

Nos. 06-1818 and 06-2604

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,**

Respondents.

EDISON ELECTRIC INSTITUTE,

Petitioner,

v.

**OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, U.S. DEPARTMENT
OF LABOR, and ELAINE L. CHAO, SECRETARY, U.S. DEPARTMENT OF LABOR,**

Respondents.

**On Petitions for Review of a Final Rule of the
Occupational Safety and Health Administration**

FINAL BRIEF FOR RESPONDENTS

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CROSS REFERENCE INDEX (LAR 28.2)

The petitioners in this case have raised two distinct sets of issues, and Respondents address them in this brief as follows.

Section I of Respondents' argument, titled "HRG's Petition for Review Should be Denied," responds to the brief filed by Public Citizen Health Research Group and the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union in case number 06-1818.

Section II of Respondents' argument, titled "EEI's Petition for Review Should be Denied," responds to the brief filed by Edison Electric Institute in case number 06-2604.

STATEMENT OF JURISDICTION

Petitioners seek review of the Occupational Safety and Health Administration's (OSHA) final rule governing occupational exposure to hexavalent chromium (Cr(VI)). OSHA promulgated the standard on February 28, 2006. Joint Appendix (JA), Vol. I, at 1 (71 Fed. Reg. 10100 (Feb. 28, 2006) (preamble)).

Section 6(f) of the Occupational Safety and Health Act of 1970 (the Act or the OSH Act) provides that “[a]ny person who may be adversely affected by a[n] [OSHA] standard . . . may at any time prior to the sixtieth day after such standard is promulgated file a petition challenging the validity of such standard . . . [in] the United States court of appeals.” 29 U.S.C. § 655(f). Under that section, this Court has jurisdiction over the petition for review filed here on March 9, 2006, by Public Citizen Health Research Group (HRG) and the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union (Steelworkers).

Edison Electric Institute (EEI) filed its petition for review in the United States Court of Appeals for the District of Columbia Circuit on April 27, 2006. That court acquired jurisdiction over EEI's petition pursuant to Section 6(f). On May 30, 2006, the D.C. Circuit granted OSHA's unopposed motion to transfer

EEI's petition to this Court pursuant to a consolidation order of the Judicial Panel on Multidistrict Litigation dated March 24, 2006. *See* 28 U.S.C. § 2112(a)(3).

STATEMENT OF ISSUES

HRG'S PETITION FOR REVIEW

1. Whether the final permissible exposure limit (PEL) for Cr(VI) of 5 $\mu\text{g}/\text{m}^3$ is reasonable in light of OSHA's findings that: a) it could not establish the feasibility of a lower PEL for a majority of affected employees; and b) setting lower PELs for the remaining employees would have caused rulemaking, compliance, and enforcement problems.
2. Whether the action level of 2.5 $\mu\text{g}/\text{m}^3$ (one-half the PEL) should be upheld as a reasonable tool for ensuring compliance with the PEL and encouraging employers to reduce Cr(VI) levels below that threshold to the extent feasible.
3. Whether requiring employers to notify employees of monitoring results below the PEL would provide more than a de minimis health benefit given other applicable standards that already entitle affected workers to information about Cr(VI) hazards and access to their monitoring records.

EEI'S PETITION FOR REVIEW

1. Whether substantial evidence supports OSHA's finding that utility workers face a significant risk of material harm from Cr(VI).

2. Whether substantial evidence supports OSHA's finding that the Cr(VI) standard is technologically and economically feasible for electric utilities.
3. Whether the Cr(VI) standard conflicts with other regulatory requirements.

STATEMENT OF RELATED CASES AND PROCEEDINGS

The pending petitions for review of OSHA's Cr(VI) standard have not previously been before this Court, although this Court issued two decisions pertaining to the conduct of the underlying rulemaking proceedings. *Public Citizen Health Research Group v. Chao*, 314 F.3d 143 (3d Cir. 2002); *Oil, Chem. & Atomic Workers Union v. OSHA*, 145 F.3d 120 (3d Cir. 1998). Other than the petitions addressed by this brief, Respondents do not know of any related cases or proceedings before this Court or any other court or agency.

STATEMENT OF THE CASE

This case is before the Court on timely petitions to review OSHA's final rule for occupational exposure to Cr(VI). OSHA promulgated the Cr(VI) standard and published a lengthy explanatory preamble on February 28, 2006, after notice-and-comment rulemaking proceedings conducted in accordance with Section 6 of the Act, 29 U.S.C. § 655. *See infra* p. 5.

STATEMENT OF FACTS

A. HISTORY OF OSHA'S CR(VI) RULEMAKING

The OSH Act authorizes the Secretary of Labor (Secretary) to promulgate occupational safety and health standards. 29 U.S.C. § 655.¹ The Act requires employers to comply with the Secretary's standards. 29 U.S.C. § 654(a)(2). OSHA enforces its standards, *inter alia*, by issuing citations and assessing monetary penalties for noncompliance. 29 U.S.C. §§ 658, 659, 666.

Chromium is a metal. It exists in several valence states ranging from chromium -II to chromium +VI, or hexavalent chromium (Cr(VI)), but is most hazardous in its Cr(VI) form. JA, Vol. I, at 6/(column)2, 10/2 (preamble at 10104/2, 10108/2). The processing of chromium can result in mist, dust, or fume containing Cr(VI). In addition, many industries use Cr(VI) compounds for their anti-corrosive, fungicidal, oxidizing, and catalytic properties. JA, Vol. II, at 411 (Final Economic and Regulatory Flexibility Analysis (FEA) at II-1). Employees are exposed to Cr(VI) via inhalation, which can cause lung cancer, asthma, and damage to the nasal epithelia, or dermal contact, which can result in irritant and

¹ The Secretary has delegated her rulemaking authority to the Assistant Secretary for Occupational Safety and Health, who heads OSHA. *See* Secretary of Labor's Orders 5-2007, 72 Fed. Reg. 31160 (June 5, 2007), and 5-2002, 67 Fed. Reg. 65007 (Oct. 22, 2002) . The terms Secretary, agency, and OSHA are used interchangeably herein.

allergic reactions. JA, Vol. I, at 10/1, 72-76, 123-24 (preamble at 10108/1, 10170-74, 10221-22).

OSHA adopted its first standards governing occupational exposure to Cr(VI) in 1971. The general industry standard set a ceiling exposure concentration of 52 $\mu\text{g}/\text{m}^3$. For construction OSHA established an eight-hour time-weighted average (TWA) PEL of 52 $\mu\text{g}/\text{m}^3$. *See id.* at 4-5 (preamble at 10102-03).

On October 4, 2004, OSHA proposed a new Cr(VI) standard, which included a PEL of 1 $\mu\text{g}/\text{m}^3$. JA, Vol. IV, at 1148 (69 Fed. Reg. 59306 (Oct. 4, 2004)). As part of this rulemaking, OSHA conducted two weeks of informal public hearings in February 2005. More than seventy-five witnesses testified. Employers, unions, trade associations, government agencies, and other interested parties submitted hundreds of pre- and post-hearing comments, data, and other materials to the record. The PEL was a major subject of contention. HRG and some unions argued that the proposed PEL of 1 $\mu\text{g}/\text{m}^3$ was still excessive, *see, e.g.*, JA, Vol. IX, at 3430-31 (PACE International Union comments at 5-6), Vol. X, at 3667-68 (HRG comments at 19-20), while many industry representatives commented that the proposed limit was too low, and in fact, infeasible. *See, e.g.*, JA, Vol. IX, at 3058 (Color Pigments Manufacturers Association (CPMA) Comments, App. A, at 4), 3078 (Aerospace Industries Association (AIA) Comments at 4), 3247 (North American Insulation Manufacturers Association et

al. comments at 13), 3263 (Chrome Coalition comments at 4), 3273-74 (Specialty Steel Industry of North America (SSINA) et al. comments at 3-4); *see also* National Association of Manufacturers (NAM)/SSINA Br. at 12-14; AIA Br. at 3, 12; CPMA Br. at 28-29, 39.

On February 28, 2006, OSHA promulgated the final Cr(VI) standard. OSHA estimated that the new standard affects approximately 558,000 employees in 52,000 establishments. JA, Vol. I, at 130-46 (preamble at 10228-44 (Table VIII-1)).²

B. OVERVIEW OF THE CR(VI) STANDARD

Scope/Coverage of Utilities. OSHA adopted separate standards for Cr(VI) exposure in general industry, maritime, and construction. 29 C.F.R. §§ 1910.1026 (general industry), 1915.1026 (maritime), 1926.1126 (construction). The standards are basically the same, but only the general industry standard has requirements for housekeeping and regulated areas. *See infra* p. 16.

The standards generally apply to all Cr(VI) exposures, but there is an exemption for expected exposures below $0.5 \mu\text{g}/\text{m}^3$. 29 C.F.R. §§ 1910.1026(a)(4), 1915.1026(a)(4), 1926.1126(a)(4).³ In addition, exposures

² HRG overstates the number of affected workers as 580,000. HRG Br. at 26.

³ To qualify for the exemption, the employer must have objective data showing that a material or process cannot release dusts, fume or mists with Cr(VI) concentrations at or above $0.5 \mu\text{g}/\text{m}^3$ (as an eight-hour TWA) under any expected

attributable to portland cement are not covered by the rule. 29 C.F.R. §§ 1910.1026(a)(3), 1915.1026(a)(3), 1926.1126(a)(3). OSHA found that the general standard for air contaminants, 29 C.F.R. § 1910.1000, effectively limits airborne Cr(VI) exposures from portland cement to $0.3 \mu\text{g}/\text{m}^3$, which is lower than the $0.5 \mu\text{g}/\text{m}^3$ threshold.⁴ OSHA also concluded that existing requirements in its general standards for protective equipment, hygiene facilities, and hazard communication adequately address the dermal hazards of portland cement, which are more attributable to its alkaline, abrasive, and water-absorbing properties than its Cr(VI) content. JA, Vol. I, at 230-32 (preamble at 10328-30).

conditions of use. 29 C.F.R. §§ 1910.1026(a)(4), 1915.1026(a)(4), 1926.1126(a)(4). Objective data is “information such as air monitoring data from industry-wide surveys or calculations based on the composition or chemical and physical properties of a substance demonstrating the employee exposure to chromium (VI) associated with a particular product or material or a specific process, operation, or activity. The data must reflect workplace conditions closely resembling the processes, types of material, control methods, work practices, and environmental conditions in the employer’s current operations.” 29 C.F.R. §§ 1910.1026(b), 1915.1026(b), 1926.1126(b).

⁴ The preamble contains a typographical error suggesting that portland cement contains fewer than twenty grams of Cr(VI) per gram of cement; it should read 20 micrograms of Cr(VI) per gram of cement. JA, Vol. I, at 230/2 (preamble at 10328/2). The airborne contaminants standard limits total dust from portland cement to $15 \text{ mg}/\text{m}^3$, 29 C.F.R. § 1910.1000 (Table Z-1), so OSHA calculated the maximum inhalation exposures from portland cement as follows: $(20 \mu\text{g Cr(VI)} / 1 \text{ gram of portland cement}) \times (0.015 \text{ grams of portland cement} / 1 \text{ cubic meter (m}^3\text{) of air}) = 0.3 \mu\text{g}/\text{m}^3$.

OSHA denied a request from EEI for an exemption for fly ash, the Cr(VI)-containing by-product of coal combustion. JA, Vol. IX, at 3435 n.3 (EEI comments at 3 n.3), Vol. II, at 434 (FEA at II-24), Vol. III, at 946 (FEA at III-361); *see also* EEI Br. at 7-8.⁵ More than 10,000 utility employees are exposed to fly ash, usually when working in boilers during outages. JA, Vol. II, at 434 (FEA at II-24), Vol. III, at 946 (FEA at III-361). During outages, employees remove fly ash from boilers and the ducts leading from them. In addition, employees may be exposed to fly ash during other tasks, such as precipitator and baghouse maintenance. JA, Vol. IX, at 3435-36 (EEI comments at 3-4).

EEI submitted data to the record showing widely varying levels of Cr(VI) in fly ash, from < 0.2 µg/g to 45 µg/g. JA, Vol. X, at 3694 (EEI post-hearing data). EEI's data submission was quite limited, however. Despite having 245 electric companies as members, JA, Vol. X, at 3681 (EEI post-hearing brief at 1), EEI provided only nine fly ash samples. The paucity of this data is underscored by EEI's assertion that more than 1000 fossil-fuel electric power generation plants currently operate in the United States. EEI Br. at 27. Moreover, EEI did not fully identify the types of coal from which the samples were obtained. JA, Vol. X, at

⁵ Coal naturally contains chromium. A portion of the chromium is converted to Cr(VI) during the burning process. The more chromium there is in the coal, the more Cr(VI) will be present in the resulting fly ash. *See, e.g.*, JA, Vol. IX, at 3422 (Pinnacle West Capital Corporation comments at 3).

3694 (EEI post-hearing data); *see also* JA, Vol. III, at 946 (FEA at III-361).

OSHA reviewed EEI's data and concluded that while Cr(VI) exposures from fly ash will generally be very low, variability in the chromium content of coal makes it possible for some Cr(VI) exposures from fly ash to reach or exceed hazardous levels. For instance, one of EEI's nine samples contained 45 µg of Cr(VI) for each gram of fly ash, which is equivalent to an inhalation exposure of 0.675 µg/m³. JA, Vol. I, at 232-33 (preamble at 10330-31), Vol. III, at 946-47 (FEA at III-361-62).⁶ OSHA expects, however, that utilities will regularly be able to use the general exemption for exposures lower than 0.5 µg/m³, as it estimated the average Cr(VI) exposure from coal dust to be 0.13 µg/m³. JA, Vol. III, at 946-47 (FEA at III-361-62).

PEL and Action Level. OSHA found that all Cr(VI) compounds are carcinogenic, and that slightly soluble compounds are likely to be more carcinogenic than highly soluble or insoluble compounds. JA, Vol. I, at 57-58, 67, 111, 122 (preamble at 10155-56, 10165, 10209, 10220); *see also* JA, Vol. XI, at 4618-21 (Tr. 150-51, 153-54). Of the numerous human studies examining the health effects of Cr(VI) in a variety of workplaces, the agency identified two with the strongest information and statistical power for quantifying excess lung cancer

⁶ This assumes compliance with OSHA's PEL for "particulates not otherwise regulated" of 15 mg/m³. 29 C.F.R. § 1910.1000 (Table Z-1). *See supra* note 4.

risk: a Baltimore, Maryland cohort of chromate production workers (JA, Vol. V, at 1676 (Gibb et al.)), and another cohort of chromate production employees from Painesville, Ohio (JA, Vol. V, at 1689 (Luippold et al.)). Both cohorts were exposed to highly water-soluble, or the least carcinogenic, Cr(VI) compounds. JA, Vol. I, at 101, 111, 122/3 (preamble at 10199, 10209, 10220/3).

OSHA selected the Gibb and Luippold studies for the risk assessment because they followed large numbers of workers over long periods of time and contained extensive job history and exposure information. *Id.* at 80, 96/3, 124/3 (preamble at 10178, 10194/3, 10222/3). The National Institute for Occupational Safety and Health (NIOSH), as well as three external peer reviewers with extensive experience in statistics and epidemiology, strongly supported OSHA's use of these studies for its risk assessment. *See* JA, Vol. VIII, at 2619 (David Gaylor curriculum vitae), 2651 (Allan Smith curriculum vitae), 2666 (Irva Hertz-Picciotto curriculum vitae), 2705 (Gaylor comments at 23), 2710 (Smith comments at 28), 2721-22, 2724 (Hertz-Picciotto comments at 39-40, 42), Vol. IX, at 3484 (NIOSH comments at 4).

