



November 19, 2012

VIA FIRST CLASS MAIL AND ELECTRONIC MAIL

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RE: Request for Partial Reconsideration and Stay of EPA's Final Rule titled "National Emission Standards for Hazardous Air Pollutant Emissions: Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks; and Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants," 77 Fed. Reg. 58,219 (Sept. 19, 2012) (Docket No. EPA-HQ-OAR-2010-0600)

Dear Administrator Jackson, Mr. Mulrine, Mr. Morris, and Associate General Counsel McLean:

We are writing on behalf of the National Association for Surface Finishing (“NASF”) to respectfully request that the U.S. Environmental Protection Agency (“EPA”) Administrator grant partial reconsideration and immediately stay the effective date and implementation of EPA’s Final Rule entitled National Emission Standards for Hazardous Air Pollutant Emissions: Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks; and Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants, 77 Fed. Reg. 58,219 (Sept. 19, 2012) (the “Rule”) as it applies to hard and decorative chromium electroplating and chromium anodizing tanks.

SUMMARY OF THE SURFACE FINISHING INDUSTRY

NASF has nearly 2,000 members that include metal finishing companies, metal finishing suppliers, and individual and professional members. NASF represents the business, management, technical and educational programs as well as the regulatory and legislative advocacy interests of the surface finishing industry to promote the advancement of the North American surface finishing industry globally.

The surface finishing industry plays a vital role in the lives of consumers and in the nation’s economic future. The industry’s role in corrosion protection alone provides an estimated \$200 billion annual economic benefit to the nation, including significant corrosion protection for military equipment that provides national defense. Surface finishing ensures that the products people use every day last longer, work better, and look better.

Metal finishing operations are performed in two ways: (1) as a "captive" operation or department of a manufacturing company; and (2) on a job-shop basis where the work is performed under contract for the owner of the product or material that is to be finished. Although many manufacturers continue to operate metal finishing departments, the increasing trend is to subcontract this work to independent firms. This trend is a result of the high operating costs and a realization that metal finishing is both a regulatory and process specialty.

Over 80 percent of the job-shops in business employ fewer than 75 people, while nearly 40 percent employ fewer than 20 people. Most job-shop surface finishing firms are family-owned businesses, located in urban areas, with a large percentage of minority employees.

SUMMARY OF ARGUMENT

As discussed below, EPA should reconsider the final NESHAP for chromium electroplating and anodizing facilities. The Agency’s final decision is not supported by sound science, does not have a rational basis in the record, relies on data and methodologies that are a departure from and not a logical outgrowth of the proposal, and is otherwise arbitrary. In brief, reconsideration is warranted for the following reasons:

- First, in the final Rule, EPA justified the revised standards in part with a revised cost analysis that purported to account for additional data provided to the Agency during the comment period. The assumptions and methodology underlying this revised cost analysis differed significantly from those in EPA’s original analysis for the proposal and

also appear to be inconsistent with the actual data provided to EPA by NASF and others. But, despite these critical differences and the questions regarding the accuracy of the revised cost analysis, EPA failed to submit it to the public for notice and comment and, therefore, deprived NASF of any opportunity to respond to or challenge EPA's conclusions.

- Second, in response to comments and criticisms of EPA's assumptions regarding the use of non-perfluorooctane sulphonic acid ("PFOS") fume suppressants, EPA collected new data and analyses purporting to show that PFOS fume suppressants could be used as a drop-in replacement for PFOS fume suppressants. This data was both flawed and contrary to data submitted to EPA during the comment period. However, EPA only released this information on the eve of the adoption of the final Rule and, therefore, deprived NASF of any opportunity to comment on or critique the data that EPA now uses to justify the final rule's reliance on non-PFOS fume suppressants.
- Third, EPA failed to adhere to the legal requirements of the Clean Air Act ("CAA") when it issued the revised standards. EPA mistakenly believed that it was compelled to base on the existence of certain cost-effective control technologies, even though EPA has discretion to determine whether revisions are necessary. EPA also erroneously characterized certain emissions control measures as "developments in practices, processes, and control technologies" when they were (1) available to—and in some cases adopted by—facilities when the initial NESHAP was issued, (2) were adopted in response to unrelated regulations governing worker health, or (3) are technologies in transition that are not fully developed for use in the chromium electroplating and anodizing industry.
- Fourth, EPA failed to adequately respond to NASF's comments regarding EPA's emissions and risk modeling results. NASF conducted a study of 182 facilities subject to regulation under the NESHAP and obtained results that conflict with and undermine EPA's estimates of actual emissions as well as the expected reductions in residual risk attributable to the revised standards. While EPA incorporated this data in a limited fashion, it continued to rely on its own challenged models and their questionable assumptions. In doing so, EPA failed to provide a "complete analytic defense" to its own data, models, and assumptions.
- Fifth, EPA failed to adequately respond to NASF's comments regarding EPA's reliance on non-PFOS fume suppressants as a technology capable of meeting the revised limited. While NASF supports the transition from PFOS to non-PFOS fume suppressants, EPA failed to demonstrate that non-PFOS fume suppressants were capable of meeting the revised emissions limited in the final Rule. Specifically, EPA relied solely on emissions data from facilities using PFOS fume suppressants, failed to respond to NASF's data showing the potential compliance challenges faced by facilities using non-PFOS fume suppressants, and failed to show that facilities meeting the revised surface tension levels would also be able to achieve the revised emissions limits.
- Sixth, EPA failed to comply with the requirements of Regulatory Flexibility Act by declining to convene a Small Business Regulatory Enforcement Fairness Act

(“SBREFA”) panel to consider the impacts of the proposal on small businesses within the chromium electroplating and anodizing sector. EPA did not adequately respond to comments by NASF and the U.S. Small Business Administration Office of Advocacy (“SBA”) which described the impacts that the revised standard would have on small businesses.

For all of these reasons, NASF urges EPA to reconsider and stay the effectiveness of the Rule as it relates to chromium electroplating and anodizing facilities.

I. Standards for reconsideration and stay

Section 307(d)(7)(B) of the CAA provides for EPA’s reconsideration of a CAA rule upon objection by a petitioner. *See* 42 U.S.C. § 7607(d)(7)(B). EPA *must* grant reconsideration when the petitioner:

[C]an demonstrate to the Administrator that it was impracticable to raise [an] objection [during the period for public comment] or if the grounds for such objection arose after the period for public comment . . . and if such objection is of central relevance to the outcome of the rule.

Id. In such a situation, reconsideration is mandatory, as the CAA commands that EPA “*shall* convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed.” *Id.* (emphasis added). Further, EPA is authorized to stay the effectiveness of the rules promulgated under the CAA. *See id.* In addition, general principles of administrative law permit an interested party to apply to EPA for relief from a rule at any time for any relevant reason.

This Petition satisfies the standard for reconsideration for several reasons. First, after the public comment period closed, EPA commissioned a revised *Procedures for Determining Control Costs and Cost Effectiveness for Chromium Electroplating NESHAP Final Amendments (“Revised Cost Analysis”)*,¹ which it relied upon extensively in the final Rule. *See, e.g.*, 77 Fed. Reg. at 58,226-30. The *Revised Cost Analysis*, which was completed in response to data submitted during the comment period, appropriately reduced the number of facilities affected by the rule and baseline chromium emissions, but inexplicably *increased* the emissions reductions attributable to the revised standards. NASF has serious concerns regarding the accuracy of the data and assumptions used in the *Revised Cost Analysis*, but was deprived of an opportunity to evaluate and comment on this document.

Second, EPA relied upon new—and potentially flawed—emissions data and studies to conclude that facilities could meet the revised standards using non-PFOS fuel suppressants. During the public comment period, NASF questioned EPA’s scientific basis for concluding that non-PFOS fume suppressants could effectively reduce chromium emissions. In response, EPA

¹ R. Marinshaw & C. Hancy, TRI International, Revised Procedures for Determining Control Costs and Cost Effectiveness for Chromium Electroplating and Anodizing (July 27, 2012), Docket No. EPA-HQ-OAR-2010-0600-0675 (submitted Sept. 19, 2012)

solicited additional data from several facilities in Minnesota, contacted fume suppressant vendors and provided for the first time an analysis of two studies of PFOS and non-PFOS fume suppressants. 77 Fed. Reg. at 58,237; Response to Comments (“RTC”) at 63-64.² Again, NASF was deprived of an opportunity to evaluate and comment on the data and study on which the Agency now relies.

In addition to these fundamental logical outgrowth flaws, EPA did not adequately justify or explain why it promulgated the specific regulations that it included in the final Rule. *See Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (an agency must “articulate a satisfactory explanation for its actions including a rational connection between the facts found and the choice made” (internal quotation omitted)); *see also id.* at 42 (an agency “is obligated to supply a reasoned analysis” when it changes course and departs from existing policy). Further, the CAA requires EPA to provide “a response to each of the significant comments, criticisms, and new data submitted in written or oral presentations during the comment period.” *See* CAA § 307(d)(6)(B). EPA’s failures to provide adequate justifications and explanations for the revised standards further justify reconsideration.

