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**Comments on Notice of Proposed Rulemaking; Request for Comments;
Hours of Service of Drivers; 70 FR 3339, Jan. 24, 2005;
Docket No. FMCSA-2004-19608; formerly FMCSA-1997-2350**

I. Introduction

Public Citizen welcomes this opportunity to comment on the Federal Motor Carrier Safety Administration's (FMCSA) notice of proposed rulemaking (NPRM) on rules governing the hours of service of motor carrier drivers.¹ In this notice, FMCSA proposes the 2003 hours-of-service (HOS) final rule, despite the fact that it was unanimously vacated by a U.S. Appeals Court panel of judges in July 2004 for failing to meet the agency's statutory requirement that it consider driver health.² Moreover, the Court severely criticized almost every aspect of the rule for the seemingly arbitrary and capricious manner in which FMCSA proposed extending consecutive daily driving hours. The final rule dramatically increased allowable weekly driving and on-duty hours, shaved down the weekly off-duty time for the most exhausted drivers, permitted a split sleeper-berth exemption for single drivers, and did not adequately consider an electronic onboard recorder (EOBR) requirement.³

In re-proposing an HOS rule that was found by the Court to be grossly flawed, FMCSA demonstrates a shocking disregard both for the Court and for its mandate to protect health and safety. Moreover, the agency's notice misleadingly attempts to create a fraudulent "either/or" choice between the vacated 2003 final rule and the former HOS rule.

Such a choice is false. FMCSA's questions in this regard in the notice, such as those asking for the cost of "moving away" from elements of the 2003 final rule are completely illegitimate. The 2003 final rule was invalidated by the Court and the agency was instructed in essence "to go back to the drawing board" and write a new rule that

appropriately considered driver health and safety. There is in fact no whole-package choice between the old rule and the 2003 rule. FMCSA should develop a new, responsible HOS rule that maximizes highway safety and driver health. There is no reason why the agency cannot incorporate the best aspects of the 2003 rule — such as a shortened daily on-duty period during which driving is permitted — and still maintain some safeguards from the old rule — such as more reasonable weekly driving hour limits — while adopting other important safety improvements to both regimes.

In addition to our comments here, Public Citizen endorses the comments submitted to this docket by Advocates for Highway and Auto Safety (Advocates). Furthermore, we note that FMCSA must consider as part of this docket all comments, studies, research and evidence included in the former docket, No. FMCSA-1997-2350.

II. Commercial Trucking Desperately Needs Improved Safety

Trucking Crashes Result in Thousands Dead and Billions of Dollars in Economic Harm Annually

One of the main reasons for trucking HOS regulations is to improve highway safety. Truck driving is one of America's most hazardous occupations. In 2003, 4,855 people were killed in truck-related crashes.⁴ From 1992 to 2002, the number of large trucks involved in fatal crashes increased 10 percent — from 4,035 to 4,542.⁵ The fatal crash rate for large trucks, per 100,000 registered vehicles, is 10 percent higher than for passenger vehicles.⁶ Commercial trucks, with their large size and often dangerous payloads, are particularly lethal in crashes with much smaller passenger cars. In fact, 98 percent of those killed in truck versus passenger vehicle crashes are in the passenger vehicle. Almost 700 truck drivers die in crashes each year.⁷

Commercial truck crashes inflict serious economic harm as well. A 2002 study commissioned by FMCSA found the average annual cost of large truck crashes between 1997 and 1999 to be \$19.6 billion.⁸ This estimate does not include mental health care costs for crash victims and their families, transportation delays, or earnings lost by family and friends caring for the injured.⁹

Fatigue from Long Hours of Driving a Major Crash Risk Factor

Transportation agencies have long acknowledged that fatigue-related crashes plague the commercial trucking industry, with deadly results for both truckers and the driving public. In approximately 20 percent of fatal crashes per year in which fatigue was noted as a contributing factor, the driver had been behind the wheel for 13 hours or more.¹⁰ Yet assessments to determine the magnitude of fatigue's role in crashes have proven difficult.

Unlike in crashes involving drugs and alcohol, there is no chemical test for measuring dangerous levels of fatigue like there is for determining drug or alcohol use. Estimates for the number of trucking crashes involving fatigue are likely to lowball the

actual number because of the difficulty in identifying fatigue as the cause. In part, this underestimating of the actual role of fatigue occurs because the Department of Transportation's principal databases, the Fatality Analysis Reporting System (FARS) and the General Estimates System (GES), are based primarily on police accident reports (PARs), which, according to the Transportation Department, significantly understate the problem.¹¹ PARs have been widely criticized for inaccuracies, due in part to the lack of attention given to the reports by police and lack of police training on accurate report completion.¹²

Moreover, mental errors, such as driver inattention and distraction — major causal factors in crashes — may be the result of driver fatigue.¹³ “Although generally accepted as a factor in transportation accidents, the exact number of accidents due to fatigue is difficult to determine and likely to be underestimated,” Jim Hall, Chairman of the National Transportation Safety Board, wrote to Rodney E. Slater, then Secretary of the Department of Transportation, in 1999:¹⁴

Despite the difficulty in identifying fatigue as a casual factor, estimates of the number of accidents involving fatigue have been made for different modes of transportation; the estimates vary from very little involvement to as high as about one-third of all accidents...[T]he Safety Board's in-depth investigations have clearly demonstrated that fatigue is a major factor in transportation accidents.¹⁵

Studies that attempt to quantify the incidence of fatigue in truck crashes suggest that as many as a third or more of all commercial truck crashes involve driver fatigue. A study done in 1985 for the AAA Foundation for Traffic Safety found that fatigue was the primary cause in 41 percent of 221 crashes studied.¹⁶ A later 1990 study by National Transportation Board (NTSB), which examined crashes in which the truck driver was killed, showed that fatigue was the most common factor, accounting for 31 percent of 182 crashes.¹⁷ And a 1995 NTSB indicated that driver fatigue is a likely contributing factor in up to 30 or 40 percent of all large truck crashes.¹⁸ Moreover, the study found 58 percent of 107 single-vehicle truck crashes to be fatigue-related.¹⁹

In 1999, the Federal Highway Administration (FHWA) used the FARS and GES databases to estimate a “lower bound” fatigue incidence, which ranged from 2.8-6.1 percent for all fatal truck crashes and 15-33 percent for all fatal truck crashes in which the truck occupant was killed.²⁰ According to FHWA, “[p]erhaps the most important deficiency of the above statistics is that they do not adequately reflect the *contributing*, as opposed to primary, role that fatigue may play in crashes...Most notably, a *large (but completely unknown) percentage of crashes* attributed to driver inattention may be due in part to driver drowsiness/fatigue” [emphasis added].²¹

It is thus likely that FMCSA's original estimate in its 2000 NPRM that 15 percent of fatal crashes are fatigue-related is significantly too conservative.²²

Rigorous HOS Enforcement, Essential for Maintaining Safety, is Severely Lacking

Rigorous enforcement of a sound HOS rule is imperative because of the economic pressure on drivers. Due to a section 13(b) exemption from the Fair Labor Standards Act, the trucking industry is allowed to pay its drivers by the mile traveled and use a rate of compensation that may prevent drivers from generating reasonably sufficient incomes if they drive within legal requirements. A survey conducted in 1997 indicated that non-union truck drivers receive a pittance of less than \$10 per hour, and because truckers do not receive overtime, this is about equivalent to a job that pays \$8 dollars per hour and provides overtime.²³ Moreover, most drivers are not paid for waiting on docks or loading and unloading cargo.²⁴ Drivers have a fundamental financial incentive to drive for as long as possible, and to drive hours beyond what is safe and legal.

Unfortunately, FMCSA's enforcement of HOS regulations is dangerously deficient, made clear by widespread violations of the HOS rules. Even the agency admits that truck drivers routinely violate HOS regulations and drive longer than is legal, endangering themselves and the rest of the motoring public due to their greater fatigue and diminished performance. A 1992 survey of over 1,200 drivers concluded that over 70 percent of the drivers violated HOS rules.²⁵ And in a 1995 survey of drivers in New York State, over 40 percent of the drivers admitted that they sometimes, often, or always drive over 10 consecutive hours²⁶ — in violation of the HOS rules then in effect.

A 1999 study performed by University of Michigan's Trucking Industry Program (UMTIP) indicated that only 16 percent of surveyed drivers maintained accurate log books and that over half had worked more than they had recorded in their log books.²⁷ Moreover, a quarter of drivers surveyed had worked at least 75 hours in the last week and the top 90th percentile of drivers had worked *over 90 hours per week*.²⁸ Clearly, FMCSA's enforcement of HOS regulations is in desperate need of improvement.

NPRM Proposes an Hours-of-Service Rule That Would Undermine, Not Improve, Truck Safety and Driver Health

FMCSA states near the beginning of the NPRM that the purpose of this rulemaking is "to develop hours-of-service regulations to replace those vacated by the Court."²⁹ However, this stated goal is false since the agency does not seem to be genuinely interested in developing a new HOS rule. Rather, the true intention of the agency is revealed by the subsequent statement that "FMCSA's review of the literature on driver health and the various hour-of-service issues discussed by the Court will help the agency determine *whether* the 2003 final rule should be changed." [emphasis added].³⁰ The current NPRM essentially re-proposes the same HOS rule that FMCSA issued in 2003, despite the fact that the Court vacated the rule in its entirety for failing to consider driver health — a statutory requirement for FMCSA — and heavily criticized almost every other aspect of the rule.³¹

There are many grave problems with this rule:

- Truckers maximizing allowable driving time would operate on a draining 21-hour, backwards-rotating schedule that would fail to respect the human 24-hour biological circadian rhythm.
- Drivers are permitted 11 consecutive hours of driving instead of 10 hours.
- This additional consecutive daily driving time, in combination with the new 34-hour restart, means that weekly driving and on-duty time would be radically increased — up to as many as 77 hours of driving on a 7-day schedule, 88 hours of driving on an 8-day schedule; and 84 on-duty hours in 7 days, 98 on-duty hours in 8 days.³² The allowable weekly driving and on-duty hours represent an increase of nearly 30 percent more driving hours and 40 percent more on-duty time.
- While drivers would be required to take more time off between daily workshifts — 10 hours instead of 8 — their rest and recovery time between work-weeks would be dramatically reduced. The weekly off-duty time would be shaved down to a mere 34 hours for the most exhausted drivers — those hitting the 60 and 70 hour initial weekly cutoffs the soonest. Worse, the 34-hour off-duty period need not even be structured so as to include two night time sleep periods.
- Solo drivers could divide up their 10-hour recovery periods by taking almost any combination of two naps in their sleeper-berth, despite the agency's own repeated findings that drivers need at least 8 hours of continuous, uninterrupted sleep to be properly rested.
- Despite the agency's admission of widespread HOS violations, motor carriers would not be required under this proposal to install EOBRs to ensure compliance.

