No. 06-1818

IN THE UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

PUBLIC CITIZEN HEALTH RESEARCH GROUP and THE UNITED STEEL, PAPER AND FORESTRY, RUBBER, MANUFACTURING, ENERGY, ALLIED INDUSTRIAL AND SERVICE WORKERS INTERNATIONAL UNION,

Petitioners,

v.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, UNITED STATES DEPARTMENT OF LABOR,

Respondent.

On Petition for Review of a Final Rule Issued by the Occupational Safety and Health Administration, United States Department of Labor

BRIEF FOR PETITIONERS (FINAL)

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JURISDICTIONAL STATEMENT

This is a proceeding for review of a standard governing occupational exposure to hexavalent chromium (Cr(VI)) issued by the Occupational Safety and Health Administration (OSHA) under the Occupational Safety and Health Act (OSH Act), 29 U.S.C. § 655(b). OSHA issued the standard, which sets a permissible exposure limit (PEL) for Cr(VI) of 5 micrograms per cubic meter of air ($\mu g/m^3$), on February 28, 2006. 71 FR 10100, JA 1-287. Petitioners Public Citizen Health Research Group (HRG) and the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union (Steelworkers) filed their petition for review on March 8, 2006. This Court has jurisdiction under 29 U.S.C. § 655(f).

HRG and the Steelworkers bring this action on behalf of their members who are adversely affected by OSHA's Cr(VI) standard. The Steelworkers represent workers exposed to Cr(VI) in numerous workplaces. *See* JA 4779, 4780 (OSHA Hearing Tr.). As OSHA concedes, the standard permits exposures that create a significant risk of lung cancer. JA 126. That risk is an injury-in-fact, *see NRDC v. EPA*, 464 F.3d 1, 6-7 (D.C. Cir. 2006), within the zone of interests the OSH Act protects. *See Am. Iron & Steel Inst. v. OSHA*, 182 F.3d 1261, 1274 & n.10 (11th Cir. 1999); *Fire Equip. Mfrs. Ass'n v. Marshall*, 679 F.2d 679, 682 (7th Cir. 1982). This injury, which is germane to the Steelworkers' purpose of protecting members

against dangerous working conditions, gives the Steelworkers standing to pursue this petition. *See Hunt v. Wash. State Apple Advertising Comm'n*, 432 U.S. 333, 343 (1977); *Contractors Ass'n of E. Pa. v. City of Philadelphia*, 945 F.2d 1260, 1264 (3d Cir. 1991).

STATEMENT OF ISSUES

1. Whether OSHA's establishment of a PEL of 5 $\mu g/m^3$ for all workplace exposures to Cr(VI)—a level OSHA acknowledges presents a significant risk of lung cancer—is unsupported by substantial evidence because (a) OSHA's conclusion that some industries and operations cannot feasibly attain a lower standard conflicts with the legal standard for feasibility under the OSH Act and with prior agency practice, and is contradicted by the administrative record and OSHA's factual determinations, and (b) OSHA improperly relied on feasibility determinations applicable only to a few industries and operations to deny protection to workers in industries and operations where a more protective standard is feasible. (Issue considered and decided by OSHA at JA 235-41.)

2. Whether, in light of the significant risk remaining at exposures many times lower than the PEL, OSHA has failed adequately to explain its decision to set the "action level" at one-half the PEL and its employee notification requirements at the PEL. (Issue considered and decided by OSHA at JA 233-34, 244.)

STATEMENT OF THE CASE

Hexavalent chromium is a carcinogen to which hundreds of thousands of Americans are exposed at work. In the regulation at issue, OSHA lowered the PEL for airborne Cr(VI) from 52 $\mu g/m^3$ to 5 $\mu g/m^3$. OSHA acknowledged that workers would face a significant risk of lung cancer at the new PEL and that a substantially lower PEL would be technologically and economically feasible for most industries. OSHA refused to adopt a more protective standard because it concluded that a lower PEL would be technologically or economically infeasible for a handful of industries, principally on the ground that a small minority of workers in those industries would need to wear respirators to meet a lower standard. The result is a standard that will permit thousands of unnecessary lung cancer deaths among exposed workers. OSHA's standard must be overturned because OSHA's feasibility determinations are unsupported by substantial evidence and contrary to law, and because OSHA unlawfully declined to protect workers adequately in industries where a lower PEL is feasible.

A. OSHA's Old Standard and This Court's Prior Decisions

Cr(VI) is the sixth "valence state" of the element chromium. Compounds containing Cr(VI) ("chromates") are used in many industries, including "produc[tion] of chromates and related chemicals from chromite ore,

electroplating, welding, painting, chromate pigment production and use, steel mills, and iron and steel foundries." JA 10. Occupational exposures to Cr(VI) include inhalation of mists, dusts, and fumes, as well as skin contact. *Id.*

It has long been known that Cr(VI) damages nasal tissue when inhaled, and, in 1943, the American National Standards Institute recommended limiting exposures to 52 $\mu g/m^3$ (measured as total Cr(VI) content) to protect against such damage. After the OSH Act's passage in 1970, OSHA adopted that limit as its PEL for Cr(VI) under 29 U.S.C. § 655(a), which authorized promulgation of "national consensus standards." *See* JA 4-5. Thereafter, a growing consensus that Cr(VI) causes lung cancer at much lower levels than the PEL led the National Institutes of Occupational Safety and Health (NIOSH) and many other domestic and international organizations, both governmental and nongovernmental, to classify Cr(VI) as a carcinogen and recommend substantial reduction of exposure limits. *See id.*

In 1993, HRG and the Oil, Chemical & Atomic Workers Union (OCAW, a predecessor of the Steelworkers) petitioned OSHA to lower the PEL to .25 $\mu g/m^3$. OSHA acknowledged that the PEL exposed workers to a substantial risk of lung cancer and said it expected to propose a new standard by March 1995. After years of delay, HRG and OCAW filed a petition in this Court to compel OSHA to act.

OSHA told the Court it expected to issue a proposed rule in 1999, and the Court denied the petition. *OCAW v. OSHA*, 145 F.3d 120 (3d Cir. 1998).

After another four years of delay, HRG and PACE International Union (successor to OCAW and predecessor to the Steelworkers) filed another petition in this Court challenging OSHA's delay. This time the Court found "a clear pattern of delay" and directed OSHA "to proceed expeditiously with its hexavalent chromium rulemaking." *Public Citizen HRG v. Chao*, 314 F.3d 143, 145, 159 (3d Cir. 2002). After court-ordered mediation produced no agreement on a rulemaking schedule, the Court directed OSHA to issue a notice of proposed rulemaking (NPRM) by October 4, 2004, and a final rule by January 18, 2006 (later extended to February 28, 2006).

B. The Rulemaking

OSHA published its NPRM on schedule. 69 FR 59306, JA 1148-1317. The 175-page notice analyzed the evidence concerning Cr(VI)'s carcinogenicity and the economic and technological feasibility of lowering the PEL for a host of affected industries and proposed a new PEL of 1 $\mu g/m^3$. Based on what it considered the best epidemiological studies of Cr(VI) exposure, OSHA developed a preliminary risk assessment showing that a working lifetime of exposure to Cr(VI) at the existing PEL would likely result in 101-351 lung cancer deaths per thousand exposed workers; exposure at 5 $\mu g/m^3$ would cause 10-45 lung cancer

deaths per thousand workers; and even exposure at the proposed 1 μg/m^3 PEL would lead to 2.1 to 9.1 lung cancer deaths per thousand. JA 1234. OSHA acknowledged that "the level of risk remaining at the proposed PEL [would] be significant," but it stated that 1 μg/m^3 was "the lowest level that the Agency believes to be feasible in all affected industry sectors." JA 1342.

The NPRM was followed by a three-month comment period, a two-week public hearing, and two months more for further comments. Industry groups submitted a blizzard of comments and testimony challenging OSHA's risk assessment and its view that a 1 μg/m^3 PEL would be feasible. Testimony and comments from NIOSH, scientists, public interest groups, and unions supported OSHA's risk assessment and advocated an even lower PEL.

C. The Final Rule

On February 28, 2006, OSHA promulgated its new standard for occupational exposure to Cr(VI), establishing a PEL of 5 μg/m^3, five times the proposed standard. JA 1-287. After a four-year phase-in during which employers may meet the PEL using respirators, affected industries (with one exception) must implement engineering and work-practice controls and may rely on respirators only if those controls prove infeasible. The standard creates a special exception for the aerospace industry, where exposures of workers spray-painting aircraft or large aircraft parts need only be limited to 25 μg/m^3 through engineering and work-

practice controls, as long as employees receive respirators reducing their exposure to 5 μg/m^3.

1. OSHA's Risk Analysis—OSHA's 285-page final rulemaking notice devoted approximately 120 pages to a painstaking review of scientific evidence on the health risks of Cr(VI) exposure. *See* JA 6-127. OSHA's analysis fully reaffirmed the preliminary risk assessment's acknowledgment that significant risk would remain even if the PEL were lowered to 1 μg/m^3. *Compare* JA 126 *with* JA 1234, 1342.

OSHA's analysis included detailed reviews of studies on how Cr(VI) is absorbed in the respiratory tract and what happens once it is there, JA 10-13; epidemiological studies of workers in many industries, JA 13-45; animal studies, JA 45-53; "mechanistic" studies of how Cr(VI) causes cancer at the cellular and molecular levels, JA 53-57; and comments and testimony on whether Cr(VI) compounds of different solubility pose different cancer risks, JA 57-67. "After carefully considering all the epidemiological, animal and mechanistic evidence presented in the rulemaking record," OSHA concluded that "all Cr(VI) compounds [are] agents able to induce carcinogenesis through a genotoxic mode of action," JA 67, and that possible differences in the carcinogenicity of Cr(VI) compounds of

different solubility did not provide a reliable basis for establishing different exposure limits for different types of Cr(VI). *Id.*

OSHA then turned to quantifying the cancer risk of Cr(VI) exposure. OSHA concluded that two of the many epidemiological studies—the Gibb and Luippold studies—provided the best basis for risk analysis because they "had the most extensive and best documented Cr(VI) exposures spanning three or four decades" and were statistically more powerful than other studies. JA 78. OSHA thoroughly considered comments on the two studies, including vociferous industry attacks on Gibb, and concluded that the criticisms were generally unfounded and that a quantitative risk analysis was best supported by risk estimates based on both studies. JA 80-83. Using a linear relative risk model to develop risk estimates from Gibb's and Luippold's data, OSHA concluded that "the excess lifetime risk of lung cancer from occupational exposure to Cr(VI) is best represented by the range of risks that lie between maximum likelihood estimates of the Gibb and Luippold data sets." JA 97.

