposition that vacatur of a rule leaves a vacuum which the Agency must fill. There are other precedents holding that vacatur automatically restores the prior rule, if any. It is therefore unclear – absent an IFR – whether there would be any daily driving limit in effect when the Court’s mandate issues, since § 395.0 rescinded all pre-2003 daily driving limits, or whether the limit would be 10 hours. (The 34-hour restart provision would necessarily disappear upon issuance of the Court’s mandate because there was no restart rule in effect before

April 28, 2003, that could be rescinded by § 395.0 or restored by the Court's decision.) The problem is further complicated by the fact that, after the D.C. Circuit vacated the entire 2003 rule [Public Citizen v. FMCSA, 374 F.3d 1209 (D.C. Cir. 2004)], Congress restored the vacated rule until FMCSA issued a new rule addressing the issues raised by the Court's 2004 decision, or September 30, 2005, whichever occurred first. [Section 7(f) of the Surface Transportation Extension Act of 2004, Part V, Public Law 108-310, 118 Stat. 1144, at 1154.] The meaning of the D.C. Circuit precedents restoring a prior rule upon vacatur of a challenged provision is unclear when, as here, the daily driving limit immediately preceding the 11-hour limit adopted by FMCSA in 2005 and vacated in 2007, was the same 11-hour limit (restored by the Surface Transportation Extension Act).

FMCSA has therefore determined that it would be contrary to the public interest not to issue an IFR that forestalls the confusion attendant upon issuance of the Court's mandate and establishes clearly the HOS rules drivers and motor carriers must follow.

Neither FMCSA and its State enforcement partners nor the motor carrier industry could adapt quickly enough to a 1-hour reduction in driving time and elimination of the 34-hour restart at the end of the stay granted by the Court to ensure orderly enforcement and compliance. Both the enforcement community and the regulated entities need a substantial amount of time to come to terms with such significant changes in the HOS rules, especially changes that make enforcement more complex and compliance more expensive.

Furthermore, after committing substantial resources to reviewing recent safety data following the Court's September 28 stay, FMCSA has become convinced that reversion to a prior regulatory regime (and possibly no regulation at all) would likely

offset some of the large-truck safety gains made on America's highways since 2003 and that an IFR is needed to preserve the current rules while seeking public comment.

Millions of CMV drivers are subject to FMCSA's HOS rules. Because the Agency's enforcement staff is relatively small, adequate enforcement of the rules requires partnership with State officials through the Motor Carrier Safety Assistance Program (MCSAP) [49 CFR part 350]. FMCSA provides annual MCSAP grants to States that agree to adopt and enforce as State laws or regulations, motor carrier safety regulations which are compatible with the FMCSRs. For State safety regulations applicable to CMVs operating in interstate commerce, "compatible" regulations must be identical to, or have the same effect as, the FMCSRs. All of the States, the District of Columbia, Puerto Rico, and the U.S. Territories accept MCSAP funds and enforce compatible laws or regulations, including hours-of-service rules. The States have approximately 10,000 officers available for enforcement of State safety regulations compatible with the FMCSRs. These officers account for 95% of FMCSA's available enforcement resources; they conduct 96% (3.1 million) of the roadside inspections per year.

MCSAP grantees use different methods of adopting compatible laws and regulations: of the 50 States and the District of Columbia, 23 jurisdictions automatically adopt any FMCSA safety rule as a State regulation, 22 use an administrative process, and 6 require action by the State legislature. In order to accommodate these various adoption methods, 49 CFR 350.331(d) of the MCSAP rules allow States 3 full years after the effective date of an FMCSA rule to adopt a compatible State rule. States typically adopt safety-related rules as soon as possible, but adoption is not simultaneous among the States.

When FMCSA promulgated a new hours-of-service rule on April 23, 2003, it adopted a compliance date of January 4, 2004, more than 8 months after its publication. More than 9,000 State enforcement officers were trained on the requirements of the new hours-of-service rule between October and the end of December 2003, either by FMCSA directly or by State personnel trained by FMCSA. States amended their operations manuals and enforcement guidelines to implement the new rules. Similarly, FMCSA and the States reprogrammed computers as necessary to ensure that hand-held devices used at roadside and office systems tracked the new HOS rules.