III. The Proposed Rule Fails To Consider Adequately Truck Driver Health

The 2005 NPRM Illegitimately Implies that the Invalidated 2003 Rule is the Baseline for Weighing HOS Options and Their Impact on Driver Health

In this NPRM, FMCSA continues to show a disregard for its statutory responsibility to consider the driver health effects of HOS regulations by proposing an HOS rule that the Court already has invalidated for its failure to consider the adverse impacts on driver health and highway safety.³³ In addition, the NPRM improperly attempts to narrow the discussion of HOS regulations' influence on driver health to a comparison between the 2003 final rule and the old rule, rather than considering the broad potential for HOS regulations that would more effectively protect driver health and improve safety.

It is unacceptable for FMCSA to frame the discussion regarding driver health as if the 2003 final rule is an accepted or acceptable baseline. The rule was vacated in its entirety for its *failure to address driver health*.³⁴ Yet the NPRM is replete with illegitimate questions that imply that the vacated rule is indeed the foundation for this current rulemaking.

Questions such as “Is the revision of the hours-of-service rule the appropriate answer to adverse exposure impacts?” (Request E-3-1),³⁵ “What would be the impact on driver health of modifying or eliminating the 34-hour restart option?” (Request F-2-6),³⁶ and “If the current hours-of-service rules are generally retained ‘as is,’ do you have any suggestions to simplify the sleeper-berth calculations, yet provide the same or better levels of driver health, safety, and operational flexibility?” (Request F-3-9)³⁷ all suggest that the vacated HOS rule, “as is,” is an acceptable option for HOS regulation and operates as a baseline against which modifications should be judged. FMCSA shows a striking lack of concern for the Court’s withering assessment of the agency’s previous actions on all of these topics.³⁸

FMCSA Attempts to Narrow its Responsibility to Consider Driver Health Under its Organic Statute

The NPRM attempts to narrow the scope of the agency’s responsibility to safeguard driver health. The FMCSA is required by its organic statute at 49 U.S.C. § 31136(a)(2), (3) & (4) to ensure, at a minimum, that drivers’ responsibilities “do not impair their ability to operate the vehicles safely,” that drivers’ “physical condition” is “adequate to enable them to operate the vehicles safely,” and that driving “does not have a deleterious effect on the physical condition” of drivers.³⁹ Furthermore, 49 U.S.C. § 31131 states that one of the purposes of the subchapter is “to minimize dangers to the health of operators of commercial motor vehicles and other employees whose employment directly affects motor carrier safety” and that Congress finds that “enhanced protection of the health of commercial motor vehicle operators is in the public interest.”⁴⁰

Nevertheless, the NPRM deceptively suggests limitations on FMCSA’s responsibility that are groundless. This is particularly troubling because the agency has similarly attempted, in re-proposing the 2003 final rule, to shrink its responsibility concerning the impact of driver’s health to simply the consideration of the impact of driver health on safety⁴¹ — a shrinking with which the Court strongly disagreed.⁴² “Under the statute, vehicle safety is a distinct factor the agency must consider, so considering the effect of driver health on safety cannot be equal to considering the impact on the physical condition of the operators,” stated the Court.⁴³

The section “Workplace Injuries and Fatalities” (E.4 of the NPRM) provides an example wherein the agency is suggesting unfounded limitations on its duties regarding driver health.⁴⁴ “In this request and throughout this NPRM,” states the agency, “we are looking at only injuries directly related to the hours-of-service regulations and operating a CMV, not other workplace injuries that are outside the jurisdiction of FMCSA.”⁴⁵ The

agency states this again in prefacing its request regarding “exposure to environmental stressors” (Request E-3-1).⁴⁶ FMCSA expressly distinguishes injuries and fatalities relating to workplace hazards such as loading and unloading.⁴⁷ However, the distinction FMCSA draws is unsupportable. The agency has long indicated that its responsibility to driver health is not limited to the time period when the driver is operating his or her truck. For example, FMCSA’s reports, technical analyses and literature reviews have assessed such non-driving issues as physical loading and unloading of cargo,⁴⁸ sleep apnea,⁴⁹ diet,⁵⁰ and physical activity.⁵¹ Indeed, in directing the agency to undertake this revision of the hours-of-services, Congress specifically required it to consider “loading and unloading operations.”⁵²

Moreover, the health and safety impact of HOS regulations unmistakably extend beyond the time when a driver leaves his cab. A trucker tired from long hours of driving permitted under a HOS rule will be more fatigued when he drives home in his personal vehicle. And the physical and mental health impacts of overly extended hours of driving due to HOS regulations will not be limited to driving periods. For example, if long driving hours increase the risk of cardiovascular disease and heart attack, these risks should not be disregarded merely because a driver goes home. When a trucker injures himself while loading or unloading his truck because of underlying fatigue from an overly tiring schedule, for example, the fact that the injury occurred outside of the driving period does not erase the fact that the HOS rule was a major contributing factor. FMCSA may not limit its statutory responsibility to driver health for only the period when a trucker is driving.

The NPRM’s “Lifestyle Choices” section (E.5) offers another example of the agency’s illegitimate attempts to narrow its oversight of driver health.⁵³ Diet and exercise, the agency states, “cannot be regulated by FMCSA.”⁵⁴ While no one would argue that the agency cannot directly regulate a driver’s diet and exercise, it is FMCSA’s responsibility to assess the impact of HOS regulations on diet and exercise. An HOS rule has significant potential to influence a driver’s diet and exercise regime, which in turn can greatly influence an individual’s bodyweight, blood pressure, and other health predictors. The less free time an HOS schedule provides drivers, the less time drivers will generally have to seek out healthier foods and be physically active. FMCSA’s use of the term “lifestyle choices” is disingenuous considering the large influence HOS regulations have on these driver “choices.”

The NPRM Fails to Acknowledge Adequately the Health Risks Associated with Longer Driving Hours

In the NPRM, the agency fails to acknowledge the health risks that long driving hours impose on drivers. “Truck drivers have always worked long hours,” begins the agency in the section “Sleep Loss and Deprivation” (E.2),⁵⁵ suggesting that sleep deprivation from long hours of driving is simply an inevitable vocational feature. Long hours of driving are, of course, not inevitable but rather the result of inadequate HOS regulations that are not well enforced. Yet, the NPRM proposes a rule that would

disastrously increase both daily consecutive driving, and weekly driving, and on-duty hours, further exacerbating driver fatigue and imperiling driver health.

The most severe problem with the NPRM is that it does not take into account the effect of expanded driving hours on driver fatigue, safety, and health. The NPRM requests “studies and other data on the combined or net effects of these hours-of service recommendations on driver health, the safe operation of CMVs, and economic factors,”⁵⁶ but despite a harsh critique by the Court, FMCSA has hypocritically failed to update the Regulatory Impact Analysis to consider the impact of time-on-task. A time-on-task analysis would estimate the toll on drivers of longer driving hours in terms of increased fatigue and safety risks, as well as declines in driver health.⁵⁷ In essence, as the Court observed, the agency continues to assume that “time spent driving is equally fatiguing as time spent resting.”⁵⁸ This is, of course, implausible. FMCSA must incorporate time-on-task into its cost-benefit analysis. Otherwise, the agency will continue to be unable to assess the effects of substantially longer hours on driver health, fatigue and safety — changes which the agency must justify.

While FMCSA fails to assess the toll of longer work hours, the NPRM proposes a vast increase in allowed weekly driving and on-duty hours, and trims down to only 34 hours the weekly recovery period for the most tired drivers — those maximizing allowable driving hours. Because of the “restart” feature, the NPRM proposes an increase of nearly 30 percent more driving hours and a 40 percent increase in on-duty time each week, in addition to longer daily driving tours. It defies belief that the agency actually assumes that such a massive increase would not detrimentally affect driver health — and this point was not lost on the Court. In criticizing FMCSA’s rationale for increasing allowable daily consecutive driving hours, the Court stated:

Petitioners challenge the rationality of the agency’s decision to increase the maximum permissible daily driving time from ten to eleven hours. This challenge illustrates the relatedness of the entire rulemaking to the statutorily mandated driver-health factor upon which we are turning our decision. While the challenge to the increase in driving time is distinct, and theoretically could be the basis of the granting of a petition for review by itself, it is also a factor that the agency may wish to consider anew in weighing the effects of the rulemaking on the physical condition of drivers.⁵⁹

There is little doubt that the increased daily and weekly driving hours will result in greater driver fatigue. For example, as the Court noted, FMCSA “freely concedes that ‘studies show[] that performance begins to degrade after the 8th hour on duty and increases geometrically during the 10th and 11th hours’ on duty.”⁶⁰ In fact, fatal crash data from the University of Michigan Transportation Research Institute’s (UMTRI) Trucks Involved in Fatal Accidents (TIFA) database indicates that risk *doubles* between the 9th and 11th hours of consecutive driving.⁶¹ Similarly, increased weekly work is associated with greater fatigue. For example, a 1999 peer-reviewed, case-controlled study prepared for the AAA Foundation for Traffic Safety, found that working more than

60 hours a week increased the odds of a sleep-related crash *by 40 percent*.⁶² The NPRM proposal would allow 80+ hour driving and 90+ hour work weeks for truckers.