OSHA went on to refute industry comments that a linear risk model was inappropriate because of the possibility of a "threshold" below which Cr(VI) exposure would not cause cancer. JA 98-123. Noting that even industry-sponsored witnesses conceded the data were consistent with a linear dose-response relationship, OSHA concluded that "a linear risk model is appropriate and that

there is not convincing evidence to support the use of a threshold or nonlinear exposure-response model, or to conclude that OSHA's risk assessment has seriously overestimated risk at low exposures." JA 103. OSHA explained that the Gibb study provided a sound basis for estimating risks from low exposures because "most members of the Gibb cohort had relatively low exposures." *Id.* OSHA also found that evidence of the effects of Cr(VI) at the cellular level and data from animal studies supported its rejection of a "threshold." JA 105-09.

OSHA further explained that its risk estimates "adequately accounted for the potential confounding effects of cigarette smoking," JA 109, and it considered and rejected industry claims that epidemiological studies of chromate production workers (such as Gibb and Luippold) were unsuitable for estimating risks to workers in other industries. JA 111-22. OSHA explained: "After evaluating lung cancer rates in other occupational cohort studies with respect to the forms of Cr(VI) in the workplace, reliability in the Cr(VI) exposure data, and the presence of potentially confounding factors (*e.g.* smoking) and bias (*e.g.* healthy worker survivor bias) as well as information on solubility, particle size, cell uptake, and other factors influencing delivery of Cr(VI) to lung cells, OSHA finds the risks estimated from the Gibb and Luippold cohort adequately represent risks to workers exposed to equivalent levels of Cr(VI) compounds in other industries." JA 122.

Having explained its quantitative risk analysis, OSHA turned to whether Cr(VI) exposure posed a "significant risk" within the meaning of *Industrial Union Department v. American Petroleum Institute*, 448 U.S. 607, 639 (1980) (*API*), and *American Textile Mfrs. Inst. v. Donovan*, 452 U.S. 490, 513 n.32 (1981). OSHA noted that the Supreme Court stated in *API* that a one-in-a-thousand risk of death from lifetime exposure to a toxic substance is significant. JA 126 (quoting 448 U.S. at 655). Accordingly, OSHA found the risk at the old PEL—101 to 351 lung cancer deaths per thousand exposed workers—"is clearly significant, falling well above the level of risk the Supreme Court indicated a reasonable person might consider acceptable." JA 126.

OSHA also found that at 5 $\mu g/m^3$, exposure to Cr(VI) for a 45-year working lifetime would likely cause 10 to 45 cancer deaths per thousand workers, a risk OSHA acknowledged "is still clearly significant." *Id.* Indeed, OSHA's risk analysis showed that even at the proposed 1 $\mu g/m^3$ PEL, there would be 2.1 to 9.1 excess lung cancer deaths per thousand workers, and lowering the PEL to .5 $\mu g/m^3$ would still leave a risk of 1.1 to 4.5 fatal cancers per thousand workers—higher than the one-in-a-thousand risk *API* suggested would be "significant." *Id.*

OSHA admitted that the risk remaining at the new PEL of 5 $\mu g/m^3$ was much higher than it had permitted in previous rulemakings involving carcinogens.

OSHA listed eight such rulemakings, and the risks at the PELs they established (expressed as excess cancer deaths per thousand workers):

Ethylene oxide: 1.2 to 2.3

Asbestos: 6.7

Benzene: 10

Formaldehyde: .0056 to 2.64

Methylenedianiline: 0.8

Cadmium: 3 to 15

1,3-butadiene: 1.3 to 8.1

Methylene chloride: 3.6

JA 127. For two carcinogens (benzene and cadmium), the *high* end of the risk estimates overlapped the *low* end of the risk estimate for Cr(VI) at the new PEL, but OSHA could not identify any substance for which it had permitted cancer risks approaching the upper end of the range for Cr(VI)—45 deaths per thousand workers. *Id.*

2. OSHA's Feasibility Analysis—Despite recognizing the significant risk that workers exposed at the 5 $\mu g/m^3$ PEL will die of lung cancer (and the lesser, but still significant, risk that would remain even at 1 $\mu g/m^3$), OSHA declined to issue a standard that would eliminate that risk because it concluded that a standard lower than 5 $\mu g/m^3$ would not be technologically or economically

feasible for *some* industries, even though the majority of industries, employing tens of thousands of workers, could feasibly reduce exposures well below 5 μg/m^3 and many had already done so. Specifically, OSHA stated that a lower standard was not technologically feasible for "welding operations, aerospace painting, chromate pigment producers, chromate catalyst producers, chromium dye producers, and some hard chrome electroplating operations." JA 239. As explained in detail below, OSHA's technological feasibility conclusion rested on its findings that in those industries and operations, a *minority* of workers would require respirators to meet a 1 μg/m^3 PEL; all told, only a few thousand more workers in these industries and operations would require respirators to reach 1 μg/m^3 than to reach 5 μg/m^3. OSHA further found that a standard lower than 5 μg/m^3 would not be economically feasible for "electroplating job shops," *id.*, which employ about 33,400 workers, even though it acknowledged that the electroplating job-shop sector as a whole could withstand the costs of complying with a 1 μg/m^3 PEL. OSHA then based its PEL for all 560,000 exposed workers on its feasibility findings, which themselves involved only a minority of affected workers in a minority of affected industries.

a. Technological Feasibility

Welding—OSHA concluded that for one type of stainless-steel welding, shielded metal arc welding ("SMAW"), a PEL below 5 μg/m^3 would be technologically infeasible because engineering and work practice controls would

not in *all* cases suffice to reduce exposures below 5 µg/m^3. JA 237. OSHA conceded that 60% of SMAW operations could be converted to other welding methods with lower exposures, and that even most SMAW operations could reduce exposures to 1 µg/m^3 using engineering and work-practice controls, but concluded that "29% of all stainless steel SMAW operations would need to use respirators at a PEL of 1 µg/m^3." *Id.* OSHA further asserted that 60% of stainless-steel welding operations in confined spaces would require respirators at a 1 µg/m^3 PEL, *see* JA 238, as compared to the approximately 25% of confined-space welding operations that would require respirators at the 5 µg/m^3 PEL according to OSHA's Final Economic and Regulatory Flexibility Analysis (FEA). JA 686. OSHA concluded that its 5 µg/m^3 PEL, under which respirators would be needed by 14,353 stainless-steel welders, or 11.2 percent of stainless-steel welders, was technologically feasible, but the proposed 1 µg/m^3 PEL, which would require respirators for 28,509 stainless-steel welders, or 22.3%, was not. *See* JA 159. The approximately 14,000 additional welders who would require respirators to meet a 1 µg/m^3 PEL constitute less than 3% of the approximately 560,000 total workers affected by the standard. *See* JA 159-61.

Pigment, Catalyst, and Dye Producers—OSHA also concluded that a PEL below 5 µg/m^3 would not be technologically feasible for three tiny industries: chromate pigment, chromium catalyst, and chromium dye producers, which

together have only 12 facilities in the U.S. employing only 469 affected workers (about .08% of all exposed workers). *See* JA 140-43; JA 746, 763-64, 839 (FEA). For these industries, OSHA's technological feasibility conclusion rested on its statement that producers "would have difficulty meeting the proposed PEL," JA 239, because enclosing dusty operations could pose problems in older facilities given their "physical configuration." *Id.* OSHA's detailed feasibility analysis in its FEA acknowledged that one of the three chromate pigment production facilities in the U.S. had already reduced exposures to .16 $\mu g/m^3$ by enclosing dusty operations, but it asserted that "in existing plants," such enclosures "may be difficult to install"—an assertion based solely on an example of a single plant in *Canada*, which would not be subject to the standard. JA 923. Similarly, for chromium catalyst producers, OSHA explained that "for most job categories," exposures could be reduced dramatically below 5 $\mu g/m^3$ using readily available means, but for a handful of jobs in "some operations," reducing exposure to 1 $\mu g/m^3$ would require enclosing operations, which "may not be feasible for all existing manufacturing operations due to their configuration and layout." JA 924 (FEA). OSHA's reasoning regarding chromium dye production was identical. JA 925 (FEA).

OSHA estimated that meeting a 1 $\mu g/m^3$ PEL would require "intermittent" use of respirators (for *part* of a work day or week) by about a third of workers in

the pigments and catalyst industries, and almost 100% of workers in the chromium dye industry.[1] JA 924-25 (FEA). Altogether, OSHA estimated that only 206 workers—fewer than half—in these three industries would require "intermittent" use of respirators to achieve a PEL of 1 μg/m^3.

Hard-Chrome Plating—OSHA had concerns about technological feasibility with respect to only one operation within the chrome electroplating industry: hard-chrome plating, a process involving only 2,590 of the 66,857 exposed workers in the electroplating industry (or .4% of all exposed workers in all industries). JA 611 (FEA). OSHA concluded that its 5 μg/m^3 PEL was technologically feasible for all electroplating job categories, including hard-chrome plating, and that fully 75% of exposures for hard-chrome platers were *already* below 5 μg/m^3. JA 625 (FEA). Moreover, OSHA recognized that available technologies, including ventilation and fume suppressants, would allow *most* hard-chrome operations to meet a 1 μg/m^3 PEL. *Id.* However, because it believed a *minority* of hard-chrome plating operations would be unable to use fume suppressants, JA 622-23 (FEA), OSHA stated that it "has not found that the PEL of

[1] 100% of chromium dye workers is only 103 workers, and 64 of them would also require "intermittent" respiratory protection at the 5 μg/m^3 PEL. *See* JA 334 (FEA). Thus, lowering the standard would require fewer than 40 additional workers in this industry to use respirators intermittently.