The same process would be needed to prepare for enforcement of an HOS rule with a 10-hour driving limit and without 34-hour restart provision. States that use administrative or legislative processes to adopt safety regulations compatible with Federal regulations would require an amount of time similar to that required to adopt new hours-of-service regulations. Additionally, all of the officers trained on the 11-hour driving limit and the 34-hour restart provision in the fall and early winter of 2003 would have to be re-trained on the previous rules. Experienced officers may be able to adapt to the previous rules without much difficulty, but newly hired officers who have never worked with the previous regulatory regime would require full-scale training. State agencies would have to amend, print, and distribute manuals and enforcement guidelines before re-training could begin. Computers – both the hand-held devices often used at roadside and the larger machines used by the central office of the enforcement agency – would have to be re-programmed.

Enforcement would suffer during the transition period. Re-training would take officers away from their safety activities at roadside. Officers would need to work

overtime to maintain the same level of enforcement, or those activities would have to be reduced for a time, with the result that unsafe motor carriers and drivers would have a better chance of escaping detection.

If the provisions of the pre-2003 hours-of-service rules were reinstated after the stay expires, nationwide enforcement would be far from uniform. Some States would automatically adopt the Federal rule (but even their officers would require re-training before enforcement could begin), while others would continue to operate under the 2005 rule until the State legislature acted or an administrative process was completed. The resulting nationwide patchwork of regulations would render effective enforcement problematic.

In view of the legal challenges to Federal hours-of-service rules in the last few years, States may be less inclined to adopt the latest Federal rule quickly, preferring to wait and see whether further changes are made that would affect their training and enforcement. The pattern of State hours-of-service regulations could therefore change from month to month, and might remain inconsistent for up to three full years as allowed by 49 CFR 350.331(d). The patchwork of regulations would create uncertainty about the HOS standard applicable during a trip. In fact, a driver could be subject to several different State rules in the course of a few hours. Adding to the confusion is the fact that FMCSA would have to evaluate driver HOS records under the rules mandated by the Court's decision during compliance reviews of motor carriers, while driver HOS records would be evaluated under State regulations at roadside inspections in States that do not immediately conform their rules to the Federal standard.

The extent to which the 11-hour driving limit and the 34-hour restart are being used varies widely among industry segments, motor carriers, and individual drivers, but the sudden loss of these provisions would have a noticeable effect on many carriers and drivers and a substantial impact on some. We estimated that the loss of the 11-hour driving limit and the 34-hour restart would cost the industry about \$2.1 billion per year, of which \$1.6 billion would be attributable to the 34-hour restart and \$500 million to the 11<sup>th</sup> hour of driving. See RIA in the docket for more details. By subtracting the estimated \$125 million of safety benefits, the net annual cost to the industry would be approximately \$2 billion. This cost is due to a 7 percent reduction in labor productivity for motor carriers due to loss of the 11<sup>th</sup> driving hour and the 34-hour restart provision. In the absence of an IFR, all motor carriers would have to revise their operational procedures immediately and many would have to purchase new equipment and hire more drivers (FMCSA estimates 106,000 additional drivers in the RIA), a significant burden in a huge and diverse industry. This would imply that the 106,000 additional drivers would cause additional congestion on America's highways.

In an affidavit filed with the D.C. Circuit with ATA's motion for stay of the mandate in OOIDA v. FMCSA, the Senior Vice President of Corporate Safety and Security for J.B. Hunt, the 11<sup>th</sup> largest for-hire motor carrier in the industry in 2006, estimated that it would take his company "a minimum of 6 months . . . to make a proper transition to an hours of service regulation that does not include the 11 and 34 hour provisions, including time to undertake computer programming changes, system testing, engineering design and simulations, education of shippers/receivers, training of over

13,500 drivers and 2,000 non-driver personnel, hiring of additional drivers and the acquisition of additional equipment” (Greer Woodruff<sup>15</sup>, September 4, 2007).

The Executive Vice President of PeopleNet, which offers trucking customers an electronic system for maintaining and tracking driver logs, also filed an affidavit with the ATA petition. He reported that, “[e]ven with the leading edge technology platform that PeopleNet manages and the patented, Over-The-Air-Programming technology that allows for expedient deployment of code to all Onboard users, it would take approximately four to six months to design, test, and roll-out new software that is fully compliant with the elimination of the 34-hour restart provision and the eleven hour permitted driving time and provides the driver with the needed compliance assistance provided today” (Brian McLaughlin<sup>16</sup>, September 6, 2007).

