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IMPACT ON MOTOR CARRIERS OF EPA'S HEALTH ASSESSMENT FOR DIESEL EXHAUST

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In recent decades, the transportation industry increasingly has faced lawsuits alleging health problems resulting from exposure to diesel exhaust.

Diesel exhaust claims typically involve allegations that long-term exposure to diesel exhaust causes cancer or respiratory tract problems. Less frequent, but potentially more problematic, are suits that involve claims that a severe, short-term exposure to diesel exhaust caused traumatic respiratory injury or brain damage.

Historically, plaintiff's claims have been impaired by a lack of consensus among the scientific community regarding a causative connection between diesel exhaust exposure and alleged health problems. Recently, the Environmental Protection Agency (EPA) altered the causation landscape with its release of a comprehensive review linking exposure to diesel exhaust to potential development of certain health problems.¹

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¹ See U.S. Environmental Protection Agency, *Health Assessment Document for Diesel Engine Exhaust* (prepared by the National Center for Environmental Assessment, Washington, D.C. 2002), available at <http://www.epa.gov/ncea> [hereinafter *Assessment*].

EPA'S HEALTH ASSESSMENT FOR DIESEL EXHAUST

The EPA is also implementing new rules governing diesel emissions, and already has developed heavy-duty diesel engine emission standards effective in 2007.² Accordingly, diesel exhaust litigation is gaining momentum within the plaintiff's bar and will pose an increasing threat to industries reliant upon diesel power, such as motor carriers.

Although diesel exhaust claims may represent the next "big thing" to the plaintiff's bar, it is important to remember that diesel exhaust claims implicate the same legal defense strategies that have been utilized successfully against a host of other occupational exposure claims. By focusing upon plaintiff's theories regarding causation and liability and utilizing pretrial motions in order to preclude emotional appeals to a jury, diesel exhaust exposure claims can be successfully defended.

THE EPA ASSESSMENT

Diesel exhaust claims have gained new momentum given the recent release by the EPA of the 2002 *Health Assessment Document for Diesel Engine Exhaust* (Assessment), prepared by the National Center for Environmental Assessment (NCEA).³ The NCEA is the health risk assessment program in the EPA's Office of Research and Development. The Assessment was undertaken on a request from the EPA's Office of Transportation and Air Quality for information regarding the potential health hazards associated with diesel engine exhaust (DE) exposure.

FINDINGS OF THE ASSESSMENT

The Assessment first addressed the acute (short-term exposure) effects of diesel exhaust exposure. It said "[i]nformation is limited for characterizing the potential health effects associated with acute or short-term exposure."⁴ Despite such limited information, the Assessment found that "on the basis of available human and animal evidence, it is concluded that acute or short-term (e.g., episodic) exposure to DE can cause acute irritation (e.g., eye, throat, bronchial), neurophysiological symptoms (e.g.,

² See Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements, 66 *Fed. Reg.* 5002 (Jan. 18, 2001) (to be codified at 40 *C.F.R.* pts. 69, 80, 86). These regulations are expected to reduce particulate matter and oxides of nitrogen emissions from heavy-duty engines by 90 percent and 95 percent below current levels, respectively. To meet these stringent standards for diesel emissions, the regulations call for a 97 percent reduction in the sulfur content of diesel fuel.

³ See *Assessment*, *supra* note 1.

⁴ *Assessment*, *supra* note 1, at 1-4.

lightheadedness, nausea), and respiratory symptoms (cough, phlegm).”⁵ There also is evidence for an immunologic effect—the exacerbation of allergenic responses to known allergens and asthma-like symptoms.”⁶ The Assessment went on to say, however, that “[t]he lack of adequate exposure-response information in the acute health effect studies precludes the development of recommendations about levels of exposure that would be presumed safe for these effects.”⁷

The Assessment next reviewed chronic (long-term exposure) non-cancer respirator effects. The Assessment found that “[i]nformation from the available human studies is inadequate for a definitive evaluation of possible non-cancer health effects from chronic exposure to DE.”⁸ The Assessment concluded, however, that “on the basis of extensive animal evidence, long term exposure to DE is judged to pose a chronic respiratory hazard to humans.”⁹

