NO DATE FOR ORAL ARGUMENT HAS BEEN SET

No. 06-1078
(Consolidated with No. 06-1035)

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

PUBLIC CITIZEN, CITIZENS FOR RELIABLE AND SAFE HIGHWAYS, PARENTS AGAINST TIRED TRUCKERS, ADVOCATES FOR HIGHWAY AND AUTO SAFETY, and INTERNATIONAL BROTHERHOOD OF TEAMSTERS,

Petitioners,

v.

FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION and THE UNITED STATES,

Respondents.

On Petition for Review of a Final Rule Issued by
Respondent Federal Motor Carrier Safety Administration

INITIAL REPLY BRIEF FOR PETITIONERS

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GLOSSARY

AHAS	Advocates for Highway and Auto Safety
APA	Administrative Procedure Act
CMV	Commercial motor vehicle
DE	Diesel exhaust
DOT	Department of Transportation
EPA	Environmental Protection Agency
EPA HAD	EPA, *Health Assessment Document for Diesel Engine Exhaust* (2002)
FARS	Fatality Analysis Reporting System
FLSA	Fair Labor Standards Act
FMCSA	Federal Motor Carrier Safety Administration
HOS	Hours of service
IIHS	Insurance Institute for Highway Safety
LBP	Lower back pain
LTL	Less-than-truckload
MCSA	Motor Carrier Safety Act of 1984, Pub. L. 98-554, 98 Stat. 2832 (1984)
NIOSH	National Institute for Occupational Safety and Health
NPRM	Notice of Proposed Rulemaking

NTSB	National Transportation Safety Board
OOIDA	Owner-Operator Independent Drivers Association
RIA	Regulatory Impact Analysis
TIFA	Trucks Involved in Fatal Accidents
TOT	Time-on-task
TRB	Transportation Research Board of the National Academy of Sciences
WBV	Whole body vibration

SUMMARY OF ARGUMENT

FMCSA tries to cast this case as pitting its "reasonable interpretation of the scientific evidence" against petitioners'—a contest the agency claims it should win under the APA. Br. 23. In so arguing, FMCSA attempts to deflect attention from the fact that what was true in 2003 remained true in 2005: No evidence in the record supports the rule's increase from 10 to 11 consecutive driving hours or its dramatic increase in weekly driving and working hours.

FMCSA can justify the increase to 11 driving hours only by abandoning its longstanding position that crash risk mounts exponentially after 8 hours' driving and that 10 hours' driving lies at the outer bounds of safety. Unhappy with the pre-2003 scientific consensus on this point, FMCSA commissioned new studies. Two suggested that driving 11 hours was *not* safe, and the third did not answer the question. Neither pre-2003 nor post-2003 research supports the agency's decision.

The record on the 34-hour restart is even more lopsided. FMCSA defends the provision by painting it as a "recovery period" benefiting drivers, when it significantly increases the number of hours truckers can drive—hence its $1.5 billion annual cost savings for industry. The record contains not one iota of evidence that it is safe for truckers to drive 77/88 hours, or to drive when they have worked 84/98 hours, in 7/8 days. FMCSA's regulatory impact analysis ("RIA") completely ignored the cumulative fatigue and damaging health

consequences such schedules foster, contrary to the agency's statutory obligations to promote safety, reduce fatigue-related incidents, protect driver health, and consider costs and benefits.

FMCSA urges the Court to consider HOS rules as an "interconnected whole," Br. 10; *see also* Intervenors' Br. 8, but that exhortation goes only one way: The agency continues to disregard the impact on driver performance and health of *combining* long daily and weekly hours.

ARGUMENT

I. SAFETY

A. 11 Driving Hours

1. Many studies have established sharply elevated crash risks with 8+ hours of driving. Petitioners' Br. 5-7, 18-20 & n.6. Most were based on real-world crashes, not laboratory simulators, and represent the gold standard of scientific research, with control of confounding factors such as time of day. IIHS Br. 9 & n.15. Although intervenors argue (at 18-19, 24) that driving time is not an important factor in truck crashes, that has not been the agency's position. As FMCSA has long believed, Petitioners' Br. 6, 38-39, and as this Court emphasized, "studies show[] that performance begins to degrade after the 8th hour on duty and [that risk] increases geometrically during the 10th and 11th hours."

Public Citizen v. FMCSA, 374 F.3d 1209, 1218 (D.C. Cir. 2004).

FMCSA still does not renounce that conclusion. Instead, it sidesteps it, contending that decades of research establishing steep performance loss in the 10th and 11th driving hours are now "of limited value," given the 2003/2005 rule's 14-hour driving window and 10-hour off-duty period. Br. 26.

But FMCSA is not writing on a clean slate. Even apart from statutory mandates requiring FMCSA to resolve doubts in favor of safety, Petitioners' Br. 39, the APA incorporates a presumption "*against* changes in current policy that are not justified by the rulemaking record." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.,* 463 U.S. 29, 42 (1983). In 2004, the Court looked for citations from FMCSA to support the policy change. It did not find them. *Public Citizen,* 374 F.3d at 1218-19.

After the Court's decision, FMCSA sought new research findings justifying the 11-hour driving limit. It failed. Two of the three new studies suggest 11 hours is unsafe, Campbell (2005) (2004-19608-2116) and Jovanis (2005) (2004-19608-2091), while the third suggests crash risk may be high for drivers in *both* the 10th and 11th hours, Hanowski (2005) (2004-19608-2089). Petitioners' Br. 18-19, 37-38. Faced with unsatisfactory results, FMCSA now decries the "substantial weaknesses" of its new studies. Br. 27.