OSHA determined, following a lengthy analysis, JA, Vol. I, at 102-09 (preamble at 10200-07), that a linear relative risk model was most appropriate to estimate lifetime lung cancer risk from Cr(VI) exposure. *Id.* at 122 (preamble at 10220). The linear relative risk model "generally provided the best fit among a

variety of different models” to the Gibb and Luippold data sets and adequately fit three supporting data sets. *Id.* Conversely, a wide variety of different non-linear and threshold models failed to provide significant improvements in fit to the available data compared to the linear model. *Id.* OSHA accordingly declined to adopt a threshold dose-response approach in the absence of convincing evidence of such a relationship. *Id.*⁷

Applying the linear relative risk model to the Gibb and Luippold studies, OSHA estimated that workers with a lifetime (45 years) of exposure to Cr(VI) had an excess risk of lung cancer of 101-351 per thousand at the previous PEL of 52

⁷ The linear relative risk model “assumes that the risk associated with a cumulative exposure resulting from long-term, low-level exposure is similar to the risk associated with the same cumulative exposure from briefer exposures to higher concentrations.” JA, Vol. I, at 102/2 (preamble at 10200/2). OSHA explained that “[t]hese assumptions are common in cancer risk assessment, and are based on scientifically accepted models of genotoxic carcinogenesis.” *Id.* Like other “[f]ederal agencies, . . . OSHA[] assume[s] an exposure threshold for cancer risk assessments to genotoxic agents only when there is convincing evidence that such a threshold exists.” *Id.* at 122/2 (preamble at 10220/2). OSHA did not rely solely on scientific norms, however; it explicitly solicited comments on the issue, asking “whether there is convincing scientific evidence of a non-linear exposure-response relationship, and if so, whether there are sufficient data to develop a non-linear model that would provide more reliable risk estimates than the linear approach being used in the preliminary assessment.” JA, Vol. IV, at 1226/1 (69 Fed. Reg. at 59383/1). OSHA engaged in a detailed analysis of the comments it received supporting a threshold and provided a litany of technical reasons for rejecting them. JA, Vol. I, at 102-09 (preamble at 10200-07). Among other reasons, OSHA found their statistical analyses flawed, as did NIOSH, *id.* at 103 (preamble at 10201), and their reliance on animal and mechanistic studies misplaced. *Id.* at 122/2 (preamble at 10220/2).

$\mu\text{g}/\text{m}^3$. OSHA determined that this risk is significant and substantially higher than the risks of occupational injury in most private industries. *See id.* at 97, 123/3, 125-27 (preamble at 10195 (Table VI-7), 10221/3, 10223-25); *see also Industrial Union Dep't, AFL-CIO v. American Petroleum Inst. (Benzene)*, 448 U.S. 607, 614-15, 639-40, 642-43 (1980) (plurality opinion) (OSHA must show that a regulated health hazard poses a “significant risk” of material health impairment).⁸

OSHA lowered the PEL for Cr(VI) to $5 \mu\text{g}/\text{m}^3$ calculated as eight-hour TWA. 29 C.F.R. §§ 1910.1026(b), (c), 1915.1026(b), (c), 1926.1126(b), (c). Lowering the PEL to $5 \mu\text{g}/\text{m}^3$ substantially reduces the excess risk of lung cancer associated with a lifetime of Cr(VI) exposure to 10-45 cancer cases per thousand workers. This equates to the prevention of between 1782 and 6546 cases of lung cancer over the working lifetime of the current worker population (or 40-145 lung cancer deaths per year). The agency recognized that risk could be reduced even further with a lower PEL, but concluded that $5 \mu\text{g}/\text{m}^3$ is the lowest feasible limit. JA, Vol. I, at 97, 123/3, 125-27, 205, 206 (preamble at 10195 (Table VI-7),

⁸ Intervenors NAM and SSINA, AIA, and CPMA, while supporting the final Cr(VI) standard, make a variety of arguments suggesting that OSHA’s analysis was flawed and in fact overstated the health risk from Cr(VI). In addition, the intervenors identify what they perceive to be flaws in OSHA’s feasibility analysis, which is discussed further below. As the intervenors join OSHA in asking the Court to affirm the final Cr(VI) standard, the agency will not address these arguments other than to say that it believes its methodology to be reasonable and its risk and feasibility conclusions to be supported by substantial evidence in the record.

10221/3, 10223-25, 10303, 10304 (Table VIII-10)); *see also infra* pp. 19-31.

OSHA expects the ancillary provisions of the standard, e.g., the requirements for housekeeping, medical surveillance, and hygiene practices, to additionally reduce the remaining risk. JA, Vol. I, at 236/1 (preamble at 10334/1).

OSHA followed its usual practice for health standards of setting the action level, which triggers monitoring and medical surveillance requirements, at one-half the PEL, $2.5 \mu\text{g}/\text{m}^3$. OSHA determined here and in prior rulemakings that when exposures are below that level, the employer can be reasonably certain that even with day-to-day variability, employees' typical exposures will be below the PEL. In addition, the agency's experience with other health standards led it to conclude that setting the action level at one-half the PEL would effectively encourage employers to reduce exposures below $2.5 \mu\text{g}/\text{m}^3$ whenever feasible in order to avoid the ongoing costs of the monitoring and medical surveillance requirements that otherwise apply. *Id.* at 233-34 (preamble at 10331-32).

Monitoring and Notice Requirements. Employers must determine each employee's TWA exposure to Cr(VI). They can do this through a scheduled air monitoring program in which they conduct regular monitoring whenever exposures exceed the action level or, alternatively, they can determine exposures using any

combination of adequate air monitoring, historical, and objective data.⁹ Whenever exposure assessments reveal Cr(VI) levels over the PEL, the employer must provide written notice to the employees of the results and the corrective actions being taken. The employer can post the notice in an appropriate location accessible to all affected employees or provide notice to each employee individually. 29 C.F.R. §§ 1910.1026(d), 1915.1026(d), 1926.1126(d).

Hierarchy of Controls. Employers must use engineering and work practice controls to reduce Cr(VI) exposures to or below the PEL, or, if the PEL cannot be met, to the lowest level feasible. If necessary, the employer must use respiratory protection to supplement engineering and work practice controls to achieve the PEL. 29 C.F.R. §§ 1910.1026(f)(1), 1915.1026(e)(1), 1926.1126(e)(1). This hierarchy of controls, found in all OSHA health standards, reflects the agency's longstanding preference for engineering controls over respirators.

Engineering controls remove toxic substances from the air and provide a consistent level of protection to a large number of employees. In contrast, respirators do not reduce overall levels of airborne hazardous substances and are only effective if individual employees cooperate in selecting, fitting, using, and

⁹ Historical data is “data from chromium (VI) monitoring conducted prior to May 30, 2006, obtained during work operations conducted under workplace conditions closely resembling the processes, types of material, control methods, work practices, and environmental conditions in the employer’s current operations.” 29 C.F.R. §§ 1910.1026(b), 1915.1026(b), 1926.1126(b).

maintaining the equipment. Furthermore, respirator use can itself be hazardous. Respirators can be awkward and heavy, irritate the skin, and impose added breathing resistance. They can be especially hazardous for employees with certain medical conditions, e.g., cardiovascular and respiratory diseases, neurological disorders, and reduced pulmonary function. Respirators can also increase the likelihood of a work-related accident by restricting the ability of employees to hear, see, and communicate with one another. JA, Vol. I, at 237/2, 247-49 (preamble at 10335/2, 10345-47). Indeed, the hazards of respirator use are significant enough to warrant their own OSHA standard. *See* 29 C.F.R. § 1910.134.

OSHA found that for the distinct tasks of painting aircraft and large aircraft parts, engineering and work practice controls cannot reduce Cr(VI) exposures below 25 $\mu\text{g}/\text{m}^3$. OSHA adopted a unique provision for these discrete operations, allowing employers to use respirators to comply with the PEL if they first use feasible engineering and work practice controls to reduce Cr(VI) exposures to 25 $\mu\text{g}/\text{m}^3$. 29 C.F.R. § 1910.1026(f)(1)(ii); *see also* JA, Vol. I, at 250 (preamble at 10348), Vol. IX, at 3521-23 (AIA testimony at 3-5).

Ancillary Provisions. Employers must make medical examinations available to three groups of employees: employees who may be exposed to Cr(VI) at or above the action level for thirty or more days per year; employees who are

experiencing signs or symptoms of the adverse health effects of Cr(VI) exposure; and employees exposed to Cr(VI) in emergencies. 29 C.F.R. §§ 1910.1026(k), 1915.1026(i), 1926.1126(i).

In general industry, employers must establish limited access regulated areas, demarcated from the rest of the workplace, wherever employees' exposures to Cr(VI) are, or can reasonably be expected to be, over the PEL. 29 C.F.R. § 1910.1026(e). The general industry standard also requires employers to keep their workplaces as free as practicable of accumulations of Cr(VI) and to promptly clean up spills and releases. 29 C.F.R. § 1910.1026(j).

Other Applicable Standards. OSHA's hazard communication standard requires employers to provide employees with information and training on the health hazards of Cr(VI) in their work areas, 29 C.F.R. § 1910.1200(h)(1), and under OSHA's "records access" standard, all employees exposed to Cr(VI) can examine and copy their exposure determination records. 29 C.F.R. § 1910.1020. The Cr(VI) standard references and expressly requires compliance with these general standards. 29 C.F.R. §§ 1910.1026(l)(1), 1910.1026(m)(1)(iii), 1915.1026(j)(1), 1915.1026(k)(1)(iii), 1926.1126(j)(1), 1926.1126(k)(1)(iii); *see also* 29 C.F.R. §§ 1910.1026(m), 1915.1026(k), 1926.1126(k) (Cr(VI) recordkeeping requirements).

C. SETTING THE PEL

1. Background

In regulating toxic substances, OSHA must select the standard that “most adequately assures, 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). The OSH Act does not demand that OSHA completely eliminate risk. Indeed, as this Court has recognized, “Section 6(b)(5) of the Act, dealing with standards for toxic materials, explicitly confines the Secretary’s rulemaking within . . . feasible boundaries.” *AFL-CIO v. Brennan*, 530 F.2d 109, 121 (3d Cir. 1975). It follows that “[i]n attempting to formulate the lowest possible exposure limit, the Secretary is constrained by the requirement of feasibility, both technological and economic.” *American Iron & Steel Inst. v. OSHA (Coke Oven Emissions)*, 577 F.2d 825, 832 (3d Cir. 1978); see also *United Steelworkers of America, AFL-CIO-CLC v. Marshall (Lead)*, 647 F.2d 1189, 1251 (D.C. Cir. 1980) (the agency need only “reduce[] . . . risk . . . as far as it c[an] within the limits of [technological and economic] feasibility”).

As “Congress did not intend to eliminate all health hazards to industrial employees at the price of crippling an industry or rendering it extinct[,]” *Coke*

Oven Emissions, 577 F.2d at 835, OSHA must establish the economic feasibility of its standards by showing that they do not “threaten massive dislocation to, or imperil the existence of, [an] industry.” *Lead*, 647 F.2d at 1265 (quotation marks and citations omitted). The agency must also demonstrate that its standards are technologically feasible by showing that 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.” *American Iron & Steel Inst. v. OSHA (Lead II)*, 939 F.2d 975, 980 (D.C. Cir. 1991) (per curiam) (quoting *Lead*, 647 F.2d at 1272).

OSHA’s FEA includes an extensive analysis of the economic and technological feasibility of the Cr(VI) standard. OSHA assessed economic feasibility using product-based industrial classifications to define the affected industries. In analyzing technological feasibility, however, OSHA classified firms by “application groups.” Each application group includes all firms with employees who are exposed to Cr(VI) while performing the same function, e.g., the welding application group includes all establishments with workers who are exposed to Cr(VI) from welding. Although in some instances OSHA’s application groups contain firms from only one product-based industry classification, e.g., printing ink producers and chromate pigment producers, in most cases application groups contain various types of establishments, e.g., the welding group includes, among

others, utilities, textile mills, and paper manufacturers. *See* JA, Vol. I, at 130-46 (preamble at 10228-44 (Table VIII-1)). OSHA elected to use these functional industry classifications for assessing the technological feasibility of the standard because the routes of exposures from, and control measures for, Cr(VI)-generating tasks do not vary from workplace to workplace. *Id.* at 128/2 (preamble at 10226/2). For example, OSHA explained that “because . . . welding produces Cr(VI) exposures that are essentially the same regardless of whether the welding occurs in a ship, on a construction site, as part of a manufacturing process, or as part of a repair process, it is appropriate to analyze such processes as a group.” *Id.*

2. Feasibility of the final PEL

OSHA concluded that the final PEL of $5 \mu\text{g}/\text{m}^3$ is technologically feasible. Except for some aerospace painting tasks, *see supra* p. 15, all affected operations in all industries can comply with the PEL using engineering and work practice controls and with minimal reliance on respiratory protection. Overall, only 3.5% of exposed workers will need respirators. JA, Vol. I, at 158-65, 236-237 (preamble at 10256-63, 10257-59 (Table VIII-3), 10334-35).

OSHA also concluded that the Cr(VI) standard is economically feasible. The agency used a preliminary screening analysis under which it considered the standard economically feasible for any industrial group in which compliance costs are less than 1% of revenues and 10% of profits. These thresholds are based on the

unchallenged premise that impacts of these magnitudes are unlikely to significantly alter an industry's competitive structure. *Id.* at 201-02 (preamble at 10299-300).

OSHA conducted detailed analyses of all industrial sectors in which the costs of the Cr(VI) standard are expected to exceed either 1% of revenues or 10% of profits and concluded that even in those groups, compliance costs can be absorbed or passed along to consumers so as not to render the standard infeasible. *Id.* at 173-204 (preamble at 10271-302, 10272-80 (Table VIII-7), 10283-99 (Tables VIII-8 and VIII-9)), Vol. IV, at 1030-1129 (FEA, Chapter V).

3. Infeasibility of the proposed PEL

As described in more detail below, OSHA concluded that it could not establish the technological feasibility of the proposed PEL of 1 $\mu\text{g}/\text{m}^3$ for firms in five groups: welding, aerospace painting, and pigment, catalyst, and dye production. In addition, OSHA could not find the proposed standard economically feasible for a sixth group, namely electroplating job shops. Together, these six groups account for approximately 307,900 affected workers – a majority (55%) of all employees covered by the standard.¹⁰ JA, Vol. I, at 148-57, 165, 203-04, 237-39 (preamble at 10246-55 (Table VIII-2), 10263, 10301-02, 10335-37), Vol. III, at

¹⁰ This number includes 270,000 welders, 4000 aerospace painters, 33,400 employees in electroplating job shops, and almost 500 employees in the other three sectors. JA, Vol. I, at 148-57, 239/3 (preamble at 10246-55 (Table VIII-2), 10337/3); *see also infra* pp. 21-28.

916-26 (FEA at III-331-41), Vol. IV, at 1123-24 (FEA at V-94-95). The proposed PEL of $1 \mu\text{g}/\text{m}^3$ would have resulted in more than 33,000 additional employees wearing respirators under the standard, a 63% increase over what is expected under the final rule. JA, Vol. I, at 159-61 (preamble at 10257-59 (Table VIII-3)).

Notably, an overwhelming majority (82%) of workers in jobs for which a PEL of $1 \mu\text{g}/\text{m}^3$ is theoretically feasible are already exposed below that level. *See id.* at 148-157 (preamble at 10246-55 (Table VIII-2)). In general, the employees with Cr(VI) exposures above $1 \mu\text{g}/\text{m}^3$ work in the groups with feasibility problems at the proposed PEL. Approximately 75% of affected workers currently exposed above $1 \mu\text{g}/\text{m}^3$ are in welding, aerospace painting, and electroplating job shops. *Id.*

Welding. Welding, a process that uses fusion to join metals, is a common task, performed in tens of thousands of workplaces in virtually all industrial sectors. *Id.* at 130-46 (preamble at 10228-44 (Table VIII-1)); JA, Vol. II, at 432 (FEA at II-22). Almost half of the employees covered by the Cr(VI) standard are welders (270,000 of 558,000), and welding accounts for the greatest number of facilities affected by the rule. JA, Vol. I, at 129/3, 148-57 (preamble at 10227/3, 10246-55 (Table VIII-2, Application Group #2)).