1 μg/m^3 is technologically feasible for *all* electroplating operations most of the time." JA 625 (FEA) (emphasis added); *see also* JA 925-26 (FEA). OSHA further stated that it "can not be *certain* that hard chrome electroplating can achieve a PEL of 1 μg/m^3 without putting a large portion of the workers in respirators," and it predicted that "up to approximately 35% of hard chrome platers … *may* need to use respiratory protection if the PEL were 1 μg/m^3." JA 625 (FEA) (emphasis added). Thus, OSHA concluded that a lower PEL was not technologically feasible for electroplating because just 964 of the over 66,000 workers in the industry might need to use respirators at a 1 μg/m^3 PEL. JA 159.

Aerospace Painting—OSHA found that for most industrial painting operations it would be technologically feasible to reduce exposures either to 1 μg/m^3 or 5 μg/m^3, but it concluded that for *some* spray-painting operations in *one* industry—aerospace—it was not technologically feasible to reach either standard without respirators. The aerospace industry employs 3,921 exposed spray-painters, about a tenth of the 37,542 exposed workers involved in "general industry" painting altogether. JA 323 (FEA).[2] OSHA concluded that for spray-painting

[2] OSHA at one point states that there are approximately 8,300 employees in aerospace spray-painting, JA 239, but the number it uses includes aerospace assemblers and "coil coating" industry operators and maintenance workers. *See* JA 150 (Table VIII-2). OSHA's FEA makes clear that coil coating is a separate industry from the aerospace industry. *See* JA 691-94.

entire aircraft or large aircraft parts, engineering and work-practice controls could not lower Cr(VI) exposures to below 25 μg/m^3, while for spray-painting "medium-sized" aircraft parts, engineering and work-practice controls could reduce exposures below 5 μg/m^3, but not all the way to 1 μg/m^3. OSHA determined that approximately one-third of spray-painting operations in the aerospace industry involved entire aircraft and large parts; another third involved medium parts; and the remaining third involved small parts for which a 1 μg/m^3 PEL would be feasible without respirators.

Having concluded that even the 5 μg/m^3 PEL would be infeasible for a third of aerospace spray-painting operations, OSHA did not reject that PEL as infeasible across the board. Instead, it adopted a special rule for painting of entire aircraft and large parts, under which employers would only be required to reduce exposures to 25 μg/m^3 using engineering and work-practice controls, but would have to provide respirators to spray painters to bring their exposure down to the PEL of 5 μg/m^3. *See* JA 237.[3] According to OSHA's estimate, approximately 810

[3] OSHA expressly acknowledged that it would be improper to base the PEL for all industries on its finding that 25 μg/m^3 was the lowest level feasible without respirators for large aerospace painting operations: "OSHA did not set the PEL at 25 μg/m^3, a level achievable in *every* operation in *every* industry with engineering and work practice controls alone. That approach is inappropriate because it would leave the vast majority of affected employees exposed to Cr(VI) levels above those that could feasibly be achieved in most industries and operations." *Id.*

workers would require respirators under this standard. *See* JA 333 (FEA). OSHA did not suggest that 5 $\mu g/m^3$ was the lowest level that could feasibly be achieved for those workers *through the use of respirators*. In fact, OSHA's figures indicated that if the PEL were 1 $\mu g/m^3$, at most only another 540 aerospace workers would require respirators to achieve that level. *See id.*

b. Economic Feasibility—OSHA's feasibility concerns centered primarily on technological rather than economic feasibility. Indeed, OSHA analyzed the costs of a 1 $\mu g/m^3$ standard relative to revenues and profits of affected industries and concluded that "[a]lthough some industry representatives asserted that compliance would threaten their existence, these assertions (with one exception …) were not supported by empirical evidence that even the proposed PEL of 1 would be economically infeasible." JA 1121 (FEA).

The one exception was a subset of the electroplating industry: electroplating job shops, which plate products or parts for other companies on a contract basis. OSHA concluded that its 5 $\mu g/m^3$ PEL was economically feasible for electroplating job shops in light of evidence that they would need only a 1.24% increase in prices to recoup compliance costs, that demand for their services was inelastic, and that they had successfully passed along to customers significant regulatory costs resulting from EPA chromium emission rules issued in the 1990s. JA 1122-23 (FEA).

OSHA, however, was "concerned" about the economic feasibility of a 1 $\mu g/m^3$ PEL, which it estimated would entail costs representing 2.7% of the industry's revenues and 65% of its profits. JA 203; JA 1123 (FEA). OSHA noted that in "almost all OSHA health standards …, the costs for the most affected industry have been less than 2 percent of revenues." JA 203. OSHA acknowledged, however, that because demand for electroplating services is relatively inelastic, "[i]t seems unlikely that a price increase of 2.7 percent, although significantly larger than the average nominal price increases in recent years, would eliminate the industry entirely." *Id.*; JA 1123 (FEA). Nonetheless, OSHA asserted that "the costs associated with such a PEL *could* alter the competitive structure of the industry" because they would require "a significant real price increase that *might* not be passed forward, particularly by older and less profitable segments of the industry." JA 203-04; JA 1123-24 (FEA) (emphasis added). Beyond this speculation, OSHA offered no analysis of how the "competitive structure" of the industry would be altered. It did not estimate how many firms might go out of business, merge, or restructure, nor did it analyze resulting effects on competition within the industry.

3. OSHA's Selection of Its PEL—OSHA acknowledged that "the OSH Act requires OSHA to set standards based on eliminating significant risk to the extent feasible." JA 209. Even though OSHA concluded that a very significant

risk would remain at exposures of 5 µg/m^3 and that the great majority of affected industries could feasibly meet a standard significantly lower than 5 µg/m^3, OSHA set its PEL at 5 µg/m^3 for *all* industries. OSHA's explanation was that the goal of a uniform PEL trumped its statutory obligation to eliminate significant risk to the extent feasible. According to OSHA, the agency has "always interpreted Section 6(b)(5) [of the OSH Act] to accord the agency substantial discretion to set the PEL at the lowest level that is feasible for industries and operations as a whole," and "has not interpreted the provision to require setting multiple PELs based on the lowest level particular industries or operations could achieve." JA 240. OSHA acknowledged that a 5 µg/m^3 PEL left in place significant risks that would not be addressed by other provisions of the standard and that could feasibly be eliminated in many affected industries and operations if the PEL were lower. *Id.* OSHA asserted that "these benefits would be offset by the significant disadvantages of attempting to establish and apply multiple PELs for the diverse group of industries and operations covered by the standard." *Id.*

The principal "disadvantage" identified by OSHA was that "[r]equiring OSHA to set multiple PELs—taking into account the feasibility considerations unique to each industry or operation or group of them—would impose an enormous evidentiary burden on OSHA to ascertain and establish the specific situations, if any, in which a lower PEL could be achieved." *Id.* Strangely, OSHA

failed to acknowledge that it had already carried out that task in its FEA, which had exhaustively examined each affected industry and identified those that could achieve a lower PEL (which included the great majority of affected industries), as well as the handful for which OSHA believed that a lower PEL was not feasible.

In addition, OSHA contended that there could be "definitional and line-drawing problems" if it had to treat different industries or operations differently for "compliance purposes," JA 240, even though it acknowledged elsewhere that a number of its standards, including the lead standard, the cadmium standard, and the asbestos standard, did just that, establishing different requirements for specified industries and operations within industries. JA 249. OSHA also claimed that different PELs for different operations (especially welding operations) might require "some firms" to "attain two different PELs for Cr(VI) exposures within the same workplace, and possibly even for the same employees." JA 240.[4] OSHA further stated that "a uniform PEL will ultimately make the standard more effective by making it easier for affected employers to understand and comply with the standard's mandate," *id.*, though OSHA offered no explanation of why it would be

[4] This concern, however, did not stop OSHA from establishing a special rule for aerospace spray-painting, which requires employers to attain different PELs for the same workplaces and employees depending on whether they are engaged in painting or other operations and on the size of the parts they are painting.

harder for an employer in one industry to understand that it had to meet a particular standard if an employer in another industry had to meet a different one. Finally, OSHA stated that it was "concerned that adopting multiple PELS could result in a great number of subcategories that would have to be tracked for enforcement purposes." *Id.* In support of this assertion, OSHA noted that in addition to welding and electroplating, "there are over thirty other industry sectors with exposure to Cr(VI)," JA 241—but given that OSHA had no feasibility concerns about a 1 μg/m^3 PEL for the great majority of those industries, it offered no explanation of how the number of affected industries would lead to a proliferation of "subcategories."

Based on these supposed concerns, OSHA established its 5 μg/m^3 PEL because it "is economically and technologically feasible for *all* the affected industries," while "the proposed PEL of 1 μg/m^3 is not feasible in *all* industries." JA 236. The standard requires employers to meet the PEL through engineering and work-practice controls unless they demonstrate that is not feasible in their workplace; in that event, employers must provide respirators to bring worker exposures down to the PEL. OSHA allowed employers until May 31, 2010, to meet the PEL through engineering and work-practice controls, but provided that in the interim they must meet the PEL using respirators if they have not yet implemented engineering and work-practice controls.

4. The Action Level and Notice Requirements—Having established a PEL that concededly left in place a significant risk of lung cancer for workers, OSHA followed its standard practice of setting an "action level" (which triggers exposure monitoring and medical surveillance requirements) at one-half of the PEL, or 2.5 $\mu g/m^3$, *see* JA 233, even though this standard differed from prior standards in that the action level was itself substantially higher than the level of exposure (1 $\mu g/m^3$) where OSHA acknowledged that the risk to employees was significant. Further, unlike other standards, and without warning in the NPRM, OSHA's final rule requires employers to notify employees of exposure monitoring for Cr(VI) only where exposures exceed the PEL. *See* JA 244. OSHA did not explain why the final rule differed from the NPRM in this regard or why the PEL was the appropriate trigger for notice given the significant risk posed to employees by exposures well below the PEL and the feasibility for most industries of reducing exposures substantially below the PEL.