FMCSA's criticisms are unconvincing. That Campbell's TIFA data was collected when the driving limit was 10 hours suggests the percentage of fatigue-related crashes in the 11th driving hour is biased *low* because many truckers crashing after 10 hours will not have admitted driving illegally, inflating fatal crashes in the 9th and 10th hours and understating them in the 11th+ hours. *See* IIHS Br. 12. Campbell emphasizes that, for nearly one third of fatal crashes, the database lacks hours driven at the time of the crash because drivers/carriers hesitate to incriminate themselves, Campbell 9-10, and that FARS data systematically understates fatigue-related fatal crashes. *Id.* 1-2; *see infra* pp. 10-11.

FMCSA's critique of Jovanis (2005)—which found crash risk escalating sharply after the 6th driving hour and the 11th-hour risk three times the 1st—also fails. Br. 28. Though Jovanis involved small samples in the 11th hour, FMCSA overlooks that its findings were similar to another 2005 study by the same research team, Park (2005) (2004-19608-1998), using data from the 1980s. "These findings, using data 20 years apart, establish a consistent pattern of increased crash risk with hours driving." Jovanis 17.[1]

[1] FMCSA also downplays Jovanis's findings on the ground that sleeper-berth operations would have been governed by the 2003 sleeper-berth rule. Br. 28-29. This new argument by agency counsel must be rejected. *SEC v. Chenery,*

The important point is not just that FMCSA's criticisms of its new studies are unsound. It is that the agency lacks any new, improved research findings, as *State Farm* requires, to replace decades of studies establishing that driving 11 consecutive hours—long enough to drive from Washington, D.C. to Jacksonville, Florida, or Nashville, Tennessee—is unsafe.

2. FMCSA touts the 6.28 hours per day truckers supposedly sleep, which it contends is 1.5 hours more than before, as evidence that drivers can now safely drive 11 hours. Br. 24, 31-32. FMCSA produces this sleep gain by selectively citing research regarding how much drivers slept pre-2003. FMCSA cites one study to suggest that pre-2003 drivers averaged 5.18 hours' daily sleep. 70 FR 49993, 50003.[2] But Dingus 71, 181, 183 (2002) (1997-2350-23301), and Balkin 4-27, 4-47 (2000) (1997-2350-2010) found that truckers slept 6 and 7.31

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332 U.S. 194, 196 (1947). At any rate, according to FMCSA, only a small percentage of drivers split their sleeper-berth time before the 2005 rule change, 70 FR 49978, 50027 (2005), and Jovanis does not indicate that drivers in that study split sleeper-berth time.

[2] That study actually found, however, that truckers spent 5.18 hours in bed during their principal sleep periods, not including additional naps. Wylie ES-11 to ES-12, 4-19 (1996) (2004-19608-76). Thus, 5.18 hours did not reflect drivers' *total* daily sleep.

hours, respectively.[3]

Whether or not 6.28 hours' sleep is more than truckers got pre-2003, FMCSA has repeatedly recognized that each driver needs "8 consecutive hours of uninterrupted sleep every day," 70 FR 3339, 3346 (2005); 68 FR 22456, 22469 (2003); 65 FR 25540, 25554 (2000); *see Public Citizen,* 374 F.3d at 1219, and that 6 hours' sleep leads to impaired performance. 70 FR 50015-16; Petitioners' Br. 35-37. FMCSA's defense (at 31) that it "cannot force drivers to sleep a given amount per day," but can ensure only "that drivers have the opportunity to obtain 7-8 hours of sleep," is beside the point. Given the finding that truckers are *not* sleeping anywhere near the 8 hours needed for safe driving, it was irrational for FMCSA to expand consecutive driving time on the premise that truckers are now sufficiently rested.

But even if drivers were sleeping 8 hours daily, the increased sleep still would not justify raising driving limits. FMCSA's assumption that two additional off-duty hours offsets the risk of driving 11 hours is unfounded. Petitioners' Br.

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[3] Although the final rule embraced Hanowski's 6.28-hour daily sleep finding, 70 FR 49983, 49991, 49993, 50003, agency counsel now suggest that figure may be too low, again because of the sleeper-berth rule change. Br. 32. This new argument must be rejected. In any event, Hanowski is silent on sleeper-berth usage. FMCSA cites no evidence showing that drivers are now sleeping more than 6.28 hours per day.

34-37. Extended driving hours are tiring not only because they reduce time available for sleep, but because there is a limit on how long even a well-rested trucker may safely drive. The agency put it well: "[T]he ability of humans to maintain the levels of vigilance and cognitive performance required for safe driving . . . is clearly influenced by the time spent performing the task." DOT, *Annotated Literature Review* 12 (1999) (1997-2350-956).

3. FMCSA's and Intervenors' reliance on the rule's reduction of the driving-eligible window is equally flawed. First, they state that the rule imposes a daily limit of 14 hours on-duty. FMCSA Br. 10, 24, 30; Intervenors' Br. 14. Not so. The 2003/2005 rule did *not* reduce drivers' permissible daily on-duty hours. It reduced from 15 to 14 hours the window in which truckers may *drive*. 49 C.F.R. § 395.3(a)(2). If drivers are burdened with extensive non-driving duties or imperfect "logistics," FMCSA Br. 17, 40-41; Intervenors' Br. 31, their duty hours will not necessarily decrease simply because FMCSA prohibits *driving* after 14 hours on-duty. A driver may remain on-duty, performing non-driving work *indefinitely,* and resume driving after only 10 hours' rest (subject to weekly limits). 70 FR 3347; 68 FR 22504.