Utility workers are exposed to Cr(VI) when they perform welding operations during regularly-scheduled and emergency maintenance operations. JA, Vol. IX, at 3436, 3441 (EEI comments at 4, 9); EEI Br. at 10. These welding operations

and their associated Cr(VI) exposures, which may last anywhere from a few hours to several months, are typical of welding tasks performed in other industries. JA, Vol. IX, at 3372 (Electric Power Research Institute comments at 2), 3453 (EEI comments at 21), Vol. III, at 629 (FEA at III-44). Utility workers are also exposed to fly ash, but because fly ash is “commonly encountered” during welding operations and may require similar controls, OSHA categorized these firms in the welding application group. JA, Vol. II, at 434 (FEA at II-24); *see also supra* pp. 18-19.

Welding on chromium-containing metals, i.e., stainless and carbon steel, generates fume that contains Cr(VI). Cr(VI) exposures increase as the content of chromium in the base metal increases, so welding on stainless steel, which contains more chromium than carbon steel, generally results in the highest exposures.

Welders’ Cr(VI) exposures also vary based on the welding process used. Shielded Metal Arc Welding (SMAW) results in more fume and higher exposures than Gas Metal Arc Welding (GMAW) and other less common welding processes. JA, Vol. I, at 164/3 (preamble at 10262/3), Vol. II, at 435, 450 (FEA at II-25, II-40), Vol. III, at 626, 918 (FEA at III-41, III-333).

OSHA found that the proposed PEL of $1 \mu\text{g}/\text{m}^3$ was technologically infeasible for firms performing SMAW, the most common welding process, JA, Vol. III, at 917 (FEA at III-332 (Tables III-109 – III-111)), on stainless steel. For

almost one-third of those operations, employers cannot reduce exposures below 1 $\mu\text{g}/\text{m}^3$ with engineering or work practice controls. JA, Vol. I, at 237/3 (preamble at 10335/3), Vol. III, at 918-20 (FEA at III-333-35). Moreover, OSHA determined that a PEL of 1 $\mu\text{g}/\text{m}^3$ was infeasible for all stainless steel welding in confined and enclosed spaces due to the limited availability of workable ventilation options for those tasks. For example, in general industry, 60% of stainless steel welding tasks in confined and enclosed spaces cannot attain exposures below the proposed PEL without respirators. JA, Vol. I, at 238/1 (preamble at 10336/1), Vol. III, at 920-21 (FEA at III-335-36).

Although employers could theoretically use engineering and work practice controls to attain Cr(VI) levels below the proposed PEL for other, less common, welding tasks in isolation, OSHA determined that in actual industrial settings employers and compliance personnel cannot accurately distinguish between exposures from welding operations that can get to 1 $\mu\text{g}/\text{m}^3$ and those that cannot. Welders often perform different welding operations (e.g., SMAW and GMAW) — on different metals (e.g., stainless and carbon steel) — in different environments (e.g., open and enclosed spaces) during the same day or work shift. In addition, welders performing different welding processes regularly work side by side, such that one welder's Cr(VI) exposures are determined, in part, by the Cr(VI) released into the air by coworkers welding nearby. These circumstances make it very

difficult to accurately calculate an employee's Cr(VI) exposures from a specific welding task. Because employers cannot consistently reduce any welder's Cr(VI) exposures below 1 $\mu\text{g}/\text{m}^3$ with engineering and work practice controls, OSHA concluded that the proposed PEL was infeasible for all welding operations. JA, Vol. I, at 238 (preamble at 10336), Vol. V, at 1696 (Williams Enterprises comments at 1), Vol. IX, at 3074 (Electric Boat Corporation comments at 7), 3279-81 (SSINA et al. comments at 9-11), 3361 (Northrop Grumman Newport News comments at 2), 3391 (Integrated Waste Services Association comments at 2), 3418 (Marine Chemist & Environmental Consultants comments), Vol. III, at 921 (FEA at III-336); *see also* NAM/SSINA Br. at 14 ("The steel commenters pointed out that, in practice, great fluidity exists in most manufacturing facilities whereby welders typically are required to perform a variety of tasks . . . in different situations, venues, and environments, using different processes and involving different weld and base metals.").

Aerospace Painting. In the aerospace sector, Cr(VI) compounds are used to provide corrosion protection on airplanes and airplane parts. Approximately 4000 aerospace painters are exposed to Cr(VI). JA, Vol. I, at 148-57 (preamble at

10246-55 (Table VIII-2, Application Group #3A)); *see also* JA, Vol. II, at 457-58 (FEA at II-47-48), Vol. III, at 690-92 (FEA at III-105-07); AIA Br. at 9-12.¹¹

OSHA found the proposed PEL of 1 $\mu\text{g}/\text{m}^3$ technologically infeasible for aerospace painting. For these tasks, employers control Cr(VI) exposures by enclosing operations in painting booths or dedicated rooms with local exhaust ventilation (LEV). Two-thirds of aerospace painting operations, however, involve parts too large to effectively use this practice. OSHA found that ventilation systems are less effective in bigger spaces where increased air flow raises quality concerns. The agency explained that larger parts interrupt air flow and lower the capture efficiency of ventilation systems, and that workers have less room to maneuver around large parts in order to minimize their Cr(VI) exposures. Thus, for this industrial group the proposed PEL cannot be met with engineering and work practice controls two-thirds of the time. JA, Vol. I, at 238 (preamble at 10336), Vol. VIII, at 2774-76 (Boeing Company comments at 38-40), 2835 (Boeing Company feasibility analysis at 2), Vol. III, at 921-22 (FEA at III-336-37).

Electroplating Job Shops. Electroplating involves the application of chromium metal or chromium oxide to a product, such as an automotive part or a plumbing fixture, for decorative or corrosion-control purposes. JA, Vol. II, at 413

¹¹ In the preamble, OSHA inadvertently stated that there are 8300 aerospace painters covered by the standard. JA, Vol. I, at 238/2 (preamble at 10336/2). This error does not affect any of the agency's ultimate findings.

(FEA at II-3). Products are dipped into a series of rinses and baths containing Cr(VI). *Id.* at 420, 427 (FEA at II-10, II-17).

There are two types of electroplating facilities — job shops and captive shops. JA, Vol. I, at 239 (preamble at 10337). Job shops perform electroplating services for other companies, while a captive shop is an “in-house” electroplating operation. *Id.*; *see also* JA, Vol. II, at 413 (FEA at II-3). The Cr(VI) standard affects approximately 67,000 electroplating employees divided roughly equally between job shops and captive shops. JA, Vol. I, at 148-57, 239/3 (preamble at 10246-55 (Table VIII-2, Application Group #1), 10337/3).

OSHA could not conclude that the proposed PEL of $1 \mu\text{g}/\text{m}^3$ would be economically feasible for electroplating job shops because evidence suggested that compliance costs at that level could alter the competitive structure of the industry. The agency estimated that under the proposed standard, costs for job shop electroplaters would constitute 2.7% of revenues and 65% of profits (versus 1.24% of revenues and 30% of profits at the final PEL). OSHA was unable to identify any instance in which it had found a health standard economically feasible for an industrial group in which costs constituted such a large percentage of revenues. In fact, the industrial sectors most affected by prior health standards have incurred costs less than 2%, and often less than 1%, of revenues. *Id.* at 203-04 (preamble at 10301-02), Vol. IV, at 1123 (FEA at V-94); *see also, e.g.*, 61 Fed. Reg. 56745,

56797 (Table VIII-6) (Nov. 4, 1996) (1,3 Butadiene – less than 0.5% of revenues); 56 Fed. Reg. 32302, 32315 (Table III) (July 15, 1991) (formaldehyde – 0.1% of revenues).

OSHA estimated the average annual nominal price increase for electroplaters at 1.6%, which accounted for other rising costs, such as labor and energy expenses. JA, Vol. IV, at 1126 (FEA at V-97 (Table V-8)). The agency determined that job shop platers would need to adopt a significant real price increase of 4.2% (approximately 1.6% plus 2.7%) to assure continued profitability at a PEL of $1 \mu\text{g}/\text{m}^3$. OSHA did not find enough support in the record to establish that job shops could absorb or pass on this increase so as to sustain the competitive structure of the industry. JA, Vol. I, at 203-04, 239 (preamble at 10301-02, 10337), Vol. IV, at 1123-24 (FEA at V-94-95); *see also* JA, Vol. IX, at 3394-97 (Surface Finishing Industry Council (SFIC) comments at 69-72), 3528-31, 3532 (hearing presentation by industry consultant at 23-36), Vol. X, at 3796-99, 3801 (SFIC/SSINA congressional testimony at 3-6, 8), Vol. XI, at 4742-77 (Tr. 2079-87, 2103-06, 2130-36, 2145-51, 2154-58, 2203-06) (record evidence suggesting that the proposed PEL could have severe impacts on metal finishers' global competitiveness and profitability). Furthermore, OSHA found that job shops' costs of compliance with the proposed PEL would not be significantly alleviated

even if the agency allowed employers more time for compliance or permitted substantial respirator use. JA, Vol. I, at 203/3 (preamble at 10301/3).¹²

Other Sectors. The evidence in the record was insufficient to permit OSHA to find the proposed PEL of 1 $\mu\text{g}/\text{m}^3$ technologically feasible for chromate pigment producers, chromium catalyst producers, or chromium dye producers – groups which together employ almost 500 affected workers. In these sectors, tasks with Cr(VI) exposures are performed in large, open, and dusty areas, where enclosing and ventilating the operations is the only way to comply with the proposed PEL. Evidence in the record shows that an uncertain number of older plants are configured in a way that precludes the installation of adequate enclosures. *Id.* at 239 (preamble at 10337), Vol. III at 923-25 (FEA at III-338-40).

¹² In addition, OSHA could not conclude that it was technologically feasible for hard chrome electroplaters to comply with the proposed PEL of 1 $\mu\text{g}/\text{m}^3$. (Hard plating applies a thicker coating than other types of plating and is typically used on parts subject to heavy wear, e.g., brake pistons. JA, Vol. II, at 419 (FEA at II-9). OSHA based its conclusion on persisting uncertainty about the number of operations in which process constraints or product quality concerns foreclose the use of fume suppressants – a critical control for reducing Cr(VI) exposures in these operations. JA, Vol. I at 239/2 (preamble at 10337/2), Vol. III at 925-26 (FEA at III-340-41). Because of potential overlap with the job shop electroplaters, however, OSHA did not count these hard chrome operations as a separate group for which the proposed PEL was infeasible. JA, Vol. I, at 239/3 (preamble at 10337/3).

4. A uniform PEL

Although OSHA determined that it could not establish the feasibility of the proposed PEL of $1 \mu\text{g}/\text{m}^3$ for a majority of workers exposed to Cr(VI), it carefully considered whether it should set a lower PEL for the remaining affected employees. The agency ultimately determined that rulemaking, enforcement, and compliance problems precluded that regulatory approach.

OSHA explained that it expects the uniform PEL to facilitate the provision of clear guidance to the regulated community and result in a standard that is more effective overall. Many firms perform more than one task involving Cr(VI), and OSHA concluded that if it set multiple PELs many employers would need to comply with more than one limit within the same workplace, and often for the same employee. JA, Vol. I, at 240 (preamble at 10338).

OSHA found that in many firms, the tasks that can theoretically get to $1 \mu\text{g}/\text{m}^3$ and those that cannot are performed in such close proximity to each other that it is very difficult, if not impossible, to distinguish exposures from the multiple processes, e.g., a hard chrome plating operation can elevate background Cr(VI) exposures for workers doing other tasks in the area. *See, e.g.*, JA, Vol. VII, at 2452 (NIOSH field survey at 4). Thus, even if an employee is doing a task for which a PEL of $1 \mu\text{g}/\text{m}^3$ is theoretically feasible, the presence of another nearby operation with exposures that cannot be reduced to that level could make it

impossible for the employer to comply with the lower PEL for that individual.

This problem is of particular concern because welding, the primary task for which a lower PEL is infeasible, is done at tens of thousands of worksites and in virtually every industrial sector. JA, Vol. I, at 240 (preamble at 10338); *see also* NAM/SSINA Br. at 46-49 (describing practical problems employers would face attempting to comply with multiple PELs); AIA Br. at 39-40 (same).

In any event, OSHA could not identify a reasonable means of drawing accurate and enforceable lines between firms or operations that can achieve a lower PEL and those that cannot. OSHA considered setting different PELs for covered firms based on NAICS (North American Industry Classification System) codes, but ultimately concluded that those categories would not provide a consistent or accurate way of classifying firms for purposes of setting or enforcing PELs for Cr(VI). NAICS classifications are based on very general definitions that can be difficult to apply, are subject to revision, and are assigned exclusively by a facility's primary activity. JA, Vol. I, at 240/2 (preamble at 10338/2).

Finally, even if it was practical to enforce and comply with multiple PELs for Cr(VI), and even if OSHA had a good way to assign employers to those PELs, the agency simply was not in a position to determine the precise level (e.g., 5, 3.5, 2, 1.5, 0.5 $\mu\text{g}/\text{m}^3$) at which it would become technologically or economically infeasible for each particular industrial group to reduce risk any further. OSHA

explained that this type of analysis, if required, would be so complex, resource-intensive, and time-consuming that it could jeopardize the completion of this and other important OSHA rulemakings. *Id.* at 240 (preamble at 10338).

SUMMARY OF ARGUMENT

HRG'S PETITION FOR REVIEW

The Cr(VI) PEL of 5 $\mu\text{g}/\text{m}^3$ is reasonable and well supported by the record. OSHA could not establish the technological feasibility of a lower PEL for five industrial categories. For each group, OSHA's unchallenged estimates show that engineering and work practice controls cannot reduce Cr(VI) levels below 1 $\mu\text{g}/\text{m}^3$ for a sizeable percentage of employees. In addition, OSHA could not establish that a PEL of 1 $\mu\text{g}/\text{m}^3$ was economically feasible for job shop platers because the undisputed costs of complying with that standard could alter the competitive structure of the industry. OSHA has considerable discretion in carrying out its "legislative task" of assessing the feasibility of its standards, and HRG has not presented a single valid basis on which this Court can disturb OSHA's conclusions.

Combined, the six groups for which OSHA found a lower PEL infeasible employ a majority of the workers covered by the standard. In these circumstances, and in light of additional findings that multiple PELs would pose rulemaking, enforcement, and compliance problems, OSHA was well within its discretion in

adopting a uniform PEL of $5 \mu\text{g}/\text{m}^3$. This approach is consistent with other OSHA health standards and judicial precedent, and is permissible under the OSH Act.

As it has done in virtually all other health standards, OSHA set the action level for Cr(VI) at one-half the PEL ($2.5 \mu\text{g}/\text{m}^3$); exposures exceeding that level may trigger monitoring and medical surveillance requirements. OSHA determined in this and prior rulemakings that when exposures are below one-half the PEL, the employer can be reasonably certain that levels will not exceed the PEL on days when no monitoring is done. Moreover, in OSHA's experience, setting the action level at one-half the PEL encourages employers to reduce exposures below that mark, if they can, in order to avoid the ongoing costs of the additional requirements that would otherwise apply. HRG has not met its burden to establish that a lower action level would provide more than a de minimis health benefit.

Nor has HRG shown that there would be a health benefit to expanding the Cr(VI) standard's employee notification provision. The requirement for employers to provide written notice to employees when monitoring results exceed the PEL is consistent with Section 8(c)(3) of the OSH Act, which requires only that employees be notified when their exposures exceed a permissible limit. Furthermore, OSHA's hazard communication and records access standards ensure that employees exposed below the PEL are notified of the Cr(VI) hazards in their work areas and can view and copy their monitoring records.