Finally, the Assessment reviewed the chronic (long-term exposure) carcinogenic effects of diesel exhaust exposure. The Assessment found that long-term exposure to diesel exhaust “is ‘likely to be carcinogenic to humans by inhalation’ and . . . this hazard applies to environmental exposures.”¹⁰ This conclusion was based “on the totality of the evidence from human, animal, and other supporting studies.”¹¹ The Assessment also found that “[t]here is considerable evidence demonstrating an association between DE exposure and increased lung cancer risk among workers in varied occupations where diesel engines historically have been used.”¹² The Assessment noted, however, that although “[t]he human evidence from occupational studies is considered strongly supportive of a finding that DE exposure is causally associated with lung cancer, . . . the

⁵ *Assessment, supra* note 1, at 1-4.

⁶ *Assessment, supra* note 1, at 1-4.

⁷ *Assessment, supra* note 1, at 1-4.

⁸ *Assessment, supra* note 1, at 1-4.

⁹ *Assessment, supra* note 1, at 1-4.

¹⁰ *Assessment, supra* note 1, at 1-4.

¹¹ *Assessment, supra* note 1, at 1-4.

¹² *Assessment, supra* note 1, at 1-4.

evidence is less than that needed to definitively conclude that DE is carcinogenic to humans.”¹³

GAPS IN THE ASSESSMENT

The Assessment is preliminary in nature in that it only identifies and characterizes the potential human health hazards from diesel exhaust and estimates the dose-response relationship. It does not provide a full exposure analysis and risk characterization, and accordingly does not constitute a complete assessment of the risks associated with diesel exhaust exposure. For example, the Assessment represents only tentative findings as to a dose-response relationship; *i.e.*, EPA could not develop a fixed quantitative assessment of “cancer unit risk.”¹⁴ The EPA also noted that the mobile nature of diesel exhaust creates extensive overlap between the occupationally exposed population and the general population.¹⁵ Finally, the Assessment's conclusions are based upon emissions from diesel engines built prior to the mid-1990s.¹⁶ Thus, as the Assessment notes, “[a]s new and cleaner diesel engines, together with different diesel fuels, replace a substantial number of existing engines, the general applicability of the health hazard conclusions *will need to be re-evaluated.*”¹⁷

THE CURRENT THREAT

Most of the reported diesel exhaust litigation has targeted railroads. Employees' exposure claims were driven by the increasingly widespread use of diesel-powered locomotives in the latter half of the 20th century. Railroads defended some cases effectively with “*Daubert*” motions¹⁸ that attacked plaintiff's causation arguments by revealing methodological or substantive deficiencies in plaintiff's expert witness testimony. Where *Daubert* motions were successful, the defense blocked foundational

¹³ *Assessment, supra* note 1, at 1-4 to 1-5.

¹⁴ *Assessment, supra* note 1, at 1-5.

¹⁵ *Assessment, supra* note 1, at 2-126 (“health effects observed in occupational groups may also be evidenced in the general population”).

¹⁶ *Assessment, supra* note 1, at 1-3.

¹⁷ *Assessment, supra* note 1, at 1-4 (emphasis added).

¹⁸ The motions are termed “*Daubert*” motions in reference to *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 570 (1993), in which the Supreme Court held that scientific expert testimony is admissible as evidence only where it meets certain fundamental criteria demonstrating that it is both reliable and relevant.

expert testimony in support of the plaintiff's causation claims on the grounds that the evidence was too speculative and unreliable to be considered by the trier of fact.¹⁹