Although the NPRM proposes a huge increase in permitted driving and on-duty hours, which would further fatigue drivers, the agency admits in the NPRM that “[s]erious adverse health conditions appear to be associated with chronic sleep deprivation.”⁶³ FMCSA cites a 1991 review of sleep loss research, which noted problems such as an increased incidence of myocardial infarcts and cardiovascular disease.⁶⁴ In addition, a 1999 study found that sleep deprivation over numerous days seemed to result in prominent alterations in metabolic and endocrine function.⁶⁵ And another study done in 1999 indicated that sleep deprivation may worsen age-related chronic disorders like diabetes and hypertension.⁶⁶

Increased Driving Hours and Resulting Fatigue Exacerbate Driver Health Risks

Truck drivers are particularly vulnerable to the implications of greater mileage and fatigue-related health problems because studies show that truckers are already a high-risk population. Truck driving is, in fact, one of the most risky occupations in America. More truck drivers died on the job in 2002 than workers in any other vocation. Drivers also face one of the highest occupational fatality rates of any industry — 25 per 100,000 drivers.⁶⁷ In addition, truckers experience the highest numbers of injuries and illnesses of any occupation, with 112,200 cases in 2002. Half of the injuries truck drivers suffered were sprains or strains, often from lifting overly heavy objects or from falling. Musculoskeletal disorders — injuries or disorders of the muscles, nerves, tendons, joints, cartilage, and spinal disc — constituted 36,800 of the injuries suffered by drivers, the second highest number among any occupation.⁶⁸

Truckers suffer not only from a high rate of occupant fatalities and injuries, but also manifest elevated rates of risky general health conditions, such as obesity and hypertension. Drivers have higher-than-average rates of being overweight or obese. A survey of 2,945 trucks drivers in 1993 found that 73 percent of all respondents were either overweight or obese.⁶⁹ Nationally, an estimated 33 percent of men and women are classified as overweight.⁷⁰ Another 1993 study, which examined sleep apnea in 125 drivers, found that 71 percent of the participants were obese.⁷¹ Obesity is an established risk factor for many health problems, including stroke, cardiovascular disease, hypertension, and diabetes.⁷² In addition, obesity can worsen arthritis and back pain,⁷³ and it is a contributing risk factor for cancer.⁷⁴

Associated with the prevalence of obesity in the driver population, a significant number of truckers have high blood pressure. Hypertension is strongly associated with excess bodyweight and increases a person’s risk of heart disease, renal failure and stroke.⁷⁵ Although truckers are required by regulation to have a blood pressure at or below 160/90 mm Hg., a 1993 survey of nearly 3,000 truckers found that one third had blood pressure greater than 140/90 mm Hg, and over 10 percent of respondents had blood pressure greater than 160/95 mm Hg.⁷⁶ By contrast, about a quarter of Americans have blood pressure greater than 140/90 mm Hg.⁷⁷

Important Transportation Research Board Review Still Missing from Docket

Public Citizen is also concerned about the literature review on the health implications of fatigue and hour-of-service regulations that FMCSA commissioned from the Transportation Research Board (TRB) of the National Academy of Sciences. According to the agency, the literature review “is expected to be complete by early 2005,” but, with no time left before the close of the NPRM comment period, the review has yet to be put into the docket. It is the responsibility of the agency to provide sufficient time for public comment on such an important document related to this rulemaking, and we ask that FMCSA provide proper consideration to comments made on the literature review, so long as they are filed within a reasonable period of time following the date on which the review is made available. However, we do not believe the agency should delay the issuance of an improved, revised HOS rule by extending the comment period or seeking another unwarranted legislative extension of the vacated 2003 final rule.

IV. Diesel Exhaust Imposes Many Serious Potential Health Risks on Drivers

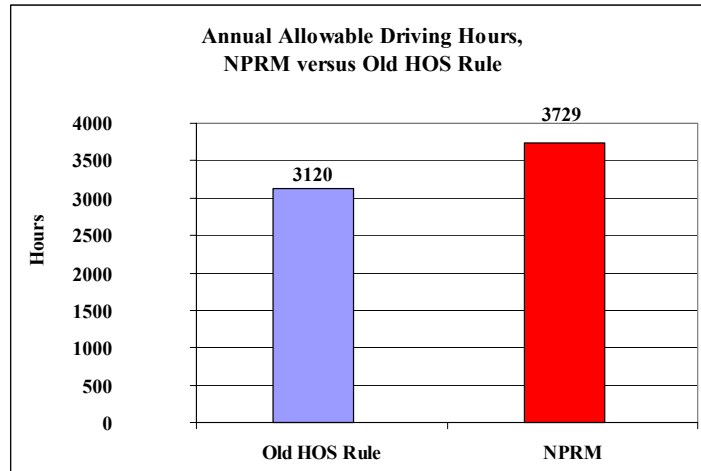
A significant potential source of risk for truck drivers is the long-term effect of breathing diesel exhaust and other chemicals. FMCSA has recognized that numerous studies indicate various health hazards faced by truckers due to their exposure to diesel engine exhaust and chemicals.⁷⁸ For example, a 10-year-long study of 14,225 truck drivers found they had elevated mortality rates from lung cancer as well as from multiple myeloma — an incurable cancer of plasma cells — compared to unskilled male laborers in other occupations.⁷⁹ Another study looking at occupations and causes of death in Canada between 1965 and 1991 found that “male truck drivers faced higher risk of death than other men did from colon cancer, laryngeal cancer, lung cancer, diabetes, ischemic heart disease, non-alcohol cirrhosis, and motor vehicle crashes.”⁸⁰ In fact, a review of over 30 epidemiological studies in North America — including over a dozen involving bus or truck drivers — found that the occupational exposure to diesel exhaust raised the risk of lung cancer.⁸¹ Similarly, the agency has noted that a review of 15 studies of truck drivers and 10 studies of bus drivers indicated that exposure to diesel exhaust raised the risk of bladder cancer.⁸²

Public Citizen disagrees with the agency that the “implications of these studies are not always clear.”⁸³ While the agency may claim that the precise impact of an incremental increase in driving hours (which would correspond with a probable increase in driver sleep deprivation) is unclear, the large increase in weekly driving hours represents hundreds of additional hours per year when truckers will be on the road and exposed to elevated levels of diesel exhaust fumes. A robust body of evidence indicates that the exhaust are highly toxic and tied to a multitude of health risks, and therefore it is negligent of FMCSA to promulgate an hours of service rule that so significantly increases drivers’ exposure to these fumes.

Almost every occupational environment for a trucker involves exposure to diesel exhaust fumes, whether waiting for a load, stopping at a truck stop, or operating the

truck. The proposed rule authorizes an almost-one-third increase in weekly driving hours. In a year, a driver under the rule proposed in this notice could log 3,729 hours of driving in a year — over 600 hours more than a driver could drive annually under the former HOS regulations (see **Figure A**). That is the equivalent of over fifty additional 11-hour driving days. That is a tremendous increase in annual risk exposure — in terms of environmental stressors like diesel fumes, as well as crash risk exposure.

Figure A. NPRM Proposal Would Massively Increase Annual Risk Exposure



The Clean Air Task Force (CATF), of which Public Citizen is a member, recently released a new report highlighting the toxicity of diesel emissions and numerous acute health risks associated with exposure to diesel emissions. Diesel engines release many harmful substances, including fine particles, ozone smog-forming nitrogen oxides, carbon monoxide, and toxic metals and organic gases like formaldehyde, acrolein, and polycyclic aromatic hydrocarbons.⁸⁴ Diesel particles attract toxic organic chemicals and metals, and ultrafine diesel particles can penetrate deep into the lung and bring an array of toxins into the bloodstream.⁸⁵ Diesel exhaust can contain up to 40 different EPA-listed air pollutants, including many known, probable or possible human carcinogens (see **Figure B**).⁸⁶

Figure B. Diesel Exhaust Contains Many Known or Probable Carcinogens

Cancer-causing Pollutants in Diesel Exhaust			
Pollutant	Diesel Emissions % of all Mobile 1996⁵²	EPA Carcinogen Status	Cancer Risk (per million/microgram in 70-yr life)
Formaldehyde	52%	probable	1 in a million
Acetaldehyde	59%	probable	1 in a million
Butadiene	8%	probable	2 in a million
Acrolein	50%	possible	n/a
Benzene	5%	known	2-8 in a million
Diesel Particulate Matter	77%	probable ⁵³	EPA: 12 to 1210 in a million; CARB: 300 in a million ⁵⁴

Source: Clean Air Task Force, *Diesel and Health in America: The Lingering Threat*, Boston: CATF, Feb. 2005, at 10.

Fine Particulate Matter in Diesel Emissions a Dangerous Driver Health Hazard

Diesel particulate matter is well established as a probable carcinogen. The California Air Resources Board’s Scientific Review Panel concluded in 1998 that diesel exhaust was a toxic air contaminant and established cancer risk estimates per microgram of diesel exposure experienced annually by people.⁸⁷ And in 2002, the Environmental Protection Agency similarly found in its *Health Assessment for Diesel Exhaust* that diesel particles are “likely” carcinogens.⁸⁸

Moreover, fine particles have been documented by literally thousands of studies as associated with respiratory and cardiovascular diseases as well as premature mortality.⁸⁹ Health conditions associated with fine particulate matter include abnormal health rhythms, heart attacks and atherosclerosis,⁹⁰ strokes,⁹¹ permanent respiratory damage resulting in obstruction of airflow,⁹² and chronic lung development problems resulting in lung function deficiencies.⁹³ “Diesel exhaust presents a lung cancer risk that is 7.5 times higher than the cancer risk of all other air toxins — combined.”⁹⁴ Every additional hour a driver operates his vehicle increases his or her exposure to these well-established risks.