EEI'S PETITION FOR REVIEW

There is no basis for EEI's contention that electric utilities should be exempt from the standard based on a purported lack of risk to their workers. OSHA carefully considered the scientific and medical evidence and reasonably determined that utility employees face a significant risk of harm from Cr(VI) exposure. Welding operations are performed in electric utility establishments during both regularly scheduled and emergency outages, and may last from several hours to several months. OSHA's risk assessment concluded that all employees with Cr(VI) exposures, including welders, face a significant risk of lung cancer. EEI has not presented any valid grounds on which this Court can disturb that conclusion.

In addition to Cr(VI) exposures from welding, utilities' employees are exposed to Cr(VI) in fly ash. Although fly ash generally results in Cr(VI) exposures lower than the general exemption threshold of $0.5 \mu\text{g}/\text{m}^3$, EEI's own evidence shows that this is not always the case. Furthermore, EEI's evidence consists of nothing more than a handful of inadequately-described fly ash samples – data that was patently insufficient to support the requested blanket exemption.

EEI is wrong in arguing that the Cr(VI) standard is technologically and economically infeasible for its members. OSHA conducted a careful and reasoned analysis of the economic and technological evidence and determined otherwise.

EEI's "evidence" in support of its economic infeasibility assertion largely consisted of unsubstantiated claims that no policy-making government agency, let alone a reviewing court, could accept as adequate. And EEI ignored OSHA's request for additional documentation to support those claims. Moreover, many of the alleged technological "difficulties" with the standard (even if accurate, which they are not) are simply insufficient to support a pre-enforcement challenge. At most, EEI demonstrates that there may be an occasion when a member company cannot entirely meet certain requirements. Such instances are to be dealt with on a case-by-case basis in enforcement proceedings, not in this litigation.

Finally, EEI wrongly contends that the standard conflicts with NRC regulations. Prior to the Cr(VI) rulemaking, the NRC and OSHA entered into a memorandum of understanding that makes clear nuclear plants must comply with OSHA obligations, including health standards. EEI similarly errs in arguing that compliance with the Cr(VI) standard will violate or conflict with other OSHA standards.

ARGUMENT

I. HRG'S PETITION FOR REVIEW SHOULD BE DENIED

A. STANDARD OF REVIEW.

The Secretary's factual determinations are "conclusive if supported by substantial evidence in the record considered as a whole." 29 U.S.C. § 655(f). "[E]vidence in support of a fact-finding is substantial when from it . . . an inference of the fact may be drawn reasonably." *Coke Oven Emissions*, 577 F.2d at 831 (quotation marks and citations omitted). Indeed, substantial evidence is simply such "evidence as a reasonable mind might accept as adequate to support a conclusion." *American Textile Mfrs. Inst., Inc. v. Donovan (Cotton Dust)*, 452 U.S. 490, 522 (1981) (quotation marks and citations omitted). Therefore, "the . . . Court must uphold the [Secretary's] finding[s] even [if] . . . it would justifiably have made a different choice had the matter been before it de novo." *Coke Oven Emissions*, 577 F.2d at 831 (quotation marks and citations omitted); *see also Cotton Dust*, 452 U.S. at 523 ("possibility of drawing two inconsistent conclusions from the evidence does not prevent an administrative agency's finding from being supported by substantial evidence") (quotation marks and citations omitted).

"[T]he multifaceted character of judicial review of legislative standards resulting from informal rulemaking . . . [involves] intricate questions pertaining to fact-finding, policy making, and statutory construction." *Coke Oven Emissions*,

577 F.2d at 831. So in addition to straightforward determinations of fact, the Secretary must make “non-factual, legislative-like policy decisions.” *Id.* This Court has explained that the selection of a PEL is a “policy judgment on the basis of the best available evidence as to what the industry could achieve in an effort to best protect its . . . employees,” and that the “decision [of where to set the PEL] is not a factual determination for which . . . [it] need[s] to find substantial evidence in the record.” *Id.* at 833. Instead, the Court must uphold the PEL selected by OSHA as long as it is “reasonably drawn from the record.” *Id.*; *see also infra* pp. 36-38.

B. THE UNIFORM PEL OF 5 IS REASONABLE AND SUPPORTED BY THE RECORD.

1. The PEL must be upheld if it is reasonable.

The OSH Act “is . . . calculated to give the Secretary broad responsibility for determining when standards are required and what those standards should be.” *Industrial Union Dep’t, AFL-CIO v. Hodgson (Asbestos)*, 499 F.2d 467, 480 n. 31 (D.C. Cir. 1974). Neither the statute nor the courts demand a “perfect” PEL; OSHA must simply act reasonably in fulfilling its statutory obligation to reduce risk to the extent feasible. Ultimately, “the deference . . . owe[d] the agency is likely to create a practical gap between the minimum and maximum levels of stringency.” *Building & Constr. Trades Dep’t, AFL-CIO v. Brock (Asbestos II)*, 838 F.2d 1258, 1273 n.5 (D.C. Cir. 1988).

This Court considers the setting of a PEL a “legislative decision in the exercise of congressionally delegated powers” – a decision that, as previously mentioned, must be upheld as long as it is “reasonably drawn from the record.” *Coke Oven Emissions*, 577 F.2d at 833; *see also Associated Builders & Contractors, Inc. v. Brock*, 862 F.2d 63, 68 (3d Cir. 1988) (judicial review of feasibility determination “asks whether the Secretary carried out her essentially legislative task in a manner reasonable under the state of the record before her”) (quotation marks and citations omitted). Other courts of appeals have afforded the agency similar discretion in selecting an exposure limit. The D.C. Circuit, for example, explained that “the precise choice of number is essentially a legislative judgment to which we must accord great deference and which only must fall within a zone of reasonableness.” *Lead*, 647 F.2d at 1253 (quotation marks and citations omitted).

As OSHA’s statutory authority to regulate extends only to the limits of feasibility, the Court cannot judge the reasonableness of the PEL by the health risk remaining at that level. In fact, due to the feasibility constraints the Act places on OSHA’s rulemaking authority, virtually none of OSHA’s health standards have eliminated significant risk. *See, e.g.*, 62 Fed. Reg. 1493, 1563 (Jan. 10, 1997) (“[a]t the final PELs [for methylene chloride], the risks to workers remain clearly significant”); 61 Fed. Reg. at 56793 (“OSHA concludes that the new . . . standard

[for 1,3-Butadiene] substantially lowers risk, but does not reduce risk below the level of insignificance.”); 59 Fed. Reg. 40964, 40968 (Aug. 10, 1994) (“significant risk remains at the PEL of 0.1 f/cc” for asbestos).

2. The record supports OSHA’s conclusion that 5 µg/m³ is the lowest feasible limit for a majority of affected employees.

OSHA bears the burden of establishing the feasibility of its standards in pre-enforcement challenges. *Lead*, 647 F.2d at 1272. If the agency cannot show that a particular PEL is both economically and technologically feasible, it cannot regulate to that level. *See, e.g., Color Pigments Mfrs. Ass’n v. OSHA*, 16 F.3d 1157, 1164 (11th Cir. 1994) (remanding for additional “inquiry into the technological and economic feasibility of . . . dry color formulator[s] meeting the PEL”); *Lead*, 647 F.2d at 1311 (remanding the lead standard for reconsideration of feasibility in certain industries). As demonstrated below, OSHA reasonably concluded that it could not establish the feasibility of the proposed PEL for industrial groups employing a majority (indeed 55%) of employees covered by the Cr(VI) standard. *See* JA, Vol. I, at 237-39 (preamble at 10335-37), Vol. III, at 916-26 (FEA at III-331-41).

- i. *Technological feasibility.* To demonstrate the technological feasibility of a standard in a pre-enforcement challenge, “OSHA must prove 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.” *Lead*, 647

F.2d at 1272. The evidence in the record did not permit OSHA to conclude that the proposed PEL of $1 \mu\text{g}/\text{m}^3$ was technologically feasible for welding, aerospace painting, or dye, pigment, or catalyst production. A large percentage of employees in each of those groups would need respirators at a PEL of $1 \mu\text{g}/\text{m}^3$ because engineering and work practice controls are inadequate to reduce Cr(VI) exposures below that level.

As to welding, OSHA determined that engineering and work practice controls cannot reduce Cr(VI) levels below $1 \mu\text{g}/\text{m}^3$ for 29% of employees doing stainless steel SMAW operations or for up to 60% of employees performing stainless steel welding operations in enclosed and confined spaces. JA, Vol. I, at 237-38 (preamble at 10335-36), Vol. III, at 918-21 (FEA at III-333-36). The finding that it was technologically infeasible for these two common welding operations to comply with the proposed PEL led to the conclusion that the lower PEL was generally infeasible for all welding operations because “welding is not easily separated into high and low exposure operations in the real work site.” JA, Vol. I, at 238 (preamble at 10336), Vol. III, at 921 (FEA at III-336); *see also supra* pp. 23-24.¹³ For aerospace painting, OSHA found that engineering and work

¹³ HRG does not seriously challenge this finding, and in any event cites to no contrary record evidence. OSHA also notes that HRG understates by 10,000 the number of welders expected to need respirators at a PEL of $1 \mu\text{g}/\text{m}^3$, HRG Br. at 34 n.5; OSHA’s estimate is 41,365, not 31,365. JA, Vol. I, at 159 (preamble at 10257 (Table VIII-3)).

practice controls can reduce exposures below $1 \mu\text{g}/\text{m}^3$ for only one-third of operations, and would be ineffective for the remaining 67% of workers. In addition, OSHA found that at a PEL of $1 \mu\text{g}/\text{m}^3$, intermittent respirator use would be necessary for at least 35% of employees in pigment production, 27% in catalyst production, and 99% in dye production. JA, Vol. I, at 159-61, 238-39 (preamble at 10257-59 (Table VIII-3), 10336-37), Vol. III, at 921-25 (FEA at III-336-40).

HRG challenges OSHA's findings on three broad grounds. First, HRG argues that OSHA's findings are legally insufficient because they are based on application groups and therefore fail to show that a typical firm in any given "industry" cannot comply with a lower PEL "in most operations." HRG Br. at 25, 32-33, 40. HRG next challenges OSHA's conclusions that the degree of respirator use required to achieve a PEL of $1 \mu\text{g}/\text{m}^3$ for welding, aerospace painting and pigment, catalyst and dye producers, renders that limit infeasible for these groups. Finally HRG raises several arguments related specifically to aerospace painting and pigment, catalyst and dye production. We address these claims seriatim:

1. HRG argues that OSHA did not conduct the industry by industry feasibility analysis required by *Lead* because application groups, such as welding, are not "industries." HRG Br. at 32-33. Therefore, according to HRG, OSHA's finding that Cr(VI) exposures in welding operations cannot feasibly be controlled to $1 \mu\text{g}/\text{m}^3$ is legally irrelevant because it says nothing about the ability of a typical

firm in any industry to meet the lower PEL in most of its operations. *Id.* This argument is fundamentally flawed on several levels.

HRG's argument addresses a single word in the statute – “feasible.” Section 6(b)(5) requires the Secretary to set PELs for toxic substances at the level that best protects workers, “to the extent feasible,” and further states that “feasibility” is a consideration in promulgating the standard. 29 U.S.C. § 655(b)(5). The statute does not define the term “feasible” or confine the agency to a particular methodology – such as the use of traditional product-based industrial classifications – in determining the feasibility of particular PELs. The legislative history also sheds no light on these issues. Accordingly, the Secretary may develop an appropriate methodology for determining feasibility through a standard, and such a standard is entitled to deference if reasonable. *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843-44 (1984).

In *Lead*, the court noted that technological feasibility requires OSHA “to show that modern technology has at least conceived some industrial strategies or devices which are likely to be capable of meeting the PEL and which the industries are generally capable of adopting.” *Lead*, 647 F.2d at 1266. OSHA's use of traditional product-based industrial classifications was appropriate where technologies for controlling lead exposures varied along those lines. *See, e.g., id.* at 1289-92 (technology for battery manufacturing), 1293 (technology for brass and

bronze foundries). For Cr(VI), however, OSHA determined that certain tasks performed across product-based industry lines have the same routes of exposure and require the same control technologies. JA, Vol. I, at 128 (preamble at 10226). Accordingly, OSHA adopted a task-based classification scheme, combining in “application groups” all firms performing specific operations or tasks having common control strategies. *Id.* OSHA’s use of application groups is not new; OSHA used the same methodology in assessing the technological feasibility of the methylene chloride standard. 62 Fed. Reg. at 1564.

OSHA’s approach comports with *Lead*’s concept that a pre-enforcement finding of technological feasibility is based on the existence of strategies and devices that employers presumptively can use to comply. *Lead*, 647 F.2d at 1269-70. The technologies available to control Cr(VI) exposures are tied to specific tasks, not to the type of workplace, or product-based industrial classification, in which the tasks are performed. Accordingly, OSHA reasonably used a task-based industry classification scheme to analyze technological feasibility.

Nothing in *Lead* precludes OSHA from defining an “industry,” for purposes of technological feasibility, as a group of firms that perform a specific task. “Industry” is a generic term referring to a group of enterprises with some underlying commonality. *See, e.g., Webster’s Third New International Dictionary* (1961); *see also U.S. v. Ricciardi*, 357 F. 2d 91, 95 (2d Cir. 1966) (noting broad

connotations of the term “industry”). Consistent with this general understanding, OSHA has substantial flexibility to classify firms in ways that are appropriate in light of the data available. The D.C. Circuit has emphasized the agency’s analogous discretion in deciding what firms should be grouped together for regulatory purposes. *See Asbestos II*, 838 F.2d at 1272-73. Acceptance of HRG’s argument would confine the agency to the use of NAICS or similar industry classifications that group establishments based on their primary product or activity. That is inconsistent with the broad meaning of “industry” and the agency’s acknowledged discretion in carrying out its essentially legislative task.

OSHA reasonably assessed the ability of the typical firm within each application group to meet the PEL “in most operations.” HRG’s suggestion that OSHA must assess all operations performed by a firm to determine whether the PEL is feasible for most of them, HRG Br. at 33, is overbroad. For any given classification, such as welding, OSHA need only examine those operations related to the relevant process. *See, e.g., Lead II*, 939 F.2d at 983-85 (technological feasibility analysis for leaded steel industry focused only on three phases of leaded steel production process involving exposure to airborne lead). For example, with respect to welding, OSHA acted reasonably in looking only at the tasks that produce Cr(VI) exposures. JA, Vol. I, at 237-38 (preamble at 10335-36). OSHA was not required to assess all possible operations performed by firms within the

welding group and then sum each firm's various operations to determine whether welding constituted more than 50% of the total. That reduces feasibility to a mere mathematical exercise and ignores the central role of welding as a whole in producing Cr(VI) exposures in a wide spectrum of establishments.

Moreover, OSHA acted reasonably in considering the percentage of exposed employees who work in groups for which the PEL is infeasible. HRG's argument to the contrary defies common sense and the basic concept of technological feasibility. Indeed, under HRG's reasoning, a PEL of $1 \mu\text{g}/\text{m}^3$ would be technologically feasible for a firm, or industry, in which 95% of Cr(VI)-exposed employees work at a task for which engineering and work practice controls cannot reach the PEL, if the remaining 5% of exposed employees work in several tasks for which the PEL is feasible. Surely the fact that most covered employees' Cr(VI) exposures cannot be controlled to $1 \mu\text{g}/\text{m}^3$ is highly relevant to whether employers generally can comply with a lower PEL. At a minimum, the Secretary was reasonable in following that approach. HRG's challenge must be rejected.

In summary, the legal standard for technological feasibility is not a straitjacket. OSHA was well within its discretion to use application groups rather than product-based industrial classifications as the basis for evaluating the technological feasibility of the proposed and final Cr(VI) PELs.