Even if it were true that truckers work "only" 14-hour days under the 2003/2005 rule, nowhere has FMCSA demonstrated that this reduction mitigates

the amplified risk of longer consecutive driving hours. *See Public Citizen,* 374 F.3d at 1218. The agency leaves unanswered the assessment of its Expert Panel and NIOSH that 14-hour work shifts themselves are excessive. Belenky 21 (1998) (1997-2350-618) ("Expert Panel"); NIOSH Comments 3 (2000) (1997-2350-22637). And because the rule must be viewed as an "interconnected whole," its significant increase in *weekly* driving/working hours may offset any potential (but undocumented) decrease in fatigue from a shorter work day. *Public Citizen,* 374 F.3d at 1218.

Lacking specific supporting studies, FMCSA invokes "common sense." Br. 29-30. But common sense suggests that drivers who work 14-hour days, starting at varying hours, day-in-and-day-out, moving 40+ tons of freight at highway speeds in a monotonous, tiring task requiring heightened vigilance; who engage in hours of heavy lifting; who sleep just over 6 hours daily, often in a sleeper berth; and who drive up to 77/88 hours or work up to 84/98 hours in 7/8 days are not so well rested and refreshed that they can safely drive for 11 consecutive hours.

4. Individual driver comments, preliminary 2004 crash data, and the 2005 RIA also fail to salvage the 11-hour driving limit.

a. The agency's use of driver comments to show that truckers feel more rested under the 2003 rule is anecdotal and selective. FMCSA Br. 24, 36-37. The drivers of greatest concern are the significant number now working harder and driving exhausted because of expanded legal limits. *E.g.,* 2004-19608-618 ("I now am seeing many more CMV crashes than before the 2003 change. I am also experiencing more close calls myself involving others CMV[s]. Every day I see trucks drifting out of [their] lanes, weaving, slowing for no reason and then accelerating, these drivers are falling asleep at the wheel."), -484 ("With the new HOS . . . , I am working more now with less rest than I have ever done. . . . Fourteen (14) hours with eleven (11) hours driving is requiring people to operate in [an] exhausted condition . . . ."), -614 ("I am a truck driver who has 14 years experience. I know that 11 hours driving in todays traffic is over bearing. The 34 hour restart only wears out a driver even more."), -620 ("Due to the HOS rule the company that I work for has forced more miles per day and more on duty not driving time on me. . . . 2 hour[s] more off duty time a day really make no difference. . . . The 2003 hos rule has resulted in me driving more hours, being on duty more hours, and having less time off."), -241, -418, -528, -539, -872.

b. FMCSA's frequent reference to crash statistics and self-selected reports from carriers purportedly showing fewer crashes in 2004 than

2003 is equally unavailing. Br. 14, 25, 30, 44. The final rule compared fatal truck-crash data in the FARS database for the first 9 months of 2004 to the same 9-month period in 2003. That partial data reflected a slight decline in fatal truck crashes and fatigue-related crashes. 70 FR 49999, 50010.

However, as a memorandum entered into the record in February 2006 reflects, 2004-19608-2458, *cited in* FMCSA Br. 25 n.1, 44, the agency knew *before* it issued the 2005 rule that the full-year 2004 data showed that total fatal truck crashes *increased* from 4,335 in 2003 to 4,440 in 2004 and that the more favorable 9-month data reported in the final rule was misleading.

Furthermore, even while continuing to cite the preliminary crash data, FMCSA conceded that it "reveals nothing specific to the 11th hour of driving time, nor can it be attributed directly to the 2003 rule." 70 FR 49999; *accord id.* 50010, 50012. FMCSA discounted the data as "mostly preliminary, self-reported without statistical controls, and also reflect[ing] small sample sizes." *Id.* 49981. As IIHS correctly cautioned, assertions that the 2003 rule caused a decline in crashes "have no scientific basis." IIHS Comments 2 (2005) (2004-19608-1800). Despite admitting that such data is preliminary and undependable, FMCSA seeks to rely on it here.

Additionally, FMCSA emphasizes the very aspect of the FARS data it

knows to be especially unreliable—the percentage of "fatigue-related" crashes, based on subjective police accident reports. FMCSA Br. 14, 25, 30, 44. The full-year 2004 data reflects that the number of fatigue-related fatal crashes dropped from 74 in 2003 (1.7%) to 66 in 2004 (1.5%) and that the number of fatigue or inattention crashes combined increased from 286 to 293 (6.6% in both years). FMCSA Memo (2004-19608-2458). FMCSA and other transportation agencies have long recognized that police reports systematically understate fatigue's role. *E.g.,* 65 FR 25545; NTSB 1-2 (1995) (2004-19608-2013). Accordingly, FMCSA has previously estimated that the actual percentage of fatigue-related fatal crashes is much higher than FARS reflects. Petitioners' Br. 4-5.

c. FMCSA invokes the 2005 RIA's cost/benefit analysis to justify the 11-hour driving limit. FMCSA Br. 33-34. Because the agency provided no notice or opportunity for comment on its novel "time on task" ("TOT") multipliers, its RIA deserves no deference. It is no answer that, given the Court's 2004 opinion, petitioners knew FMCSA had to adjust its model somehow. *Id.* 45. This Circuit's law is clear. An agency may not change its model's methodology without notice and comment. *Chamber of Commerce v. SEC,* 443 F.3d 890, 900 (D.C. Cir. 2006). Similarly, the RIA cannot proclaim a $586 million annual industry cost of eliminating the 11th hour, RIA 74 (2005) (2004-19608-2094),

without explanation or supporting data. The most critical factual material relied on by the agency must be publicly exposed to refutation. Petitioners' Br. 47.