Pending reconsideration, the Administrator should stay the application of the Rule. Under the Administrative Procedure Act (“APA”), “[w]hen any agency finds that justice so requires, it may postpone the effective date of the action taken by it, pending judicial review.” 5 U.S.C. § 705. EPA has applied this standard to CAA cases.³ The standard for administrative stay is significantly different from the standard for a stay used by the courts because it does not require a demonstration of irreparable harm. This is clear from the text of the APA:

When an agency finds that justice so requires, it may postpone the effective date of action taken by it, pending judicial review. On such conditions as may be required and to the extent necessary to prevent irreparable injury, the reviewing court . . . may issue all necessary and appropriate process to postpone the effective data of an agency action or to preserve the status or rights pending conclusion of the review proceedings.

Id. Thus, the APA deliberately contrasts what is required for an administrative stay—“justice so requires”—and a judicial stay—“conditions as may be required” and “irreparable harm.” Similarly, CAA Section 307(d)(7)(B) authorizes an administrative stay, but does not premise that stay on a finding of irreparable injury. Such differences must be given effect,⁴ so there is no irreparable harm requirement for an administrative stay. Given the potential impact of these

² Subpart N: Summary of Public Comments o Chromium Electroplating and Steel Pickling Risk and Technology Review (RTR), EPA-HQ-OAR-2010-0600-0691 (Sept. 19, 2012).

³ *See, e.g., Ohio: Approval and Promulgation of Implementation Plans*, 46 Fed. Reg. 8,581, 8,582 n.1 (Jan. 27, 1981).

⁴ “[W]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.” *Russello v. United States*, 464 U.S. 16, 23 (1983) (quotation marks and citations omitted; alteration in original).

revised standards on NASF's members and EPA's own admission that risks under the existing standard are "acceptable," "justice so requires" that EPA stay the Rule and take other necessary and appropriate steps to defer the compliance deadlines and other provisions of the Rule until the outcome of the reconsideration process. As discussed below in Section III.B, NASF's members will be irreparably harmed if the Rule goes into effect. By comparison and as EPA acknowledges there will be little, if any, environmental impact if EPA stays the Rule while it conducts reconsideration.

II. Grounds for Reconsideration

A. EPA Justified the Final Standards for Chromium Emissions Based on New—and Likely Flawed—Data that Was Not Available for Public Comment in the Proposal

EPA's decision to revise the standards for chromium electroplating and anodizing facilities was based in large part on its conclusion that significant emissions (and associated risk) reductions could be achieved in a cost effective manner. As a result, EPA's estimate of emissions reductions attributable to the revised standards is one of the most critical elements of the final Rule. NASF provided extensive comments on EPA's emissions reductions estimates in the Supplemental Proposal⁵ and, based on a survey of actual emissions data from regulated facilities, explained that EPA had overestimated the potential emissions reductions by as much as an order of magnitude. *See* NASF Comments at 40-44 (concluding that emissions reductions could be as low as 18 pounds).⁶ After the comment period closed, EPA revised several key analyses that it used to justify the final Rule, asserting that it incorporated additional data received during the comment period. NASF has serious concerns about the results of the revised analyses and the method by which EPA incorporated the new data, but was not provided with an opportunity to evaluate or comment on these revised analyses.

Although EPA disagreed with NASF's alternative estimates,⁷ it also acknowledged that its own cost analysis was flawed. After the comment period closed, EPA altered its own emissions estimates to account for the actual—and significantly reduced—emissions reported in the NASF survey. *See* 77 Fed. Reg. at , 58,221 (Table 2), 58,235-36. In addition, EPA commissioned a *Revised Cost Analysis* to determine whether its prior emissions reductions estimates were still accurate. *See Revised Cost Analysis* at 2-3 (cost analysis was updated to "reflect several comments regarding current facility information; including closures, operating hours, and corrected facility process types"). Thus, regardless of the results of the *Revised Cost*

⁵ National Emission Standards for Hazardous Air Pollutant Emissions: Hard and Decorative Chromium Electroplating and Chromium Anodizing tanks; and Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants, Supplemental Notice of Proposed Rulemaking, 77 Fed. Reg. 6,627 (Feb. 8, 2012).

⁶ NASF Comments on National Emission Standards for Hazardous Air Pollutant Emissions: Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks – Supplemental Proposed Rule Docket No. EPA-HQ-OAR-2010-0600, EPA-HQ-OAR-2010-0600-0619 (Mar. 26, 2012).

⁷ EPA summarily dismissed NASF's emissions estimates: "After reviewing the commenter's emissions reductions estimates, we have concluded that there is no basis for the assumptions and methodology used by the commenter." RTC at 59.

Analysis, EPA should have provided a second opportunity for public comment in light of the admitted deficiencies in the original analysis.

Further, the results of the *Revised Cost Analysis* differed dramatically from EPA’s original analysis and cast significant doubt on reliability of both analyses. In the Supplemental Proposal, EPA identified 1,116 facilities that would be affected by the revised standards and estimated that baseline emissions would be reduced from 1,136 pounds to 928 pounds for a reduction of 208 pounds. *See* 77 Fed. Reg. at 6,650. In the final Rule, EPA concluded that only 535 facilities would be affected by the revised standards. 77 Fed. Reg. at 58,221 (Table 2). As a result of the revised standards, EPA estimated that baseline emissions would be reduced from 956 pounds to 732 pounds for a reduction of 224 pounds. *Id.* The number of affected facilities by source category, and the estimated emissions reduction for each source category are summarized below in Table 1.

TABLE 1: Summary of Emissions Reductions

Process	Affected Facilities Supplemental Proposal	Affected Facilities Final Rule	Reductions (Pounds) Supplemental Proposal	Reductions (Pounds) Final Rule
Large Hard Chromium	219	57	121.4	148
Small Hard Chromium	271	91	41.3	33
Decorative	480	313	39.4	35
Anodizing	146	74	5.9	8
TOTALS	1,116	535	208	224
			Supplemental Proposal (Pounds)	Final Rule (Pounds)
Baseline Emissions			1,136	956
Final Emissions			928	732

NASF has serious concerns regarding the assumptions and methodology employed by EPA in the *Revised Cost Analysis*. Consistent with NASF’s comments that EPA had overestimated actual baseline emissions, EPA’s *Revised Cost Analysis* reduced the number of affected facilities by more than 50 percent and also reduced baseline emissions by 16 percent. Given these reductions, it is simply inconceivable that EPA’s estimate of emissions reductions attributable to the revised standards could *increase* by 10 percent. These results defy common sense and are contrary to NASF’s own analyses.

Because the *Revised Cost Analysis* is “of central relevance to the outcome of the rule” and was completed and submitted to the docket after the comment period closed, NASF was deprived of any opportunity to evaluate the analysis and comment on its flaws. *See* CAA § 307(d)(7)(B). EPA’s reliance on the *Revised Cost Analysis* was arbitrary and capricious because this new analysis is not a “logical outgrowth” of the Agency’s Supplemental Proposal. *Env’tl Integrity Project v. EPA*, 425 F.3d 992, 996 (D.C. Cir. 2005). A “final rule is a ‘logical

outgrowth' of a proposed rule only when interested parties should have anticipated that the change was possible, and thus should have filed their comments on the subject during the notice-and-comment period." *Id.* As the D.C. Circuit has explained, the standard is applied "functionally by asking whether 'the purposes of notice and comment have been adequately served,' that is, whether a new round of notice and comment would provide the first opportunity for interested parties to offer comments that could persuade the agency to modify its rule." *American Water Works Ass'n v. EPA*, 40 F.3d 1266, 1274 (D.C. Cir. 1994). This test is unquestionably met here. In response to comments and data provided by NASF and others, EPA provided a new analysis that appears to apply a different methodology and assumptions than the original analysis. NASF could not have anticipated these changes in advance and thus, a new notice and comment period would provide the "first opportunity" to comment on these critical changes to EPA's analysis.

B. EPA Justified its Assumption that Non-PFOS Fume Suppressants Can Achieve the Revised Standards Based on New and Inadequate Information

In response to criticism from NASF and others that it lacked data to support its assertion that non-PFOS fume suppressants could meet the revised standards, EPA collected additional data and research regarding the use of non-PFOS fume suppressants. 77 Fed. Reg. at 58,237; RTC at 63-64. This information—which was submitted long after the public comment period closed—conflicts with NASF's own data and, at best, creates uncertainty regarding the efficacy of non-PFOS fume suppressants. Because NASF was deprived of the opportunity to comment on this supplemental information upon which EPA now relies, the Agency is obligated to grant reconsideration under CAA Section 307(d)(7)(B). *See, id.*

NASF supports EPA's decision to eliminate PFOS fume suppressants and replace them with non-PFOS fume suppressants because of the known risks associated with PFOS fume suppressants. However, non-PFOS fume suppressants are a technology in transition and NASF is concerned that facilities will be able to simultaneously achieve the revised standards and implement the switch to non-PFOS fume suppressants. NASF Comments at 64-65. As EPA noted in the final Rule, NASF criticized EPA's lack of evidence demonstrating the sector's ability to meet the revised standards using non-PFOS fume suppressants:

One commenter stated that EPA has provided no data in the record that shows non-PFOS fume suppressants can achieve the new surface tension levels and that EPA merely assumes that non-PFOS fume suppressants are equivalent in performance to PFOS fume suppressants without presenting any scientific proof or supporting data.