2. HRG's second argument is that even accepting OSHA's application group methodology, OSHA's own estimates show that "most operations" in the welding, aerospace painting, and pigment, catalyst and dye production groups can achieve a lower PEL without respirators. HRG Br. at 33-36. However, OSHA's estimates show that a significant percentage of exposed employees in these groups would be required to use respirators to comply with the lower PEL. *See supra* pp. 39-40; *see also* JA, Vol. I, at 159 (preamble at 10257 (Table VIII-3)). The test for feasibility in a particular "operation" is whether the PEL can be met with engineering and work practice controls, and only "isolated" respirator use. *See, e.g., Lead*, 647 F.2d at 1272. OSHA was justified in concluding that on the record of this rulemaking, respirator use was more than "isolated" where almost one third or more of the exposed employees in the affected groups would have to use respirators.

OSHA drew independent feasibility conclusions for each application group. While the agency estimated that a total of 9.5% of all employees in all application groups would need respirators at a PEL of $1 \mu\text{g}/\text{m}^3$, that overall figure did not factor into OSHA's technological feasibility findings, which must result from a sector-specific analysis. *See Lead*, 647 F.2d at 1301. Therefore, HRG's attempt to support its argument by comparing that estimate with findings in prior rulemakings, HRG Br. at 35, is inapposite. A Cr(VI) PEL of $1 \mu\text{g}/\text{m}^3$ would result

in significantly more respirator use in the above-described groups, e.g., 67% in aerospace painting and 29% in stainless steel SMAW, than the comparative examples HRG cites in its brief – 10% for asbestos and 7.6% for cadmium. *Id.*¹⁴

HRG is also wrong in focusing on the absolute number of additional respirator users at a PEL of 1 $\mu\text{g}/\text{m}^3$ instead of 5 $\mu\text{g}/\text{m}^3$, and suggesting that the difference is not significant. HRG Br. at 13, 15 n.1, 18, 26, 35, 41, 46. More than 25,000 additional workers in welding, aerospace painting, and dye, catalyst, and chromium production, and almost 33,000 overall, would need respirators at 1 $\mu\text{g}/\text{m}^3$. The significance of this difference becomes even more clear when considered in percentage terms, e.g., when compared with the proposed PEL, the final standard results in 60% less respirator use in welding and 40% less in general industry painting (which includes aerospace painting). JA, Vol. I, at 159-61 (preamble at 10257-59 (Table VIII-3)). These differences are certainly significant enough that OSHA was well within its discretion in determining that for these

¹⁴ HRG notes with respect to the cadmium standard that “in some affected industries as many as 80% of exposed workers would be required to wear respirators *full time*.” HRG Br. at 35. While correct, this does not support HRG’s comparative point, as OSHA did not conclude that the cadmium standard was feasible for the industries with such extensive respirator use. Instead, OSHA determined that the final cadmium PEL was infeasible for those industries and adopted separate exposure limits for those sectors. *See* 57 Fed. Reg. 42102, 42212 (Sept. 14, 1992); *see also supra* pp. 29-31 (OSHA’s rationale for setting a uniform Cr(VI) PEL).

groups it could establish the technological feasibility of a PEL of $5 \mu\text{g}/\text{m}^3$, but not $1 \mu\text{g}/\text{m}^3$.

3. HRG's remaining criticisms of OSHA's findings for aerospace painting and pigment, catalyst and dye production are without merit. With respect to aerospace painting in particular, HRG does not dispute that 67% of the time, engineering and work practice controls cannot reduce exposures below $1 \mu\text{g}/\text{m}^3$. Instead, HRG makes a confusing argument that because OSHA found a PEL of $5 \mu\text{g}/\text{m}^3$ feasible despite an appreciable degree of respirator use, the agency cannot find a lower PEL infeasible because of much higher respirator usage. HRG Br. at 40-41. However, the fact that OSHA tolerated 33% respirator use at a PEL of $5 \mu\text{g}/\text{m}^3$, in recognition of the health hazards between that level and $25 \mu\text{g}/\text{m}^3$, does not mean that it must accept the far higher degree of respirator use necessary at $1 \mu\text{g}/\text{m}^3$. OSHA specifically concluded that the substantial additional number of employees required to wear respirators at a PEL of $1 \mu\text{g}/\text{m}^3$ renders that limit infeasible. JA, Vol. I, at 238 (preamble at 10336). There is a drastic difference between this sector's ability to comply with the proposed and final PELs, and it was completely reasonable and within OSHA's discretion to determine that its relevant findings, namely that there would be 67% respirator use at $1 \mu\text{g}/\text{m}^3$, but only 33% at $5 \mu\text{g}/\text{m}^3$, supported an affirmative feasibility finding at the higher, but not the lower, PEL.

HRG claims OSHA erred in concluding that a PEL of $1 \mu\text{g}/\text{m}^3$ was of unproven feasibility for dye, catalyst, and pigment producers because an uncertain number of employers in those sectors have facilities that cannot accommodate necessary controls. HRG Br. at 36-38. OSHA found, and HRG has not disputed, that Cr(VI) exposures can be reduced below $1 \mu\text{g}/\text{m}^3$ in these sectors only by enclosing and automating certain operations. JA, Vol. III, at 923-25 (FEA at III-338-40). OSHA's uncertainty about the ability of these sectors to comply with a lower standard was, as HRG accurately points out, based on record evidence showing that a lead chromate pigment manufacturing facility in Ontario did not have adequate space to install the necessary enclosures. JA, Vol. IX, at 3629 (CPMA post-hearing brief, App. E, at 7). As this was the only evidence in the record on this point, HRG is wrong in suggesting that it was insufficient to justify OSHA's conclusion. See 29 U.S.C. § 655(b)(5) (agency need only use best available evidence). It was entirely reasonable for the agency to conclude that it could not sustain its legal burden to affirmatively prove the feasibility of a lower standard for these groups.

Moreover, HRG errs in arguing that the reconfiguration of old facilities is exclusively an economic issue. HRG Br. at 37-38. Although HRG cites a statement in the D.C. Circuit's *Lead* decision suggesting that OSHA can require rebuilding if it is economically feasible, HRG Br. at 37 n.7, that decision does not

change the requirement that OSHA must show its standards are both economically and technologically feasible. In fact, in that case the court remanded OSHA's technological feasibility finding for lead pigment manufacturers, explaining that the agency had not sufficiently supported its conclusion that employers could meet the PEL by rebuilding their facilities. *See Lead*, 647 F.2d at 1295.

Finally, given that pigment, dye, and catalyst producers combined employ fewer than 500 covered workers, JA, Vol. I, at 159-61 (preamble at 10257-59 (Table VIII-3)), a finding that the proposed PEL was feasible for these groups would not have changed OSHA's decision to adopt a uniform PEL of 5 $\mu\text{g}/\text{m}^3$. *See supra* pp. 29-31.¹⁵

ii. *Economic Feasibility*. OSHA estimated that at a PEL of 1 $\mu\text{g}/\text{m}^3$, it would cost job shop electroplaters 2.7% of revenues to comply with the Cr(VI) standard – more than OSHA has ever deemed economically feasible in previous health standards and substantially in excess of this industrial sector's average nominal price increase of 1.6%. JA, Vol. IV, at 1126 (FEA at V-97 (Table V-8)). In prior rulemakings, costs for the most affected industrial group have been under

¹⁵ Although OSHA could not conclude that the proposed PEL was technologically feasible for hard chrome electroplaters, the agency did not count this group separately due to potential overlap with the job shop plating group. JA, Vol. I, at 239 (preamble at 10337), Vol. III, at 925-26 (FEA at III-340-41); *see also supra* note 12. Because this group did not separately figure into OSHA's decision to set the PEL at 5 $\mu\text{g}/\text{m}^3$, HRG's arguments about the agency's findings for this sector, HRG Br. at 38-40, are immaterial.

2% (and generally less than 1%) of revenues. JA, Vol. I, at 203-04 (preamble at 10301-02), Vol. IV, at 1123, 1131-46 (FEA at V-94, B-49-56 (Table B7), B-73-80 (Table B10)); *see also supra* pp. 26-27.

OSHA carefully evaluated the impact the significant costs of complying with a lower PEL for Cr(VI) would have on job shop electroplaters, accounting for recent and continuing increases in labor, energy and other costs. The agency found that job shop platers would need to almost triple their annual nominal price increase to sustain profitability at a PEL of $1 \mu\text{g}/\text{m}^3$. JA, Vol. I, at 203/3 (preamble at 10301/3). Although OSHA found it “unlikely” that this “would eliminate the industry entirely,” the agency “concluded . . . that the costs . . . [of the lower] PEL could alter the competitive structure of the industry.” *Id.* OSHA explained that the costs “might not be passed forward, particularly by older and less profitable” firms. *Id.* at 203-04 (preamble at 10301-02). OSHA also determined that it could not alleviate the costs of a lower PEL for these firms by allowing more time for compliance or permitting substantial respirator use. *Id.* at 203/3 (preamble at 10301/3). Given these findings, OSHA was well within its discretion to conclude that it could not establish the feasibility of a PEL of $1 \mu\text{g}/\text{m}^3$ for this group. *See* JA, Vol. IX, at 3394-97 (SFIC comments at 69-72), 3528-32 (hearing presentation by industry consultant at 23-36, 28), Vol. X, at 3796-99, 3801 (SFIC/SSINA congressional testimony at 3-6, 8), Vol. IV, at 1122-24, 1126 (FEA at V-93-95, V-

97 (Table V-8)), Vol. XI, at 4742-77 (Tr. 2079-87, 2103-06, 2130-36, 2145-51, 2154-58, 2203-06) (record evidence documenting potential for the proposed PEL to have a severe economic impact on metal finishers).

HRG's argument that OSHA did not adequately support these findings, HRG Br. at 19, 41-44, is faulty because OSHA was not required to make the specific predictions HRG demands. The OSH Act does "not require the agency to . . . [evaluate] economic feasibility in a particular way." *Lead*, 647 F.2d at 1267 (quotation marks and citation omitted). OSHA dedicated approximately two full pages in its economic analysis, and almost a full page (three columns) in the preamble, to an assessment of the economic effects of the final and proposed Cr(VI) standards on job shop plating establishments, and carefully spelled out the basis for its finding that it could not establish the economic feasibility of the proposed PEL for job shop electroplaters. JA, Vol. I, at 203-04 (preamble at 10301-02), Vol. IV, at 1122-24 (FEA at V-93-95). That finding is surely reasonable, and the Act requires no more.

3. OSHA adequately explained the enforcement, compliance, and rulemaking considerations that justify its decision to adopt a uniform PEL for all covered employers.

After concluding that the proposed PEL of 1 $\mu\text{g}/\text{m}^3$ was infeasible or of unproven feasibility for groups employing a majority of the employees affected by the Cr(VI) standard, OSHA carefully considered, but ultimately rejected, the

option of setting a lower PEL for the remaining industrial groups. *See supra* pp. 29-31. This approach is consistent with the OSH Act and applicable judicial precedent.

The OSH Act does not speak to the issue of whether OSHA must set multiple PELs for Cr(VI) (or any other toxic substance), but OSHA has consistently interpreted the statute to permit the setting of a uniform exposure limit at a level that is generally feasible for all affected employees. Indeed, with only rare exceptions, OSHA's practice has been to adopt one PEL for each regulated toxic substance. Virtually all of OSHA's health standards have uniform PELs. *See, e.g.*, 29 C.F.R. §§ 1910.1001(c) (asbestos), 1910.1017(c) (vinyl chloride), 1910.1048(c)(1) (formaldehyde).

For example, in setting its standard for inorganic arsenic, OSHA expressly declined to adopt multiple PELs, and instead set a uniform limit that was “the lowest level achievable . . . in the majority of locations.” 43 Fed. Reg. 19583, 19601 (May 5, 1978). OSHA explained that multiple PELs for arsenic “would be extremely difficult to implement” and “would strain limited agency resources.” *Id.* The agency took a similar approach in setting its original standard for benzene, explaining:

OSHA has considered the appropriateness of establishing lower permissible limits for those industry sectors which can achieve the lower limits [I]t is OSHA's view that different levels for

different industries would result in serious administrative difficulties OSHA has decided to apply to all affected industries a permissible exposure limit of 1 ppm.

43 Fed. Reg. 5918, 5947 (Feb. 10, 1978). More recently OSHA adopted uniform PELs in its methylene chloride and 1,3-butadiene standards, in both cases selecting the lowest limit feasible across all industries. *See* 62 Fed. Reg. at 1575 (selecting PEL for methylene chloride that was “the lowest level for which . . . [it could] currently document feasibility across the affected application groups and industries”); 61 Fed. Reg. at 56794 (setting PEL for 1,3-butadiene at 1 ppm, the level “documented as feasible across all industries”).

Because the statute is silent, OSHA’s reasonable, long-standing interpretation is entitled to “controlling weight.” *Chevron*, 467 U.S. at 843-44. To uphold OSHA’s reading of the Act, “[t]he court need not conclude that the agency[’s] construction . . . [is] the only one it permissibly could have adopted . . . or even the reading the court would have reached.” *Id.* at 843 n.11; *see also Bianchi Trison Corp. v. Chao*, 409 F.3d 196, 204 (3d Cir. 2005) (“[W]e must defer to an agency’s reasonable interpretation of an ambiguous administrative statute.”).

Contrary to HRG’s assertions, *see* HRG Br. at 31, 47-48, not a single court has ever decided that this is an impermissible or unreasonable construction of the OSH Act. Instead, in the two cases to address the issue – both in the context of challenges to OSHA’s asbestos standard – the D.C. Circuit affirmed the agency’s

position that the statute does not require a unique standard for each industrial group. In both cases the court held that OSHA can adopt a uniform standard applicable to all covered employers as long as it complies with its general obligation to explain the basis for its final rulemaking decisions.

In the first asbestos case, petitioners challenged the agency's decision to allow all industries four years to comply with the new standard. The court concluded that "reasons of practical administration" could justify the uniform rule, expressly noting that "the task of devising categories and classifying employers by industry [c]ould be unmanageable," but remanded the standard to the agency for further clarification because such reasons were "neither explained nor readily apparent." *Asbestos*, 499 F.2d at 480-81.

In the second case, petitioners challenged OSHA's decision to set a uniform PEL for asbestos. The D.C. Circuit remanded the standard for OSHA to consider disaggregating the PEL for asbestos in general industry, but that decision was based, not on a finding that disaggregation was required, but instead on the agency's failure to explain its decision. In that case a large majority (93%) of affected general industry employees worked in an industrial sector that could attain a standard lower than the one set by the agency. *Asbestos II*, 838 F.2d at 1272-73. The court recognized that "the administrative difficulty of selectively lower PELs" could justify OSHA's decision to adopt one standard for all industries, but required

OSHA to “spell out the analysis.” *Id.* at 1273. This analysis could, the court explained, include “the size of . . . [the various industrial] sectors and the difficulties of drawing clear borders between them.” *Id.*; *see also id.* at 1274-75 (“Our hunch is that OSHA’s policy is based on an implicit determination that universal enforcement of a . . . [uniform] safety level is, for administrative efficiency reasons, the optimal enforcement strategy. But . . . OSHA must explicitly define and justify such policies.”).¹⁶

In promulgating the uniform PEL for Cr(VI), OSHA provided the explanation that the asbestos decisions require. *See* JA, Vol. I, at 239-41 (preamble at 10337-39). Unlike in the second asbestos case, in which a lower PEL was feasible for almost all covered general industry employees, OSHA found that more than half (55%) of employees covered by the Cr(VI) standard are in the groups for which it could not establish the feasibility of the proposed PEL — primarily welding, aerospace painting, and job shop electroplating. *See supra* pp. 21-28. The agency described in detail the anticipated rulemaking, enforcement, and compliance problems associated with multiple PELs. JA, Vol. I, at 240

¹⁶ On remand the agency lowered the PEL, but kept it uniform, expressly declining to “establish[] a series of different PELs for different operations” in part because it “would add cost and complexity to employers’ compliance duties and to OSHA’s enforcement duties.” 59 Fed. Reg. at 40969. This standard was not challenged.