FMCSA's substantive defense of the RIA's TOT multipliers is perfunctory, despite its obligation, where its model's methodology is challenged, to "provide a complete analytic defense." *United States Air Tour Ass'n v. FAA,* 298 F.3d 997, 1008 (D.C. Cir. 2002) (citation omitted). Petitioners agree with FMCSA and Intervenors that the TIFA data is imperfect. Nonetheless, it was FMCSA's decision "conservatively" to rely on it—uncertainties and all—to estimate the adverse safety impact of driving longer consecutive hours. FMCSA Br. 14-15. Having made that choice, the agency may not distort the data to serve its own ends.

TIFA showed that the relative risk of a fatigue-related crash in the 11th driving hour was more than double the risk in the 10th hour and nearly 10 times higher than in the 1st. RIA 45; Petitioners' Br. 18, 49. Although petitioners' opening brief inadvertently stated that "crash risk" (rather than "risk of a fatigue-related crash") at 10 hours was 4.5 times higher and at 11 hours, nearly 10 times higher, than the 1st hour, that slip does not undercut our point. FMCSA agrees that TIFA showed "that the relative risk of a large truck being involved in a fatigue-related crash in the 11th hour of driving . . . is notably higher than in the

10th hour." 70 FR 49997. But by deriving a curve and plotting the last datapoint for the 13+ hour group at 17 hours and by computing risk increases relative to *average* driving hours, the RIA reduced the risk in the 11th hour to a mere 30% increase over the 10th hour—*nearly a 4-fold reduction* from the actual data. RIA 61; *see* Petitioners' Br. 48-50 & Appendix A-3; IIHS Br. 10-11. FMCSA has no answer. The RIA's "sensitivity analysis" raises the 11th-hour relative risk by a factor of only 1.4, RIA 76, not nearly enough to compensate for its 4-fold reduction of that risk.

Petitioners do not claim they have "a better curve to fit the TIFA data." Intervenors' Br. 25. Given FMCSA's choice to rely on a single dataset where a change in plotting a single point could fundamentally alter the curve's shape and resulting risk predictions, the agency had no reason to generate *any* curve to approximate the TIFA data rather than use the actual data. Petitioners' Br. 49-50.

Common sense supports petitioners' argument. FMCSA's data manipulation trivialized the heightened fatigue and crash risk for drivers with each successive driving hour beyond 8 hours. RIA 61; Petitioners' Br. 50-51. To merit deference, "model assumptions must have a 'rational relationship' to the real world." *Appalachian Power Co. v. EPA,* 249 F.3d 1032, 1053 (D.C. Cir. 2001). FMCSA's assumptions do not.

B. 34-Hour Restart

1. FMCSA's defense of the 34-hour restart as a "recovery" period, Br. 15, 24, 34, is disingenuous. The restart does not allow "weary drivers" to "zero out" fatigue by "taking time off to recover and start refreshed." *Id.* 34. Rather, it allows drivers who have exhausted weekly hours to resume driving sooner—indeed, far sooner—than pre-2003. Petitioners' Br. Appendix A-1 to A-2; 70 FR 3347-48. The restart allows truckers to drive nearly 350 hours per month—61 hours more than under the pre-2003 rule. IIHS Br. 4-5.

FMCSA and Intervenors insist that the agency's predictive judgment that carriers and drivers will not take advantage of the 28% increase in driving hours and 40% increase in on-duty hours enabled by the restart, Petitioners' Br. 14-15, is entitled to deference. FMCSA Br. 43; Intervenors' Br. 15-16. But that assessment runs counter to the RIA's predictions, other industry data, and many drivers' comments, and arises in an industry in which "noncompliance with [HOS] federal regulation" is "the stuff of legend." *Public Citizen,* 374 F.3d at 1221 n.1; *see also* TRB, *Literature Review* 141-42 (2005) (2004-19608-2084) ("TRB"); Petitioners' Br. 5.

FMCSA completely misses the point of petitioners' argument that the agency sought to "have it both ways" about whether truckers are driving more

hours. FMCSA Br. 33. Petitioners are not "confused" by the RIA's sensitivity analysis and do not suggest the RIA used different driving-hour numbers for its productivity and safety analyses. Our point is that FMCSA argued throughout the 2005 rule that adverse safety and health effects from long consecutive and weekly driving hours are of no concern because truckers are not driving those extra hours, while telling the opposite story in its RIA, estimating billions of dollars in industry losses if these excessive, supposedly unused, hours are eliminated. Petitioners' Br. 15-17, 30-33.

FMCSA cites its field survey to suggest that truckers are not driving longer under the 2003/2005 rule, Br. 16, 35, although its survey showed that nearly 27% of drivers had taken a recovery period of 36 or fewer hours. Petitioners' Br. 15-16. In the RIA, moreover, FMCSA recognized that its field survey reflected only "a small share of total trucking activity," with owner-operators, less-than-truckload ("LTL") firms, and private carriers sparsely represented. RIA 16-17, 20. The Schneider and IIHS driver surveys disclosed higher usage of shorter restarts, and Schneider showed a far higher percentage of drivers working more than 64 hours per 8-day period. Petitioners' Br. 15-16, 31. Expressly conceding that FMCSA's survey likely "understate[d] the intensity of regular operations," the RIA admitted that "more than half of for-hire operations . . . are intensive enough

to press the HOS limits." RIA 67 & n.41.