77 Fed. Reg. at 58,236. In discussions with NASF during the comment period, EPA officials indicated that the Agency had some data that demonstrated that non-PFOS fume suppressants could achieve the new emissions limits. However, despite NASF's repeated requests, EPA did not provide the data to NASF at that time or include it in the rulemaking docket. As a result, it was impracticable for NASF to challenge the data underlying EPA's assumptions during the comment period. *See* CAA § 307(d)(7)(B).

In the final Rule, EPA for the first time offered evidence that purported to support its assumption regarding the efficacy of non-PFOS fume suppressants, relying almost exclusively on data that it submitted to the docket after the comment period had closed.

- On March 1, 2012, EPA met with a “major distributor” of PFOS and non-PFOS fume suppressants who was “confident that their non-PFOS based products could reach the proposed [surface tension level] limits.” 77 Fed. Reg. at 58,237. The details of this meeting were not made public until September 26, 2012. Subpart N: Summary of USEPA Meeting with Atotech March 1, 2012, EPA-HQ-OAR-2010-0600-0692 (“Atotech Meeting Summary”).
- EPA also “contacted several facilities in Minnesota that have switched from a PFOS-based fume suppressant to a non-PFOS fume suppressant and asked them to describe any changes in the effectiveness or consumption of the fume suppressant.” 77 Fed. Reg. at 58,237. While the facilities all stated that the non-PFOS based fume suppressant was “equally effective,” *id.*, EPA did not publish their responses in the docket until August 7, 2012. Minnesota Non-PFOS Fume Suppressant Data, EPA-HQ-OAR-2010-0600-0624.
- Finally, EPA stated that “a study by the Danish EPA (Danish EPA, 2011)⁸ found that the non-PFOS fume suppressant reduced emissions just as effectively as the PFOS for about the same costs.” 77 Fed. Reg. at 58,237. The study was not submitted to the docket until August 7, 2012. Substitution of PFOS for Use in Nondecorative Hard Chrome Plating (Danish Non-PFOS Study), EPA-HQ-OAR-2010-0600-0623.⁹ In a report submitted to the docket on September 19, 2012, EPA compared the Danish Study to another German Study¹⁰ that was not completed or translated into English until August 2012. Subpart N: Comparison of Studies on Non-PFOS Fume Suppressant Performance, EPA-HQ-OAR-2010-0600-0690.

In combination, these three pieces of evidence provide the bulk of EPA’s support in the final Rule for the assertion that non-PFOS fume suppressants can meet the revised standards. However, due to EPA’s delay in submitting them to the public docket, NASF was deprived of any opportunity to evaluate EPA’s evidence or provide comments to EPA on this important aspect of the final Rule. *See* CAA § 307(d)(7)(B). Further, as a factual matter, NASF does not believe that these data support EPA’s conclusions. At most, the data provided by Atotech and the Minnesota facilities establishes that non-PFOS fume suppressants can achieve a similar *surface tension* as PFOS fume suppressants, but EPA has provided no evidence to support its conclusion that non-PFOS fume suppressants can achieve similar *emissions reductions*.

⁸ Danish EPA, 2011. Substitution of PFOS for use in non-decorative hard chrome plating. Pia Brunn Poulsen, Lars K. Gram and Allan Astrup Jensen. Environmental Project No. 1371 2011. (“Danish Study”).

⁹ In the Supplemental Proposal, EPA did cite the Danish Study. 77 Fed. Reg. at 6,645. However, it did not provide access to the study at that time.

¹⁰ Institute für Galvano- und Oberflächentechnik Solingen GmbH & Co. KG. Report on Findings, 20110508, English Edition, Solingen, Germany, July 14, 2012 (IGOSG, 2012).

EPA’s approach to data collection in this case reversed—and completely undermined—the rulemaking process and the safeguards imposed by the public comment period. By failing to collect and include these data in the Supplemental Rule, EPA failed to “articulate a satisfactory explanation for its [proposed] actions” or articulate “a rational connection between the facts found and the choice made.” *Motor Vehicles*, 463 U.S. at 43. In fact, it was only in response to criticism by NASF and others that EPA collected this data at all. These actions taken in response to NASF’s criticism of the Supplemental Proposal cannot be a “logical outgrowth” of that proposed rule. See *Env’tl Integrity Project*, 435 F.3d at 996. It is fundamentally contrary to the “purposes of notice and comment” for an agency to fail to collect (or withhold) evidence to support its proposal until after the comment period has closed. *American Water Works*, 40 F.3d at 1274. Because these critical data were not released by EPA until months after the comment period closed, EPA has an obligation to grant reconsideration and provide NASF and other interested parties with their first opportunity to evaluate and comment on these new data.

EPA’s reliance on the Danish Study—and apparent dismissal of the German Study—warrants a more extended discussion. Unlike the data described above, these studies evaluated actual chromium emissions rather than simply assessing surface tension and, therefore, provide the best existing data regarding emissions reductions using non-PFOS fume suppressants. NASF believes that EPA misinterpreted these two studies and would have critiqued EPA’s analysis if EPA had provided an opportunity to comment before the final Rule was issued as the Agency is required to do. Below we provide a brief summary of the two studies along with EPA’s analysis and explain why the studies support confirm NASF’s concern that non-PFOS fume suppressants may not be capable of achieving the revised emissions standards. This analysis demonstrates that NASF’s concerns are not merely procedural: if EPA had followed the proper procedures and allowed comment on assessment of these studies, NASF would have provided substantive comments that offered an alternative interpretation.

1. *Summary of Danish Study*

In this study, the Danish EPA reviewed possible substitutes for PFOS fume suppressants for use in hard chrome plating and, after comparing alternatives in laboratory testing,¹¹ selected non-PFOS fume suppressants for “large scale” testing. In the “large scale” testing a small plating bath of 110 liters (approximately 30 gallons) was prepared with a hood and vertical ventilation duct where the sampling point was placed. Although described as “large scale,” the 110 liter tank used is extremely small and rarely used in real-world hard chromium plating operations. Testing conditions also differed significantly from typical commercial chromium electroplating. The plating bath was also given a high electrical charge in order to stress fume suppressants. In addition 50 percent more of both the PFOS and non-PFOS fume suppressants were used (compared to the recommended amount in the safety data sheets) to represent more optimal conditions for the fume suppressants. Further, approximately twice as much of the non-PFOS fume suppressant was used to make sure that comparable amounts of the active ingredients in each two fume suppressant were in the bath.

¹¹ The laboratory tests also concluded that chromium emissions were higher with greater air exhaustion, so chromium emissions could be reduced radically by avoiding air convection near the tank.

In this “large scale” test, the non-PFOS fume suppressant reduced chromium emissions as effectively as the PFOS fume suppressants, resulting in a control efficiency of over 99 percent. A summary of the emission concentrations for both the PFOS and non-PFOS fume suppressants from the test are summarized below in Table 2. In addition, the non-PFOS fume suppressant appeared to have the same durability as the PFOS fume suppressant and as well as a comparable price. Most importantly, the non-PFOS fume suppressant could be substituted immediately without needing to change the entire chromium plating bath, which would be a very expensive process, particularly for large plating tanks.

TABLE 2: Chromium Emissions Concentration for PFOS and Non-PFOS Fume Suppressants from Danish Study

	Sample 1 (mg/m ³)	Sample 2 (mg/m ³)	Sample 3 (mg/m ³)	Sample 4 (mg/m ³)	Sample 5 (mg/m ³)	Average (mg/m ³)
PFOS	0.027	0.300	0.200	0.011	0.046	0.117
Non-PFOS	0.013	0.016	0.089	0.047	0.016	0.036

While the non-PFOS fume suppressant reduced chromium emissions as effectively as the PFOS fume suppressant (if not more effectively than PFOS), none of the samples could be used to support the new emission limits for large hard chromium (0.011 mg/dscm), small hard chromium (0.015 mg/dscm), or new hard chromium (0.006 mg/dscm) processes in the chromium electroplating NESHAP.¹² The Danish EPA concluded that non-PFOS fume suppressants could be substituted for PFOS fume suppressants in hard chromium plating processes because the Danish chromium emission limit is 0.25 mg/m³, which is more than an order of magnitude less stringent than the revised standards in the final Rule.

2. Summary of German Study

A German scientific institute conducted this study to compare the performance of a PFOS fume suppressant and two non-PFOS fume suppressants. Each fume suppressant was applied to hard chromium plating bath bench-scale tests in a 5-liter beaker. In addition, the two non-PFOS fume suppressants were also tested in a similar sized decorative chromium bath.¹³ The emissions were captured using a fabricated perforated piping system that surrounded each test beaker. Although the report did not specifically identify the surface tension measured for each bath, a separate document indicated that the surface tension for all of the baths were approximately 30

¹² Thus, the Danish Study does not support EPA’s assertions in the Supplemental Proposal:

[W]e continue to believe that non-PFOS [fume suppressants] are available that can effectively limit surface tension for about the same costs as PFOS-based [fume suppressants] and that these non-PFOS [fume suppressants] can achieve surface tension levels below the proposed surface tension limits (described above).

77 Fed. Reg. at 6,645. Had EPA submitted the Danish Study during the comment period, NASF could have responded directly to EPA’s inaccurate citation.