(preamble at 10338); *see also supra* pp. 29-31.¹⁷ Given the asbestos decisions' demand only for a rational explanation, and this Court's practice of "defer[ing] to . . . [OSHA's] opinion of what is a practical program which can be administered with some degree of speed and efficiency," *Synthetic Organic Chem. Mfrs. Ass'n v. Brennan*, 506 F.2d 385, 391 (3d Cir. 1974), the Court must uphold the uniform PEL.

HRG vastly overstates its claim that the uniform PEL of 5 $\mu\text{g}/\text{m}^3$ is unreasonable because it leaves many workers exposed to hazardous levels of Cr(VI) in tasks or operations that could comply with a lower PEL. HRG Br. at 26, 44-46. In fact, a large majority (82%), of workers in the groups for which a lower PEL is potentially feasible are already exposed below 1 $\mu\text{g}/\text{m}^3$. JA, Vol. I, at 148-57 (preamble at 10246-55 (Table VIII-2)); *see supra* pp. 21. Moreover, although the additional reduction in risk cannot be quantified, HRG's claim that the risk remaining at the PEL "would not be addressed by other provisions of the

¹⁷ OSHA did not, as HRG suggests (HRG Br. at 20), design the Cr(VI) standard to attain an independent goal of having a uniform PEL. The agency selected the uniform PEL upon concluding that enforcement of, and compliance with, multiple Cr(VI) PELs would be problematic. HRG additionally mischaracterizes OSHA's reasoning when it claims, without support, that OSHA set the PEL "because it . . . [was] 'feasible for *all* the affected industries.'" HRG Br. at 22 (quoting JA, Vol. I, at 236 (preamble at 10334)). While the agency did conclude that all affected industrial groups could comply with the final PEL, that was not the basis for OSHA's selection of the final over the proposed PEL. It was, instead, the determination that exposures could not be reduced below 1 $\mu\text{g}/\text{m}^3$ for the majority of affected workers that led OSHA to select the higher exposure limit.

standard,” HRG Br. at 20, is unsupported and directly contradicted by OSHA’s findings. JA, Vol. I, at 236/1 (preamble at 10334/1).

HRG repeatedly points out that a lower PEL is feasible for a “majority of industries,” HRG Br. at 3, 12, 20, 21, 22, 45, 58, but this is no answer to the significant practical problems that further disaggregation of the PEL would cause. Moreover, the second asbestos decision makes clear that for purposes of considering whether to adopt multiple PELs, the agency should consider the percentage of affected employees for whom a lower PEL can be achieved (in this case less than half), not the share of industrial sectors that can attain lower exposures. *See Asbestos II*, 838 F.2d at 1272-73 (a majority of industries could not comply with a lower PEL, but the court remanded the standard nonetheless because one industrial group, which included 93% of affected general industry workers, could potentially reach lower levels).

In essence, HRG asks the Court to require OSHA to determine the precise level at which it would become infeasible to lower the PEL any further in each affected industrial sector. Not only was this not possible in this Court-ordered expedited rulemaking, but such a requirement could threaten the timely promulgation of future standards. JA, Vol. I, at 240 (preamble at 10338).¹⁸

¹⁸ HRG errs in asserting that OSHA has already conducted this analysis in its FEA. HRG Br. at 20-21, 54. A close reading of that document reveals that OSHA profiled the industrial groups affected by the standard and quickly identified those

Although HRG suggests in its brief that one lower PEL of $1 \mu\text{g}/\text{m}^3$ for Cr(VI) may be adequate, HRG Br. at 58, in the rulemaking it argued for a substantially lower PEL – $0.25 \mu\text{g}/\text{m}^3$, *see* JA, Vol. X, at 3668 (HRG comments at 20), and it does not squarely disclaim that position here.

More fundamentally, there is nothing in the legal test argued by HRG that would allow OSHA to establish one or two PELs at any level or to avoid the morass of doing separate industry-by-industry PELs based on what is feasible for each sector. If the Court remands the standard and OSHA sets one lower PEL for some industry groups, there is nothing in the legal standard proposed by HRG that would prevent it or another party from challenging that rule on the basis that a subset of those industries should get an even lower PEL. Or from arguing that some industries covered by the higher PEL should be required to comply with a PEL between the two limits. There is simply no rational basis for concluding that two PELs would be any more adequate than one PEL to satisfy the purported requirement to disaggregate the standard.

That OSHA has deemed it practical and desirable to establish separate exposure limits for discrete industries in a few health standards does not undermine

with suspected feasibility problems at the proposed and final PELs. OSHA dedicated most of its time and resources to analyzing those sectors. A much more extensive analysis would be necessary to permit the agency to determine with reasonable certainty the specific feasibility limit for every individual industrial group.

the agency's well-reasoned decision that additional disaggregation is not appropriate for Cr(VI). HRG Br. at 21, 21 n.4, 55-56. In those cases OSHA was able to segregate a small number of discreet industrial groups, with isolated feasibility problems, for unique treatment. The record in the Cr(VI) rulemaking did not permit OSHA to do the same here.

HRG relies heavily on OSHA's cadmium standard, which sets "separate engineering control air limits" (SECALs) for industries in which engineering and work practice controls cannot reduce exposures below the final PEL. HRG Br. at 49-50. Employers in those industries need only use engineering and work practice controls to reduce exposures below the assigned SECALs, and can then use respirators to comply with the PEL. 29 C.F.R. § 1910.1027(f). The agency's underlying findings in that case, in particular that the industries covered by the SECALs were "easily identifiable and distinct," 57 Fed. Reg. at 42343, are in stark contrast to OSHA's conclusions in the Cr(VI) rulemaking, however. *See* JA, Vol. I, at 240 (preamble at 10338); *see also supra* pp. 29-31.¹⁹

Furthermore, the final PEL for cadmium was infeasible for only a minority, and indeed "a relatively small number of exposed employees." 57 Fed. Reg. at

¹⁹ HRG's additional reliance on OSHA's decision to set separate exposure limits for lead in two distinct and easy-to-identify groups, i.e., small foundries and the brass/bronze ingot industry, HRG Br. at 50-52, is similarly inapposite. *See* 60 Fed. Reg. 52856 (Oct. 11, 1995).

42343. Therefore, the agency was especially concerned about “using a lowest-common denominator approach to protecting workers” from cadmium, as doing so would have resulted in a majority of affected workers not being protected to the extent feasible. *Id.* OSHA expressly declined to take a lowest-common denominator approach for Cr(VI), rejecting a PEL of 25 $\mu\text{g}/\text{m}^3$, which is the lowest level feasible for some aerospace painting tasks. OSHA rejected that approach “because it would [have left] . . . the vast majority of affected employees exposed to Cr(VI) levels above those that could feasibly be achieved in most industries and operations.” JA, Vol. I, at 237/1 (preamble at 10335/1). In contrast, at the final PEL of 5 $\mu\text{g}/\text{m}^3$, a majority of affected workers are in industrial groups for which the agency could not find that the lower proposed PEL was feasible. *See supra* pp. 20-28.

OSHA’s decision to adopt a unique rule for some segregable aerospace painting tasks does not, as HRG suggests, HRG Br. at 56, conflict with the agency’s finding that it could not readily assign the other groups to different enforcement categories. *See supra* pp. 29-31. Furthermore, OSHA’s amendment of the standard to provide an optional, alternative compliance schedule for certain electroplaters, HRG Br. at 55, is irrelevant. The amendment, which settled SFIC’s challenge to the standard, did not change the applicable PEL for any operations. Moreover the amended compliance dates apply only to facilities that self-identified

themselves for the agency, so they do not raise the enforcement, compliance, and classification problems underlying the agency's decision to adopt a uniform PEL.

See 29 C.F.R. § 1910.1026, App. A, para. 7.

C. THE ACTION LEVEL OF 2.5 µG/M³ IS A REASONABLE TOOL FOR ENSURING COMPLIANCE WITH THE PEL AND ENCOURAGING INDIVIDUAL EMPLOYERS TO REDUCE Cr(VI) EXPOSURES TO THE MAXIMUM EXTENT FEASIBLE, AND HRG HAS NOT SHOWN THAT A LOWER ACTION LEVEL WOULD RESULT IN ANY ADDITIONAL HEALTH BENEFIT.

The Cr(VI) standard requires employers using the scheduled monitoring option to regularly reassess the exposures of employees whose initial monitoring results are at or above the action level of 2.5 µg/m³. 29 C.F.R. §§ 1910.1026(d)(2)(iii), 1915.1026(d)(2)(iii), 1926.1126(d)(2)(iii). As in other health standards, OSHA set the action level at one-half the PEL based on statistical analyses showing that monitoring results below one-half the PEL, or 2.5 µg/m³, provide “reasonable assurance of day-to-day compliance with the PEL.” JA, Vol. I, at 234/1 (preamble at 10332/1). In contrast, “where exposure measurements are above one-half the PEL, the employer cannot be reasonably confident that the employee is not exposed above the PEL on days when no measurements are taken.” *Id.* at 233/3 (preamble at 10331/3) (emphasis added); *see also* JA, Vol. IX, at 3533 (NIOSH publication); 62 Fed. Reg. at 1573 (setting methylene chloride action level at one-half the PEL); 61 Fed. Reg. at 56800 (same for 1,3-butadiene); 57 Fed. Reg. at 42333-34 (same for cadmium); 57 Fed. Reg. 35630, 35646 (Aug.

10, 1992) (same for 4,4' methylenedianiline); 52 Fed. Reg. 34460, 34529 (Sept. 11, 1987) (same for benzene); 49 Fed. Reg. 25734, 25774 (June 22, 1984) (same for ethylene oxide); 43 Fed. Reg. at 19613 (same for inorganic arsenic).²⁰

Although OSHA expects and experience shows “that the action level will result in a very real and necessary further reduction in risk beyond that provided by the PEL alone,” JA, Vol. I, at 234/1 (preamble at 10332/1), the setting of the action level was not (and has never been) tied to or dependent upon the level of risk remaining at the PEL. Instead, as described, it is primarily a tool for ensuring compliance with the PEL. Therefore, HRG’s claim that the action level should be set lower for the sole purpose of additionally reducing risk is unfounded. HRG Br. at 27, 58-60. Moreover, this argument is inconsistent with HRG’s assertion, elsewhere in its brief, that the ancillary provisions of the standard will not “address” remaining risk. HRG Br. at 20.

In any event, it is far from clear that a lower action level would even have the protective benefits HRG desires. Indeed, HRG has not satisfied its burden of showing that a lower action level would result in more than a de minimis health benefit. *See Asbestos II*, 838 F.2d at 1271 (“a party challenging an OSHA standard

²⁰ OSHA rejected a claim from the United Automobile, Aerospace, and Agricultural Implement Workers of America that the action level should be set at one-tenth of the PEL to minimize the frequency of PEL-exceeding exposures on days when no measurements are taken. JA, Vol. I, at 233-34 (preamble at 10331-32).

must bear the burden of demonstrating that the variations it advocates will be feasible to implement and will provide more than a *de minimis* benefit for worker health”).

The agency’s experience with previous standards has led it to conclude that setting the action level at one-half the PEL “effectively encourages employers, where feasible, to reduce exposures below . . . [that] level to avoid the added costs of required compliance with [the monitoring and medical surveillance requirements] triggered by” higher exposures. JA, Vol. I, at 234/1 (preamble at 10332/1). HRG has cited no evidence that the same incentives would apply at a lower action level. In fact, the costs of controlling Cr(VI) exposures below a lower action level may actually outweigh the costs of complying with the standard’s monitoring and medical surveillance requirements, therefore effectively discouraging employers from taking feasible measures to reduce Cr(VI) levels. *See id.* at 171 (preamble at 10269 (Table VIII-5)) (costs for engineering controls increase more dramatically than costs for monitoring and medical surveillance at lower exposure limits). Furthermore, the lower the action level, the more difficult it becomes for employers to even find engineering controls that can successfully achieve that threshold. *See id.* at 159-61 (preamble at 10257-59 (Table VIII-3)).

D. THE REQUIREMENT TO NOTIFY EMPLOYEES OF MONITORING RESULTS ABOVE THE PEL IS CONSISTENT WITH SECTION 8(C)(3) OF THE OSH ACT, AND HRG HAS NOT ESTABLISHED THAT ADDITIONAL NOTICE REQUIREMENTS WOULD PROVIDE MORE THAN A DE MINIMIS HEALTH BENEFIT.

The Cr(VI) standard requires employers to notify employees in writing when monitoring reveals they are exposed above the PEL. In addition, employers must inform those employees of the corrective actions being taken. These requirements can be satisfied by posting a notice in an appropriate location at the worksite or delivering notice to each affected employee individually. 29 C.F.R. §§ 1910.1026(d)(4), 1915.1026(d)(4), 1926.1126(d)(4). This is consistent with the requirement in Section 8(c)(3) of the Act that “[e]ach employer . . . promptly notify any employee who has been or is being exposed to toxic materials or harmful physical agents in concentrations or at levels which exceed those prescribed by an applicable occupational safety and health standard.” 29 U.S.C. § 657(c)(3) (emphasis added).

HRG contends that OSHA should have exceeded the 8(c)(3) requirement and mandated that employers notify employees of monitoring results below the PEL, HRG Br. at 27, 60-61, but there would be little or no health benefit to doing so. *See, e.g., Nat’l Grain & Feed Ass’n v. OSHA*, 866 F.2d 717, 737 (5th Cir. 1989) (“The burden . . . remains on the unions to demonstrate that their proposal will . . . provide more than a *de minimis* benefit for . . . worker safety . . .”).

Regardless of exposure level, OSHA's hazard communication standard requires employers to make affected employees aware of the operations in their work areas that involve Cr(VI) and the hazards of Cr(VI) exposure. *See* 29 C.F.R. § 1910.1200(h). Furthermore, under OSHA's records access standard, all employees have a right to view and copy their monitoring records. 29 C.F.R. § 1910.1020. Both the hazard communication and records access standards are expressly referenced in the Cr(VI) rule. 29 C.F.R. §§ 1910.1026(l)(1), 1910.1026(m)(1)(iii), 1915.1026(j)(1), 1915.1026(k)(1)(iii), 1926.1126(j)(1), 1926.1126(k)(1)(iii). HRG has made no showing that an additional notice requirement in the Cr(VI) standard would provide any benefit, let alone more than a de minimis benefit, over the protections afforded by these other standards alone.

Furthermore, there is no merit to HRG's contention that the final notice provision is an "unexplained about-face" from the proposal, which would have required general industry employers to notify employees of all monitoring results. HRG Br. at 60. In fact, the proposed standards for construction and shipyards contained no requirements at all for monitoring – let alone notification of monitoring results. OSHA even sought comments on applying this approach in general industry. JA, Vol. IV, at 1153 (69 Fed. Reg. at 59310 (#44)). And while HRG is correct that some of OSHA's other health standards require notice to employees irrespective of exposure level, HRG Br. at 60, the agency's Air

Contaminants standard, which sets PELs for the vast majority of toxic substances regulated by OSHA, does not include any monitoring or notice requirements. 29 C.F.R. § 1910.1000.