5. OSHA's Amendment of the Standard—After the standard went into effect and petitions for review had been filed, OSHA entered into a settlement agreement with one group of industry petitioners, the Surface Finishing Industry Council (SFIC), representing job-shop electroplaters (the industry for which OSHA had found a 1 $\mu g/m^3$ PEL economically infeasible). Pursuant to that agreement, to which HRG and Steelworkers were also parties, SFIC withdrew its

petition, and OSHA formally revised the standard to provide different compliance standards for job-shop electroplaters (defined as members of SFIC and other "surface-finishing or metal-finishing job shop[s] that sel[l] plating or anodizing services to other companies"). 71 FR 63238, 63240, JA 291, 293 (Oct. 30, 2006). Under the revised rule, job-shop platers, unlike other affected employers, received the option of not meeting the PEL using respirators during the phase-in period if they committed to achieving the PEL through engineering controls by December 31, 2008 (17 months earlier than other employers).

RELATED CASES AND PROCEEDINGS

Two related cases challenging OSHA's delay in promulgating the Cr(VI) standard were previously before this Court: *OCAW v. OSHA*, 145 F.3d 120, and *Public Citizen HRG v. Chao*, 314 F.3d 143. In addition, three other petitions for review of the standard, all of which were filed in or transferred to this Court by order of the Judicial Panel on Multidistrict Litigation, were filed by other parties: *National Ass'n of Mfrs., et al. v. OSHA* (No. 06-2272); *Building & Constr. Trade Dept., et al. v. OSHA* (No. 06-2433); and *Edison Elec. Inst. v. OSHA* (No. 06-2604). One petitioner in No. 06-2272 (SFIC) was dismissed pursuant to a settlement agreement, and the remaining petitioners in that case have filed a motion to dismiss under another settlement reached on May 21, 2007. The petition

in No. 06-2433 was also dismissed as a result of settlement. No. 06-2604 remains pending.

SUMMARY OF ARGUMENT

The OSH Act requires that OSHA standards eliminate significant risks to worker health and safety "to the extent feasible." 29 U.S.C. § 655(b)(5). OSHA acknowledges that its PEL leaves in place significant health risks by permitting exposures that threaten workers with lung cancer to an extent never permitted by any previous standard. OSHA's justification is that a lower PEL would be technologically or economically infeasible for *some* affected industries and operations, and therefore a higher PEL is necessary for *all* industries.

OSHA's rationale is doubly flawed. *First*, OSHA's own evidentiary record, and the factual conclusions it has reached based on that record, contradict its conclusions that a lower PEL would be infeasible even for the few industries and operations where OSHA has identified feasibility concerns. The record demonstrates that a lower standard would be technologically feasible in *every* industry because existing technology would allow typical employers to meet it in most of their operations, most of the time—the legal standard for technological feasibility. OSHA's contrary conclusion rests on its legally erroneous view that each industry must be able to meet the standard in *all* of its operations, most of the time. Similarly, OSHA has failed to support its conclusion that a lower standard

would be economically infeasible for the one sub-industry (job-shop electroplating) where it purported to make such a finding because its analysis provides no explanation of how the competitive structure of the industry would be adversely affected. OSHA's feasibility findings reflect little more than determinations that relatively small numbers of workers in some operations and industries would require respiratory protection to meet a standard lower than 5 $\mu g/m^3$—determinations that OSHA then bootstraps into findings that the standard would be infeasible for entire industries even though the great majority of workers in those industries could feasibly be protected by a substantially lower PEL.

Second, OSHA takes its bootstrapping to another level by improperly using its feasibility findings for a handful of affected industries and operations to justify establishing a uniform PEL for all affected workers. In effect, OSHA has allowed the perceived need to avoid placing fewer than 16,000 additional workers in respirators in the industries and operations where it sees feasibility concerns to determine the protection afforded to all of the nearly 580,000 workers affected by the PEL, even though OSHA agrees that they could feasibly be protected by a lower standard that would prevent thousands of needless cancer deaths. OSHA's choice of a unitary, highest-common-denominator PEL violates its obligation under the OSH Act to protect workers to the extent feasible and to judicial decisions and prior agency determinations that reject precisely that approach. And

OSHA's reliance on purported concerns of practicality and administrative convenience to justify its approach is inadequate where lives hang in the balance.

Finally, other provisions of the Cr(VI) standard tied to OSHA's flawed PEL must also be rejected. In particular, OSHA has offered no rational explanation for setting its "action level" at one-half of the PEL for this rule, given that significant risks to workers exist well below that level. Moreover, the standard's requirement that employers notify employees of Cr(VI) monitoring results only when they exceed the PEL is an unexplained departure from past standards that require notification regardless of whether the PEL is exceeded. That change is particularly irrational under this rule, when exposures far below the PEL pose significant health risks that workers have a substantial interest in knowing about.

ARGUMENT

I. STANDARD OF REVIEW FOR ALL ISSUES

The OSH Act provides that standards under 29 U.S.C. § 655 may be sustained on judicial review only "if supported by substantial evidence in the record considered as a whole." 29 U.S.C. § 655(f). This standard of review is more demanding than the Administrative Procedure Act's "arbitrary and capricious" standard, 5 U.S.C. § 706(2)(A), in that it requires OSHA to base factual conclusions on substantial record evidence—that is, "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion."

Donovan, 452 U.S. at 522 (1981); *see also Am. Iron & Steel Inst. v. OSHA*, 577 F.2d 825, 831 (3d Cir. 1978) (*AISI I*); *Synthetic Organic Chem. Mfrs. Ass'n v. Brennan*, 503 F.2d 1155 (3d Cir. 1974); *CPMA v. OSHA*, 16 F.3d 1157, 1160 (11th Cir. 1994) (OSH Act requires "harder look" than APA standard). With respect to non-evidentiary matters, the standard provides for judicial review comparable to that under 5 U.S.C. § 706(2)(A), assessing whether the agency has complied with statutory mandates and provided a rational and nonarbitrary explanation for its decisions. *See AISI I*, 577 F.2d at 830-31; *Synthetic Organic Chem. Mfrs.*, 503 F.2d at 1160; *AFL-CIO v. OSHA*, 965 F.2d 962, 970 (11th Cir. 1992); *United Steelworkers of Am. v. Marshall*, 647 F.2d 1189, 1206-07 (D.C. Cir. 1980); *Industrial Union Dept. v. Hodgson*, 499 F.2d 467, 475 (D.C. Cir. 1975).

II. OSHA'S DETERMINATION THAT A PEL LOWER THAN 5 µg/m^3 IS NOT FEASIBLE MUST BE SET ASIDE.

A. OSHA Standards Must Eliminate Significant Risk to the Extent Technologically and Economically Feasible.

The OSH Act requires an occupational health standard involving "toxic materials or harmful physical agents" to "adequately assur[e], to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity even if such employee has regular exposure to the hazard dealt with by such standard for the period of his working life." 29 U.S.C. § 655(b)(5). More than 35 years of judicial construction

have given the statute a settled meaning. The Act does not mandate elimination of insubstantial health risks, but requires OSHA to determine that a regulated substance poses a "significant risk" of material health impairment. Once such a risk is identified, OSHA must promulgate a standard that will eliminate significant risks unless doing so is infeasible in a particular industry. *AFL-CIO v. OSHA*, 965 F.2d at 973. OSHA has a "duty to keep adding [protective] measures so long as they afford benefit and are feasible, up to the point where [it] no longer finds significant risk." *Building & Constr. Trades Dept. v. Brock*, 838 F.2d 1258, 1269 (D.C. Cir. 1988).

Feasibility encompasses both economic and technological feasibility. A standard is technologically feasible if an industry is capable of complying with it using existing technology or technology that OSHA reasonably anticipates will be developed. When, as here, OSHA requires that employers use engineering and work-practice controls to comply, with reliance on respirators only permitted if engineering and work-practice controls fail, courts have held that the standard is technologically feasible for an industry "if a typical employer could achieve the PEL in *most* of its operations *most* of the time." *Am. Iron & Steel Inst. v. OSHA*, 939 F.2d 975, 981 (D.C. Cir. 1991) (*AISI II*) (emphasis added); *see also Steelworkers*, 647 F.2d at 1272 (standard is technologically feasible if there is "a reasonable possibility that the typical firm will be able to develop and install

engineering and work practice controls that can meet the PEL in most of its operations"). Because the statute is technology-forcing (that is, standards are supposed to stimulate development of advanced technologies to protect workers), a standard may be technologically feasible if "only the most technologically advanced plants in an industry have been able to achieve [the standard]—even if only in some of their operations some of the time." *Steelworkers*, 647 F.2d at 1264.

Economic feasibility means an industry's ability to comply without ruinous economic consequences. "A standard is economically feasible if the costs it imposes do not 'threaten massive dislocation to, or imperil the existence of, the industry.'" *AISI II*, 939 F.2d 975, 980 (D.C. Cir. 1991) (quoting *Steelworkers*, 647 F.2d at 1265). It is infeasible if it would "threaten the existence or competitive structure of an industry." *Steelworkers*, 647 F.2d at 1272. As OSHA acknowledges, threats to the competitive structure of an industry must be "significant" to render a standard economically infeasible. JA 173. Thus, the likelihood that a standard may put economically marginal firms out of business does not render it economically infeasible. *See Donovan*, 452 U.S. at 530–32; *Steelworkers*, 647 F.2d at 1272; *see, e.g.*, *AISI II*, 939 F.2d at 1003 (the prospect that OSHA's lead standard would put 1/6th of small non-ferrous foundries out of

business did not render it economically infeasible because the resulting loss of capacity would not lead to undue concentration).