¹³ Even though the study examined both hard chromium and decorative chromium plating baths, only the results from the hard chromium baths are discussed below. That way the results can more easily be compared to the results from the Danish study discussed above.

dynes/cm. The summary of the results of the measured emissions from this test are provided below in Table 3.

TABLE 3: Chromium Emissions Concentration for PFOS and Non-PFOS Fume Suppressants from German Study

	Sample 1 (mg/dscm)	Sample 2 (mg/dscm)	Sample 3 (mg/dscm)	Average (mg/dscm)
PFOS	0.007	0.006	---	0.006
Non-PFOS (Commercially Available)	0.043	0.020	0.017	0.027
Non-PFOS (Not Commercially Available)	0.936	0.515	0.593	0.681
Control				0.378 ¹⁴

These results suggest that non-PFOS fume suppressants do not reduce emissions as effectively as PFOS fume suppressants. In fact, the non-commercially available non-PFOS fume suppressant did not appear to reduce emissions at all when compared to the control. In addition, even though the baths were maintained at the same surface tension level, the chromium emissions measured for each of the fume suppressants were significantly different. Thus, the results contradict EPA’s unsupported assumption that any facility meeting the revised surface tension levels would necessarily meet the revised emissions limits as well. In addition, like the Danish study, the emission levels achieved with the non-PFOS fume suppressants were all greater than the revised standards and could not be used to justify the revised standards adopted in the final rule.

3. EPA’s Comparison of the Danish and German Studies

In its August 15, 2012 comparative study, EPA largely dismissed the results of the German study. EPA questioned the representativeness of the German study because the plating tanks were small and the exhaust system did not resemble the tank hood and duct work used in the industry. In addition, EPA attempted to calculate the surface tension levels based on information in the fume suppressants’ safety data sheets rather than relying on the measured surface tension levels reported in the separate document. EPA also noted that the emissions for the non-PFOS fume suppressant that is not yet commercially available were greater than the emissions from the plating bath with no fume suppressants. While it may not be appropriate to use the data from this fume suppressant to determine emission limits, it is nonetheless valuable, as it demonstrates that fume suppressants that maintain the same surface tension level do not necessarily produce the same (or even similar) chromium emission reductions.

In response to the fact that the emissions measurements for the non-PFOS fume suppressants in studies failed to meet the revised emission limits, EPA applied a novel and complex calculation and concluded that they would meet the revised limited if proper ventilation was applied. EPA’s attempt to defend its wholly unsupported assumptions is strained and

¹⁴ The German study included nine control samples with the following results (in mg/dscm): 0.347, 0.390, 0.280, 0.282, 0.327, 0.425, 0.448, 0.372, 0.529.

misguided. First, fume suppressants are generally used without any exhaust or ventilation and the Danish study found that fume suppressants are most effective when avoiding air convection near the tank. Ventilation would, therefore, make the fume suppressants radically less effective. Second, EPA claims that, standing alone, the revised surface tension levels are equivalent to the revised emission limits. If this were true, then as long as the surface tension was at least 30 dynes/cm, emissions from that tank would be less than the applicable emission limits—without the need for the ventilation that EPA now suggests would be necessary based on the two studies. If EPA is correct about the equivalency of the surface tension levels and emission limits, then the results from the German and Danish studies provide scientific proof that the new emission limits cannot be achieved with non-PFOS fume suppressants. In the absence of any data to the contrary, the German and Danish studies appear to be the best scientific proof that the new emission limits are not feasible with the use of non-PFOS fume suppressants.

Before EPA can assert in a final rule that the non-PFOS fume suppressants can be added to chromium electroplating processes with existing control equipment, it must provide data to support that assertion. An observation that a facility is currently using both control equipment and PFOS fume suppressants to meet the revised standards is not sufficient proof. EPA must provide actual data where a facility with existing controls lowered its chromium emissions to achieve the revised standards by adding non-PFOS fume suppressants. Mere theories and hypotheses are insufficient to justify the revised standards. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (an agency must provide a “rational connection between the facts found and the choice made” (internal quotation omitted)).

In sum, neither of these studies supports the assumptions on which the revised standards are based. NASF could not have known prior to EPA’s publication of the comparative memorandum and the final Rule the extent to which the Agency intended to rely on the Danish Study to support its conclusions regarding non-PFOS fume suppressants. While NASF originally commented on the dearth of data to support EPA’s conclusions, “a new round of notice and comment would have provided the first opportunity” for NASF to offer comments such as those above “that could persuade the agency to modify its rule.” *Env’tl Integrity Project*, 425 F.3d at 996. As a result of its eleventh hour announcement that it would rely on the Danish Study, EPA has no choice but to reconsider the revised standards in the final Rule after allowing an opportunity for public comment. To do otherwise would deprive the public of the opportunity to evaluate the only data in the record that directly addresses the effectiveness of non-PFOS fume suppressants (or lack thereof) in achieving the revised emission limits in the final Rule.

C. EPA Did Not Comply with the CAA’s Legal Requirements for Revising a NESHAP

In this final Rule, EPA revised downward the national emissions standards for hazardous air pollutants (“NESHAPs”) for chromium electroplating and anodizing facilities. EPA’s legal authority to issue this final Rule arises under CAA § 112. Section 112 requires EPA to issue technology-based emissions standards for certain sources—including many chromium electroplating and anodizing facilities—based on a maximum degree of reduction in emissions of hazardous air pollutants (“HAP”).¹⁵ CAA § 112(f)(2) requires EPA, within 8 years after implementing a NESHAP, to

¹⁵ “Chromium Compounds” are listed as a HAP. *See* CAA § 112(b).

evaluate the residual risk associated with those sources to ensure an “ample margin of safety” to protect public health and prevent adverse environmental effects. CAA § 112(d)(6) states that “[t]he Administrator shall review, *and revise as necessary* (taking into account developments in practices, processes, and control technologies), emission standards promulgated under this section not less often than every 8 years.” After determining that the risk posed by emissions from chromium electroplating and anodizing operations is “acceptable,” 77 Fed. Reg. at 58,226, EPA nevertheless found that the final rule is “necessary” to further reduce risk and provide an ample margin of safety, *id.* at 58,229. As a legal matter, EPA’s conclusion that the NESHAP must be revised is incorrect for two reasons. First, the CAA provides EPA with considerable discretion regarding revision of NESHAPs, meaning that EPA was not “compelled” to further restrict chromium emissions as the Agency suggests in the final Rule. Second, EPA failed to identify any “developments in practices, processes, and control technologies” since the 1995 NESHAP that justify revising the existing standards. Therefore, the final Rule is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706.

1. EPA Was Not Compelled to Revise the NESHAP

EPA explained in the preamble to the final Rule that it was compelled as a matter of law to revise the NESHAP. Describing the scope of its *review* authority, EPA stated:

Section 112(d)(6) requires us to take into account developments in practices, processes and control technologies, which include not only new practices, processes, and control technologies, but also improvements in efficiency, reduced costs or other changes that indicate that a previously considered option for reducing emissions may now be cost effective or technologically feasible.

77 Fed. Reg. at 58,231. With respect to its authority to *revise* the standards, EPA then concluded that “[i]f a more stringent standard can be met through cost effective and technologically feasible practices, processes, or control technologies, we believe that it is necessary within the meaning of Section 112(d)(6) to revise the existing 112 standard.” *Id.* In other words, EPA concluded that it has *no choice* but to revise the NESHAP if it concludes that a more stringent standard can be met in a cost-effective and technologically feasible manner. Putting aside the validity of EPA’s factual conclusions, this legal conclusion is plainly incorrect.

CAA § 112(d)(6) clearly gives EPA discretion to decide whether or not a revision of the NESHAP is “necessary,” even if it identifies cost effective and technically feasible means of reducing emissions. Thus, to the extent that EPA believed it was compelled to revise the standards based on its (flawed) factual findings and, as a result, did not independently exercise its judgment and discretion to consider all factors relevant to the necessity of the revision, EPA committed pure legal error.

Further, the interpretation of CAA § 112(d)(6) that EPA appears to have adopted in the final Rule conflicts with EPA’s prior interpretation. In the 2008 NESHAP for polymers and resins,¹⁶ EPA found that “[a]lthough the language of section 112(d)(6) is nondiscretionary

¹⁶ National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins (Polysulfide Rubber Production, Ethylene Propylene Rubber Production, Butyl Rubber Production, Neoprene Production);

regarding periodic *review*, it grants EPA much discretion to *revise* the standards ‘as necessary.’” 73 Fed. Reg. at 76,226 (citing 71 Fed. Reg. 34,437 and 71 Fed. Reg. 76,606) (emphasis added). EPA cannot simply depart from existing policy without supplying a reasoned analysis for doing so. *Motor Vehicle Mfrs.*, 463 U.S. at 42. Thus the fact that some chromium electroplating and anodizing facilities chose to adopt control technology that provided a significant margin of compliance to ensure continuous compliance with the 1995 NESHAP did not legally obligate EPA to ratchet down the standards to this lower level and eviscerate that compliance margin when it completed this review. EPA must grant reconsideration in this case so that it can properly apply its discretion and judgment—based on all relevant factors—before deciding whether or not it is “necessary” to revise the NESHAP.