II. EEI'S PETITION FOR REVIEW SHOULD BE DENIED

A. OSHA REASONABLY DETERMINED THAT WORKERS IN ELECTRIC UTILITIES FACE A SIGNIFICANT RISK OF MATERIAL HARM.

In order to regulate a health hazard, OSHA must show that it poses a “significant risk” of material health impairment. *Benzene*, 448 U.S. at 614-15, 639. Where, as here, the standard seeks to prevent fatal illnesses and injuries, among other adverse health effects, OSHA has considered an excess risk of one death per 1000 workers over a 45-year working lifetime as clearly representing a significant risk. *Id.* at 655; *UAW v. Pendergrass*, 878 F.2d 389, 392 (D.C. Cir. 1989); *Asbestos II*, 838 F.2d at 1264.²¹

OSHA found that excess risk estimates derived from the Gibb and Luippold studies of chromate production workers best represented the range of risks for employees in all affected workplaces, and that there exists a clearly significant risk at the previous PEL. *Supra* at pp. 9-12. EEI claims substantial evidence does not support OSHA's determination that utility workers who are exposed to Cr(VI) in

²¹ Section 6(b)(5) of the Act requires OSHA to consider exposure to toxic materials or harmful physical agents over an employee's “working life.” OSHA has interpreted this to mean over a 45-year working life. *Asbestos II*, 838 F.2d at 1264-65.

fly ash or from welding face a significant risk of harm. EEI Br. at 17-19, 22-24.

First, it argues that the average Cr(VI) exposure from fly ash falls well below 0.5 $\mu\text{g}/\text{m}^3$, the general exemption level, and thus, workers do not face a significant risk from such exposure. Second, EEI contends OSHA wrongly applied the risk assessments and significant harm findings for chromate production workers to utility welders. Both contentions are without merit.

1. Substantial evidence supports OSHA's application of the risk assessments for chromate production workers to welders.

Based on the Gibb and Luippold studies, OSHA estimated that workers with a lifetime of Cr(VI) exposure have an excess risk of lung cancer of 101-351 per thousand at the previous PEL for Cr(VI). JA, Vol. I, at 97, 126 (preamble at 10195 (Table VI-7), 10224 (Table VII-1)).²² OSHA evaluated whether the excess lung cancer risks derived from the Gibb and Luippold studies of chromate workers were representative of the risks for other Cr(VI) workers, such as electroplaters, painters and welders. *Id.* at 111 (preamble at 10209). The agency observed, citing its cadmium standard, that it typically “has used epidemiologic studies from one industry to estimate risk for other industries.” *Id.* It reasoned that “[t]his approach

²² Although EEI challenges OSHA's application of the Gibb and Luippold findings to electric utilities, it has not challenged OSHA's determination that these studies provide the best quantitative estimates of lung cancer risk from Cr(VI) exposure. *See supra* pp. 9-12.

is usually acceptable because exposure to a common agent of concern is the primary determinant of risk and not some factor unique to the workplace.” *Id.*²³

Thus, simply stated, the risk at issue here is exposure to Cr(VI). Where, or in which workplace, the Cr(VI) exposure occurs is immaterial. For this very reason the courts have not required an industry by industry risk assessment. *UAW v. OSHA*, 37 F.3d 665, 670 (D.C. Cir. 1994) (upholding OSHA’s determination not to disaggregate significant risk by industry); *American Dental Ass’n v. Martin*, 984 F.2d 823, 827 (7th Cir. 1993) (“[t]he risk [of bloodborne infection] goes with practices . . . rather than with industries, and the rule . . . is based on practices rather than on industries”); *see also Associated Builders & Contractors*, 862 F.2d at 68 (“[a] requirement that the Secretary assess risk to workers . . . with respect to each substance in each industry would effectively cripple OSHA’s performance of the duty imposed on it”).

Moreover, OSHA specifically addressed comments from, *inter alia*, specialty steel and electric utility representatives expressing concern about the applicability of the Gibb and Luippold data to the welding performed in their

²³ In *Color Pigments Mfrs. Ass’n*, 16 F.3d at 1161, the Eleventh Circuit upheld OSHA’s cadmium risk analysis, although it rejected OSHA’s feasibility determinations and remanded on that basis.

industrial sectors. JA, Vol. I, at 116-22 (preamble at 10214-20).²⁴ Following a detailed analysis of the comments and evidence, OSHA agreed that the “evidence of an exposure-response relationship is not as strong in studies of Cr(VI)-exposed welders” (as in the studies of chromate workers), but explained that those welder-specific studies were “less able to detect” that relationship “due to . . . potentially severe exposure misclassification, occupational exposure to other cancer causing agents, and the general lack of information with which to control for any differences in background lung cancer risk between Cr(VI)-exposed welders and unexposed welders.” *Id.* at 122/1 (preamble at 10220/1). Because OSHA found that the Gibb and Luippold studies contained the “best available” data, it acted reasonably in determining that it was “prudent to estimate welders’ risk” based on these studies. *Id.*

OSHA rationally concluded that welders face the estimated lung cancer risk of 101-351 per thousand during a working lifetime at the former Cr(VI) PEL – a risk that is dramatically reduced to 10-45 at the new PEL. Because substantial evidence supports OSHA’s analysis, this Court must affirm it and reject EEI’s contrary view that welders face significantly different risk than chromate workers.

²⁴ The intervenor brief filed by the specialty steel industry does not directly challenge the applicability of the Gibb and Luippold risk assessments to its industry, although it equivocates, calling the assessments “probably overstated.” NAM/SSINA Br. at 6.

Coke Oven Emissions, 577 F.2d at 831 (“the . . . court must uphold the [Secretary’s] finding[s] even though it would justifiably have made a different choice had the matter been before it de novo”) (quotation marks and citations omitted).

In any event, the snippets from the record that EEI relies on, EEI Br. at 23, do not even support its contention. Rather, Dr. Gibb merely explained that additional information or studies could possibly establish that differences in exposures could lead to different risk, but he emphasized that no such data existed: “the available data are inadequate to evaluate whether such differences exist It is unlikely that adequate studies of all industries affected by this proposed rule will ever be conducted.” JA, Vol. IX, at 3646-47 (Gibb post-hearing comments (Issue 3)). Congress, however, directed OSHA to set health standards for toxic materials based on the best available evidence, 29 U.S.C. § 655(b)(5), and the agency can act on available information even if it is imperfect. *Lead*, 647 F.2d at 1266. *See also*, e.g., *Synthetic Organic Chem. Mfrs. Ass’n v. Brennan*, 503 F.2d 1155, 1159 (3d Cir. 1974) (approving standard based on animal test data); *Dry Color Mfrs. Ass’n v. DOL*, 486 F.2d 98, 104 (3d Cir. 1973) (same). So long as OSHA can make reasonable predictions on the basis of credible information, it need not wait for additional studies before granting workers the protections of a standard. *Benzene*, 448 U.S. at 655-56; *Lead*, 647 F.2d at 1266; *Society of the Plastics Ind., Inc. v.*

OSHA, 509 F.2d 1301, 1308 (2d Cir. 1975). This rationale is particularly compelling here in light of this Court's order directing OSHA to issue the Cr(VI) standard expeditiously.

Thus, EEI is plainly wrong in asserting that OSHA failed to show risk from exposure to Cr(VI) in electric utilities. EEI Br. at 17 (heading), 18. Utilities employ welders and those workers, like welders in other industries, face a significant risk from Cr(VI) exposure.²⁵

2. Substantial evidence supports OSHA's refusal to grant a blanket exemption for Cr(VI) exposures from fly ash.

EEI also complains that OSHA unreasonably denied its request for an exemption for fly ash exposure. EEI Br. at 17-22.²⁶ EEI correctly states that OSHA estimated average exposures from fly ash to be below the PEL, and in fact below the general exemption for Cr(VI) levels expected to be below 0.5 µg/m³, JA,

²⁵ EEI's assertion that it lacked adequate notice of the basis for regulation of its industry, EEI Br. at 24 n.7, is pure nonsense. The notice of proposed rulemaking, JA, Vol. IV, at 1149 (69 Fed. Reg. 59306), placed the public at large, including EEI, on notice that the agency was developing a new standard for Cr(VI). The proposal described at length the scientific bases for amending the rule. EEI's member companies undoubtedly were aware that their employees are exposed to Cr(VI) and that the new standard could affect them. Indeed, EEI's extensive participation in the rulemaking belies its own argument that it lacked notice.

²⁶ To some extent this issue is a red herring. Although EEI contends that OSHA failed to show significant risk to utility workers because of the low Cr(VI) content in fly ash, EEI Br. at 17-22, the utilities' welding operations will be covered by the standard regardless of any exemption for fly ash.

Vol. III, at 946-47 (FEA at III-361-362), but EEI misinterprets the significance of that finding.

Despite having 245 electric companies as members, JA, Vol. X, at 3681 (EEI post-hearing brief at 1), and there being more than 1000 coal-fired electric plants in operation, EEI Br. at 27, EEI submitted only nine fly ash samples for analysis, and one showed exposures over the $0.5 \mu\text{g}/\text{m}^3$ threshold.²⁷ *See supra* pp. 8-9. Notably, this is in stark contrast to OSHA's finding that maximum exposures from portland cement, which is exempt from the standard, would be $0.3 \mu\text{g}/\text{m}^3$. EEI did not even fully identify the types of coal from which its samples were obtained or specify where most of the sampled coal originated. JA, Vol. X, at 3694 (EEI post-hearing data), Vol. III, at 946 (FEA at III-361). For these reasons, OSHA did "not believe that the evidence . . . [was] sufficient to establish that all coal ash from all sources will necessarily have comparable Cr(VI) content" to the exempted Portland cement. JA, Vol. I, at 232-33 (preamble at 10330-31) (emphasis added); *see also supra* pp. 8-9.

Nonetheless, OSHA "appreciated" the concerns of EEI and other commenters who believe Cr(VI) exposures in their workplaces "are minimal and

²⁷ Assuming the EEI samples truly represent Cr(VI) content in fly ash, the ratio of 1 in 9 samples exceeding the exemption threshold translates into workers in over 100 coal-fired plants being exposed to Cr(VI) levels above $0.5 \mu\text{g}/\text{m}^3$. This would be reason enough to deny a blanket exemption for fly ash.

represent very little threat to the health of workers.” JA, Vol. I at 233/1 (preamble at 10331/1). In fact, this was the driving consideration behind the adoption of the general exemption for exposures that are below $0.5 \mu\text{g}/\text{m}^3$ under all expected conditions of use. *Id.* This “sensible” approach, which OSHA has used for standards for Acrylonitrile (29 C.F.R. § 1910.1045(a)(2)(ii)), Ethylene Oxide (29 C.F.R. § 1910.1047(a)(2)), and 1,3-Butadiene (29 C.F.R. § 1910.1051(a)(2)(i)), allows employers to benefit from the exception where there is no significant exposure and to “focus resources on the exposures of greatest occupational health concern.” JA, Vol. I, at 233/1 (preamble at 10331/1). While OSHA expects EEI’s members to make use of this exception, it was hardly irrational for OSHA to establish a case-by case exception, rather than the requested blanket exemption, particularly when EEI’s own evidence demonstrated a very real potential for Cr(VI) exposures from fly ash to exceed $0.5 \mu\text{g}/\text{m}^3$.

B. OSHA REASONABLY DETERMINED THAT THE STANDARD IS TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE FOR ELECTRIC UTILITIES.

1. Technological feasibility.

Based on information submitted by EEI, OSHA placed electric utilities within its welding application groups. JA, Vol. II, at 434 (FEA at II-24 (10230 – stainless steel welding; 10233 – carbon steel welding)). EEI stated that welding occurs in its members’ facilities as part of regularly planned operations and during

emergency outages. Its representatives explained that “there may [be] extensive amounts of welding that take place during one outage” and “during an outage, . . . [welders] will be assigned all day to do welding work.” Moreover, even during a non-outage period a majority of the welder’s time is spent welding. JA, Vol. XI, at 4676-77 (Tr. 477-78). One EEI representative testified that his company employs 50 welders, another stated it employs 300. *Id.* at 4670 (Tr. 471). Exposure to Cr(VI) from fly ash was included within the welding application group because it requires “controls similar to those necessary to protect welders.” JA, Vol. II, at 434 (FEA at II-24); *see also* JA, Vol. I, at 128/2 (preamble at 10226/2). EEI’s representatives agreed that Cr(VI) exposures in its members’ workplaces are no different in kind from exposures elsewhere. JA, Vol. XI, at 4642 (Tr. 443). It asserted, though, that Cr(VI) exposures occur less often, meaning, “intermittent” or not every day, *id.*, but OSHA explained that cumulative exposures of as few as five years present a significant risk to workers. *See* JA, Vol. I, at 126 (preamble at 10224).

OSHA determined that it is technically feasible for all welding job categories to meet the PEL. *Id.* at 164-65 (preamble at 10262-63). OSHA found that for carbon steel welding, only welders in enclosed or confined spaces are exposed above the PEL and for these workers, work practice or engineering controls can reduce exposures to or below the PEL for 95% of operations. *Id.* at

164 (preamble at 10262); *see also id.* at 159-61 (preamble at 10257-59 (Table VIII-3)) (only 920 of 60,600 carbon steel welders in general industry would need respirators). Although stainless steel welders generally have higher Cr(VI) exposures, OSHA found that changing welding methods and using portable LEV systems will allow compliance in most circumstances. *Id.* at 165 (preamble at 10263). The agency acknowledged that supplemental respirator use will sometimes be required but these relatively rare exceptions did not make the PEL technologically infeasible. *Id.*; *see also id.* at 159 (preamble at 10257 (Table VII-3)) (respirators will be used for only 7230 of 45,326 stainless welders in general industry). Thus, contrary to EEI's assertion, EEI Br. at 29, OSHA did in fact make "technical feasibility" findings regarding electrical power plants. These findings were simply subsumed within the general industry welding application group.

EEI also asserts, without developing in any detail, various "difficulties" with ancillary provisions of the Cr(VI) standard. EEI Br. at 29. But having general "difficulties" with a requirement or being confused about its operation does not make the provision "infeasible," as that term is used in a pre-enforcement challenge. *See Cotton Dust*, 452 U.S. at 509 ("feasible" means "capable of being done"); *Lead*, 647 F.2d at 1272 (question is whether there is a reasonable possibility that the typical firm can meet the standard). Rather, individual EEI members are always free to raise these issues and defend against an OSHA citation

on grounds of infeasibility. *See also E & R Erectors, Inc. v. Secretary of Labor*, 107 F.3d 157, 163 (3d Cir. 1997) (“[T]he employer may have an affirmative defense to a charge of violating an OSHA standard that compliance was impossible or infeasible.”). A determination of feasibility at the time of promulgation merely establishes a rebuttable presumption of feasibility, which an employer subject to an enforcement action can overcome by demonstrating that such controls are not feasible for its operation. *Lead*, 647 F.2d at 1272.

To respond briefly to EEI’s general assertions regarding these “difficulties” (all found in EEI’s brief at 29):

- **Monitoring in cramped places in the boiler structure:** EEI complains it will be difficult to monitor welders working in cramped boilers; however, EEI provides no citation to the record where it raised this issue, and OSHA did not find any mention of this purported problem during the rulemaking. In any event, the monitoring provisions of the standard include a performance-based option that gives employers flexibility to use historical and/or objective data in lieu of air monitoring. 29 C.F.R. § 1910.1026(d)(3); *see also* JA, Vol. I, at 244 (preamble at 10342).
- **Defining “regulated areas” in power plants:** EEI states it will be a “problem” to define a regulated area where multiple operations are ongoing and their location constantly changes. OSHA, however, in

response to comments during the rulemaking, and consistent with the Cr(VI) standard's "performance orientation," modified the proposed rule to give employers flexibility in demarcating regulated areas. 29 C.F.R. § 1910.1026(e); *see also* JA, Vol. I, at 245 (preamble at 10343).²⁸ In addition, OSHA acknowledged that some general industry operations might be comparable to construction or shipyards, for which OSHA determined it would be impractical to require regulated areas because "tasks are often of relatively short duration; are commonly performed outdoors, sometimes under adverse environmental conditions . . . ; and are often performed at non-fixed workstations or work sites." *Id.* at 246/2 (preamble at 10344/2). OSHA also explained that where a general industry employer shows that regulated areas are not feasible because of such conditions, it will not be required to establish them. *Id.* at 246/3 (preamble at 10344/3).