With such high toxicity, fine particulate diesel emissions are responsible for a striking number of premature deaths in the United States. The consulting firm Abt Associates, using state-of-the-art research methodology employed by U.S. EPA, calculated that almost 21,000 Americans will die early in 2010 due to exposure to fine particulate emissions from on- and off-road diesel sources. The largest source of diesel emissions are diesel-run “big-rigs” and other highway diesel vehicles, which account for 31 percent of all fine particulate diesel emissions in the United States.⁹⁵ These premature deaths will involve, on average, 14 life-years lost because of exposure to fine particulate matter.⁹⁶ Other estimated health impacts include 3,000 excess lung cancer deaths, 12,000 diagnoses of chronic bronchitis, 15,000 additional hospital admissions, 27,000 non-fatal

heart attacks, and 410,000 asthma attacks.⁹⁷ A portion of these fine particulate diesel emissions-related premature deaths and health problems will be suffered by truckers, and FMCSA should be looking for ways to reduce these risks, not increase truckers' exposure to dangerous emissions by significantly increasing both allowable consecutive driving hours and allowable weekly driving hours.

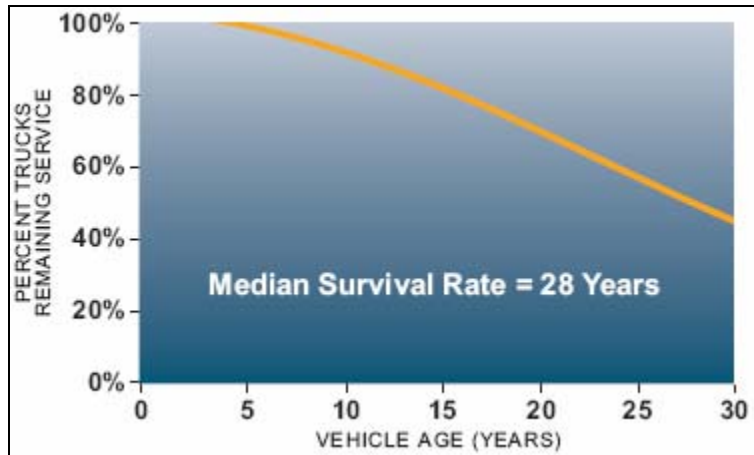
FMCSA claims that “[i]n the past five years alone, many of the components of diesel exhaust that are considered dangerous to health have been significantly reduced.”⁹⁸ However, the agency cites only one study to support such a crucial assertion. A single study is certainly far from enough to overturn mountains of evidence detailing the health hazards of diesel emissions. In addition, the study that FMCSA cites in support of supposed recent reductions in diesel health hazards provides far from an unbiased perspective on the issue. All of the authors of the study are connected with International Truck and Engine Corporation, a large truck and engine manufacturer with a clear economic stake in any conclusions regarding health hazards from diesel-run vehicles. The lead author of the study, William B. Bunn, is vice president for health, safety and productivity at International.⁹⁹ Likewise, the second author, Thomas J. Slavin, has been a manager of occupational safety and health for International,¹⁰⁰ while the third author, Charles A. Lapin, has been a consultant for the company.¹⁰¹

Agency Ignores Fact that Current Dirty Diesels Will Remain in Use for a Long Time

FMCSA accurately points out that the U.S. EPA has issued regulations that will require a very significant reduction in emissions from new diesel vehicles, beginning in 2007 and to be phased in over the next quarter-century. These regulations will greatly reduce particulate matter and nitrogen oxide emissions from these vehicles. However, what FMCSA fails to mention is that the EPA regulations apply only to new diesel-powered vehicles; they do not require any changes to be made in current, on-the-road diesels. This is a critical omission because the median lifespan of a heavy truck is *thirty years*,¹⁰² and the average heavy-duty diesel engine can last 1.5 million miles before giving out.¹⁰³ That means that motor carrier drivers will still be using the highest polluting vehicles produced under far less protective regulations through the 2020s and 2030s (*see Figure C*).

Unless older trucks are retrofitted with filters — unlikely without a federal requirement — FMCSA cannot simply assume that diesel emissions will suddenly dramatically improve and are not an important health issue for drivers, let alone the rest of the public. Diesel emissions present — and will continue to present for at least some time to come, unfortunately — a very important health hazard for truckers, and FMCSA cannot responsibly increase drivers' exposure to these emissions through increasing the allowable hours of service.

**Figure C. EPA Regulations Affect Only New Vehicles;
Current Dirty Diesels Will Survive on the Roads for Many More Years**



Source: Clean Air Task Force, *Diesel and Health in America: The Lingering Threat*, Boston: CATF, Feb. 2005, at 9. Citing: 1990 Truck Survival Rate, U.S. DOE, 2003.

V. The NPRM Fails to Propose a 24-hour Work/Rest Cycle

FMCA Abandons Previous Policy Statements that Championed a 24-hour HOS Schedule

FMCSA’s failure to adopt a 24-hour HOS schedule is unacceptable given the significant influence of the natural 24-hour circadian rhythm on driver fatigue and crash risks. Moreover, abandonment of a 24-hour schedule in this rulemaking represents a striking reversal of agency policy given that FMCSA originally announced that putting drivers on a 24-hour circadian cycle was to be a linchpin of the new HOS rule.

Citing many studies, the agency declared in its 2000 NPRM that “[i]t has been well established that the hours of the day and night are not equivalent from the perspective of human alertness and safe, efficient, and productive performance of workplace tasks.”¹⁰⁴ The agency also noted that, due to the circadian cycle, people must adjust to changes in their wake-sleep cycle.¹⁰⁵ Non-circadian schedules, such as for night drivers, are particularly exhausting because, due to the evolutionary adaptation to roughly 24-hour light/dark cycles, “[h]uman metabolism, and thus alertness, shows daily patterns, with 24 hour peaks and troughs.”¹⁰⁶ An expert panel convened by FHWA in 1998 to examine potential options for HOS regulations concluded that “the absence of a 24-hour cycle in the HOS regulations” was a “major concern,” and set it as one of the panel’s critical issues.¹⁰⁷ Even in the current NPRM, the agency concedes that “[s]leep researchers and the motor carrier industry generally agree that the hours-of-service rules should promote work schedules built on a 24-hour day.”¹⁰⁸

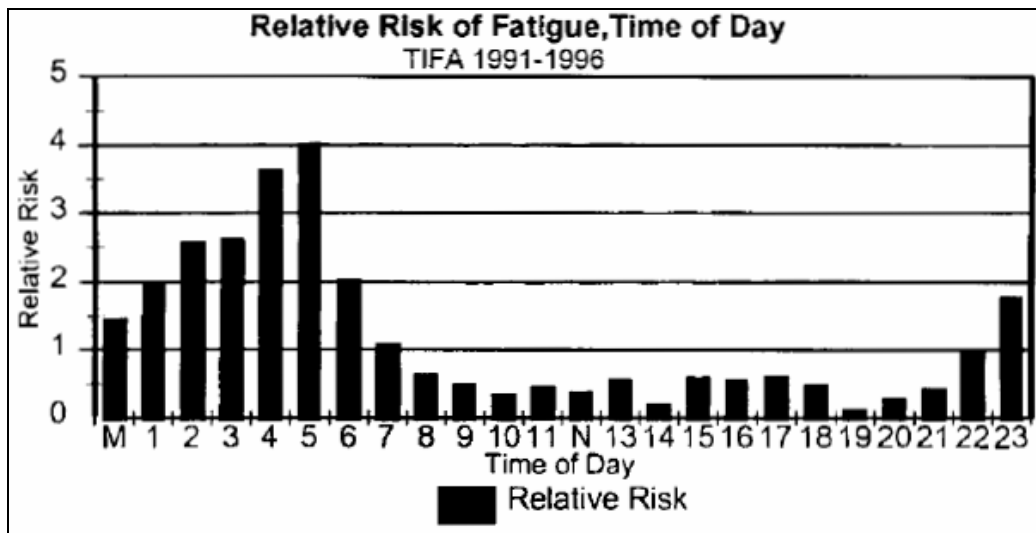
Numerous studies underline the importance of the circadian cycle and the fatigue problems faced by drivers with irregular work schedules. Nighttime workers have historically reported greater levels of fatigue in surveys than daytime workers.¹⁰⁹ Even when workers have a routine of working at night, “sleepiness is still higher compared to

day shifts, including a higher incidence of dozing off at work than during the morning and the afternoon shift” and “[t]he sleep-wake cycle never adjusts completely to rotating night work.”¹¹⁰ Researcher James Miller, in *Fundamentals of Shift Work Scheduling*, notes that “experimental investigations have shown little acclimatization of the biological (circadian, or daily) rhythm of body temperature to night work.”¹¹¹ A large driver fatigue study done for FHWA in 1996 reported that:

For the amount of sleep and the four to five days of driving observed for each driver in this study, it was found that the strongest and most consistent factor influencing driver fatigue and alertness was time-of-day; drowsiness...was markedly greater during night driving than during daytime driving.¹¹²

A chart from the 2000 NPRM, based on data from University of Michigan Transportation Research Institute’s (UMTRI) Trucks Involved in Fatal Accidents (TIFA) database, shows how relative risk of fatigue shoots up in the hours after 9 pm — doubling between 9 pm and 10 pm, doubling again by 1 am, and doubling once more by 5 am (see **Figure D**).¹¹³

Figure D. Relative Risk of Fatigue Increases Dramatically in Late Night-Early Morning Hours



Exhausting, Backward-Rotating 21-hour Schedule Offers No Improvement Regarding Circadian Cycle

Despite the inescapable, fundamental problems with a non-circadian cycle, the NPRM does not propose a 24-hour, circadian work/rest cycle. Instead, the NPRM proposes a schedule in which drivers maximizing their driving would be on a 21-hour, backward-rotating schedule. As with the old HOS rule’s backward-rotating 18-hour schedule, a driver exploiting allowable driving time under the NPRM proposal would begin each driving period earlier than the one before it. Drivers could begin driving

during the day on the first day, but in subsequent days the driver could drive at night, then during the day again, and so on.

FMCSA claims that the “premise of the current hours-of-service rule is that safety and driver health related to the operation of a CMV will be improved by regulations moving drivers *toward* a 24-hour work cycle and providing drivers with sufficient time off to obtain eight hours sleep, while allowing carriers flexibilities in meeting schedule demands.”¹¹⁴ However, none of the studies that the agency cites suggest safety and driver health will be improved merely by “moving toward” requiring a 24-hour work cycle. We could identify no study that indicates that a backward-rotating 21-hour schedule is any improvement over a backward-rotating 18-hour schedule.