In assessing technological and economic feasibility, OSHA must separately analyze each affected industry: "[T]he undisputed principle that feasibility is to be tested industry-by-industry demands that OSHA examine the technological feasibility of each industry individually." *Steelworkers*, 647 F.2d at 1301; *accord*, *CPMA*, 16 F.3d at 1161; *AFL-CIO*, 965 F.2d at 980. A finding of infeasibility for one industry does not mean that workers in other industries should be denied protection. Thus, when OSHA has relied on infeasibility in some industries as a justification for not protecting workers in other industries where a more protective standard was feasible, courts have required OSHA "to afford workers the benefits of more stringent standards in areas where they are feasible." *Brock*, 838 F.2d at 1273. Moreover, where a standard has been found feasible for some affected industries but not others, courts have consistently remanded for proceedings to determine whether a separate standard is necessary only for the industry or industries where the standard is infeasible, leaving it in place where it is feasible. *See, e.g.*, *CPMA*, 16 F.3d 1157; *AISI II*, 939 F.2d 97; *Steelworkers*, 647 F.2d 1189.

B. OSHA's Feasibility Determinations Are Legally Flawed and Unsupported by Substantial Evidence.

Because OSHA established its Cr(VI) PEL at a level that it concedes places workers at significant risk, it is evident that in this case, as in *Brock*, the validity of

the PEL rests critically on OSHA's feasibility analysis. That analysis is fundamentally flawed on two levels: First, each of OSHA's feasibility findings for particular industries fails to satisfy the "substantial evidence" standard because the evidence on which it is based does not meet the legal standards for infeasibility that the courts have developed under the OSH Act. Second, even if a PEL lower than 5 $\mu g/m^3$ were infeasible for some or all of the industries OSHA has identified, OSHA has failed to offer a coherent and legally sustainable explanation of why it is therefore denying adequate protection to the majority of affected workers in industries where it concedes a standard significantly lower than 5 $\mu g/m^3$ is feasible.

1. Welding—OSHA's analysis of technological feasibility for welding suffers from OSHA's failure to recognize the significance of the fact that neither SMAW, nor stainless-steel welding, nor even welding generally, is an "industry," but, as OSHA acknowledges, a type of operation that is performed by employers in a broad range of industries. *See* JA 240 ("Welding, for example, is widely used in manufacturing operations in general industry, maritime and construction."). The distinction is critical because the legal standard for technological feasibility is whether a typical employer in a particular industry will be able to comply with a standard through engineering controls and work-practice controls in most of its operations, most of the time. *AISI II*, 939 F.2d at 981. Even if SMAW operations could not satisfy a PEL lower than 5 $\mu g/m^3$ most of the time (or even if stainless-

steel welding operations or welding operations generally could not), that would not by itself establish that the typical employer in any given industry could not meet a lower PEL in most operations, most of the time; it would mean only that for some employers, *one particular operation* would not meet the standard most of the time. *Cf. Steelworkers*, 647 F.2d at 1280-81 & n.138 (holding lead standard feasible for primary lead smelting industry even though certain operations would require respirators to meet standard). Nowhere in OSHA's explanation of the rule, either in its final rulemaking notice or in the FEA, did OSHA attempt to determine whether the feasibility issues it identified with respect to welding would prevent the typical employer in any industry from meeting a PEL lower than 5 $\mu g/m^3$ in most operations, most of the time. Thus, OSHA's conclusions regarding welding are insufficient as a matter of law to establish the infeasibility of a PEL lower than 5 $\mu g/m^3$ for *any* industry.

Even if it were proper to view welding, or even stainless-steel welding, as a separate industry, OSHA's analysis would fail to demonstrate the technological infeasibility of a PEL lower than 5 $\mu g/m^3$. OSHA's analysis demonstrates that most welding operations would be able to meet a lower PEL without respirators

most of the time.[5] Even if the focus were limited to stainless-steel welding, most stainless-steel welding operations could meet a 1 μg/m^3 PEL most of the time without use of respirators: OSHA estimated that only 22.3% of all stainless-steel welders would require respiratory protection to meet a 1 μg/m^3 PEL. JA 333 (FEA). Indeed, even as to stainless-steel SMAW operations — the specific type of welding that gave rise to OSHA's feasibility concerns — OSHA estimated that only "29% of all stainless steel SMAW operations would need to use respirators at a PEL of 1 μg/m^3." JA 237. In other words, by OSHA's own account, *most* SMAW operations *could* meet a 1 μg/m^3 PEL most of the time without reliance on respirators. OSHA's own factual conclusions thus directly contradict its assertion that a lower standard would be technologically infeasible.

OSHA's conclusion that a PEL lower than 5 μg/m^3 would be technologically infeasible for welding is contrary not only to the legal standard for technological infeasibility under the OSH Act, but also to OSHA's conclusions in previous rulemakings that similar levels of required respirator use did not render standards infeasible. In OSHA's asbestos rulemaking, for example, OSHA concluded that a

[5] OSHA estimated that 269,379 workers were engaged in stainless and non-stainless-steel welding in general industry, construction, and maritime industry combined, and only 31,365, or 15.4%, would need respirators to meet a 1 μg/m^3 PEL. JA 333 (FEA).

standard that would require regular use of respirators by nearly 10% of an affected workplace population of approximately 580,000 workers was technologically feasible, a determination upheld by the D.C. Circuit. *See Brock*, 838 F.2d at 1267-78. Similarly, OSHA estimated that its cadmium standard would require respirators for about 40,000 of 524,000 exposed workers, or 7.6%, and that in some affected industries as many as 80% of exposed workers would be required to wear respirators *full-time*. 57 FR 42102, 42212 (Sept. 14, 1992).

By comparison, OSHA estimated that a 1 $\mu g/m^3$ PEL for Cr(VI) would require use of respirators by 53,123 of 558,431 affected workers overall, or 9.5%, JA 335 (FEA), and by only 28,509 stainless-steel welders (22.3% of stainless-steel welders). Moreover, even under the PEL chosen by OSHA, 14,353 of those stainless-steel welders would require respirators, so the difference between the standard OSHA has found feasible and the one it rejected as infeasible is the need for respirators by another 14,000 stainless-steel welders (out of a total of 127,746 stainless-steel welders). OSHA has nowhere explained why levels of respirator use that it has found acceptable for other standards are infeasible for stainless-steel welding under the Cr(VI) standard, or why the incremental increase in required respirator use between 5 $\mu g/m^3$ and 1 $\mu g/m^3$ crosses the feasibility line. Such an explanation is critical because that increase is the sole determinant of OSHA's conclusion that a standard lower than 5 $\mu g/m^3$ is infeasible for all 127,746

stainless-steel welders, and by extension for all 269,379 welders—a number that then forms the principal basis for OSHA's conclusion that the standard should be 5 $\mu g/m^3$ for all 558,431 exposed workers. *See* JA 239.

2. Pigment, Catalyst, and Dye Producers—For each of these tiny industries, OSHA's reasoning was identical. OSHA identified technology that currently would allow *all* operations to meet a 1 $\mu g/m^3$ PEL and identified existing facilities that were already meeting that standard. However, OSHA stated that it "may" be "difficult" for some plants to implement one control measure (enclosure of dusty operations such as bagging), not for reasons of *technological* capability, but simply because of the layouts of existing plants.

OSHA's conclusion again ignored the legal standard for feasibility—the typical firm in an industry must be able to meet the standard in most operations, most of the time. OSHA's own analysis reflected that *most* job categories in these industries could meet a 1 $\mu g/m^3$ PEL most of the time, and that only a few job categories (primarily in the product bagging area), would be unable to meet the standard *some* of the time. *See* JA 923-25 (FEA). Thus, OSHA concluded that a *minority* of workers (44%, or 206 total workers) in these industries would

intermittently need respirators. JA 239.[6] That falls far short of a determination that a lower PEL would not be feasible for *most* workers *most* of the time.

OSHA's feasibility analysis also reflected a basic misunderstanding of technological feasibility. OSHA identified no *technological* barrier to compliance with a 1 μg/m^3 PEL in any of these industries; indeed, its analysis showed that the technology to meet that standard is available and in use. OSHA speculated only that some firms might face "difficulty" in implementing available technology (enclosure of dusty operations) not for technological reasons, but because it might require reconfiguration of existing facilities. Any such "difficulty," however, would not be technological — it would be a matter of the *cost* of moving, expanding, or reconfiguring existing facilities. Cost is a matter of economic feasibility, not technological infeasibility.[7] OSHA's analysis did not even consider whether the cost of implementing enclosure controls in existing facilities would be

[6] OSHA speculated that the number could be higher if a "large number of facilities" could not enclose "troublesome operations," JA 239, but there are only 12 facilities in the three industries combined—not a "large number" by any reckoning.

[7] *See Steelworkers*, 647 F.2d at 1295 ("[N]othing in the OSH Act or its judicial history bars the agency from requiring such rebuilding if it is economically feasible.").

so prohibitive as to drive companies in these industries out of business. Moreover, OSHA's sole evidence that *any* producer would face any "difficulty" was the configuration of one chromate pigment production facility in *Canada*, which would not even be subject to the standard. No substantial evidence supports OSHA's determination that a standard lower than 5 μg/m^3 would be infeasible for these three industries.

3. Hard-Chrome Plating—OSHA's analysis of feasibility for hard-chrome plating is similarly unsustainable because of its disregard for the legal standard of feasibility. As OSHA concedes, hard-chrome plating is not a separate industry, but a specific operation conducted by the electroplating industry, *see* JA 239; JA 596 (FEA), and one involving a small minority of workers in the industry (fewer than 3,000 of almost 67,000 exposed employees). JA 611 (FEA). OSHA identified no other operations in the industry where meeting a PEL lower than 5 μg/m^3 would be technologically infeasible. Indeed, OSHA concluded that the "vast majority" of workers in other industry operations already have exposures below 5 μg/m^3, JA 625 (FEA), and 76% of all exposed workers in the industry as a whole (including hard-chrome operations) are exposed at levels below 1 μg/m^3. Thus, OSHA's own analysis showed that the proposed 1 μg/m^3 PEL is technologically feasible for most industry operations most of the time. OSHA nonetheless concluded that a 1 μg/m^3 PEL would be infeasible for the industry

because it could not be achieved by "*all* electroplating operations most of the time." JA 595 (FEA III) (emphasis added). That conclusion flatly misstates the legal standard: A standard is feasible if a typical firm can achieve it in "*most* of its operations most of the time." *AISI II*, 939 F.2d at 981 (emphasis added). OSHA's feasibility determination for hard-chrome plating thus directly contradicts governing law.