2. *EPA Failed to Identify Any Developments in Practices, Processes or Control Technologies That Could Justify the Revised Standard*

In order to justify the revised standards, EPA adopts a novel interpretation of Section 112(d)(6) that stretches the scope of this provision far beyond anything it has done in the past:

Section 112(d)(6) requires us to take into account developments in practices, processes and control technologies, which include not only new practices, processes and control technologies, but also improvements in efficiency, reduced costs or other changes that indicate that a previously considered option for reducing emissions may now be cost effective or technologically feasible. We also reiterate that improvements in control technology performance over time can provide the basis for revising standards under section 112(d)(6).

77 Fed. Reg. at 58,231. Under this expansive interpretation, EPA could choose to revise a NESHAP even if nothing has changed since the original standard was established. In fact, that is exactly what EPA has done here.

In its original proposal, EPA did not intend to make any changes to the NESHAPs for chromium electroplating and anodizing facilities.¹⁷ 75 Fed. Reg. 65,067 (Oct. 21, 2010). However, two years later in the Supplemental Proposal, EPA reversed course and proposed revisions for all of the standards applicable to these sectors. However, it failed to identify any “development in practices, processes and control technologies” since the original proposal or the

National Emission Standards for Hazardous Air Pollutants for Epoxy Resins Production and Non-Nylon Polyamides Production; National Emission Standards for Hazardous Air Pollutants for Source Categories: Generic Maximum Achievable Control Technology Standards (Acetal Resins Production and Hydrogen Fluoride Production) (Risk and Technology Review), 73 Fed Reg. 76,220 (Dec. 16, 2008)

¹⁷ National Emission Standards for Hazardous Air Pollutant Emissions: Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks; Group I Polymers and Resins; Marine Tank Vessel Loading Operations; Pharmaceuticals Production; The Printing and Publishing Industry; and Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants, Proposed Rule and Supplemental Notice of Proposed Rulemaking, 75 Fed. Reg. 65,067 (Oct. 21, 2010).

original 1995 NESHAP that could justify this change in course. As a result, EPA cannot meet the standard needed to revise a NESHAP under CAA § 112(d)(6).

First, EPA cannot justify a new reduced limit on all facilities based on the fact that some facilities have achieved emissions limits 10 times below the existing NESHAP in order to maintain a wide compliance margin. The decision to operate with a wide compliance margin cannot establish a development in practice, processes or control technologies. In fact, upon closer examination, it is apparent that these facilities achieved the same emissions reductions immediately after the 1995 NESHAP was implemented. Facilities subject to the chromium electroplating NESHAP must conduct an initial performance test to demonstrate compliance with the applicable emission limits.¹⁸ Thus, as EPA acknowledges, much of the data that the Agency has collected regarding facilities' emissions—including the data showing emissions 10 times lower than the NESHAP—are based on those initial performance tests for the 1995 standard. *E.g.*, RTC at 41. The fact that some facilities made an initial investment to operate with a wide compliance margin cannot represent a *development* in practices, processes or control technologies since the 1995 NESHAP was implemented. Instead, it is simply a compliance strategy designed to ensure continuous compliance with the *existing* standard. The chromium electroplating and anodizing industry should not be punished through the imposition of a new, more stringent emission standard simply because some members aggressively adopted the practices, processes, and control technologies that were available at that time.

Second, there is no basis to assert that the widespread adoption of fume suppressants after 2006 indicates that a “previously considered option for reducing emissions may now be cost effective or technologically feasible.” Many facilities currently using fume suppressants in conjunction with control equipment adopted this technology in response to OSHA's 2006 workplace standard for hexavalent chromium. NASF Comments at 69. This regulatory requirement was designed to reduce potential workplace exposures and enhance worker safety and health in facilities; it was not intended to reduce chromium emissions from facilities. *See* 71 Fed. Reg. 10,100, 10,100 (Feb. 28, 2006).¹⁹ Thus, the use of fuel suppressants is a regulatory *burden* imposed on facilities to reduce workplace exposures of hexavalent chromium in chromium electroplating and anodizing facilities. It is entirely unrelated to any “development” regarding the cost effectiveness or technological feasibility of fume suppressants and cannot justify a revision to the existing standards.

Third, EPA cannot justify the revised standards based on the potential use of non-PFOS fume suppressants as their application in chromium electroplating and anodizing remains a

¹⁸ Subsequent demonstration of compliance with the applicable emissions limits relies upon the initial performance test and measuring pressure drop across the control equipment. Thus, if the control equipment is properly operated and maintained, then compliance with the emission limit is presumed based on the initial performance test and additional testing is not required over time. Furthermore, facilities would not need to add additional controls or use fume suppressants to reduce emissions unless a new performance test demonstrated that the emissions exceeded the applicable limits. Such additional controls or the use of fume suppressants would not reflect developments in practices, processes or control technologies to justify lower the existing emission limits, but would be a strategy to comply with the applicable emissions limit.

¹⁹ OSHA explained that “The PEL established by this rule reduces the significant risk posed to workers by occupational exposure to Cr(VI) to the maximum extent that is technologically and economically feasible.” *Id.*

technology in transition and, therefore, cannot be considered a cost-effective and technologically feasible development in practices, processes and control technologies. While NASF supports EPA's decision to eliminate PFOS fume suppressants, the switch to non-PFOS fume suppressants is not an automatic drop-in replacement for all processes, and many facilities will face significant challenges in demonstrating compliance with the revised surface tension levels using non-PFOS fume suppressants. Merely requiring a transition to non-PFOS fume suppressants would create implementation challenges for many facilities and, as explained in more detail below, EPA has compounded the challenges associated with this switch by simultaneously lowering the surface tension levels and emissions limits in the final Rule. EPA recognizes these challenges, noting that facilities will have 3, or even 4, years to comply with the revised standards. RTC at 63-64. But this extended compliance period merely underscores the fact that non-PFOS fume suppressants do not meet the standard required by CAA § 112(d)(6). Until facilities have successfully completed the transition from PFOS to non-PFOS fume suppressants, EPA cannot consider this technology in transition to be a cost effective and technologically feasible development that could justify a downward revision of the NESHAP.

Putting aside the procedural deficiencies addressed above, EPA's revised standards do not meet the legal requirements of CAA § 112(b)(6) and, therefore, the final Rule is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." APA § 706. For this reason alone reconsideration is warranted so that EPA can reconsider its decision to revise the NESHAP after applying the appropriate legal standard.

D. EPA Failed to Appropriately Respond to NASF's Comments on the Supplemental Proposal

A central weakness in EPA's final Rule is a lack of data to support the revised standards. In many cases EPA relies on limited amounts of actual data or simply makes assumptions that lack evidentiary support altogether. In its comments NASF criticized EPA's justifications for the revised standards and, in some cases, provided EPA with actual data that conflicted with EPA's proposed course of action. EPA failed to adequately respond to those comments. According to the D.C. Circuit, an agency "must 'explain the assumptions and methodology used in preparing [a] model' and, if the methodology is challenged, must 'provide a complete analytic defense.'" *Small Refinery Lead Phase-down Task Force v. EPA*, 705 F.2d 506, 535 (D.C. Cir. 1983). Furthermore, EPA cannot simply maintain a particular methodology "in the face of evidence suggesting that EPA's projections were erroneous." *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1053 (D.C. Cir. 2001). EPA's response failed to meet the standard required by CAA § 307(d)(6)(B). Therefore, EPA must grant reconsideration so that it can more fully respond to and incorporate the comments provided by NASF.

1. EPA failed to adequately respond to NASF's comments regarding the inadequacy of EPA's data on chromium emissions from existing facilities.

Throughout the rulemaking process, EPA has consistently found that the residual risk associated with the 1995 NESHAP was "acceptable" and did not alter that conclusion in the final Rule. 77 Fed. Reg. at 58,226 ("[W]e continue to conclude that risks are acceptable for all 3 source categories since the maximum individual cancer risks ("MIRs") for each of the source categories are below 100-in-1 million, and because a number of the other risk metrics do not

indicate high risk concerns.”). Instead, EPA justified the final Rule based on a finding that new developments in practices, processes and control technologies allowed facilities to achieve a lower emission standard in a cost-effective manner. *See id.* at 58,231; RTC at 3-4. This conclusion was based on the extrapolation of data from a small subset of facilities. EPA failed to adequately respond to the comments and data provided by NASF and others that criticized this methodology when it issued the final rule.

In the Supplemental Proposal and final Rule, EPA relied on data from *Procedures for Determining Control Cost and Cost Effectiveness for Chromium Electroplating Supplemental Proposal* (Jan. 2012).²⁰ 77 Fed. Reg. at 58,236.. This document provides the actual emissions data that EPA used to project the number of facilities in each source category that already meet the revised standard new emission limits. Provided below in Table 4 is a summary of the data that EPA relied upon to make this critical determination of how many facilities already meet the revised standards.²¹ EPA also noted in the preamble to the final Rule that it subsequently collected emissions data from two additional anodizing facilities that are not incorporated into this analysis. 77 Fed. Reg. at 58,233. Table 4 demonstrates that EPA used a very limited data set that included less than 5 percent of the total facilities in each source category to determine the number of facilities that already meet the revised standards.