Despite its failure to ensure a 24-hour schedule for drivers maximizing their driving, the agency has the temerity to assert that the NPRM proposal would establish a 24-hour day because drivers who maintain a 14-hour on-duty and 10-hour off-duty schedule would keep within a 24-hour work cycle. The agency cites “the advantages of putting most drivers on a 24-hour, or near-24-hour, work cycle”¹¹⁵ and claims that “the 21-hour cycle is...considerably less disruptive to the body’s circadian rhythms than the 18-hour ‘day’ allowed by the old hours-of-service rules...” FMCSA’s assertion that it has created a 24-hour work cycle is a sham. The agency knows full-well that drivers have no incentive to maximize on-duty time because they are generally not paid for non-driving time. Truckers have a strong economic motivation to maximize allowable driving time — in other words, to drive 11 hours and sleep the minimum of 10 hours. Truckers driving loads across the country have no reason to engage in duties other than driving until they reach their destination. They can be expected to drive the maximum 11 hours and then take the minimum 10 hours of off-duty time. In addition, FMCSA fails to offer any evidence that the NPRM’s proposed 21-hour work schedule is any better than the former HOS rule, which at least limited continuous driving to 10 hours.

There are various ways the agency could configure a responsible HOS regulation that would implement a 24-hour work cycle for drivers. One option is a “use-it-or-lose-it” regulation, which would set a 14-hour on-duty maximum, 10-hour driving maximum, and a 10-hour off-duty minimum. Under “use-it-or-lose-it,” truckers who drive more than a specified significant threshold number of hours in a shift (*e.g.*, 9 or 10 hours) would have the option of either using whatever on-duty hours are left after the day’s drive, or including the extra hours left as part of their off-duty rest period. This would provide flexibility for truckers driving substantial shifts to use the off-duty time if they need it, but it would keep drivers on a 24-hour circadian cycle.

VI. FMCSA Should Eliminate the Sleeper-Berth Exemption

The agency’s proposed split sleeper-berth exemption for single drivers is highly problematic because it would allow drivers to divide up their 10-hour recovery into time periods too short to offer adequate recuperative sleep. The revised HOS rule should eliminate this exemption.

A majority of drivers take their rest in a single period of time, which alone should be enough reason for elimination of the sleeper-berth exemption. As the agency has acknowledged, a 1997 study by the Owner-Operator Independent Driver's Association (OOIDA) showed that nearly three quarters of its members take their off-duty time in a single block.¹¹⁶ In addition, the sleeper-berth exemption should be eliminated because it plays into routine abuse of the HOS rules by providing drivers an opportunity to log delays in loading, unloading, and from congestion, etc. as "sleeper-berth time" even though the drivers are not in fact resting.

As the expert panel convened by FHWA in 1998 found, "rest or sleep acquired in a sleeper berth is not equivalent to rest or sleep in a bed" and "[t]he circumstances surrounding sleeper berth use, e.g., typically, split sleep periods, ... highway and/or truck stop noise, and other conditions associated with sleeper berth use, are disruptive of restorative sleep."¹¹⁷ The panel recognized "that sleep attained in discontinuous segments is not as restorative as continuous sleep."¹¹⁸ In addition, the panel cited a number of studies which indicated that drivers who logged rest in their sleeper berths showed signs of fatigue and performance decline earlier and had a higher crash rate than drivers who slept in a bed.¹¹⁹

Split Sleeper-Berth Exemption Contradicts Agency's Endorsement of the Need for Truckers to Obtain a Daily 8 Hours of Continuous, Uninterrupted Sleep

The agency's decision to maintain the split sleeper-berth exemption strikingly contradicts FMCSA's repeated endorsement throughout the NPRM and in the previous go-round of this rulemaking the need for truckers to obtain 8 hours of continuous, uninterrupted rest. "Each driver should have an opportunity for 8 consecutive hours of uninterrupted sleep every day," the agency stated in the NPRM.¹²⁰ FMCSA specifically asserts that its recommended increase of minimum off-duty time to 10 hours was because that was the *minimum* period of continuous off-duty time necessary to "afford the driver an opportunity to obtain a minimum period of 8 hours of sleep."¹²¹ A 1996 study sponsored by the FHWA found that "drivers who are off-duty for 8 hours generally obtain only 5 hours of sleep."¹²² Another study suggested that drivers usually get *no* sleep during logged sleeper berth periods.¹²³ The agency concedes that studies of truck drivers "point specifically to increased crash risk and recollections of increased drowsiness or sleepiness after few than nine hours of off-duty time."¹²⁴ In fact, the agency has acknowledged that research from all transportation modes suggested a need for off-duty periods of 10 to 16 hours to ensure the necessary block of sleep.¹²⁵

The current sleeper-berth exemption does not even guarantee that drivers will take at least one 8-hour block of time. Drivers can split the 10 hours any way they like, such as into two 5-hour segments. A 1997 survey conducted by the OOIDA found that, of those single drivers who split their sleeper-berth breaks, on average they took two 4-hour blocks.¹²⁶

ATA Petition Would Return Truckers to Drastically Extended, Irregular Shifts

FMCSA must reject the American Trucking Association's (ATA) petition requesting that the HOS rule be modified to allow drivers to extend the 14-hour on-duty period by the use of one sleeper-berth period of at least 2 hours duration as long as the on-duty period is followed by a 10-consecutive-hour off-duty period. Accepting such a petition would effectively end the 14-hour on-duty limit and return truckers to drastically extended and irregular shifts. The benefits the agency cites to capping on-duty hours during which drivers may drive would be lost if the agency accepts ATA's proposal.¹²⁷

VII. Despite Science and Principle, NPRM Would Expand Daily Consecutive Driving Hours

Notwithstanding decades of FMCSA policy statements, the NPRM proposes expanding daily consecutive driving time from 10 hours to 11 hours. FMCSA maintains that drivers can accommodate the additional consecutive hour of daily driving because of the alleged recuperative effects of putting most drivers on a 24-hour — or “near-24-hour” — work cycle, as well as providing them with “the opportunity to obtain 8 or more hours of sleep per night.” The agency's reasoning is flawed in a number of ways.

The NPRM Proposes a Schedule that Does Not Respect 24-Hour Circadian Cycle and Fails to Guarantee Daily 8 Hours of Uninterrupted Nighttime Sleep

First, the agency claims that the NPRM's proposed 14-hour on-duty/10-hour off-duty schedule permits drivers to maintain a schedule that respects, or nearly respects, the 24-hour circadian cycle.¹²⁸ This is disingenuous, however, as noted above. Because drivers are not generally paid for non-driving time, truckers in fact have no incentive to log additional on-duty hours. The most economically efficient schedule for on-duty drivers would be 11 hours driving followed by 10 hours off-duty — or a backward-rotating 21-hour schedule. Although FMCSA refers to “the advantages” of “near-24-hour” work cycles, the agency provides no evidence that a backward-rotating 21-hour schedule is an improvement on a backward-rotating 18-hour work cycle. Both schedules invert themselves over time and the driver starts his or her day of driving earlier and earlier.

In addition, the FMCSA maintains that another key advantage of the NPRM's proposed 14-hour on-duty/10-hour off-duty schedule is that it provides drivers “with the opportunity to obtain 8 or more hours of sleep per night.”¹²⁹ Yet again, the agency's premise is false. The NPRM allows drivers to maintain 21-hour schedules, so there is in fact no guarantee that drivers will regularly have their off-duty periods at night. This is significant because numerous studies have demonstrated that daytime sleep is less restful than sleep at night because of circadian-dictated highs and lows of human alertness. What is more, because of the sleeper-berth exemption, the NPRM does not require that drivers will even get 8 hours of rest at a time. Moreover, it is also important to note that the 14-hour on-duty limit restricts only when a trucker can drive, not how many hours he or she can work.

Even if drivers obtained 8 hours of rest after on-duty periods, the dramatic increase in weekly driving hours permitted by the 34-hour “restart” — 28 percent for weekly driving hours and 40 percent for on-duty hours — ensures that drivers will be more, not less, fatigued under the new regime.¹³⁰ FMCSA studiously ignores the impact of increased potential driving and on-duty hours under the NPRM. As the Court pointedly observed:

Even assuming that the agency had adequately documented the beneficial effects from the decreased daily driving eligible “tour of duty,” the effects from the increased weekly driving hours may offset any decrease in fatigue flowing from the fact that drivers have shorter over-all tours of duty.¹³¹

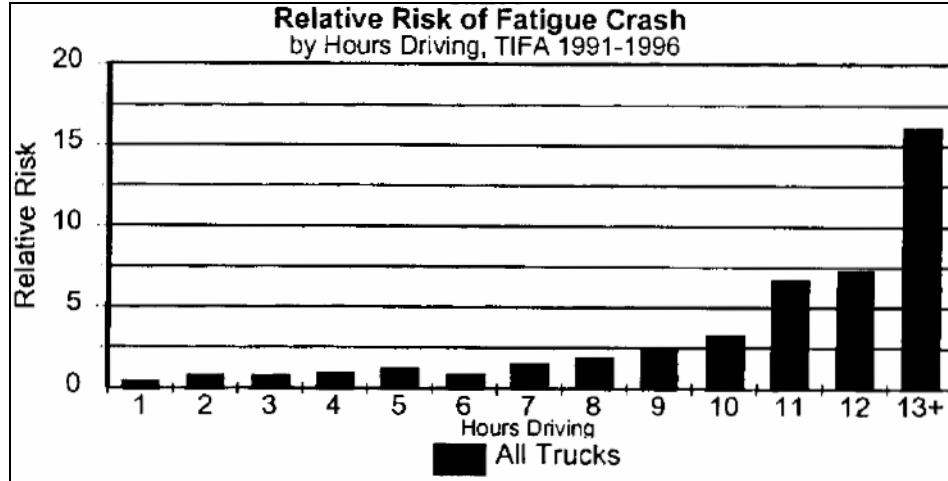
FMCSA Cannot Justify that Better Rested Drivers Will Be Capable of Safely Driving 11th Consecutive Hour

More fundamentally, however, FMCSA does not and cannot justify its leap that if drivers are better rested under the proposed rule (which they are not), then they will be capable of safely driving for 11th consecutive hour. The agency fails to demonstrate how a driver’s initial restfulness can “offset” the safety risk presented by the additional hour of consecutive driving.