In some cases, however, railroads suffered significant adverse verdicts. For example, in *Cox v. CSX Transportation, Inc.*,²⁰ plaintiff claimed that exposure to diesel fumes over his 40 years of employment with CSXT resulted in interstitial fibrosis and increased his risk of contracting lung cancer. The jury awarded plaintiff \$3.5 million in damages. In *Baker v. Norfolk Southern Railway Co.*, plaintiff sued after her husband, an 18-year locomotive engineer, died of nasopharyngeal cancer.²¹ The jury returned a \$5,744,225.50 verdict for the plaintiff.²² The case subsequently was reversed in part due to an erroneous jury instruction and remanded for a new trial on damages only.²³ And, most recently, in *Cutlip v. Norfolk Southern Corp.*,²⁴ the Ohio Court of Appeals upheld a verdict in the amount of \$625,000 for a railroad employee who allegedly contracted asthma from inhaling diesel fumes while working as a locomotive engineer.²⁵

Although the railroad industry was the early target of most diesel exhaust litigation, the motor carrier industry has been on the radar screen for some time. As early as the late 1980's, reports identified statistically significant increases in lung cancer for truck drivers.²⁶ During this same time, the expansion of mass tort litigation to new subject areas has increased significantly. Juries are increasingly awarding massive sums, there is far

¹⁹ See, e.g., *Goebel v. Denver & Rio Grande W. R.R. Co.*, 215 F.3d 1083 (10th Cir. 2000) (finding that the trial court abused its discretion when it admitted expert testimony purporting to establish a causal connection between brain cancer and diesel exhaust without adequately demonstrating by specific findings that it had performed its gatekeeping function); *Summer v. Missouri Pac. R.R. Co.*, 132 F.3d 599 (10th Cir. 1997) (finding that the trial court properly excluded plaintiff's expert witnesses because one expert failed to make a valid diagnosis of the generally accepted condition of chemical sensitivity based on objective testing and because the other was not an expert in the field of medicine or toxicology).

²⁰ Fla. Cir. Ct. 1991

²¹ See *Norfolk S. Ry. Co. v. Baker*, 237 Ga. App. 292, 292, 514 S.E.2d 448, 450 (Ga. Ct. App. 1999).

²² See *id.*

²³ See *id.* at 298, 514 S.E.2d at 453.

²⁴ No. L-02-1051, 2003 Ohio App. LEXIS 1785 (Ohio Ct. App. Apr. 11, 2003).

²⁵ See *id.* at *1-2.

²⁶ See Richard B. Hayes et al., *Lung Cancer in Motor Exhaust-Related Occupations*, 16 *Am. J. Indus. Med.* 685, 693-94 (1989); see also Eva S. Hansen, *A Follow-up Study on the Mortality of Truck Drivers*, 23 *Am. J. Indus. Med.* 811, 812 (1993); Kyle Streenland et al., *Diesel Exhaust and Lung Cancer in the Trucking Industry: Exposure Response Analyses and Risk Assessment*, 34 *Am. J. Indus. Med.* 220, 228 (1998).

more coordination and communication among the plaintiffs' bar, and the globalization of the economy means that product incidents are no longer isolated to specific areas. Major industry-wide litigation involving asbestos, tobacco, DES, L-Tryptophan, latex products, silicone breast implants, and Fen-Phen (diet drug), and firearms, for example, is illustrative.

Diesel exhaust litigation seems suited to this mass tort environment because of the universe of potential plaintiffs. In 1988, NIOSH estimated that approximately 1.35 million workers are occupationally exposed to diesel exhaust emissions.²⁷ Workers who might seek to raise claims of occupational exposure to diesel exhaust include mine workers, railroad workers, bus and truck drivers, truck and bus maintenance garage workers, loading dock workers, firefighters, heavy equipment operators and farm workers.²⁸ The EPA found that the potential for occupational exposure is highest for miners, followed by railroad workers, firefighters, airport crews and public transit workers, dockworkers and mechanics, and long- and short-haul truckers.²⁹

And now, with the EPA's Assessment that diesel exhaust is "likely to be carcinogenic to humans by inhalation," fuel has been added to the fire. The media immediately characterized the Assessment as if the EPA had established a definitive link between diesel exhaust and cancer. *The Washington Post* reported that the diesel exhaust has been linked to lung cancer,³⁰ while the Associated Press reported that diesel exhaust can cause cancer.³¹ According to Frank O'Donnell at the Clean Air Trust, the report "will underscore that diesel exhaust is a health hazard and should be controlled."³²

Plaintiffs' attorneys recognize the potential for diesel exhaust litigation to emerge as the next mass tort. For example, after the EPA's *Assessment* was made public, one personal injury firm posted to its firm website the following: "Diesel fumes cause cancer, says the EPA."³³ Environmental groups are also mounting an increasingly aggressive stance towards air pollutants. The United States Public Interest Research Group (U.S.