TABLE 4: Summary of Actual Emissions Data Used to Determine the Number of Facilities that Already Meet the New Emission Limits

	Large Hard Chromium	Small Hard Chromium	Decorative Chromium	Anodizing
Total Number of Facilities	518	450 ²²	374	113
Emissions Data Points	75	35	14	1
Facilities with Emissions Data	35	28	10	1
Facilities that Already Meet Limits	28	21	10	1
Percentage of Facilities with Data that Already Meet Limits	80	75	100	100
Percentage of Total Facilities with Emissions Data	7	0.5	3	0.9
Percentage of Total Facilities that Already Meet Limits	5	5	3	1

²⁰ Subpart N: Procedures for Determining Control Costs and Cost Effectiveness for Chromium Electroplating Supplemental Proposal, EPA-HQ-OAR-2010-0600-0602 (Feb. 8, 2010).

²¹ New small hard chromium facilities were not included because the current emission limit for this source category is the same as the new emission limit.

²² EPA has reported the total number of hard chromium facilities as 968. In the February 8, 2012 Supplemental proposal, EPA estimated that the number of small hard chromium facilities was 450. 77 Fed. Reg. 6,628, 6,640.

NASF explained in its comments to EPA that this analysis was flawed for several reasons. First, EPA's limited sampling of less than 5 percent each source category is not a sound scientific methodology and thus cannot establish a nexus among the control technology or combinations of control technologies that facilities use and the emission limits that are achieved. NASF Comments at 18-34. This is especially true here, because, as EPA acknowledges, there is considerable variability among chromium electroplating plating and anodizing operations to make this overly broad conclusion. *E.g.*, RTC at 8, 35. As a result of this variability within each sector, extrapolations from small samples sizes are suspect and should not be relied upon for such critical issue in EPA's rulemaking.

Second, NASF explained that EPA's results may be even less representative because many of the facilities used in the analysis are closed or no longer use hexavalent chromium. NASF included in its comments a survey of 182 facilities, a sample size that is 2.5 times larger than EPA's data set. *See infra* Section II.D.2. This survey showed that 34 percent of facilities had closed and 38 percent had stopped using hexavalent chromium. Again, this casts significant doubt on the extrapolated results from EPA's survey. In light of these deficiencies, NASF urged EPA to conduct an Information Collection Request ("ICR") to collect better quality data on chromium emissions and the controls used in the chromium electroplating and anodizing sectors. NASF Comments at 8-9. Such an effort would have been particularly helpful with this industry due to the number of facilities and the high degree of variability among chromium electroplating and anodizing processes.

EPA's response to NASF's comments was wholly inadequate. First, despite these significant critiques, EPA continued to rely on the *Revised Cost Analysis* to extrapolate actual emissions for the sector. 77 Fed. Reg. at 58,226. In contrast, as described below, while EPA did consider the actual data in the substantially larger survey provided by NASF, it refused to consider the broader conclusions that could be drawn from NASF's survey data regarding the number of facilities that were closed, no longer use hexavalent chromium, or reported lower emissions than those projected by EPA. *See infra* Section II.D.2. This inconsistent treatment raises serious concerns regarding the quality of EPA's methodology and was not adequately addressed in EPA's response to comments. EPA cannot provide a "complete analytic defense" to its models by summarily dismissing the broad trends evident in competing data. *See Small Refiners*, 705 F.3d at 535.

Further, EPA explained that it chose not to conduct an ICR due to a preference to avoid imposing the burden of an ICR on industry and its belief that its approach of requesting data from state agencies would provide adequate data. RTC at 41. This response rings hollow. In its effort to avoid imposing the burden of an ICR on industry, EPA has instead imposed a much more significant burden regulatory burden in the form of unsubstantiated new emissions limits. Further, EPA apparently had no qualms about the similar burdens it imposed on the 27 state regulatory agencies from which it solicited the data that it relied upon in issuing the Rule. In light of the differences between the data provided by NASF and the states, EPA should have issued an ICR in order to obtain more reliable data directly from the facilities it regulates. Because the Agency cannot blindly support its proposal by ignoring evidence to the contrary, EPA should grant NASF's petitions so that it can reconsider the merits of issuing an ICR.

2. *EPA failed to fully consider the results of NASF's survey of facility emissions data*

In its Supplemental Proposal, EPA relied on emissions estimates from 170 chromium electroplating and anodizing facilities and then extrapolated that data to the remaining facilities in its database. 77 Fed. Reg. at 6,633-34.²³ Concerned by the lack of actual emissions data included in EPA's analysis, NASF conducted a survey of regulated facilities and ultimately provided EPA with data from 182 facilities that diverged sharply from EPA's own estimates, showing that emissions were much lower due to plant closings, changes in chemical processes, and the installation of control technologies. While EPA asserts that it incorporated NASF's actual data points, it mischaracterized the relevance of NASF's survey and declined to incorporate the broader trends that those data represent. As explained below, those data are representative of the industry and accurately reflect that changes that have taken place in the sector since the 1995 NESHAP was implemented. EPA failed to adequately respond to these data by refusing to incorporate the broad trends into its analysis.

In response to EPA's extensive use of emissions estimates in the Supplemental Proposal, NASF conducted a survey of 300 chromium electroplating and anodizing facilities in an effort to generate actual data that could be incorporated into EPA's analysis. Despite the limited amount of time allotted for public comments,²⁴ NASF received survey results from 130 facilities before the public comment period closed and submitted that data to EPA. NASF Comments at 35. NASF later supplemented the survey results to include 182 facilities. NASF Supplemental Comments.²⁵ Of those 182 facilities, 62 had closed (34 percent), 69 no longer used hexavalent chromium in processes subject to the rule (38 percent), 43 provided revised emission estimates (24 percent), and 8 confirmed EPA's estimate (4 percent). *Id.* at 3. These results had a significant effect on total emissions from the surveyed facilities. Based on EPA's analysis, these 182 facilities were expected to emit 353,939 pounds of chromium per year. *Id.* However, based on the actual data provided by NASF, emissions from these facilities was only 23,360 pounds per year, a reduction of 330,579 pounds per year. *Id.* EPA claims that it incorporated these survey results in its revised estimates in the final Rule. 77 Fed. Reg. at 58,235 (EPA "excluded all plants reported by the commenter to be closed or not to use hexavalent chromium. We also included revised emissions estimates from several plants").²⁶ However, even though EPA

²³ The complete data EPA relied upon can be found in Subpart N: Simulation of Actual and Allowable Emissions for Chromium Electroplating Facilities, EPA-HQ-OAR-2010-0600-0603 (Feb. 8, 2012).

²⁴ NASF requested an extension of time so that it could provide EPA with a larger dataset of actual emissions, but EPA refused, explain that "our Consent Decree deadline[] prevented us from extending the public comment period." RTC at 76.

²⁵ NASF, Additional Information on the Supplemental Proposal for National Emissions Standards for Hazardous Air Pollutant Emissions: Hard and Decorative Electroplating and Chromium Anodizing Tanks (May 1, 2012), docketed as Subpart N: Email from The Policy Group, Additional Chromium Electroplating Information on Facility Data, EPA-HQ-OAR-2010-0600-0650 (Sept. 19, 2012).

²⁶ NASF also questions whether this data was accurately included. In the preamble to the final Rule, EPA asserted that baseline emissions were 956 pounds per year, which is only 184 pounds per year less than its estimates in the Supplemental Proposal. *See* 77 Fed. Reg. at 58,226-29; 77 Fed. Reg. at 6,650. This reduction is much less than the 330 pound reduction attributable to the facilities in NASF's survey.

acknowledged that it is “not feasible or realistic” to use only actual data, RTC at 35, EPA refused to apply the broader trends regarding facility closures and elimination of hexavalent chromium to the remaining facilities that were not surveyed. As explained below, EPA’s justifications lack merit.

As justification for its decision to limit the applicability of NASF’s survey data, EPA claimed that NASF only surveyed higher-emitting, higher-risk facilities and ignored the lower-emitting, lower risk facilities that could counterbalance some of the results of the survey. 77 Fed. Reg. at 58,235. This claim is flatly wrong because NASF did in fact survey lower-emitting, lower-risk facilities at EPA’s request after initially focusing primarily on the higher-emitting, higher-risk facilities. Thus the results for the 182-facility survey submitted to EPA on May 1, 2012 included a combination of the survey results from both the higher and lower emitting facilities. NASF Supplemental Comments at 2. As shown in Table 5 below, the results of both survey efforts were very similar and, therefore, would appear to be representative of all chromium electroplating facilities throughout the industry.

TABLE 5: NASF Survey Results on Revised Emissions Estimates

	Higher-Emitting Facilities	Lower-Emitting Facilities	Combined Results
Closed Facilities	45 (35%)	17 (33%)	62 (34%)
No Longer Use Hexavalent Chromium	50 (38%)	19 (36%)	69 (38%)
Revised Emission Estimates	32 (25%)	11 (21%)	43 (24%)
Confirmed EPA’s Estimate	3 (2%)	5 (10%)	8 (4%)
TOTALS	130	52	182

In light of this consistency in results between higher- and lower-emitting facilities, EPA should have applied the trends established in these results across the entire 1,455 facilities in EPA’s database. While NASF appreciates EPA’s decision to incorporate the individual data points from the survey, NASF believes that incorporating the broad trends reflected by those data would have provided a more representative and, therefore, more accurate extrapolation of the sector-wide emissions than the data estimates on which EPA ultimately relied. The combined results of the survey demonstrated a 93 percent reduction in estimated baseline emissions and a significant percentage of facilities that are closed and that no longer use hexavalent chromium. Applying this trend across the entire sector would dramatically alter EPA’s conclusions about the need for and effectiveness of the revised standards.