OSHA's determination was also contradicted by its own evidence, which demonstrated that even hard-chrome plating operations would be able to meet a 1 $\mu g/m^3$ standard *most of the time*. OSHA identified a currently available technology (fume suppressants) capable of reducing hard-chrome exposures below 1 $\mu g/m^3$, and it observed that 75% of hard-chrome exposures are already below 5 $\mu g/m^3$ even without wide use of this technology. JA 625 (FEA). Although OSHA found fume suppressants had limitations that might make them impractical in *some* hard-chrome plating operations, OSHA concluded that their use would enable employers to achieve exposures below 1 $\mu g/m^3$ for approximately 65% of workers in hard-chrome plating, leaving only about 35% (or 964 workers) who *might* sometimes need respirators to achieve full compliance with a 1 $\mu g/m^3$ PEL. JA 625, 333 (FEA). Thus, even hard-chrome operations would be in compliance most of the time, and, overall, the industry would require respirators for only 964 of

67,000 workers to reach 1 μg/m^3. OSHA's infeasibility conclusion is thus not only unsupported by substantial evidence, but directly contradicted by its own findings.

4. Aerospace Painting—Similar to its analysis of hard-chrome plating, OSHA's technological feasibility analysis for aerospace painting operations does not establish the infeasibility of a 1 μg/m^3 PEL for any *industry*; rather, it applies to only one type of operation (painting of aircraft and aircraft parts) carried out by a small number of workers (fewer than 4,000) of the many thousands employed in the aerospace industry. OSHA did not suggest that *most* aerospace industry operations could not meet a 1 μg/m^3 PEL, nor would its evidence offer any support for that conclusion.[8]

Moreover, even OSHA did not conclude that technological feasibility concerns about aerospace painting should determine the PEL, since the 5 μg/m^3 PEL selected by OSHA is, by its own analysis, not technologically feasible for many aerospace painting operations without use of respirators. OSHA's figures show that the rule adopted by OSHA for aerospace painting will require approximately 810 workers to use respirators to meet the 5 μg/m^3 PEL. JA 333

[8] If the relevant "industry" were industrial painting rather than aerospace, the number of aerospace painters would amount to only about a tenth of the number of painters in general industry, negating any suggestion that the painting "industry" could not meet a 1 μg/m^3 PEL in most operations.

(FEA). Given OSHA's conclusion that a 5 μg/m^3 PEL is *not* infeasible for aerospace painting if employers are allowed to meet it using respirators, OSHA must explain why, for example, a 1 μg/m^3 PEL would be infeasible for aerospace painting if employers were similarly permitted to use respirators to meet it. Because OSHA identified no evidence that respirators could not reduce exposures to 1 μg/m^3 in aerospace painting, and because only 540 more aerospace painters would need respirators to meet such a standard, OSHA has failed to supply a rational explanation of how the feasibility issues concerning aerospace painting operations support its decision to choose a 5 μg/m^3 PEL instead of 1 μg/m^3.

5. Electroplating Job Shops—OSHA provided neither substantial evidence nor a rational explanation for its conclusion that a PEL lower than 5 μg/m^3 would be economically infeasible for the electroplating job-shop industry. OSHA's analysis began conventionally, with a comparison of estimated compliance costs to industry revenues and profits. Because OSHA found the costs substantial enough to warrant further concern, it considered whether costs could be passed on to customers as needed to maintain the industry's economic viability. Noting that demand for the industry's services was inelastic and that job shops had successfully recovered costs of complying with new EPA rules in the 1990s, OSHA concluded that the costs of a 1 μg/m^3 PEL would *not* threaten the continued existence of the industry as a whole. JA 203; JA 1122-23 (FEA).

Having so concluded, OSHA went on to assert that a 1 µg/m^3 PEL "*could* alter the competitive structure of the industry." JA 203-04; JA 1122 (FEA) (emphasis added). OSHA's sole "explanation" for this assertion was that because passing the costs on to customers "would require almost tripling the annual nominal price increase" that the industry had recently experienced, the full costs "*might* not be passed forward, particularly by older and less profitable segments of the industry." JA 203-04 (emphasis added); JA 1122-23 (FEA). OSHA did not estimate the number of firms that "might" not be able to pass through the costs, the extent to which costs "might" not be recovered, whether any firms would likely go out of business, and, if so, how many, or the impact on competition or pricing.

OSHA's conclusory statement is no more than speculation that an unknown number of marginal firms might face difficulties of uncertain extent in passing through costs. But the law is clear that even a *likelihood* that marginal firms will be put out of business does not make a standard economically infeasible: Unless the competitive structure of the industry *as a whole* is threatened, a standard is not economically infeasible "even if it does portend disaster for some marginal firms." *AFL-CIO*, 965 F.2d at 982 (quoting *Steelworkers*, 647 F.2d at 1272); *see also Donovan*, 452 U.S. at 531 (finding cotton-dust standard economically feasible even though OSHA concluded that "marginal employers may shut down"); *AISI I*, 577 F.2d 825, 835-36 (3d Cir. 1978) (standard is economically feasible even if it

financially burdens employers, reduces profit margins, and causes "economic demise" of some firms). Here, OSHA did not even find that less profitable firms would go out of business, but only that they "might" not pass on all compliance costs. If the *destruction* of marginal firms does not make a standard economically infeasible, the mere possibility of less-than-complete cost recovery by some firms surely does not.

OSHA's failure to support or explain its finding of economic feasibility contrasts starkly with previous rulemakings where it has specifically explained how a standard would (or would not) threaten an industry's competitive structure. In remand proceedings involving OSHA's lead standard, for example, OSHA found the proposed standard economically infeasible for the non-ferrous foundry industry because it would cause between 42% and 57% of small foundries (which constituted 60% of the industry) to go out of business. *AISI II*, 939 F.2d at 1003. However, OSHA determined that a less stringent standard was economically feasible although it would put 18% of small foundries out of business, because the foundries likely to go broke accounted for a very small percentage of the industry's overall capacity and thus their demise would not significantly affect competition. *Id.* Absent any similar analysis here, it is impossible to tell what effect OSHA thinks a 1 $\mu g/m^3$ PEL would have on the structure of the job-shop electroplating industry, and hence impossible to affirm the conclusion that the standard would be

economically infeasible. *Cf. Dry Color Mfrs. Ass'n v. Dept. of Labor*, 486 F.2d 98, 106 (3d Cir. 1973) (a conclusory statement merely reciting the governing legal standard does not adequately explain the agency's decision).

III. OSHA'S DECISION TO BASE A PEL FOR ALL INDUSTRIES ON FEASIBILITY CONCERNS LIMITED TO OTHER INDUSTRIES AND OPERATIONS CANNOT BE SUSTAINED.

A. OSHA's PEL Denies Feasible Protection to Tens of Thousands of Employees Based on Feasibility Issues Applicable to a Minority of Affected Industries, Operations, and Workers.

Even if one or more—or even all—of OSHA's infeasibility findings could be sustained, OSHA has not articulated a rational explanation consistent with the OSH Act's mandates for its decision to set the PEL at 5 $\mu g/m^3$ for industries where it concedes a lower standard would be feasible. OSHA's determination that a relatively small number of employees in a handful of industries and operations would require respirators to reach a PEL lower than 5 $\mu g/m^3$ has led it to deny protection to tens of thousands of workers in other industries who may, under OSHA's standard, be exposed to levels of Cr(VI) that unnecessarily subject them to significant risks of lung cancer. OSHA's highest-common-denominator approach, which denies workers feasible protections against significant risks because of feasibility concerns confined to other industries and operations, violates its statutory mandate to eliminate significant risks of material health impairment for all workers to the extent feasible.

OSHA concedes that a 1 $\mu g/m^3$ standard would be economically and technologically feasible for the great majority of the over 30 industries with Cr(VI) exposures. It further acknowledges that the approximately 250,000 exposed workers in those industries may be subjected to a risk of lung cancer five times greater under a 5 $\mu g/m^3$ PEL than under a 1 $\mu g/m^3$ PEL. Assuming exposures over a 45-year working lifetime, OSHA's standard would permit 2,500 to 11,250 excess lung cancer deaths among a worker population of 250,000, as compared to between 525 and 2,275 deaths if the PEL were 1 $\mu g/m^3$.

Moreover, OSHA's view that the lower standard would be infeasible for industries or operations employing 312,170 exposed workers (*see* JA 239) substantially inflates the numbers. To begin with, OSHA includes 270,000 welding employees, even though its finding of technological infeasibility was based only on stainless-steel SMAW, which involves only 67,000 employees (most of whom could achieve exposures of 1 $\mu g/m^3$ without respirators). Similarly, OSHA counts 8,300 aerospace painters, even though the actual number is only 3,921. At most, OSHA found the standard infeasible for industries or operations employing about 107,000 of the 558,431 exposed workers, and even most of those

107,000 could feasibly be protected at 1 μg/m^3 without respirators.[9] Moreover, even within the industries where it found technological infeasibility, OSHA based its conclusion on findings that only 14,156 more stainless-steel welders, 540 more aerospace painters, 964 more hard-chrome platers, and 136 more workers in the chromium pigment, catalyst, and dye production industries would *sometimes* have to wear respirators to meet a 1 μg/m^3 standard than to meet the 5 μg/m^3 PEL. *See* JA 159-60. Thus, to avoid having 15,796 workers wear respirators, OSHA unlawfully chose to leave nearly 560,000 exposed to significant lung cancer risks.