²⁷ *Assessment*, *supra* note 1, at 2-107.

²⁸ *Assessment*, *supra* note 1, at 2-107 (emphasis added).

²⁹ *Assessment*, *supra* note 1, at 2-110 (emphasis added).

³⁰ See Eric Pianin, *EPA Links Lung Cancer, Diesel Exhaust*, *The Washington Post*, Sept. 4, 2002.

³¹ See H. Josef Hebert, *EPA: Diesel Exhaust Can Cause Cancer*, Associated Press, Sept. 4, 2002.

³² EPA: Diesel Fuel Exhaust Likely to Cause Cancer, Reuters, Sept. 4, 2002.

³³ See <http://bagoliefriedman.com/page.cfm/PageID/7>.

PIRG) criticized the EPA's study for not being sufficiently comprehensive, stating that the national average cancer risk from breathing outdoor air pollutants was 1:2100 in the 1996, with diesel emissions contributing 89 percent of the risk.³⁴

The scope of transportation industry potentially affected by diesel exhaust litigation is staggering: mining; railroads; maritime; trucking; construction; bus lines (including school buses); parking garages; car, truck and bus repair companies; manufacturers of diesel engines; manufacturers of vehicles or machines using diesel engines; oil refineries; companies that install diesel exhaust systems; and companies that manufacture respiratory equipment. State and municipal governments also may be affected, especially with respect to toll-both operations or governmentally-owned or managed repair or parking facilities.

In light of the hype surrounding the Assessment, the EPA's increasingly assertive stance towards diesel emissions regulation, the universe of potential plaintiffs, and memories of verdicts like *Cox*, *Baker*, and *Cutlip*, the plaintiff's bar likely will become interested in moving beyond railroads to other industries, such as motor carriers. Motor carriers, as other businesses within the transportation industry, need to recognize and address their susceptibility to diesel exhaust litigation. In today's legal environment, where virtually all industries are targets for the plaintiff's bar, companies need to take steps to quantify their exposures and analyze their assets for responding to these risks. Such risks, however, can generally be defeated with good defensive lawyering.

LEGAL DEFENSE STRATEGIES

Although the EPA Assessment clearly will encourage the filing of diesel exhaust claims by adding credibility to the alleged link between exposure to diesel exhaust and health problems, by focusing upon plaintiff's theories regarding causation and liability, and utilizing pretrial motions in order to preclude emotional appeals to a jury, claims of diesel exhaust exposure can be successfully defended.

Such strategies were successfully followed by the authors' law firm to obtain defense verdicts in three cases asserted against a Class I railroad. Two of the cases involved plaintiffs who could testify to a long history of exposure to diesel exhaust and whom the jury was expected to find very sympathetic.

In *Gunn v. Norfolk & Western Railway Company (Gunn)*, a railroad employee of 27 years died after contracting leukemia. The widow of the employee sued claiming that her husband died as a result of his constant exposure to diesel exhaust over the course of his

³⁴ See Emily Fogdor, *Dangers of Diesel: How Soot and Other Air Toxics Increase Americans' Risk of Cancer* 3-4 (Oct. 2002).

long employment with the railroad. In *Gay v. Norfolk & Western Railway Company* (Gay), the plaintiff claimed that he inhaled diesel exhaust throughout his 37 years of employment with the railroad, and contracted leukemia as a result.

Both cases involved long-time railroad employees who claimed either death or serious disease as a result of their employment, and posed enormous liability to the railroad. In the third case, *Hayes v. Norfolk Southern Corporation* (Hayes), the plaintiff, a 20-year conductor, claimed various lung ailments caused by work-related exposure to diesel exhaust.