EPA’s additional justifications for limiting its incorporation of the survey results do not withstand scrutiny. EPA also asserted that it did not include the broader trends for facility closures due to an inference of bias in the selection of facilities for the survey. RTC at 60. EPA stated that “although we recognize that the chromium electroplating industry has not shown much, if any, growth in several years, it is not appropriate to assume that no new plants have opened during that period as assumed by the commenter.” *Id.* However, this statement is fundamentally inconsistent with conclusion that, “based on the information we have gathered for chromium electroplating facilities over the past 20 years, there is nothing to suggest that any

facility is adding multiple tanks and significantly increasing the level of absolute emissions or that new, large facilities are being constructed.” *Id.* at 30. In addition, NASF has repeatedly explained to EPA that few new chromium electroplating facilities have opened or are waiting to open. No more than a dozen new chromium electroplating facilities have opened nationwide in the past several years and these limited openings in no way begin to offset the substantial number of facility closures in the industry. Further, despite EPA’s inference to the contrary, RTC at 40, chromium electroplating facilities that close rarely, if ever, reopen. In light of the current business environment, it is not unreasonable to expect a facility closure rate of 35 percent for small, family owned chromium electroplating and anodizing businesses. EPA’s response to NASF’s survey results demonstrate a lack of understanding of the chromium electroplating industry and the economic challenges that it faces.

Likewise, for remaining facilities, increased regulatory pressures, controls, and requirements—both domestically and abroad—have encouraged chromium electroplating business to avoid these regulatory burdens altogether by switching to processes that do not use hexavalent chromium. Consequently, in light of these regulatory and market pressures a broad trend where 38 percent of facilities in the industry no longer use hexavalent chromium is a reasonable assumption.

As explained above, the results of NASF’s survey are representative of the full range of chromium electroplating and anodizing facilities and are consistent with external economic and regulator pressures that the industry faces. Under CAA § 307(d)(6)(B), EPA must address “stark disparities between its projections and real world observations.” *Appalachian Power*, 249 F.3d at 1054. Under these circumstances, EPA should have responded to NASF’s survey results both by incorporating the actual data points and then extrapolating those results to the remaining facilities in EPA’s database. Had EPA done so, it would have observed significantly lower baseline emissions. As explained below, a lower baseline would have altered EPA’s expected emissions reductions attributable to the revised standards and likely undermined the Agency’s justifications for the revisions.

3. *EPA Failed to Correct its Overestimation of Risk Reduction in Response Comments and Data Submitted by NASF*

Since the 1995 NESHAP was established, the chromium electroplating and anodizing sectors have collectively reduced chromium emissions by 99.7 percent and have dramatically reduced the risk associated with chromium emissions from the sector. EPA summarily dismissed these data, asserting that “the amount of emission reduction already achieved by industry is not pertinent to whether there is a remaining risk and whether there are developments in practices, processes, and controls that indicate revisions to the standard are necessary.” RTC at 25. NASF respectfully disagrees with EPA’s assessment because the level of emissions reductions already achieved directly impacts the emissions reductions still possible and the residual risk that can be reduced through revised standards. As NASF explained in its comments, EPA’s dramatic overestimates of existing emissions has produced an inflated estimate of emissions reductions that EPA relied on to justify the cost effectiveness of the revised standards. *See generally*, NASF Comments at 79-95 (providing facility-specific emissions data); NASF Supplemental Comments at 8-13 (same). Had EPA properly taken account of NASF’s comments, it would have calculated

a much lower baseline emissions and concluded that further revisions would do little, if anything, to reduce risks and provide an ample margin of safety.

EPA explained that “we are promulgating lower limits for each of the source categories because we believe these lower limits reflect developments in practices, processes or controls technologies. RTC at 25. We are also promulgating these same limits under Section 112(f) because they will reduce risks and provide an ample margin of safety.” Despite this conclusion, an analysis of EPA’s data shows that the revised standards will provide only marginal reductions in risk. In the preamble to the final rule, EPA summarizes the costs and risk reductions for the final rule. Table 6 below summarizes the information provided by EPA in Tables 4-7 in the preamble. 77 Fed. Reg. at 58,226-29. The minimal risk reductions identified by EPA and summarized in Table 6 should be even less when corrected based on data submitted by NASF during the comment period. However, EPA failed to incorporate the information provided by NASF and instead made virtually no changes between the Supplemental Proposal and final Rule.

TABLE 6: Summary of Risk Reductions and Costs for Final Rule

<i>Process</i>	<i>Total Emissions (pounds)</i>	<i>Emissions Reduction (pounds)</i>	<i>MIR Actual Emissions</i>	<i>MIR Allowable Emissions</i>	<i>Population at Risk > 1 in a Million</i>	<i>Population at Risk > 10 in a Million</i>	<i>Cost Effectiveness (\$/pound)</i>
Large Hard Chromium (57 Affected Facilities)							
Baseline	454		20	50	88,000	740	
Final	306	148	20	40	59,000	500	11,000
Small Hard Chromium (91 Affected Facilities)							
Baseline	223		20	50	43,300	360	
Final	190	33	10	30	36,800	306	15,000
Decorative Chromium (313 Affected Facilities)							
Baseline	222		10	70	43,000	100	
Final	187	35	7	50	36,000	80	5,000
Chromic Anodizing (74 Affected Facilities)							
Baseline	57		5	60	5,000	0	
Final	49	8	3	40	4,000	0	6,580
TOTALS							
Baseline	956						
Final	732	224					

Specifically, NASF provided actual data for many of facilities that EPA identified as having the highest current risk and, therefore, the greatest potential for risk reduction. These data showed that actual risk was much less than EPA’s estimates or, in some cases, non-existent. As described below, NASF provided host of “real world observations” that contradicted EPA’s projections, *Appalachian Power*, 249 F.3d at 1054, yet EPA continued to rely on the same risk estimates and chose to disregard the conflicting data provided by NASF.

In support of the Supplemental Proposal, EPA identified 14 hard chromium facilities of a total of 968 hard chromium facilities that had an MIR of 10 or greater for actual emissions. Of

these 14 facilities NASF provided EPA with data that 7 (or half) facilities were closed, no longer used hexavalent chromium, or had substantially lower emissions than EPA estimated. If EPA included this data in its risk analysis, then significant reductions in baseline risks for both actual and allowable emissions would result because there would be no risks posed by these facilities that are closed or no longer use hexavalent chromium. Had EPA applied the lower baseline risk values, it would have realized a much lower risk reduction attributable to the revised standards.

Likewise, for the 374 decorative chromium facilities, EPA reported an MIR of 9 for actual emissions at Woodhill Plating Co. in Cleveland, OH (which EPA apparently rounded up to 10 in the final rule). NASF provided EPA with information that this facility no longer uses hexavalent chromium in processes subject to the rule. The next highest MIR for decorative chromium facilities was 5. Accordingly, had EPA applied NASF's data correction it would have found a much lower reduction in risk attributable to the revised standard.

Further, with respect to risk reduction for decorative chromium facilities' allowable emissions, EPA reported an MIR of 66 in the Supplemental Proposal (which EPA apparently rounded up to 70 in the final Rule). EPA identified 27 decorative chromium facilities of a total of 374 decorative chromium facilities that had an MIR of 10 or greater for allowable emissions. However, 21 of the 27 facilities (including four of the highest risk facilities) are located in California, and as EPA now agrees that all facilities in California already have emissions below the new limit. *See* RTC at 35. Accordingly, EPA cannot claim any further risk reduction for these facilities as a result of the revised standards. Eliminating these California facilities and Woodhill Plating, the baseline MIR would be 19 for decorative chromium facilities allowable emissions. Again, if EPA had applied NASF's data correction it would have realized significantly smaller risk reductions attributable to the revised standards.

A similar case can be made for chromium anodizing facilities where the reported MIR for allowable emissions in the Supplemental Proposal was 62 (which EPA apparently rounded down to 60 in the final Rule). EPA identified 18 chromium anodizing facilities of a total of 113 chromium anodizing facilities that had an MIR of 10 or greater for allowable emissions. 12 of these 18 facilities are located in California, including the five highest risk facilities. In comparison, the MIR for non-California facilities is only 24.

It is clear that EPA cannot provide a "complete analytic defense" to its challenged methodology, given the stark contrast between EPA's projections and NASF's actual data points. *See Small Refiners*, 705 F.2d at 535. If EPA's goal is to reduce risk and provide an ample margin of safety, EPA must first correct its risk estimates to account for the information provided by NASF as discussed above so that it can accurately reflect the residual baseline risk. Had EPA done so, it would be apparent that the final Rule does little, if anything, to reduce risk or provide an ample margin of safety.