FMCSA is careful not to reveal the percentage of drivers driving close to the 77/88 hours or working the 84/98 hours permitted by the 2003/2005 rule. But an approximate answer appears between the lines. According to the RIA, 33% of restarts are 44 hours or fewer—"short enough to bring a productivity gain," *id.* 22—*i.e.,* more hours worked or driven. That means that at least 500,000 of the nation's 1.5 million long-haul drivers, *id.* 35, are driving/working longer weekly hours than ever. Unsurprisingly, then, the RIA estimates that Option 3's 58-hour restart would cost industry $1.5 billion more than the 34-hour restart[4] and require thousands of additional drivers. *Id.* ES-4. The productivity gain associated with the 34-hour restart comes from a smaller pool of drivers working longer weekly hours.

2. Driver comments show that "maxing out" driving hours is common. Even FMCSA's small sample of driver comments contains admissions that truckers are maximizing (or nearly maximizing) the hours enabled by the restart to increase their earnings. *E.g.,* 2004-19608-511 ("I usually lack 2-3 hours from

[4] The RIA estimates that Option 3 would cost industry over $2.1 billion more than the 2003 rule. RIA 70. Deducting the $586 million attributable to eliminating the 11th hour of driving, *id.* 74, leaves an alleged industry cost exceeding $1.5 billion, primarily because of the longer restart period.

maxing out my time."), -189 ("[A]lmost all drivers use the restart, approx. ½ max out on hours. . . . Elimination would result in about 10% reduction in earnings."), -188, -887 (F-2-2).

Many drivers, "the individuals in the best position to know," FMCSA Br. 36, report that carriers force them to make full use of the 34-hour restart and drive in an exhausted state. These extra hours keep drivers away from home for long periods. *E.g.,* 2004-19608-623 ("Driver fatigue has been greatly [i]ncreased by the 34 hour restart. Fatigue is not relieved by 34 hours when the driver is working 350 hours every 30 days. These drivers are in a permanent daze."), -455 ("I think the 34 hour restart should be taken away. Before there was a restart I used to work 5 12 hour days and had 2 days off in a 7 day period. Now my company is forcing me to do a 34 hr. restart and we are working [too] much. . . ."), -622 ("The 2003 hos rule has resulted in me driving more hours, being on duty more hours, and having less time off. After all the 34 hour restart in the 2003 rule allows 70 more hours on duty each month and the companies are forcing it."), -630 ("34-hour restart has me working and driv[ing] more than ever . . . my company demands that i use the 34 hour restart . . . before the new[] rules started . . . . i was able to relax and enjoy family . . . now i can take 34 hours off at any given time or at company request then bang 70 hours avai[lable] . . . ."), -111, -116, -221, -463,

-499, -539, -754, -1375, -1491.

Intervenors contend (at 17) that the agency's conclusion that weekly maximums are safe is a reasonable resolution of conflicting evidence, but FMCSA has no evidence on its side. Nowhere has FMCSA shown the safety of truckers driving up to 28% more hours or working up to 40% more hours than under the pre-2003 rule. No studies of the adequacy of off-duty periods addressed the recovery necessary for truckers driving at or near 77/88 hours or working 84/98 hours every 7/8 days. Moreover, as petitioners discussed, FMCSA systematically ignored or dismissed studies and a literature review that demonstrated that 36 hours, 48 hours, and even three nights' recovery sleep were insufficient to restore driver performance. Petitioners' Br. 42-43. FMCSA disregarded research cited in its 2000 NPRM correlating increased crash risk with long driving times over multiple days, the 2005 Jovanis finding reaffirming the dangers of multi-day driving, warnings from its own Expert Panel and NIOSH that an 84-hour work week is excessive, and recent research suggesting that the combination of long daily and weekly hours exacerbates risk. *Id.* 40-41. This Court faulted FMCSA for failing to justify the 2003 rule's "dramatic[] increases [in] the maximum permissible hours drivers may work each week." *Public Citizen,* 374 F.3d at 1222. Nothing has changed.

FMCSA's denial (at 45) that its RIA ignored cumulative fatigue is inexplicable. The cost/benefit analysis's sleep-dose model excludes TOT effects altogether, whether from long daily or long weekly hours. *Id.* at 1218-19; RIA 42. The 2005 RIA modified the model by generating TOT multipliers to account only for the increased risk of long *consecutive* driving hours. RIA 43-44, 61. The RIA states explicitly that the TIFA data "do not include any information on the driver schedule over a longer period than the shift in which the crash took place. Thus, it is not possible to determine if cumulative fatigue may have been a factor." *Id.* 44; *accord* Campbell 1, 6. No other adjustment to the model or the RIA was made to account for the adverse consequences of the rule's longer weekly driving/working hours.

3. Even if one accepted the premise that the many extra hours truckers can drive weekly after taking 34 hours off-duty are irrelevant, so long as the off-duty period is long enough to "zero out" fatigue, FMCSA's adoption of the restart would still be irrational. Based on the agency's own findings, 34 hours is insufficient. FMCSA agrees that research establishes that a sufficient recovery period must include two consecutive nights' sleep, 70 FR 50021, 50023—an amount its Expert Panel pronounced "absolutely minimal." Expert Panel 40; *see* FMCSA Br. 37; Petitioners' Br. 10, 21, 43-44. Yet FMCSA still clings to its hope

that "the vast majority of drivers using the restart will obtain two nights of rest," Br. 38, despite conceding that its pronouncement that 80% of truckers are daytime drivers rested on a misreading of Campbell and Belzer (2000) (1997-2350-1136). *Id.*; Petitioners' Br. 44. The record does not support that hope.