B. OSHA's Explanation for Its Highest-Common-Denominator PEL Is Inadequate and Legally Flawed.

OSHA's decision to let feasibility concerns limited to specific industries determine the PEL for other industries where a substantially more protective standard is feasible conflicts with the statutory command that OSHA eliminate significant health risks "to the extent feasible," with judicial decisions, and with OSHA's own prior practice. Moreover, OSHA's explanation for its decision not to

[9] This figure includes 67,000 stainless-steel SMAW welders, 3,921 aerospace painters, 2,590 hard-chrome platers, 33,400 electroplating job-shop employees, and 469 workers employed by chromate pigment, catalyst, and dye producers (total: 107,380), and even this is an overstatement because of double-counting of hard-chrome platers and job-shop plating employees.

protect workers in industries where greater protection is feasible is incoherent and irrational.

1. OSHA's Approach Conflicts with Judicial Precedent and Past Agency Practice.—OSHA contends that it has "always" or "historically" interpreted the OSH Act to "accord [it] substantial discretion to set the PEL at the lowest level that is feasible for industries or operations as a whole," not based on "the lowest level particular industries or operations could achieve." JA 240, 241. In support, OSHA cites rules promulgated in 1978 for arsenic and benzene, in which OSHA declined to set different PELs for different industries, although OSHA admits it reached a different conclusion in the cotton dust standard issued the same year. *See* JA 241 (citing 43 FR 19584, 19601 (May 5, 1978) (arsenic); 43 FR 5918, 5947 (Feb. 10, 1978) (benzene); and 43 FR 27350, 37360-61 (June 23, 1978) (cotton dust)).

OSHA's explanation, however, fails to recognize that its approach has consistently been *rejected* by the courts. In *Brock*, 838 F.2d at 1272-73, a decision postdating the actions to which OSHA points to establish its supposed "historical" interpretation of the Act, the D.C. Circuit held that OSHA could *not* rely on feasibility problems confined to particular industries to justify a higher PEL for industries that could feasibly meet a lower standard. There, OSHA had established a PEL for asbestos that, as in this case, left workers facing a significant health risk.

OSHA acknowledged that a substantially lower exposure level could be achieved in most industries and operations, but it established a uniform, higher standard because of feasibility concerns applicable to a minority of exposed workers. Rejecting OSHA's approach, the court held that "we must remand the case for the Secretary to address the issue of disaggregating the general industry standard to afford workers the benefits of more stringent standards in areas where they are feasible." *Id.* at 1273.[10] Similarly, in its early decision in *Hodgson*, 499 F.2d 467, the D.C. Circuit remanded the asbestos standard because OSHA had promulgated a uniform effective date even though some industries could feasibly meet the standard faster than others. The court did not agree that the statute "require[d] a single uniform standard for reasons of practical administration," *id.* at 480 n.31, and held that the "only relevant question would be whether the time schedule established for each industry was feasible for that industry; therefore, comparisons with the standards established for a different industry with different technological problems would be pointless …." *Id.* at 480-81.

Significantly, OSHA has acknowledged that *Brock*'s holding properly reflects the OSH Act's requirement that workers be protected against significant

[10] On remand, the agency eventually found a more protective standard feasible for *all* industries. *See* 59 FR 40964 (Aug. 10, 1994).

risks to the extent feasible. In promulgating its cadmium standard, OSHA found that most affected industries could feasibly meet a PEL of 5 µg/m^3 through engineering and work-practice controls, but certain industries could not reach that level without respirators. Rather than allowing feasibility issues affecting the minority to determine the PEL for industries that could achieve the lower level, OSHA required industries that could meet a lower PEL to do so, and created a different standard for the industries that faced feasibility challenges.[11] OSHA explained its refusal to allow feasibility issues confined to particular industries to determine the PEL for other industries as follows (57 FR 42343 (emphasis added)):

> OSHA believes this to be good policy, which is supported, and may under certain circumstances even be required, by law. Under section 6(b)(5) of the OSH Act the Agency is legally required to set standards that "to the extent feasible" best protect workers from significant risks of material impairment of health. … *OSHA does not believe that this obligation can be satisfied by using a lowest-common denominator approach to protecting workers, i.e., by protecting all workers only to the extent that the most severe feasibility constraint on protecting any worker would allow*. On the contrary, OSHA believes that *if a minority of workers cannot be as effectively protected as the majority, that fact is not an adequate reason to forego protecting the majority to the extent feasible*. The courts seem to agree.

[11] OSHA referred to this standard as a "separate engineering control air limit" (SECAL). Under the SECAL, the exposure level employers were required to achieve through engineering and work-practice controls was much higher than the PEL, but they still had to make up the difference between the SECAL and the PEL through respirators (similar to the aerospace painting standard in the Cr(VI) rule).

OSHA went on acknowledge that where a significant risk would remain at a higher standard and a lower standard is achievable in a substantial industry sector, "absent some persuasive justification to the contrary, OSHA *cannot legally* impose the higher PEL on that sector even if the lower PEL could not be achieved in operations in other industry sectors." *Id.* (emphasis added).

OSHA's position that it should adopt a uniform PEL based on feasibility limitations applicable only to certain affected industries is also contrary to judicial decisions and OSHA actions in instances where a standard was found infeasible for some but not all affected industries. In 1978, OSHA promulgated a lead PEL of 50 $\mu g/m^3$ for all industries but allowed different implementation dates because feasibility issues differed among industries. *See Steelworkers*, 647 F.2d at 1205. The D.C. Circuit concluded that OSHA had demonstrated the standard's feasibility for three major industries and seven other industries, but not for four major industries and more than 30 other industries. *Id.* at 1277-1306. Despite finding the standard feasible only for a minority of affected industries, the court did not vacate it across the board; on the contrary, it ordered that the standard "go fully into effect" where feasible and remanded for industry-by-industry consideration of

feasibility for industries where feasibility had not been demonstrated. *Id.* at 1311.[12]

On remand, OSHA found the 50 µg/m^3 PEL feasible for most remanded industries and issued new rulemaking notices putting it into effect for them, but not for nine industries where it did not find the standard feasible. *See* 46 FR 60758 (Dec. 11, 1981). After further review (and several years with different standards applying to different industries), OSHA found the 50 µg/m^3 PEL feasible for eight of the remaining industries, but not for small foundries in the nonferrous foundry industry. But OSHA did not let the infeasibility of the standard for small foundries limit the protection of workers in large foundries; it divided the industry in two and subjected large foundries to the 50 µg/m^3 PEL and small foundries to a separate 75 µg/m^3 PEL, the lowest level feasible for that industry segment. 55 FR 3146 (Jan. 30, 1990).[13]

Still later, six industries subject to the *Steelworkers* remand challenged OSHA's feasibility determinations. The D.C. Circuit upheld OSHA's actions as to

[12] The court did not excuse even those industries from compliance with the PEL altogether, but insisted that they meet it using respirators while feasibility of issues remained under consideration on remand. *Id.*

[13] Even then, OSHA required small foundries to make up the gap between 75 µg/m^3 and 50 µg/m^3 using respirators.

five of the six, but found the lead standard economically infeasible for the brass and bronze ingot industry. *See AISI II*, 939 F.2d at 1010. Again, however, the infeasibility affected only the standard for that particular industry; the court ordered the PEL into effect for all those industries where it was feasible. *Id.* And on remand, OSHA responded by promulgating a separate 75 μg/m^3 PEL for the brass and bronze ingot industry, without diminishing protection of workers in other industries where a lower PEL was feasible. 60 FR 52856 (Oct. 11, 1995).[14]

Similarly, the history of OSHA's cadmium standard is inconsistent with OSHA's current position that feasibility concerns limited to particular industries should control the PEL for other industries. Not only did OSHA reject that view in promulgating the cadmium standard, as explained above, but when the standard was successfully challenged in court by an industry contending that the PEL was infeasible for it, the relief was limited to a remand for consideration of the possibility of a separate standard just for that industry. *CPMA*, 16 F.3d at 1164. The standard remained in effect for all other industries where it was feasible.

OSHA's one-size-fits-all Cr(VI) standard is inconsistent with the industry-by-industry approach to feasibility reflected in judicial precedents and past agency

[14] Again, both the court and OSHA required that the brass and bronze ingots industry use respirators to protect workers against the risks posed by exposures above 50 μg/m^3.

actions. In the face of this history, and OSHA's own prior recognition that its legal "obligation" to set standards "that 'to the extent feasible' best protect workers from significant risks" cannot "be satisfied by using a lowest-common denominator approach to protecting workers," 57 FR 42343, OSHA has pointed to no other instance where it has permitted tens of thousands of workers to be exposed to such significant risks because of feasibility concerns that are restricted to other industries and operations. In past cases, such as lead and cadmium, where OSHA has found that particular industries cannot reduce significant risks through engineering and work-practice controls alone, it has not watered down protection for workers in industries where it is demonstrably feasible to eliminate the risk. Rather, it has consistently required even industries where feasibility is problematic to limit exposures to the level needed to eliminate the risk, but has given them the flexibility of doing so by using respirators, while industries that can feasibly eliminate the risk through engineering and work-practice controls are required to do so without respirators. Absent a convincing explanation, OSHA's reversal of its longstanding view of how to implement the Act's requirements cannot stand. *See Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 41-42 (1983).

2. OSHA's Explanations for Its One-Size-Fits-All Approach Make No Sense.—OSHA's stab at explaining its choice of a uniform PEL that provides

insufficient protection for thousands of workers in industries that can feasibly do better is woefully inadequate. OSHA begins by noting that the *Brock* decision held out the theoretical possibility that administrative concerns could justify a uniform PEL despite differences in feasibility from industry to industry. *See* JA 240. That is true as far as it goes, but the court stressed that such concerns must be spelled out and would not be accepted if conclusory or unconvincing. *See Brock*, 838 F.2d at 1273; *see also Hodgson*, 499 F.2d at 480 n.31. OSHA's invocation of practicality here is no more convincing than it was in *Brock* and *Hodgson*.