Numerous studies demonstrate the increased fatigue and risk associated with longer hours of consecutive driving. FMCSA’s proposed addition of an hour of driving time would add an hour of exceedingly heightened crash risk because the latter hours of driving are easily the most dangerous. Its proposal deplorably undermines the agency’s duty to enhance safety. A 1996 study found a strong relationship between single-vehicle truck crashes and the length of consecutive hours spent driving.¹³² The risk of a crash actually doubled after 9 hours of continuous driving.¹³³ Another study of truck driving found that “[a]ccident risk increases significantly after the fourth hour, by approximately 65 percent until the seventh hour, and approximately 80 percent and 150 percent in the eighth and ninth hours,” respectively [emphasis added].¹³⁴

Even FMCSA admits that “performance begins to degrade after the 8th hour on duty and that this degradation increases geometrically during the 10th and 11th hours.”¹³⁵ In 2000 NPRM, a chart based on data from the University of Michigan Transportation Research Institute’s (UMTRI) Trucks Involved in Fatal Accidents (TIFA) database, clearly shows a striking rise in the relative risk of a fatigue-related crash once drivers pass the 9-hour mark (see **Figure E**). In fact, risk doubles between the 10th and 11th hours of consecutive driving.¹³⁶

Figure E. Risk of a Fatigue-Related Crash Increases Geometrically after 9 Hours



Nevertheless FMCSA claims that, in comparison with the old HOS rule, “this [NPRM] permits up to one additional hour of driving time, but requires at least 2 additional hours of off-duty time...[and] also limits driving to a 14-hour window after a driver comes on duty.”¹³⁷ However, a one-hour reduction in on-duty hours, from 15 hours to 14 hours, is irrelevant in terms of the number of driving hours. Drivers will tend to gravitate towards the maximum driving hours possible in order to enhance their earnings and meet trip deadlines, but will minimize non-driving on-duty hours.

FMCSA also fails to demonstrate how the extra off-duty time enhances a driver’s ability to drive an additional hour. In the vacated 2003 rule, FMCSA claimed the rule “produce[d] substantial net safety benefits compared to the current rule.”¹³⁸ Yet the model used in the agency’s Regulatory Impact Analysis did not even attempt to take into account the effect of time-on-task — meaning the impact on driver fatigue and safety of the longer driving and working hours permitted by the final rule.¹³⁹ As the Court declared:

That analysis...assumes away the exact effect that the agency attempted to use it to justify. The agency’s reliance on the cost-benefit analysis to justify this increase is therefore circular, and the rationality of that explanation is correspondingly doubtful.¹⁴⁰

Nothing FMCSA has presented to date demonstrates that any changes it would make to HOS rules would make that 11th driving hour safe, much less *improve* safety, in accordance with the agency’s statutory mandate. The agency cannot rely on the 2002 RIA, or a new RIA, to make assertions about safety effects that were excluded from the analysis altogether.

Agency Baldly Fishes for Supportive Comment and Junk Science to Bolster Unsupported Proposals and Assertions

FMCSA's requests for comments fail to reflect a sincere interest in gathering nonbiased information and instead demonstrate a clear attempt to "fish" for evidence or junk science to prop up aspects of the NPRM that the agency cannot justify. For example, the agency asks "To what extent does a reduction of the 'daily' duty-period from 15 non-consecutive hours to 14 consecutive hours, and the increase in minimum off-duty time from 8 hours to 10 hours, offset the increase in allowable driving time from 10 hours to 11 hours in terms of driver health, the safe operation of the CMVs, and economic factors in the CMV industry?" (Request F-1-4).¹⁴¹ The request baldly and self-servingly states the conclusion that FMCSA wishes to reach. Moreover, it is requesting precisely the supporting information that the agency itself should be providing to justify its HOS proposal in the first place. It is entirely unacceptable that FMCSA propose HOS regulations that are arbitrary and unsupported by objective, scientific evidence.

In Expanding Daily Consecutive Driving Hours, Agency Effectively Condones Risky Practices It Has Repeatedly Condemned

Adding an hour to daily consecutive driving is, in essence, condoning those dangerous practices that that agency has repeatedly condemned. In its 2000 NPRM the agency disapprovingly observes that "[w]hile drivers who drive to the maximum number of hours allowed and rest to the minimum number of hours required by the HOS rules may be fatigued, the situation of drivers who are not in compliance is undeniably worse."¹⁴² FMCSA was also critical in its 2000 Preliminary Regulatory Evaluation (PRE) when it noted that in a 1995 survey of drivers in New York State, over 40 percent of the drivers admitted sometimes, often, or always driving over 10 consecutive hours.¹⁴³ Legalizing these risky practices through a new rule would not make them any safer.

VIII. 34-hour Restart Allows the Most Tired Drivers to Drive More and Rest Less

One of the most harmful aspects of the NPRM is the 34-hour restart provision. Public Citizen strongly urges that it be eliminated in the revised HOS regulations. The restart allows truckers, once they have reached the maximum hours of allowable weekly driving hours — 60 hours in 7 days or 70 hours in 8 days — to "restart" their weekly accumulation of hours after taking only 34 hours of off-duty time. The 34-hour restart adversely affects driver health and safety in two ways: It dramatically increases both weekly driving and duty hours while significantly curtailing much needed weekly rest. The 34-hour restart allows drivers to drive 77 hours or work 84 hours in 7 days, or to drive 88 hours or work 98 hours in 8 days.¹⁴⁴ This represents a 28-percent increase in weekly driving and a 40-percent increase in weekly on-duty time.¹⁴⁵

FMCSA maintains that the rationale for the 34-hour restart is that "studies [have] indicated that cumulative fatigue and sleep debt can develop over a weekly period, and at least two full periods of sleep are needed to 'restore' a driver to full alertness."¹⁴⁶ However, the agency attempts a sleight-of-hand by asserting that drivers need only two

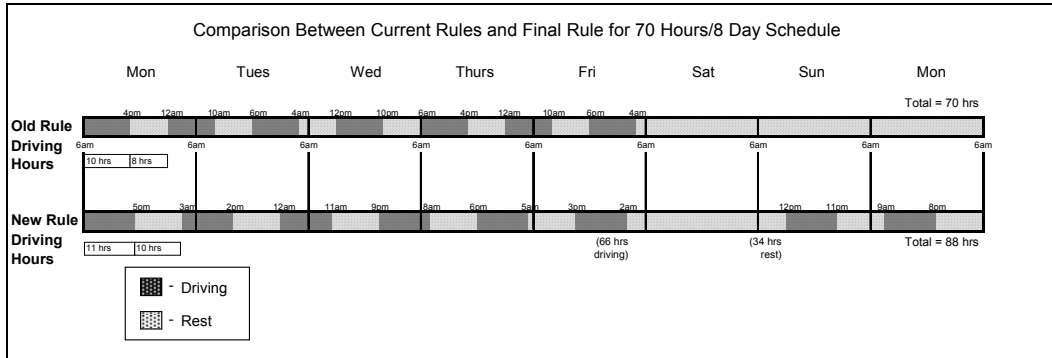
sleep *periods* for their weekly recovery during the restart period. The agency provides no scientific support that a minimum of two sleep *periods* is an effective weekly recovery time. The minimum weekly recovery period that is supported by studies cited in this NPRM and earlier rulemaking notices is two consecutive *nights*' sleep.

None of the research cited by the FMCSA justifies a restart that provides for only two sleep periods, regardless of the time of day. One 1999 simulator study concluded that, a minimum, two full nights and one intervening day — about 32 hours off-duty — would be a minimum restart period, although the study actually studied 58-hour recovery periods and never looked at recovery periods that brief.¹⁴⁷ The study's authors and the agency recognized that the results of the study may not be generalizable because the testing conditions were so benign and unrepresentative of normal driving operations.¹⁴⁸ Another study cited by the agency, performed in 1997, found that when participants in a study using simulators received 36-hour and 48-hour recovery periods after four workdays, “there was no objective evidence of driver recovery.”¹⁴⁹ A 1997 literature review which attempted to assess scientific support for a 36-hour restart found no such support, and in fact found only one study even dealing with a operational schedule that allowed such a brief weekly recovery.¹⁵⁰ The authors stated that this was because “such a short reset period would result in schedules that *would exceed current hours-of-work regulations in most countries*” [emphasis added].¹⁵¹

In support of the restart, FMCSA points out that, by way of exceptions provided in the National Highway Systems Designation Act of 1995,¹⁵² a 24-hour restart is allowed for utility service drivers, groundwater well transporters, and construction material truck drivers.¹⁵³ However, in 2000 the agency conceded that it “ha[d] found no sleep or fatigue research that supports any of the current exceptions or exemptions, including the 24-hour restart provisions” and recommended that these drivers be provided a weekly recovery that included at least two consecutive nights' sleep.¹⁵⁴

FMCSA admits that the restart effectively ends the 7- or 8-consecutive-day limits, but claims that these limits “may require the driver to remain off duty for longer periods of time than necessary to gain adequate restorative sleep.”¹⁵⁵ This does not make sense. Under 7- or 8-consecutive day limits, the most exhausted drivers, those driving the daily maximums repeatedly, receive the longest weekly recovery period, while those driving and working less would reach the 60-hour or 70-hour limits later in the week and have a shorter weekly recovery time. The NPRM's 34-hour restart, on the other hand, has the perverse effect of allowing truckers who maximize their driving to drive more per week with less required recovery time (*see Figure F*). This significant increase in driving coupled with a corresponding decrease in rest will undoubtedly result in lower driver alertness and increased risk of fatigue-related crashes.