FMCSA reaches for its field survey, which states that 28% of records reflected driving between midnight and 6 a.m. Br. 37-38. But its survey largely excluded LTL firms, RIA 16-17, the very companies with the most night-driving. *Id.* 11; 70 FR 50048; Campbell & Belzer 116. The agency previously recognized that McCartt xii, 21, 23 (1997) (1997-2350-882), which surveyed long-haul drivers, found that *80%* drove between midnight and dawn—far exceeding the 28% now pressed by FMCSA. DOT Literature Review 81-82.

Similarly, the record fails to vindicate FMCSA's wishful thinking that, for nighttime drivers, 34 hours off or two 8-hour "sleep periods" (not nights) will restore drivers' performance. FMCSA dismisses studies of truckers finding 36 and even 48 hours off-duty inadequate, *see* Petitioners' Br. 42-43, as inapplicable because conducted under the old rule. FMCSA Br. 39. Yet Jovanis (2005) studied drivers under the 2003 rule and found multi-day driving schedules highly associated with crash-risk increases, 70 FR 49997-98, 50010, consistent with Park's recent findings using 1980s data. Jovanis 2, 17; Park (2005) (2004-19608-

1998). Night drivers are especially vulnerable. Petitioners' Br. 9-10.

FMCSA dismisses its Expert Panel's blunt assessment that a 36-hour weekly off-duty period would be sufficient *only* if it guaranteed two consecutive nights (including 12-6 a.m.) off-duty, Expert Panel 30-31, by misstating its basis. FMCSA incorrectly asserts (at 39) that the Panel's finding was limited to a proposal that would have caused sleep deprivation by affording drivers only 9 hours off-duty between shifts. The Expert Panel announced without qualification that sleep loss, extended HOS, and nighttime driving demand that truckers receive "at least two uninterrupted time periods between Midnight and 6:00 a.m." every 7 days. *Id.* 12-13. Furthermore, the Panel's observation about the 36-hour off-duty period arose in its evaluation of Policy Option D, which would have provided 12 hours off-duty for long-haul drivers (which could be split 9-3), *id.* 28—exceeding the 10 off-duty hours required by the 2005 rule. Similarly, in evaluating Option B, which would have required 10 off-duty hours (which could be split 9-1), *id.* 19, the Expert Panel pronounced the proposed 34-hour off-duty period flat-out inadequate because a driver might receive only one night's sleep. *Id.* 23.

4. Any so-called "benefits" of the 34-hour restart are illusory or could be achieved without working the remainder of the truck-driver workforce to exhaustion.

First, the 34-hour off-duty period is *optional*, 49 C.F.R. § 395.3(c), not a "failsafe," Intervenors' Br. 27, guaranteeing no weekly "recovery" period, FMCSA Br. 15, 24, 34, to anyone. It gives truckers nothing they did not have under the pre-2003 rule and *shortens* the weekly off-duty period for those driving/working the longest hours. Petitioners' Br. 20-21, 45, Appendix A-1 to A-2; 70 FR 3347-48.

Second, FMCSA says that the restart gives drivers more time at home, Br. 11, 16, 35, 52, even though the restart curtails weekly off-duty time for the hardest-working drivers, and many drivers report *less* time at home. *E.g.,* 70 FR 50017; *supra* pp. 17-18. In the final rule, FMCSA based its claim about more time at home in part on an OOIDA survey that showed 77% of drivers reporting they were *not* spending more time at home. Petitioners' Br. 45.

Third, FMCSA asserts that it declined to promulgate a rule that would force night drivers to drive during the day, with adverse safety consequences. FMCSA Br. 39-40; Intervenors' Br. 30. That claim is unexplained and illogical. A 58-hour restart is 24 hours longer than a 34-hour restart and would not affect day versus night driving. Similarly, reverting to the pre-2003 60/70 hour limits with no restart would have no night-driving impact. Any implication that the load of a night driver who takes two nights off must be driven during daytime is

nonsensical. As IIHS pointed out, the pre-2003 rules *already* required drivers to take three nights off if they reached weekly limits in 5 days. IIHS Comments 8 (2000) (1997-2350-20062); *see* 68 FR 22502. Furthermore, the LTL sector, in which nightdriving predominates, is concentrated among a small number of large carriers. RIA 11. FMCSA offers no reason why these carriers would not replace one driver taking two nights off with another driver—just as they replace drivers taking 34 hours off under the 2003/2005 rule (and supplanted drivers reaching weekly limits under the pre-2003 rule).

Finally, FMCSA could preserve "operational flexibility," Br. 42, by authorizing a "restart" only for those truckers who had worked/driven a specified number of hours significantly below weekly maximums. Such a threshold would permit truckers who had worked too few hours for cumulative fatigue to set in to reset their clocks after a shorter off-duty period. FMCSA's failure to consider such an obvious safety-conscious alternative confirms that the 34-hour restart is arbitrary and capricious. *See Public Citizen v. Steed,* 733 F.2d 93, 99 (D.C. Cir. 1984).

II. DRIVER HEALTH

A. Costs and Benefits

FMCSA and Intervenors reduce the agency's statutory obligation to "ensure that . . . 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)(4), to an absurdity by arguing that FMCSA cannot "guarantee" trucking will not harm drivers unless it abolishes truck driving. FMCSA Br. 46; Intervenors' Br. 9. Quite so—which is why the statute must be read in a way that does not demand the impossible but still gives it meaning.