Old Dominion Freight Lines, which redesigned its operations to better utilize the rules adopted in 2003, reported that elimination of the 34-hour restart for its pickup and delivery drivers could lead to “increased labor needs of 20% or in Old Dominion’s case require the recruiting, hiring and training of over 600 drivers. In our industry the safety record of new drivers in their first year of work is not as good as that of experienced drivers. In 2006, Old Dominion had 1,971 accidents. Drivers in their first year made up 12% of the driver workforce, yet they had 526 or 27% of the total accidents” (Affidavit, Brian J. Stoddard<sup>17</sup>, August 31, 2007). The Frozen Food Express Group (FFEG) made the same point: “FFEG’s experience shows that drivers in their first year of driving are about

---

<sup>15</sup> See Tab M of the ATA Motion’s Addendum to read Mr. Woodruff’s affidavit. It is in the docket referenced at the beginning of this notice.

<sup>16</sup> See Tab G of the ATA Motion’s Addendum to read Mr. McLaughlin’s declaration. It is in the docket referenced at the beginning of this notice.

<sup>17</sup> See Tab K of the ATA Motion’s Addendum to read Mr. Stoddard’s affidavit. It is in the docket referenced at the beginning of this notice.

3 times more likely than a veteran driver to be involved in an accident” (Affidavit, David Hedgepeth<sup>18</sup>, September 4, 2007).

The transportation manager for Cemex, the largest cement manufacturer in North America, reported that its drivers use the 34-hour restart to “re-set” their clocks during bad weather, when concrete cannot be poured. “Because the elimination of the 34-hour restart provision would curtail the flexibility that Cemex needs to supply its customers, Cemex would need to hire additional truck drivers if that provision were eliminated. It is very difficult to find good, qualified drivers, and Cemex would not be the only company competing for these limited driver resources. . . . The third-party carriers that Cemex uses to ship some of its cement would also be affected by the 34-hour restart provision. Those carriers would be competing with Cemex to hire additional drivers” (Affidavit, George Caine<sup>19</sup>, September 5, 2007).

FMCSA believes that the problems described by J.B. Hunt, PeopleNet, Old Dominion, and Cemex would affect most motor carriers, in varying degree. All carriers would need to retrain drivers and support personnel if the driving time-limit were immediately reduced to 10 hours and the 34-hour restart were eliminated. Technological changes would be more burdensome for carriers that have invested heavily in computer-based management, tracking and communications systems. The need for new drivers and vehicles to handle the existing workload would depend on the extent to which a carrier and its drivers had utilized the 11-hour driving limit and the 34-hour restart. Despite uncertainties, FMCSA believes that all of these challenges would occur and that they

---

<sup>18</sup> See Tab E of the ATA Motion’s Addendum to read Mr. Hedgepeth’s affidavit. It is in the docket referenced at the beginning of this notice.

<sup>19</sup> See Tab D of the ATA Motion’s Addendum to read Mr. Caine’s declaration. It is in the docket referenced at the beginning of this notice.

would be seriously disruptive if they converged at the end of the 90-day stay granted by the Court.

As demonstrated elsewhere in the preamble, this rule fully addresses the legal shortcomings identified in OOIDA v. FMCSA. Because the Court did not vacate the 11-hour driving limit or the 34-hour restart for reasons related to safety, but only because of procedural flaws, FMCSA's resolution of those flaws in this rule, combined with the impracticability of immediately establishing, enforcing, and complying with a new regulatory regime upon expiration of the Court's 90-day stay, compels the conclusion that the Agency has good cause to issue this rule without prior notice and comment. Motor carriers that need more drivers to compensate for reduced driving time may not be able to find them, and even if new drivers are located, their inexperience may cause additional crashes and offset gains made in highway safety since 2003. The crash and compliance data that has become available since the 2005 HOS rule was issued show that operational safety under the 2003/2005 rules have not been degraded and in some cases, data indicate improvement. Furthermore, the degree of disruption to the motor carrier industry caused by a sudden, major regulatory change could be serious enough to interfere with the timely delivery of some products. That risk is greater today than at any time in the past because of the widespread use in the American economy of "just-in-time" delivery as a method of reducing the overhead costs associated with warehousing. Disruptions in the supply chain caused by truckers' inability immediately to comply with a new HOS rule, to say nothing of an increase in crashes and congestion associated with 106,000 inexperienced drivers hired to satisfy a new HOS rule, would be contrary to the

public interest, especially when the economy is already fragile due to the decline in housing starts and the financial pressure caused by non-performing subprime mortgages.

The disruption to enforcement, operations, and compliance that justify an IFR also provide good cause to make the IFR final upon publication, before the end of the 90-day stay.