Figure F. NPRM Shaves Down Weekly Recovery Period for Truckers Driving at the Maximum



Scientific studies clearly show that as drivers log more hours on the road over multiple days, their performance declines. A 1992 study found that driving patterns over the previous seven days significantly increased crash risk on the eighth day of driving.¹⁵⁶ And a 1999 study by the American Automobile Association found that working a 60-hour week, as opposed to a 40-hour or 50-hour week, markedly raises a driver’s crash risk: “Working the night shift increased the odds of a sleep-related (versus non-sleep-related) crash by nearly 6 times. Working more than 60 hours a week increased the odds by 40 percent.”¹⁵⁷ FMCSA’s own analysis for the 2000 NPRM convincingly demonstrates that a 34-hour restart is unsafe, as it would only exacerbate drivers’ cumulative fatigue, while failing to guarantee even the bare minimum necessary for a truly recuperative weekly recovery period.¹⁵⁸

IX. FMCSA Continues to Neglect Serious Analysis of an EOBR Requirement

FMCSA’s continued failure to require EOBRs is highly irresponsible given that the agency admits that violations of HOS regulations are widespread¹⁵⁹ and EOBRs represent an important means by which to deter many of these violations. The U.S. Appeals Court criticized at length the agency’s lack of consideration regarding whether to require EOBRs, calling its analysis a “one-sided and passive regulatory approach that in all likelihood does not comport with Congress’s direction for the agency to ‘deal[] with’ this issue in light of the statutorily mandated factors for which it has provided.”¹⁶⁰ FMCSA issued an ANRPM on September 1, 2004, requesting information about the use of EOBRs,¹⁶¹ but it is important to note that this ANRPM does not respond to the Court’s concerns regarding the agency’s failure properly to consider requiring EOBRs.

September 2004 ANPRM on EOBRs Senselessly Decouples Critical Issue from HOS Rulemaking and Provides No Promise of Progress

In the ANPRM on EOBRs, the agency stated that the notice’s “purpose is to ensure that any *future requirements* would be appropriate as well as reflect state-of-the-art communication and information management technologies.”¹⁶² The advanced notice thus begins the rulemaking process anew at the earliest and least developed stage, as if

nothing had gone before. It ignores the Court’s observations that FMCSA is obliged to give more than passive consideration to EOBR technology.

Essentially, the agency has senselessly decoupled the EOBR issue from the HOS rulemaking in the regulatory dockets, despite the fact that it was a central issue in the earlier HOS rulemakings, and such decoupling renders its own cost-benefit analysis in this rule suspect. FMCSA has set no deadlines for progress on the EOBR rulemaking, allowing it to continue to take no action on the issue while proceeding under the guise of complying with the Court’s demands. FMCSA must progress to a final rule on EOBRs without further unnecessary delay.

X. Agency Must Provide Full Text for All Studies Cited in Rulemaking Notices

FMCSA has haphazardly provided only abstracts in the docket for a number of the studies that the agency cites in this rulemaking notice, citing copyright protection concerns. This is a completely illegitimate claim. FMCSA may not base any rulemaking on materials not made publicly available and open to public scrutiny and comment. To do so would be a violation of the transparency requirements of the Administrative Procedures Act (APA). Therefore, the agency must provide the full text, and not only the abstracts, of all studies cited in this rulemaking. FMCSA may not rely for its decision on any study for which it has provided only an abstract.

XI. FMCSA Continues to Rely on a Critically Flawed Cost-Benefit Analysis.

Based on its Regulatory Impact Analysis, the agency claims that the net social benefits of the NPRM’s proposed HOS rule are at \$1.1 billion annually, when compared to the previous HOS rule. However, the RIA analysis is fundamentally flawed because it fails to quantify the fatigue-related and other risks of driving longer hours — a fundamental issue in the HOS rules.¹⁶³ Moreover, despite the D.C. Circuit’s serious criticism of the agency’s RIA — including a declaration that it was “of questionable value”¹⁶⁴ — FMCSA’s January 2005 cost effectiveness addendum to the RIA made no attempt to rectify any of the fundamental problems plaguing the initial RIA.¹⁶⁵ The agency gives no indication that such corrections will accompany the final HOS rule. None of the NPRM’s specific requests for comments relates to cost-benefit issues.

The Cost-Benefit Analysis Fails to Take into Account Fatigue and Risks of Driving Longer Hours

The most devastating problem with the model in the RIA is that there is no attempt to take time-on-task into account. An analysis of time-on-task would show the fatigue-related risks of driving longer hours permitted by the vacated rule.¹⁶⁶ As the Court pointed out:

This [RIA] analysis assumes, dubiously, that time spent driving is equally fatiguing as time spent resting — that is, that a driver who drives for ten hours has

the same risk of crashing as a driver who has been resting for ten hours, then begins to drive.¹⁶⁷

Study after study analyzing actual truck crash data, including the agency's own data published in the 2000 NPRM, consistently show a geometric increase in risk from driving more than 8 hours.¹⁶⁸ Yet the RIA simply omits consideration of risks from extended driving hours allegedly because of "uncertainty" about the "magnitude" of the time-on-task effect "for very long hours of driving."¹⁶⁹ Uncertainty provides no reason for FMCSA to disregard time-on-task altogether. As the Court noted, "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."¹⁷⁰

The RIA model's assumption that time-on-task effects are zero is implausible and illogical. If drivers are fatigued after driving 8 consecutive hours and even more fatigued after 9 or 10, then they will be more tired still when permitted to drive for 11 consecutive hours. If drivers are fatigued now after working 60 or 70 hours in 7 or 8 days, they will be still more exhausted when they work 84 to 98 hours in the same time-frames. Such dramatic increases are not the kind of "improvements" rationally made by an agency with safety as its mission. FMCSA must include an appropriate consideration of time-on-task in any new regulatory impact analyses.

The Model Used for Cost-Benefit Analysis Cannot Predict Real-World Outcomes

Another critical flaw with the RIA is that the cost-benefit analysis' "modeling" of crash-reduction benefits cannot accurately predict real-world performance outcomes in trucking. The RIA used the Walter Reed Sleep Performance Model (SPM) to evaluate crash risk, yet the study on which the SPM was based — which shows that more sleep tends to improve performance — inadequately considered time of day (in addition to ignoring the effects of time-on-task). Importantly, its authors have conceded that its implications for truck driving "are not yet known."¹⁷¹

Moreover, in its analysis FMCSA assumes that drivers take their rest in single blocks,¹⁷² despite the fact that the NPRM maintains the sleeper-berth exemption for single drivers and the RIA acknowledges that "continuity of sleep is significant" to the results.¹⁷³

Finally, in addition to these other defects, FMCSA conveniently ignores the health-related benefits of safer rules, such as the physical health benefits for drivers of driving shorter hours and correspondingly, the health costs associated with the proposed rule's longer driving hours.

XII. Many Truckers Oppose the Dangerous Elements of the NPRM's Proposal

Although the motor carriers frequently paint proposed extensions of driving as an opportunity for truckers, many drivers do not support such extensions and are very concerned about shorter recovery periods. In developing a new HOS rule, it is important

that FMCSA take into consideration not only the comments of advocacy groups, trade organizations, technical experts and policy makers, but also consider the concerns of the drivers themselves, whose physical safety and health is at stake.

Many truck drivers have contacted Public Citizen in support of our efforts to ensure an HOS rule that adequately protects highway safety and driver health. In general, the drivers indicate that expanded driving hours are overly exhausting that drivers are not getting sufficient rest. The truckers acknowledge routine HOS fraud, and they also express skepticism towards the motor carriers, who exploit the expanded driving for profit, at drivers' expense.

The statements quoted below, edited only for space and grammar, are taken from e-mails drivers sent to Public Citizen:

“Bravo!!! I've been a truck driver for 10 years and I just knew this insane 11-hour driving rule could not stand! Again, my thanks and the thanks of those persons whose lives will be saved because of this decision - BRAVO!!!”

“It was good news to me that the hours of service regulation put into effect in January has been struck down. I am a dot com refugee who has recently taken a job as a truck driver. I had been an over-the-road trucker many years ago under the old law, in place since 1938. Under the new law it is much harder. Admittedly, it's harder partly because I'm 25 years older, but the major reason is the new hours-of-service law. . .

I have worked 84 hours in the last 8 days and by the end of my shift tomorrow it will be 98 -- legally. I'm beat! So are my fellow drivers.

“I just finished reading Joan's [Claybrook, president of Public Citizen] June testimony to Congress. I had thought that you'd missed the problems with the new HOS rules, but I see that you knew what the rule change was doing before most of the rest of us did. I commend your effort in asking Congress for action to make the trucking industry safer, hours of service recorders should be considered a must to achieve compliance.”

“I am a truck driver, CDL, Class A. I have driven 48 states over the road, Northeast regional including Canada, Dedicated, and Line Haul. As to logbooks and drivers hours of service, I know the following facts are true from firsthand experience working for several different large trucking companies and small owner-operators. I think large trucking companies are all the same from hearing the same types of comments, below, from other truckers while having coffee or meals in truck stops.”

“FACTS OF THE TRUCKING DRIVERS' HOURS

“1. Trucking companies want, and will force, drivers to run as many hours as the DOT [Department of Transportation] says they can in any week because they want the

maximum amount of profit. Most driver managers/dispatchers are not drivers. Or if they ever were drivers, once into dispatching, they become solely profit-motivated.

“2. Most trucking companies do not care at all about the drivers’ well-being, his home time, his income, his benefits, nor safety except [what] may affect profit -- such as an accident – [or] might reduce profit. I have been ordered and threatened to go into hurricanes and into three-day blizzards.

“ 3. Most drivers are dog-tired most of the time. For example, when we get a day off, all we want to do is sleep. The number of hours the DOT requires a driver to be off each day or each week is irrelevant as to their alertness or tiredness. Drivers are constantly being pushed, threatened, coerced, whatever to make one more run to the maximum amount of their hours they still have available, and to stay out on the road rather than to go home, regardless of how tired they are.

“4. For the responsibility of safely driving an 80,000 pound truck at 65 mph, most drivers are grossly underpaid, even compared to minimum wages at fast-food restaurants, which underpayment as well as long hours and weeks away from home also explains the driver shortage and the need for trucking companies to hire anyone even if they cannot speak English. To make a decent income, many drivers feel forced to speed, tailgate, and manipulate the times in their “liebook.”