OSHA asserts that considering whether particular industries could meet a lower PEL "would impose an enormous evidentiary burden on OSHA to ascertain and establish the specific situations, if any, in which a lower PEL could be reached." JA 240. Even assuming that this consideration might excuse OSHA under other circumstances from protecting workers against significant risks to the extent feasible, here OSHA has *already carried out* a detailed analysis of the feasibility of a lower PEL for the industries subject to this rule, and has found such a PEL infeasible only for the specific industries or operations described above. Giving effect to the analysis it has already performed would not impose any additional burden on OSHA.

OSHA next asserts that relying on industry classification codes to define industries subject to different PELs would lead to definitional uncertainties, and

that for this reason "OSHA has historically been reluctant to disaggregate coverage of a standard by [industry] classification [codes]." JA 240. But OSHA fails to distinguish the lead and cadmium examples, where different standards were applied to different industries, nor does it demonstrate that there would be definitional problems for the particular industries and operations at issue here. Indeed, OSHA has already contradicted its own rationale by amending the Cr(VI) standard to provide a special compliance rule for job-shop platers, one of the industries for which it found a 1 $\mu g/m^3$ PEL infeasible. *See* JA 240. The issuance of the amendment demonstrates that there is no practical obstacle to distinguishing that industry from other industries subject to the Cr(VI) rule and no need to rely on classification codes to do so. Nor has OSHA shown any reason to believe that the three tiny and discrete industries in which it identified feasibility problems (chromate pigment, catalyst, and dye producers) could not be adequately identified for purposes of the rule without creating "definitional uncertainties." And the other areas where OSHA identified major feasibility concerns—stainless-steel welding and hard-chrome plating—are not industries at all, but specific operations that could readily be defined without relying on industrial codes.

OSHA further states that "disaggregating" the PEL would create "major practical disadvantages" because some employers could be subject to two different

standards for different operations in the same workplace. JA 240.[15] OSHA never explains exactly what "practical disadvantages" having to comply with different standards for different operations entails, or why these disadvantages outweigh the significant health risks that OSHA's highest-common-denominator approach leaves in place for tens of thousands of workers. Moreover, OSHA fails to recognize that its special rule for aerospace spray-painting *already* requires employers to meet different standards for employees performing very similar operations in the same workplace. OSHA makes no effort to explain why it is acceptable to subject employers to two different standards in the aerospace industry but not in others.

OSHA's only effort to sketch out the "practical disadvantages" is its suggestion that there might be spillover exposures between hard-chrome electroplating or stainless-steel SMAW and other operations in some workplaces: OSHA asserts that "different processes may be performed in close proximity to one another and each may contribute to the exposure of an individual." JA 240. But OSHA cites nothing in the record to suggest that the feasibility concerns it has identified with a PEL lower than 5 $\mu g/m^3$ for hard-chrome plating or SMAW apply

[15] This concern appears principally applicable to SMAW and hard-chrome plating, which are operations often performed by employers who also carry out other operations that do not pose feasibility concerns.

to workers who are not directly engaged in those operations. OSHA's FEA does not support the proposition that employers with hard-chrome plating or SMAW operations will be unable to limit the exposure of workers *not* engaged in those operations to 1 $\mu g/m^3$ (even if, as OSHA suggests, those operations may "contribute" to the exposure of some workers not engaged in them). Thus, even if feasibility concerns actually supported a higher PEL for hard-chrome plating and SMAW, OSHA has identified no reason why it would be "impractical" to limit such a PEL to workers directly engaged in those tasks during the time they were so engaged.

OSHA also states that a single PEL will be "easier for affected employers to understand." JA 240. But OSHA does not explain what would be difficult to "understand" about a standard that, for example, provided that chromate pigment producers had to meet one PEL while other employers had to meet another one, nor does OSHA cite evidence that prior standards that differentiated among industries, such as the lead and cadmium standards, created problems of understanding. OSHA's reliance on ease of understanding is exactly the sort of conclusory appeal to administrative practicality that *Hodgson* and *Brock* said would not justify denying workers protection against significant risks. *See* 499 F.2d at 480 n.31; 838 F.2d at 1273.

Finally, OSHA says "adopting multiple PELs could result in a great number of subcategories that would have to be tracked for enforcement purposes" because, "[a]part from welding and electroplating," "there are over 30 other industry sectors with exposure to Cr(VI)." JA 241. OSHA's statement is a non sequitur because OSHA has already found that the great majority of those 30-plus sectors can feasibly achieve a 1 $\mu g/m^3$ PEL. That a large number of industries can meet a PEL lower than 5 $\mu g/m^3$ and a handful, in OSHA's view, cannot, does not mean that "a great number of subcategories" would result. The most likely number of categories (if OSHA's view of feasibility were correct), would be two—one for industries that cannot feasibly meet a PEL lower than 5 $\mu g/m^3$, and one for industries that can. The purely theoretical possibility of "great numbers of minuscule industry subcategories" cannot justify a uniform standard that denies "workers the benefits of more stringent standards where they are feasible," *Brock*, 833 F.2d at 1272-73, if greater protection can be provided without an impracticable proliferation of standards.

IV. OSHA'S USE OF THE PEL AS THE BASIS FOR ITS "ACTION LEVEL" AND EMPLOYEE NOTIFICATION REQUIREMENTS IS ARBITRARY AND UNEXPLAINED.

The inadequacy of OSHA's PEL is exacerbated by other provisions of the rule that are tied to the PEL — specifically, the "action level," which is one-half of

the PEL, and the threshold for notifying workers of the results of workplace Cr(VI) monitoring, which is set at the PEL.

OSHA purported to recognize that because "there is a continuing significant risk at the PEL," it must "impose additional requirements on employers to further reduce risk when those requirements will result in a greater than de minimus [sic] incremental benefit to worker health." JA 234. OSHA acknowledged that the action level, which triggers exposure monitoring and medical surveillance requirements, can provide such benefits by encouraging employers to reduce exposures to "avoid the added costs of required compliance with provisions triggered by the action level." *Id.*

Despite recognizing the important role the action level can play in encouraging employers to take feasible measures to reduce risk, OSHA mechanically followed its practice in other rules of setting the action level at one-half of the PEL, *see* JA 233 without considering that in those standards the level of risk at the PEL was much, much lower than in this case. Here, OSHA recognized there is significant risk even at 1 μg/m^3. At the action level of 2.5 μg/m^3, the risk is even more significant. Indeed, it is greater than the risk OSHA has permitted under any prior PEL for a carcinogen. OSHA did not explain why, given the significant risks at both the PEL and the action level—and given OSHA's finding that it is feasible for most industries to reduce exposures to 1 μg/m^3 or lower—an

action level of 2.5 µg/m^3 is sufficient to provide the additional protection OSHA conceded is necessary in light of the PEL's failure to eliminate significant risks.

OSHA's decision to require employers to notify workers of monitoring results only when they exceed the PEL is even more inexplicable. Other OSHA standards consistently require notice to employees of *all* workplace monitoring results regardless of whether they exceed the PEL, [16] and the NPRM followed the same approach. 69 FR 59450-51. OSHA's unexplained about-face would be reason enough to reject the notification provision. *See State Farm*, 463 U.S. at 41-42; *see also Environmental Integrity Project v. EPA*, 425 F.3d 992, 996 (D.C. Cir. 2005) (final rule must be logical outgrowth of proposed rule). The arbitrariness of OSHA's decision is heightened by the PEL's acknowledged failure to eliminate significant risk and by OSHA's findings that exposures much lower than the PEL are feasible in most industries. Tying notification to the PEL will prevent workers

[16] *See, e.g.*, 29 C.F.R. §§ 1910.1001(d)(7)(i) (asbestos); 1910.1017(n) (vinyl chloride); 1910.1018(e)(5)(i) (inorganic arsenic); 1910.1025(d)(8)(i) (lead); 1910.1027(d)(5)(i) (cadmium); 1910.1028(e)(7)(i) (benzene); 1910.1029(e)(3)(i) (coke oven emissions); 1910.1043(d)(4)(i) (cotton dust); 1910.1044(f)(5)(i) (1,2-dibromo-3-chloropropane); 1910.1045(e)(5)(i) (acrylonitrile); 1910.1047(d)(7)(i) (ethylene oxide); 1910.1048(d)(6) (formaldehyde); 1910.1050(e)(7)(i) (methylenedianiline); 1910.1051(d)(7)(i) (1,3-butadiene); 1910.1052(d)(5)(i) (methylene chloride).

from learning that they are exposed to levels of Cr(VI) that endanger their health and that their employers could feasibly reduce. OSHA has not justified denying workers this critical information.

CONCLUSION

For the foregoing reasons, the Court should remand the Cr(VI) standard to OSHA for further consideration, under the proper legal standards, of the feasibility of a PEL lower than 5 $\mu g/m^3$ and of the appropriateness of the action level and the requirement that workers be notified only of monitoring results exceeding the PEL. Pending such further rulemaking, the 5 $\mu g/m^3$ PEL should remain in force so as not to deprive workers of the protection that OSHA has acknowledged is necessary and feasible for all industries. *Cf. Steelworkers*, 647 F.2d at 1311 (requiring continued protection of workers pending remand on feasibility issues).

Respectfully submitted,

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COMBINED CERTIFICATION OF COUNSEL

I hereby certify that:

(1) I am a member of the bar of the United States Court of Appeals for the Third Circuit.

(2) The foregoing 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 (Microsoft Word 2003) the brief (not including those parts not required to be counted) contains 13,934 words.

(3) The text of the electronic brief is identical to the text in the paper copies.

(4) A virus detection program has been run on the file containing the electronic brief and no virus was detected. The virus protection program run was McAfee VirusScan, Engine Version 5100, DAT Version 5035.

(5) On December 17, 2007, I caused two copies of the foregoing Brief for Petitioners (Final) to be served by first-class mail, postage prepaid, on counsel for all parties, as follows:

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