#### Congressional Review Act

Because FMCSA has determined that it has good cause under 5 U.S.C. 553(b) to adopt this rule without prior notice and opportunity for comment, the 60-day delay required by the Congressional Review Act before a major rule can become effective [see 5 U.S.C. 801(a)(3)] is not applicable and this rule can take effect on a date determined by the Agency [see 5 U.S.C. 808(2)]. FMCSA has established December 27, 2007, as the effective date of this rule.

#### Executive Order 12866

The FMCSA has determined that this action is an economically significant regulatory action within the meaning of Executive Order 12866. This interim rule reinstates those provisions vacated by the Court as of December 27, 2007. The Agency has prepared a regulatory impact analysis analyzing the interim rule. A copy of the regulatory analysis document is included in the docket referenced at the beginning of this notice. The Office of Management and Budget (OMB) has reviewed this document.

#### Regulatory Flexibility Act

Under the Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104-121, 110 Stat. 857), FMCSA is not required to prepare a final regulatory flexibility analysis under 5 U.S.C. 604(a) for

this interim final rule because the Agency has not issued a notice of proposed rulemaking prior to this action. However, FMCSA believes the RFA impacts of this IFR were adequately described by the 2005 final rule.

#### Unfunded Mandates Reform Act of 1995

This IFR will not impose an unfunded Federal mandate, as defined by the Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1532, et seq.), that will result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$128.1 million or more in any one year.

#### Paperwork Reduction Act

This final rule does not alter the existing information collection requests for HOS recordkeeping.

#### National Environmental Policy Act

FMCSA has prepared an environmental assessment (EA) in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321, et seq., as amended), the FMCSA's NEPA Implementing Procedures and Policy for Considering Environmental Impacts (FMCSA Order 5610.1),<sup>20</sup> the Council on Environmental Quality Regulations (CEQ) regulations implementing NEPA (40 CFR parts 1500–1508), the DOT Order 5610.C (September 18, 1979, as amended on July 13, 1982 and July 30, 1985), entitled “Procedures for Considering Environmental Impacts,” and other pertinent environmental regulations, Executive Orders, statutes, and laws for consideration of environmental impacts of FMCSA actions. The Agency relies on all of

---

<sup>20</sup> FMCSA's environmental procedures were published on March 1, 2004 (69 FR 9680), FMCSA Order 5610.1, National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts, and effective on March 30, 2004.

the authorities noted above to ensure that it actively incorporates environmental considerations into informed decisionmaking on all of its actions, including rulemaking.

As shown in the Environmental Assessment that accompanies this IFR, none of the alternatives considered would have a significant adverse impact on the human environment. Subsequently, FMCSA has determined that this IFR will not significantly affect the quality of the human environment and that a comprehensive Environmental Impact Statement is not required. The EA for this IFR, as well as the Agency's finding of no significant impact (FONSI), are contained in the docket referenced at the beginning of this notice.

#### Executive Order 13132 (Federalism)

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 13132. The FMCSA has determined this rule does not have a substantial direct effect on States, nor would it limit the policymaking discretion of the States. Nothing in this document preempts any State law or regulation.

#### Executive Order 12372 (Intergovernmental Review)

The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities do not apply to this program.

#### Executive Order 12630 (Taking of Private Property)

This rule will not effect a taking of private property or otherwise have taking implications under Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights.

## Executive Order 12988

This regulation meets the applicable standards set forth in sections 3(a) and 3(b)(2) of Executive Order 12988 Civil Justice Reform.

### List of References

Most of the research studies cited in this interim rule are included in the List of References in the 2005 final rule (70 FR 49978, at 50067). Copies or abstracts of the 2005 referenced studies, as well as newer research studies published after the 2005 rule, new safety and operational data, affidavits and declaration of trucking company executives, and the Regulatory Impact Analysis cited in this interim rule are in the docket referenced at the beginning of this notice.

### List of Subjects

#### 49 CFR Part 385

Administrative practice and procedure, Highway safety, Motor carriers, Motor vehicle safety, Reporting and recordkeeping requirements.

#### 49 CFR Part 395

Highway safety, Motor carriers, Reporting and recordkeeping requirements.

In consideration of the foregoing, FMCSA is amending 49 CFR Part 385 as follows.

### **PART 385—SAFETY FITNESS PROCEDURES**

1. The authority citation continues to read as follows:

**Authority:** 49 U.S.C. 113, 504, 521(b), 5105(e), 5109, 5113, 13901–13905, 31136, 31144, 31148, and 31502; Sec. 350 of Pub. L. 107–87; and 49 CFR 1.73.