XIII. The Remedy: Adequate Health and Safety Protections for Truck Drivers

FMCSA’s latest NPRM on the HOS rules demonstrates a striking indifference to the concerns expressed by the U.S. Court of Appeals and represents an abdication of the FMCSA’s duties as an agency entrusted with protecting highway safety and truck driver health.

The NPRM puts forward the 2003 final rule, utterly ignoring the fact that it was vacated by the Court of Appeals in a decision that harshly criticized almost every aspect of the rule for the irresponsible manner in which FMCSA proposed extending daily driving hours, dramatically increasing allowable weekly driving and on-duty hours, shaved down the weekly off-duty time for the most exhausted drivers, permitted a split sleeper-berth exemption for single drivers, and failed to adequately address an EOBR requirement.¹⁷⁴ The agency did not even *consider* in its cost-benefit analysis crucial factors such the effect on driver health of increasing consecutive and weekly driving hours. As such, the benefits of the NPRM are seriously over-inflated. The HOS rule proposed in the NPRM would result in many unnecessary highway fatalities and injuries.

The NPRM repeatedly fails to provide any scientific support for the crucial elements of the agency’s proposal and even frequently cites studies that contradict the agency. In addition, FMCSA’s HOS proposals by and large fly in the face of scientific evidence. Moreover, throughout the NPRM the agency shamelessly uses specific requests for comments to “fish” for supportive comment and for junk science that would

bolster the agency's unsupported proposals and assertions. This is completely unacceptable.

Motor carrier drivers deserve adequate health and safety protections as the law requires — protections that should be afforded to all American workers. Public Citizen calls on FMCSA to propose a new HOS rule that ensures adequate protection of highway safety and driver health:

- **Maximum Driving Time in Each Shift:** Drivers should accrue no more than 10 consecutive hours of driving in a shift. Even fewer consecutive hours, as the research literature and the agency itself has shown, would result in safer operations.
- **Minimum Off-Duty Time in Each Shift:** Solo drivers should take at least 10 consecutive hours off-duty in a single block of time, regardless of whether the off-duty rest time occurs in a sleeper berth or elsewhere. Studies are unanimous that commercial drivers get both less sleep and lower quality sleep when it is taken in two, separate sleeper-berth or other rest periods.
- **Shift Cycle:** A shift schedule that adheres closely to a fully circadian cycle is more desirable than the minimum 21-hour shift rotation of drive/rest permitted under the April 2003 regulation. In a 14 on-duty hours/10 off-duty hours schedule, trucker driving long shifts should be required either to use the remaining on-duty hours available after they finish driving or tack on the remaining hours to their off-duty period. This would ensure that drivers remain on a true 24-hour schedule.
- **Ceiling on Total Accrued Driving Time in Each Tour of Duty:** Drivers should not be able to accrue more than 60 hours of driving over 7 consecutive calendar days or more than 70 hours of driving over 8 consecutive calendar days. Fewer hours of driving would further improve safety.
- **“Restart” Provision:** Drivers should not be able to “restart” their driving hours by taking only 34 hours off-duty. A ceiling on driving hours over 7 or 8 consecutive days allows drivers sufficient layover time if they drive the maximum hours each day and reach the weekly limit. Drivers should be afforded a weekly off-duty period that includes at least two to three nights of rest after a week of driving.
- **Maximum Shift Working Time:** Drivers should work no more than 14 hours in each shift.
- **Other Activities during the Work Shift:** Meals, fuel stops, and other activities should be “on the clock,” that is, included in the maximum hours of on-duty time in each shift before a driver is able to drive again. Four hours of non-driving duty time in each shift would be available under a 10 driving hours/14 on-duty

hours/10 off-duty hours schedule. Drivers need this time for meals, fueling, loading/unloading, and paperwork obligations.

- **Sleeper Berth or Other Breaks “Off the Clock”:** We oppose any regulatory or legislative maneuvers to extend the overall length of the work day. Such action would restore the abusive practices that prevailed under the prior rules, including the ability of shippers and receivers to intimidate drivers to wait in queues for loads, to load/unload freight, or to exceed maximum driving hours in each shift and to accommodate these violations by concealing them as “off the clock” off-duty, sleeper-berth, or meal breaks, and would further undermine efforts to put truck drivers on a 24-hour circadian schedule.

Thank you for your consideration of our comments.

Sincerely,

Joan Claybrook
President, Public Citizen

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²¹ Federal Highway Administration, *Crash Problem Size Assessment Update: Large Truck Crashes Related Primarily to Driver Fatigue*, Washington, D.C.: FHWA, 1999, at 5.

²² 65 FR 25546. Moreover, FMCSA’s lowering of the figure to just over 8 percent in its Regulatory Impact Analysis unjustifiably downplays the incidence of crashes attributable to driver inattention. Federal Motor Carrier Safety Administration, Regulatory Impact Analysis, Docket No. 2350-23302, Washington, D.C.: FMCSA, Dec. 2002, at ES-6, 8-15.

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- ¹¹² Wylie, C.D., *et al.*, “Commercial Motor Vehicle Driver Fatigue and Alertness Study,” Goleta, CA: Essex Corp., Nov. 1996.
- ¹¹³ 65 FR 25543.
- ¹¹⁴ 70 FR 3342.
- ¹¹⁵ 70 FR 3346
- ¹¹⁶ 65 FR 25550.
- ¹¹⁷ 65 FR 25586.
- ¹¹⁸ 65 FR 25561.
- ¹¹⁹ 65 FR 25586, 25561. *See, e.g.,* Hertz, *Tractor-Trailer Driver Fatality: The Role of Non-Consecutive Rest in a Sleeper Berth* 10 (1988) (fatal-truck-crash risk increases three-fold if driver obtains 8 hours rest in two periods).
- ¹²⁰ 70 FR 3346; *See also:* 68 FR 22469; 65 FR 25554.
- ¹²¹ 70 FR 3346.
- ¹²² Wylie, C.D. *et al.*, “Commercial Motor Vehicle Driver Fatigue and Alertness Study,” Goleta, CA: Essex Corp., Oct. 1996.
- ¹²³ Balkin, T., *et al.*, Walter Reed Army Research Institute, *Effects of Sleep Schedules on Commercial Motor Vehicle Driver Performance*, Washington, D.C.: FMCSA: May 2000, at 4-48 to 4-49.
- ¹²⁴ 70 FR 3346.
- ¹²⁵ 65 FR 25554.
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- ¹²⁷ 70 FR 3346.
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- ¹³⁰ 65 FR 25555: “For weekly off-duty periods, the research indicates that to negate the effect of accumulated week-long sleep deprivation and restore alertness to the human body it is necessary to have at least two consecutive nights off-duty that include the periods from midnight to 6:00 a.m.”
- ¹³¹ *Public Citizen, et al. v. Federal Motor Carrier Safety Administration*, 374 F.3d 1209 (D.C. Cir. 2004).
- ¹³² Saccomano, F., *et al.*, “Truck Safety: Perceptions and Reality,” (Ontario: Institute for Risk Reduction, 1996) at 157-174.
- ¹³³ Saccomano, F., *et al.*, “Truck Safety: Perceptions and Reality,” (Ontario: Institute for Risk Reduction, 1996) at 157-174.
- ¹³⁴ Lin, T., *et al.*, “Modeling the Safety of Truck Driver Service Hours Using Time-Dependent Logistic Regression,” *Transportation Research Record* 1467 (Washington, D.C.: Transportation Research Board, 1994), at 1-10.
- ¹³⁵ 68 FR 22471.
- ¹³⁶ 65 FR 25544.
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- ¹³⁸ 68 FR 22471.
- ¹³⁹ 68 FR 22497. *Also see:* Federal Motor Carrier Safety Administration, “Regulatory Impact Analysis and Small Business Analysis for Hours of Service Options,” Docket No. FMCSA-1997-2350-23302, Prepared by ICF Consulting and Jack Faucett Associates, Washington, D.C.: FMCSA, Dec. 2002 at 8-8.: “Based on the literature reviewed, the time-on-task effect was not quantifiable independent of and in addition to the circadian and recovery/decrement recovery factors. Therefore, the TOT [time-on-task] effect was not used as a separate factor in the analysis of the options conducted for this report.”
- ¹⁴⁰ *Public Citizen, et al. v. Federal Motor Carrier Safety Administration*, 374 F.3d 1209 (D.C. Cir. 2004).
- ¹⁴¹ 70 FR 3347.
- ¹⁴² 65 FR 25558.
- ¹⁴³ Federal Motor Carrier Safety Administration, “Preliminary Regulatory Evaluation and Regulatory Flexibility Act Analysis: Hours of Service NPRM” Docket No. 2350-954 (Washington, D.C.: FMCSA, April 2000), at 4.
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- ¹⁵² 65 FR 25549.
- ¹⁵³ 70 FR 3348, 3349.
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- ¹⁵⁸ 65 FR 25555, 25556
- ¹⁵⁹ 65 FR 25558.
- ¹⁶⁰ *Public Citizen, et al. v. Federal Motor Carrier Safety Administration*, 374 F.3d 1209 (D.C. Cir. 2004).
- ¹⁶¹ 69 FR 53386.
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- ¹⁶⁵ Federal Motor Carrier Safety Administration, "Addendum to Regulatory Impact Analysis for the Hours of Service (HOS) Rulemaking: 'Analysis of Uncertainty in HOS Cost and Benefit Estimates' and 'Cost Effectiveness of HOS Rules,'" Docket No. FMCSA-2004-19608-401, Prepared by ICF Consulting and Jack Faucett Associates, Washington, D.C.: FMCSA, Jan. 2005.
- ¹⁶⁶ Federal Motor Carrier Safety Administration, "Regulatory Impact Analysis and Small Business Analysis for Hours of Service Options," Docket No. FMCSA-1997-2350-23302, Prepared by ICF Consulting and Jack Faucett Associates, Washington, D.C.: FMCSA, Dec. 2002 at 8-8, 8-22, 9-7.
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