- **Different triggers for housekeeping and regulated areas:** EEI quibbles that OSHA did not explain the different exposure triggers for the housekeeping and regulated area requirements. These provisions,

²⁸ "OSHA . . . has provided employers with the flexibility to use the methods of demarcation that are most appropriate for identifying regulated areas in their workplace. . . . Permitting employers to choose how best to identify and limit access to regulated areas is consistent with OSHA's belief that employers are in the best position to make such determinations, based on their knowledge of the specific conditions of their workplaces." JA, Vol. I, at 245 (preamble at 10343).

however, serve different purposes, which OSHA explained, and accordingly have different triggers. *Compare id.* at 259-60 (preamble at 10357-58) (housekeeping triggered by presence of Cr(VI)) *with* 245-47 (preamble at 10343-45) (regulated areas triggered by Cr(VI) exposures above the PEL). Having different triggers for these requirements comports with other OSHA standards. *See, e.g.*, 29 C.F.R. §§ 1910.1025(h), (m)(2) (lead), 1910.1027(e), (k) (cadmium).

- **Medical surveillance requirement for employees of contractors:** EEI also wonders whether and how the medical surveillance requirement applies to the employees of contractors that work for various different utilities. Utilities are not required to provide medical surveillance for workers employed by other employers. Each employer is responsible for its own employees. There is no reason to think contractors will be unable to meet their obligations. *See JA*, Vol. I, at 262-63 (preamble at 10360-61) (discussing related concern regarding the mobility of construction workers and finding “workable” similar medical surveillance provisions for other toxic substances, e.g., asbestos and cadmium).²⁹

²⁹ EEI also complained that its members will find it difficult to comply with the housekeeping requirement. EEI Br. at 29. That issue is addressed in conjunction with EEI’s claim that the Cr(VI) standard conflicts with the arsenic standard. *Infra* pp. 84-88.

2. Economic feasibility.

OSHA used NAICS codes to assess costs and economic feasibility, which “reflect[ed] the fact that baseline controls, ease of implementing ancillary provisions, and the economic situation of the employer” may vary among the different types of firms in an application group. JA, Vol. I, at 128 (preamble at 10226). The agency estimated it would cost each affected utility approximately \$4000 to comply with the Cr(VI) standard. *Id.* at 175, 177 (preamble at 10273, 10275 (Table VIII-7)). OSHA determined that these costs represent less than 1% of both revenues and profits for utility employers, and in fact are de minimis. *Id.* OSHA accordingly found the standard economically feasible for utilities. *See, e.g., Forging Indus. Ass’n v. Secretary of Labor*, 773 F.2d 1436, 1453 (4th Cir. 1985); JA, Vol. IV, at 1078 (FEA at V-49) (“OSHA generally considers a standard economically feasible when the costs of compliance are less than one percent of revenues”).

EEI complains that OSHA failed to assess the costs to electric utilities or to address its evidence alleging significantly higher costs. EEI Br. at 26. It further contends that OSHA made no attempt to show that the costs bear a reasonable relationship to the benefits. *Id.* EEI’s arguments are wrong.

First, as described above, OSHA did in fact assess the costs of compliance to electric utilities. Those establishments fall within NAICS code 221, labeled

“utilities.” EEI’s criticism that the NAICS category includes utilities unaffected by the standard, EEI Br. at 26 n.8, is of no moment. OSHA’s methodology ensured consideration of the costs of only affected entities. JA, Vol. II, at 439 (FEA at II-29 (Table II-6)), Vol. IV, at 1031-32 (FEA at V-2-3).

EEI’s real complaint is that OSHA did not agree with EEI’s cost estimates. OSHA, however, considered EEI’s submission and found it unsubstantiated, inadequately explained, and based on incorrect premises. JA, Vol. IV, at 969 (FEA at IV-22). Indeed, EEI’s members’ estimates describe broad costs for equipment and activities, but contain no breakdown for these figures. JA, Vol. IX, at 3470 (EEI comments (Ex. A)). For instance, the estimates for personal protective equipment for plants 1 and 2 is \$51,000, but the type, cost, or amount of equipment is not specified. At the hearing, OSHA explicitly requested documentation underlying these estimates in order to examine their validity, but EEI ignored OSHA’s request. JA, Vol. XI, at 4663-64 (Tr. 464-65) (OSHA representative: “it would be very helpful if in a post-hearing comment you could give some information on the number of employees or other size factors associated with the plants you talk about. It would also be helpful to have some more details that would explain what your basis of the estimates is”). OSHA’s request for back-up documentation was entirely reasonable. Other commenters provided detailed support for their assertions that OSHA underestimated compliance costs. *See, e.g.,*

JA, Vol. IX, at 3398 (SFIC comments (App. C)) (identifying type of equipment needed, its cost, and the number of employees who would need it).

Moreover, EEI's cost submission was premised on the proposed PEL of 1 $\mu\text{g}/\text{m}^3$, not the promulgated PEL of 5 $\mu\text{g}/\text{m}^3$, which resulted in greatly reduced compliance costs. JA, Vol. I, at 171 (preamble at 10269 (Table VIII-5)) (comparing compliance costs at different PELs), Vol. XI, at 4664-65 (Tr. 465-66) (EEI representative: "the cost estimates that were done are based upon the standard as we currently understand it applies to this industry"). In any event, EEI's unsupported numbers cannot be more persuasive than the painstaking analysis of costs and economic impact conducted and relied on by OSHA. JA, Vol. IV, at 948-1129 (FEA Chapters IV and V) (analyses of costs of compliance and economic impact of the standard), Vol. XI, at 4237-616 (380-page analysis of welding costs).

For the foregoing reasons, OSHA's determination that the Cr(VI) standard is technologically and economically feasible for electric utilities is supported by substantial evidence. It simply cannot be said that the Secretary failed to "carr[y] out her essentially legislative task in a manner [un]reasonable under the state of the record." *Associated Builders & Contractors*, 862 F.2d at 68 (quotation marks and citations omitted).

Furthermore, there is no merit to EEI's suggestion that the standard fails because "the costs are not reasonably related to the benefits." EEI Br. at 25. The Supreme Court rejected a cost-benefit approach for standards, like this one, issued under Section 6(b)(5) of the Act. *Cotton Dust*, 452 U.S. at 513. Moreover, EEI premises this argument on its incorrect contention that Cr(VI) poses no risk to utility workers because of their alleged lesser exposure. *See supra* pp. 67-71. Finally, OSHA calculated the benefits and net benefits of the standard, and explained that its use of a full-time 45-year working history assumption actually underestimates expected benefits. JA, Vol. I, at 204-10 (preamble at 10302-08).

C. THE CR(VI) STANDARD DOES NOT CONFLICT WITH OTHER REGULATORY REQUIREMENTS.

EEI last contends that the chromium standard conflicts with Nuclear Regulatory Commission (NRC) requirements governing radiation exposure and OSHA's own arsenic standard. EEI Br. at 30-37. As explained below, these assertions of conflict are meritless.

1. The Cr(VI) standard does not conflict with the NRC's radiation limit.

The NRC requires nuclear licensees to use "to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA)." 10 C.F.R. § 20.1101(b). EEI and other commenters argued during the rulemaking that compliance with the

Cr(VI) standard would increase the time and number of workers exposed to radiation and therefore violate the NRC's ALARA rule. OSHA investigated this criticism and found it unwarranted.

As the preamble explains, JA, Vol. I, at 254-55 (preamble at 10352-53), OSHA and NRC entered into a memorandum of understanding (MOU) explaining their shared jurisdiction over occupational safety and health at nuclear power plants. JA, Vol. XI, at 4999 (OSHA Instruction CPL 2.86 (Dec. 22, 1989) (MOU) ¶ 2). The MOU acknowledges OSHA's jurisdiction over hazards involving “[p]lant conditions which result in an occupational risk, but do not affect the safety of licensed radioactive materials.” *Id.* at 4999 (MOU ¶ 3.d). Hazards within OSHA's jurisdiction include “exposure to toxic nonradioactive materials and other industrial hazards in the workplace.” *Id.* The MOU clearly authorizes OSHA to enter nuclear facilities for the purpose of enforcing “health standards . . . designed to address potential overexposure to toxic substances and harmful physical agents, and protect against illnesses which do not manifest themselves for many years after initial exposure.” *Id.* at 5000 (MOU at ¶ 5). Indeed, the NRC has unequivocally stated that “if an NRC licensee is using respiratory protection to protect workers against nonradiological hazards, the OSHA requirements apply.” JA, Vol. XI, at 4968 (NRC Guide 8.15-Acceptable Programs for Respiratory Protection (Oct. 1999)). The NRC even cautions licensees “that in situations involving mixed

hazards, such as airborne radioactive materials and nonradioactive hazardous materials, compliance with 10 CFR Part 20 [which includes the ALARA requirement] alone may not provide sufficient protection.” *Id.* (emphasis added).

Thus, the interagency MOU and NRC’s own guidance make clear that there is no conflict between ALARA and the Cr(VI) standard. Nuclear power plants must comply with the OSHA standard and in doing so, attempt to reduce radiation exposure to the lowest reasonably achievable level.

2. The Cr(VI) standard does not conflict with the arsenic standard.

The requirements for implementing “regulated areas” and for maintaining surfaces “as free as practicable of accumulations” of regulated substances are virtually identical in both the arsenic and Cr(VI) standards for general industry. *Compare 29 C.F.R. § 1910.1018(f) and (g) with 29 C.F.R. § 1910.1026 (e) and (j).* There are no exceptions for electric utilities in either standard. Despite the standards’ clear regulatory text, EEI asserts that a sentence in the preamble to the arsenic standard excepts electric utilities from compliance with that standard’s regulated areas and as-free-as-practicable housekeeping requirements for intermittent exposures to fly ash. EEI Br. at 32. On this shaky basis, EEI claims that inasmuch as fly ash contains trace quantities of both arsenic and Cr(VI), the Cr(VI) standard’s more comprehensive requirements pose a conflict with the arsenic standard. *Id.* at 31.

This claim is both factually wrong and legally irrelevant. OSHA has never interpreted the ambiguous statement in the arsenic preamble as granting electric utilities an exception from the standard's regulated areas and housekeeping requirements for fly ash.³⁰ Simply stated, there is no significant difference between the requirements of the two standards as they relate to fly ash.

Furthermore, even if electric plants would have to do more to control fly ash to comply with the general industry Cr(VI) standard than they would under the general industry arsenic standard, there would be no conflict. The two standards address different substances; each standard imposes requirements based on the hazards of the particular substance addressed. The fact that Cr(VI) and arsenic are both found in the fly ash present in electric plants means that employers must comply with the general industry Cr(VI) rule, even if its requirements are more stringent (which they are not). It simply cannot be the case that the presence of arsenic in fly ash relieves utilities of their Cr(VI) obligations.

Regardless, electric plants should already be in compliance with the arsenic standard, and they would need only implement the requirements for regulated areas and housekeeping to be in compliance with the Cr(VI) rule. In meeting these

³⁰ The statement lists several strategies that may be appropriate to control intermittent arsenic exposure, but does not specifically mention regulated areas or housekeeping. EEI infers from this that OSHA determined that the regulated areas and as-free-as-practicable housekeeping requirements were unnecessary for intermittent fly ash exposures in electric utilities.

additional requirements, employers can choose compliance methods that comply with both the arsenic and the Cr(VI) rules. JA, Vol. I, at 262 (preamble at 10360) (discussing housekeeping requirements). Accordingly, there is no conflict.

EEI also argues that, to the extent electric plants should be regulated at all, they should be subject to the construction industry Cr(VI) standard, not the rule for general industry. EEI prefers the construction standard because, among other reasons, it does not contain housekeeping requirements. EEI Br. at 32. But generically classifying all activities of utilities as construction is insupportable. Electric plants produce power, which is not itself construction work. *See* 29 C.F.R. § 1910.12(b) (defining construction work for purpose of the coverage of OSHA standards). In fact, the record here does not support a determination that all activities and operations occurring at electrical utilities are subject to the Cr(VI) construction standard. *See* JA, Vol. IX, at 3372 (EPRI comments at 2), 3453 (EEI comments at 21), Vol. III, at 629 (FEA at III-44) (describing a wide variety of utility welding procedures during regularly-scheduled and emergency maintenance operations lasting anywhere from a few hours to several months); JA, Vol. XI, at 4656-57, 4666, 4676-78 (Tr. 457-58, 467, 477-79) (describing welding as extensive, complicated, planned well in advance, occurring in confined spaces, and noting that two EEI representatives employ 50 and 300 certified welders, who spend most of their time on welding activities).

That said, when an electric utility does engage in construction work, the construction standard will apply.³¹ Moreover, OSHA acknowledged in the preamble that some activities performed in general industry may be comparable to “construction work,” making compliance with the housekeeping provision “impracticable.” JA, Vol. I, at 229 (preamble at 10327).

Finally, the fact that OSHA did not explicitly prescribe in this rule the circumstances under which electric utilities are subject to the construction standard, EEI Br. at 33-37, cannot be raised as a pre-enforcement challenge to the rule. The distinction between construction and general industry is a general one that exists independently of this rule. *See supra* note 31. If an electric utility is cited under the general industry standard, the employer’s claim that it is subject to the construction standard may be raised as a defense before the Occupational Safety and Health Review Commission. *See, e.g., Brock v. Cardinal Indus., Inc.,*

³¹ The construction standard applies to “construction work,” as that term is defined in 29 C.F.R. § 1910.12(b). EEI claims that the distinction between general industry and construction work is “vague as applied.” EEI Br. at 36. OSHA, however, has differentiated the two since inception of the program, *see* 36 Fed. Reg. 10466, 10469 (May 29, 1971), and the delineation is well established and understood in the regulated community. *See* JA, Vol. I, at 229 (preamble at 10327). That the courts and the Commission have been called upon over the last thirty-six years to interpret broad regulatory terms and apply them in particular settings is hardly unusual. Indeed, judicial and administrative decisions provide further clarity to the distinction, as does agency guidance on the issue. *See, e.g.,* OSHA letter of interpretation to Mr. Knobbs, dated November 18, 2003 (found at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=24789).

828 F.2d 373 (6th Cir. 1987); *Jimerson Underground, Inc.*, 21 O.S.H. Cas. (BNA) 1459 (2006). The Commission is the proper forum to adjudicate which standard applies to specific activities and operations when the issue arises in an enforcement action.

In sum, EEI reiterates many of the same issues it raised during the rulemaking. OSHA, however, previously addressed and reasonably rejected these concerns. Given the great judicial deference to OSHA's determinations here, this Court must reject EEI's petition in its entirety.

CONCLUSION

For the foregoing reasons, the Cr(VI) standard should be upheld in its entirety and the petitions for review should be denied.³²

Respectfully submitted.

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³² As OSHA selected the final PEL of 5 $\mu\text{g}/\text{m}^3$ based on the combined outcomes of its sector-specific feasibility determinations, any remand for additional consideration of the PEL based on perceived flaws in OSHA's methodology or analysis should include every affected industrial sector.

COMBINED CERTIFICATION OF COUNSEL

Undersigned counsel for the Occupational Safety and Health Administration hereby certifies that:

1. The foregoing Final Brief for Respondents complies with the type-volume limitation of Fed. R. App. P. 32(a)(7)(B), as enlarged by this Court's Order of August 13, 2007, because it contains 21,073 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii). In addition, this brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Office Word 2003 in Times New Roman, 14-point font.

2. The foregoing Final Brief for Respondents complies with the electronic filing requirements of LAR 31.1 because the text of the electronic copy is identical to the text in the paper copies and a virus detection program (McAfee Virus Scan, Version 8.0i, updated December 14, 2007) has been run on the file containing the electronic brief and no virus was detected.

3. On December 14, 2007, ten copies of the foregoing Final Brief for Respondents were sent by overnight mail, postage prepaid, to the Clerk of the Court of Appeals for the Third Circuit. In addition, two copies of the brief were served upon each of the following parties by overnight mail, postage prepaid:

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