All of the above cases were litigated to defense verdicts using aggressive defense techniques that focused on three strategies: (1) undermining plaintiff's allegations of exposure to diesel exhaust (liability); (2) challenging the medical and other scientific evidence of a causal relationship between diesel exhaust and plaintiff's illnesses or death (causation); and (3) forcing the cases on legal strategies designed to short-circuit litigation prior to jury consideration. These strategies employ fundamental attacks on the basic elements of a plaintiff's case which exploit the remaining gaps in the causation analysis reflected in the EPA's *Assessment*.

First, the railroads attacked liability issues by demonstrating that plaintiffs' subjective claims of exposure to diesel exhaust had no basis in fact. For example, in *Gunn*, the railroad refuted plaintiff's liability case primarily by showing that air testing in various rail yards and at other railroad locations revealed that employees were not exposed to significant or dangerous amounts of diesel exhaust, soot, or benzene. Norfolk & Western also presented extensive testimony detailing its good locomotive maintenance program and its care and monitoring of employee working conditions. The railroad's testing revealed that benzene and soot existed at undetectable levels under most circumstances.

At trial, graphic displays were used to demonstrate to the jury the numerous and varied sources of benzene exposure in the environment, as well as the relatively small amount of benzene exposure occurring from exposure to diesel exhaust. Videos of the rail yard were also entered in support of the testimony regarding working conditions on the railroad.

Second, the railroads aggressively attacked causation. In *Gunn*, the applicability of medical research linking diesel exhaust to leukemia was hotly contested. Benzene sources were charted and used to educate the jury on the various causes of leukemia and the sources of benzene exposure plaintiff's decedent likely had experienced throughout his life in various mediums outside of the railroad, possibly in large concentrations, for extended periods of time.

Third, the railroads postured the cases to place as much decision making as possible in the judge's hands, thereby avoiding the emotional volatility of a jury. For example, in *Gay*, the railroads close review of medical records allowed reliance on plaintiff's early belief in the hazardous nature of diesel exhaust to establish a statute of limitations plea. Whether ultimately dispositive, such pleas set the stage for favorable resolutions which cut off jury exposure. Similarly in *Hayes*, the railroad uncovered a 1993 medical record documenting that plaintiff had been diagnosed with emphysema five years before filing suit. Plaintiff's claim was subsequently dismissed on a motion for summary judgment for failure to comply with the statute of limitations.³⁵

CONCLUSION

The plaintiff's case in diesel exhaust litigation has been impaired in the past by the difficulty of establishing a causal link between diesel exhaust and cancer or other respiratory problems.

The Assessment will, at least, "muddy the waters" to plaintiffs' benefit, and reinvigorate the issue. Further, the EPA prepared the Assessment, in part, as a tool to help evaluate regulatory changes and additions under the *Clean Air Act*. Accordingly, the Assessment is likely to fuel additional regulatory change in order to strengthen the EPA's regulatory hand. In short, the Assessment both complicates standard approaches to litigating diesel exhaust claims and heightens the likelihood of increased administrative litigation related to regulatory and licensing requirements. If for no other reason, motor carriers should carefully monitor regulatory development.

The Assessment is, however, only preliminary in nature, as it only identifies and characterizes the potential human health hazards from diesel exhaust and estimates the dose-response relationship. It also fails to provide a full exposure assessment and risk characterization and accordingly does not constitute a complete risk assessment. Thus, there are critical gaps remaining in the medical and scientific understanding of the effects of diesel exhaust, and in the fundamental factual data underlying exposure arguments.

The defense strategies outlined above capitalize on those gaps through forceful attacks on causation and liability. In the current environment, the "best defense" is a "good offense."

³⁵ See *Hayes v. Norfolk S. Corp.*, No. 00-3876, 2001 U.S. App. LEXIS 27089 (6th Cir. Dec. 18, 2001) (affirming district court's denial of plaintiff's motion for reconsideration).