In 1984, Congress believed DOT had paid inadequate attention to the "safety and health hazards" confronting truck drivers, S. Rep. 98-424, at 9, 1984 U.S.C.C.A.N. 4785, 4793, and found that "enhanced protection of the health" of truckers was in the public interest. 49 U.S.C. § 31131(b)(3). Accordingly, Congress enacted the Motor Carrier Safety Act ("MCSA"), one purpose of which was "to minimize dangers to the health of operators." *Id.* § 31131(a)(2). Read in context with congressional findings and purposes that speak of "enhanc[ing]" driver health and "minimiz[ing]" health hazards, FMCSA's mandate is not to eliminate every conceivable health and safety risk, but to *improve* the plight of truckers and *reduce* health hazards. The impossibility of "eliminat[ing] *all*

deleterious effects," FMCSA Br. 46, does not detract from the agency's statutory obligation to avoid regulations that *exacerbate* harm to driver health.

FMCSA claims throughout its brief that it was required to strike an appropriate balance between safety, health, and cost. But the agency *excluded health costs entirely* from its RIA, 70 FR 50051, although a significant percentage of truckers will drive/work longer hours under the 2003/2005 rule. Balancing becomes easy when one side of the equation is zero, but the health costs of driving and working longer hours are not zero. FMCSA's brief offers no excuse for this glaring omission—ironic given that the Court vacated the 2003 rule because the agency failed to consider its impact on driver health.[5]

Neither does FMCSA's obligation to consider costs and benefits stand on equal footing with its paramount protective mandate. Under the MCSA, the agency must consider "costs and benefits" only "to the extent practicable and consistent with the purposes of this chapter," 49 U.S.C. § 31136(c)(2), which are to protect driver health and promote safety. *Id.* § 31131(a)(1) & (2).

[5] The MCSA's legislative history makes clear that Congress did not intend to suppress health and safety regulations because of uncertainty in quantifying costs or benefits. S. Rep. 98-424, at 8, 1984 U.S.C.C.A.N. 4792.

B. Specific Health Issues

The National Academy of Sciences medical team assembled by FMCSA found that longer driving hours were likely to increase truckers' risks of lung cancer, cardiovascular disease, noise-induced hearing loss, and back disorders and lower back pain. Petitioners' Br. 53 (citing TRB 8, 49). FMCSA ignored these findings in its final rule, just as it does in its brief. Its treatment of the specific health problems identified by petitioners is cursory at best (*e.g.,* FMCSA devotes a single sentence to cardiovascular disease, Br. 20).

1. Lung Cancer. FMCSA attempts to downplay EPA's conclusion that 1.4 is a reasonable approximation of the relative lung-cancer risk of diesel exhaust ("DE") exposure, Petitioners' Br. 54-55, by accusing petitioners of overlooking EPA's statement that a relative risk below 2.0 "tends to weaken the evidence of causality" because of confounders such as smoking. FMCSA Br. 47. But what EPA said was that a lung-cancer relative risk less than 2.0 "*potentially* weakens the evidence of causality." EPA, *Health Assessment Document for Diesel Engine Exhaust* 7-138 (2002) (emphasis added) (2004-19608-1995) ("EPA HAD"). EPA went on to find "significant confounding by smoking . . . unlikely" because, in studies accounting for smoking effects, "increased relative risks for lung cancer prevailed." Indeed, "when the meta-analysis focused only on the smoking-

controlled studies, the relative risks tended to *increase*." *Id.* 7-139 (emphasis added). Overall, EPA (and other U.S. and international health agencies) found the human evidence for carcinogenicity of DE to be "strong." *Id.*; Petitioners' Br. 24-26, 54. FMCSA, too, ultimately accepted that causal relationship. 70 FR 49985, 50036.

Having done so, FMCSA is not free to treat that lung-cancer risk as zero in its cost/benefit analysis because of difficulties in estimating exposure. EPA instructs that it is generally proper to assume that cancer risk is linearly proportional with cumulative lifetime exposure. EPA HAD 8-2 to 8-3, 8-11. For DE-induced lung cancer, EPA suggests linear extrapolation as "an appropriate and prudent default choice for modeling . . . risk extrapolation from high to lower exposures." *Id.* 8-3; *see also id.* 9-20 to 9-21. Thus, if a trucker is driving 10% more hours yearly under the 2003/2005 rule, his incremental lung-cancer risk from DE predictably increases by 10%. FMCSA could further estimate risks and underlying exposure levels by resorting to the epidemiological studies that formed the basis for EPA's overall relative risk estimate of 1.4. EPA HAD § 7.2; *e.g., id.* 7-67 to 7-76 (summaries); Petitioners' Br. 25-26.

In short, the lung-cancer risk from DE exposure under the 2005 rule is not zero; it is practicable to quantify that risk; and FMCSA must do so under the

MCSA. *See Colorado v. Dep't of the Interior,* 880 F.2d 481, 491 (D.C. Cir. 1989) ("Although data limitations undoubtedly exist, such limitations cannot justify DOI's decision to ignore the clear mandate of Congress . . . ."). That EPA conducted a cost/benefit analysis for its diesel emissions rule, Petitioners' Br. 55, undercuts FMCSA's argument that the job is unachievable for truckers.

FMCSA's new argument, not made in the final rule, that *resting* longer hours might lead to elevated DE exposure is nonsense. FMCSA Br. 48; *see also* Intervenors' Br. 14 n.7. If the hundreds of additional hours truckers are permitted to work/drive under the rule are eliminated, drivers will spend many more hours at home or away from trucks.