2. In APPENDIX B TO PART 385 –

a. Amend section II by removing paragraph (c);

b. Amend section VII by removing the entries for §§ 395.3(a)(1), 395.3(c)(1), and 395.3 (c)(2);

c. Amend section II by adding paragraph (c);

d. Amend section VII by adding entries for §§395.3(a)(1), §395.3(c)(1), and (c)(2)

to read as follows:

**APPENDIX B TO PART 385—EXPLANATION OF SAFETY RATING PROCESS**

\* \* \* \* \*

**II. Converting CR Information Into a Safety Rating**

\* \* \* \* \*

(c) Critical regulations are those identified as such where noncompliance relates to management and/or operational controls. These are indicative of breakdowns in a carrier's management controls. An example of a critical regulation is §395.3(a)(1), requiring or permitting a property-carrying commercial motor vehicle driver to drive more than 11 hours.

\* \* \* \* \*

**VII. List of Acute and Critical Regulations**

\* \* \* \* \*

§395.3(a)(1) Requiring or permitting a property-carrying commercial motor vehicle driver to drive more than 11 hours (critical).

\* \* \* \* \*

§395.3(c)(1) Requiring or permitting a property-carrying commercial motor vehicle driver to restart a period of 7 consecutive days without taking an off-duty period of 34 or more consecutive hours (critical).

§395.3(c)(2) Requiring or permitting a property-carrying commercial motor vehicle driver to restart a period of 8 consecutive days without taking an off-duty period of 34 or more consecutive hours (critical).

\* \* \* \* \*

**PART 395—HOURS OF SERVICE OF DRIVERS**

3. The authority citation continues to read as follows:

**Authority:** 49 U.S.C. 504, 14122, 31133, 31136, 31502; Sec. 229, Pub. L. 106–159, 113 Stat. 1748; Sec. 113, Pub. L. 103–311, 108 Stat. 1673, 1676; and 49 CFR 1.73.

4. In § 395.1 –

a. Remove paragraphs (e)(1)(iv)(A), (e)(2)(v), (g)(1)(i)(B), (g)(1)(ii)(B), (g)(2)(ii), and (o)(3).

b. Add paragraphs (e)(1)(iv)(A), (e)(2)(v), (g)(1)(i)(B), (g)(1)(ii)(B), (g)(2)(ii), and (o)(3) to read as follows:

**§ 395.1 Scope of rules in this part.**

\* \* \* \* \*

(e) \* \* \*

(1) \* \* \*

(iv)(A) A property-carrying commercial motor vehicle driver does not exceed 11 hours maximum driving time following 10 consecutive hours off duty; or

\* \* \* \* \*

(2) \* \* \*

(v) The driver does not drive more than 11 hours following at least 10 consecutive hours off duty;

\* \* \* \* \*

(g) \* \* \*

(1) \* \* \*

(i) \* \* \*

(B) May not drive more than 11 hours following one of the 10-hour off-duty periods specified in paragraph (g)(1)(i)(A)( 1) through ( 4) of this section; and

\* \* \* \* \*

(ii) \* \* \*

(B) Calculation of the 11-hour driving limit includes all driving time; compliance must be re-calculated from the end of the first of the two periods used to comply with paragraph (g)(1)(ii)(A) of this section.

\* \* \* \* \*

(2) \* \* \*

(ii) The driving time in the period immediately before and after each rest period, when added together, does not exceed 11 hours;

\* \* \* \* \*

(0) \* \* \*

(3) The driver has not taken this exemption within the previous 6 consecutive days, except when the driver has begun a new 7- or 8-consecutive day period with the beginning of any off-duty period of 34 or more consecutive hours as allowed by §395.3(c).

\* \* \* \* \*

5. In § 395.3 -

a. Remove paragraphs (a)(I) and (c).

b. Add paragraphs (a)(1) (c) to read as follows:

**§ 395.3 Maximum driving time for property-carrying vehicles.**

\* \* \* \* \*

(a) \* \* \*

(1) More than **11** cumulative hours following 10 consecutive hours off duty;

\* \* \* \* \*

(c)(I) Any period of 7 consecutive days may end with the beginning of any off-duty period of 34 or more consecutive hours; or

(2) Any period of 8 consecutive days may end with the beginning of any off-duty period of 34 or more consecutive hours.

Dated: December 10, 2007

  
\_\_\_\_\_  
John H. Hill  
Administrator