2. Hearing Loss/Back Disorders. FMCSA accuses petitioners of simply disagreeing with its evaluation of the scientific evidence regarding hearing loss. Br. 48. But the agency disregarded the scientific evidence. FMCSA incorrectly states that recent studies have found decibel exposures to be within its guidelines. *Id.* It dismisses the finding of one study that more than 10% of drivers were exposed to levels above 90 dBA, Seshagiri 210 (1998) (2004-19608-100) (lodged), because it involved truckers driving with radios on and side windows open. FMCSA Br. 49. Yet the agency's own research found that opening windows and listening to the radio were among the primary means

truckers use to maintain alertness. Abrams 24-25 (1997) (1997-2350-797). Longer driving hours will heighten the risk of hearing loss for this group.

The agency's pat assertion that other truckers exposed to cab noise levels as high as 89.1 dBA, 70 FR 49987, face no hearing loss because their exposure is under 90 dBA is baseless. As TRB noted, the risk of noise-induced hearing loss increases significantly with chronic exposures above 85 dBA for an 8-hour period. TRB 11; *see* Petitioners' Br. 58. Truckers, of course, experience such exposures far longer.

FMCSA falls back on the claim that modern trucks have decreased truck noise. Br. 48-49. But the recent Robinson and Seshagiri studies found truckers still experiencing high noise levels. 70 FR 49987. TRB concluded (at 8) that "[b]ased upon exposure assessments, noise-induced hearing loss could well be a result of a working lifetime as a driver." And although TRB stated that the effect "would be mitigated by the improvement in cab design *reported to be* occurring," *id.* (emphasis added), it made no finding that sufficient improvements had actually occurred. Even if new trucks are better, plenty of old trucks remain on the roads.

As for truckers' persistent back injuries and lower back pain, FMCSA continues to frame the issue as whether whole body vibration ("WBV") alone is the culprit, FMCSA Br. 49-50, while overlooking that heavy-truck and tractor-

trailer drivers suffer the third highest musculoskeletal disorders among U.S. workers. Petitioners' Br. 4. It is not that people with bad backs become truck drivers. Truck-driving injures drivers' backs, whether because of WBV, sitting in one position for a long time, heavy lifting, or some combination. *Id.* 60. FMCSA neither acknowledges nor responds to TRB's finding that, whatever WBV's role, there is "objective evidence of vertebral pathology related to an occupation as a professional driver" and that "there is likely a causative relationship between professional driving and a variety of vertebral disorders as well as LBP." TRB 8. This does not mean FMCSA must ban truck driving, but it may not compound the risk of such disorders or ignore that risk in its cost/benefit analysis.

Again, FMCSA cites claims that modern trucks reduce vibration. Br. 50. However, the agency's assumption that "[i]mproved suspension gives the driver a better ride," 70 FR 49988, 50004, is often unjustified. "[S]ome suspension systems can result in an amplification, rather than attenuation of the vibration exposure." Teschke 15 (1999) (2004-19608-2001). Nor does FMCSA cite data on the percentage of trucks on the road with reduced vibration. Older trucks remain common: "I am a teamster therefore I drive a truck that is very rough riding. . . . Bouncing around for 11 hours hurts worse than bouncing around for ten hours. . . . The action of sitting there for 11 hours and your body weight

bouncing up and down does considerable damage to your spine . . . ." 2004-19608-698. It is arbitrary and counter to the record for FMCSA to disregard drivers' risk of back ailments.

3. Longer Work Hours. FMCSA has little to say about the studies and literature review discussed by petitioners (at 61-65), which buttressed NIOSH's comment that research "suggests potential *long-term* health effects associated with repeated periods of extended duty." NIOSH Comments 2 (2005) (2004-19608-1856).

FMCSA maintains the research is "mixed," citing two studies that supposedly found that workers *compensated* for overtime had fewer health complaints than those who were not. Br. 51. The agency's point is elusive. Is FMCSA suggesting that so long as truckers are paid extra for longer hours, those hours pose no health threat? Even if that were true, truckers—exempt from the FLSA's overtime provisions—lack that protection. Petitioners' Br. 5. Nonunionized truck drivers effectively earn only a little more than minimum wage, when all their hours are considered. Belzer, *Sweatshops on Wheels* 143-151 (2000) (1997-2350-22275).

* * *

FMCSA intones that it must "achieve the appropriate balance between safety, cost, and the health risks inherent in many areas of human activity." Br. 47. But the agency balanced only those costs and benefits (industry productivity costs, not safety or health costs associated with dramatically increased driving/working hours), that would favor the foreordained outcome: a rule, virtually identical to its 2003 predecessor, which saves industry billions of dollars annually, requires thousands of fewer drivers, and does little to improve, and much to exacerbate, truck-driver fatigue and health ailments.

CONCLUSION

The Court should vacate the rule and remand.

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RULE 32(a)(7)(C) CERTIFICATE

I hereby certify that the foregoing Initial Reply Brief for Petitioners complies with the type-volume limitation of Federal Rule of Appellate Procedure 32(a)(7)(B). The brief is composed in a 14-point proportional typeface, Times New Roman. As calculated by my word processing software (WordPerfect), the Brief (excluding those parts permitted to be excluded under the Federal Rules of Appellate Procedure and the D.C. Circuit Rules) contains 6,999 words.

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The undersigned counsel certifies that on this 8th day of September, 2006, she caused two copies each of the foregoing Initial Reply Brief for Petitioners to be served by first-class U.S. mail, postage prepaid, on the following:

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