4. *EPA Failed to Modify its Estimates of the Need for and Benefits of the Revised Standard in Response to the Comments and Data Provided by NASF*

Finally, by failing to apply the general trends identified in NASF's survey to all 1,455 facilities, EPA overestimated both the need for and benefits of the revised standards. As noted

above, EPA stated that it excluded the specified facilities that the petitioner identified as closed or no longer using hexavalent chromium. This alone would remove over 300 pounds of emissions from EPA's estimated emissions, which accounts for approximately 30 percent of EPA's total estimated emissions for the entire sector. While NASF believes that the baseline emissions should be reduced even further, one would expect that a 30 percent reduction in baseline emissions would have a significant affect on the residual risk and emissions reductions estimates for the sector as a whole. Nonetheless, in the preamble to the final rule, EPA stated:

We conducted risk modeling with this [revised] data set, and the results were not significantly different from the assessment conducted for the supplemental proposal. The MIR, HI, and Incidence estimates for all source categories were essentially unchanged, and the population risk differences were not significantly different Because of the very small differences in risk results based on this modeling, we decided that the data do not warrant revising the overall risk assessment we conducted for the supplemental proposed rule. Regardless, the data do not change the decisions set forth in the supplemental proposal.

77 Fed. Reg. at 58,235-6.

This conclusion raises serious concerns about EPA's data analysis and its decision to finalize the revised standards. An agency cannot provide a "complete analytic defense" of its models by simply asserting that it reran the data and nothing changed. *See Small Refiners*, 705 F.3d at 535. It is difficult to fathom how EPA's risk modeling and conclusions could be accurate and how a 30 percent reduction in baseline emissions—a key modeling input—would not significantly alter any of the key factors in EPA's risk assessment. The only reasonable explanation is that the residual risk is so insignificant to begin with that even a substantial decrease in total baseline emissions would not alter the overall assessment of risk. But if that were the case, and residual risks were already insignificant, EPA would have no basis under CAA § 112(d)(6)(B) or (f)(2) to require a downward revision of the NESHAP. In any event, EPA must grant reconsideration and reevaluate its conclusions regarding baseline emissions and residual risk in light of NASF's comments and survey.

EPA's failure to fully incorporate the baseline emissions trends identified in NASF's survey and to apply them to EPA's risk assessment raises serious questions regarding the propriety of EPA's decision to revise the NESHAP. If EPA did adopt baseline emissions estimates that were 70-90 percent lower as NASF suggested in its comments, *e.g.* NASF Comments at 43, EPA's risk analyses would undoubtedly tell a different story. First, if the baseline emissions suggested by the broad trends in NASF's survey are low enough, then the remaining baseline risk could fall below one in a million cancer risk, meaning that EPA would no longer need to revise the existing standard. NASF believes that this is a likely outcome and should be more closely evaluated by EPA. After acknowledging the validity of NASF's data by incorporating the actual data points, EPA cannot shirk its responsibility to consider implications of those data and must conduct an appropriate analysis based on all of the data revisions.

Second, the baseline emissions are the starting point for determining the amount of emissions that will be reduced by the final Rule. If the baseline emissions are reduced significantly, one would expect that the estimated emissions reduction attributable to the revised

standards would be reduced by a proportional amount. Such a change in expected emissions reductions could, in turn, have a significant impact on the cost effectiveness of the rule. Based on EPA's conclusion, a cost-effective practice, process or control technology to reduce emissions is the keystone to its justification for the revised surface tension levels and emission limits. A decline in the expected emissions reductions could result in a sharp increase in the cost per pound of emissions reductions, resulting in revisions that are no longer cost-effective. Again, EPA must grant reconsideration and, after taking full account of NASF's survey results, determine whether the minimal emissions reductions generated by the revised standard will still be cost effective.

5. *EPA Failed to Address NASF's Comments Regarding Emissions Reductions Associated with Non-PFOS Fume Suppressants*

The use of fume suppressants play a central role in EPA's revised standards and is a primary "development" that EPA relies upon for the new standards. However, EPA is not merely relying on the fume suppressants that are in common use today. Instead, as described above, it is simultaneously replacing those PFOS fume suppressants with non-PFOS fume suppressants. NASF and other commenters raised a number of concerns about EPA's reliance on fume suppressants in general and specifically with respect to non-PFOS fume suppressants. EPA failed to adequately respond to many of those comments.

a. *EPA Did Not Directly Respond to NASF's Critique of EPA's Analysis Emissions Reductions from Fume Suppressants*

EPA's reliance on non-PFOS fume suppressants is based on the claims that the use of any fume suppressant that lowers surface tension levels will result in a reduction of emissions. EPA has not supported this claim with any credible data in the record. In its comments, NASF noted that EPA had limited data on the use of fume suppressants to reduce emissions²⁷ and explained that these data were very limited and flawed. *See* NASF Comments at 69-71. However, EPA did not respond to these comments in the final Rule or RTC. EPA clearly fails to meet the standard under CAA § 307(d)(6)(B) when it does not provide any response at all.

First, EPA explains that its rationale for revising the emission limits is that developments in practices, processes and control technologies compel them to make the revisions. *See supra* Section II.C. However, the data supporting these "developments" are limited to the use of PFOS fume suppressants and do not include any information about the use of non-PFOS fume suppressants that are required by the final Rule. NASF Comments at 70-71. Further these data demonstrate that even the use of PFOS fume suppressants cannot support revisions of either the surface tension levels or emission limits. As NASF explained, one decorative chromium facility is responsible for 63 of the 110 data points, and more than half of the surface tension levels measured exceeded the revised surface tension levels. *Id.* at 70. In addition, the one facility from which the majority of the data were used has closed and is no longer operating. *Id.* In addition, this facility, located in California, used other control equipment in addition to fume

²⁷ EPA's data is summarized in Subpart N: Draft – Development of Revised Surface Tension Limits for Chromium Electroplating and Anodizing Tanks Controlled with Wetting Agent Fume Suppressants, EPA-HQ-OAR-2010-0600-0606 (Feb. 8, 2012).

suppressants, so these data are of limited value to support EPA's claim that the use of fume suppressants can achieve new surface tension levels and emission limits. *Id.*

Second, with respect to hard chromium facilities, all of the data on the use of PFOS fumes suppressants were from the 1990s, shortly after the promulgation of the original chromium electroplating NESHAP. *Id.* These data could not, therefore, be considered "developments in practices, processes and control technologies" because they were the same practices, processes, and control technologies that EPA relied upon to justify and support the 1995 NESHAP and the 2004 technical amendments. Thus the data that EPA references to support its claim that fume suppressants effectively reduce emissions to meet the proposed limits are flawed and scientifically lacking.

Each of these issues raised by NASF calls into question EPA's reliance on this limited data set, yet EPA failed entirely to respond to NASF's comments. Under CAA § 307(d)(6)(B) EPA must respond to "each of the significant comments, criticisms" that receives. Because it has failed to do so here, EPA must grant reconsideration and respond to the NASF's comments discussed above as part of a reconsideration of the final chromium electroplating NESHAP.

b. EPA Inadequately Responded to NASF's Data from Facilities Using Non-PFOS Fume Suppressants

NASF also raised specific and detailed concerns regarding EPA's assumptions about the difficulty related to the switch from PFOS to non-PFOS fume suppressants. NASF explained that the switch to non-PFOS is not an automatic drop-in replacement for all processes, and many facilities will continue to work through the challenge of demonstrating compliance with the new surface tension levels. NASF Comments at 62-65. Under the circumstances, NASF questioned EPA's claims that facilities can achieve the new emissions limits with non-PFOS fume suppressants, and noted that EPA has not provided any credible data to support this contention. *Id.* To further support its position, NASF provided data to EPA from a decorative chromium facility in Minnesota demonstrating that it can achieve the new surface tension levels with non-PFOS fume suppressants. These data showed a range of surface tension levels from 25 to 34 dynes/cm (with one data point exceeding the new level), and a mean of 30.6 dynes/cm. *Id.* at 64. While this facility can achieve the new surface tension levels most of the time, NASF explained that it may have challenges maintaining compliance consistently and will lose its critical compliance margin. *Id.* at 65.

In the preamble to the final Rule, EPA acknowledged NASF's comments that:

facilities that have switched to non-PFOS fume suppressants have achieved moderate success in meeting the current surface tension levels, but many challenges and problems persist. The commenter believes that switch to non-PFOS fume suppressants diminishes a facility's margin of compliance in meeting the current surface tension levels. The commenter goes on to say that where non-PFOS has shown promise in lowering surface tension levels, it requires more frequent additions, more frequent monitoring, and more labor to maintain surface tension levels compared to the use of PFOS fume suppressants.

77 Fed. Reg. at 58,236. After summarizing NASF's comments, EPA failed to respond in an adequate manner and simply asserted that the successful use of non-PFOS fume suppressants at some facilities for some processes to achieve the new surface tension levels is transferrable to all chromium electroplating and anodizing processes. *See id.* at 58,237 RTC at 63. This explanation lacks any credible technical support, contradicts NASF's data from the Minnesota facility, and represents "wishful thinking" on EPA's part. When faced with conflicting evidence, EPA cannot simply cherry pick the data that support its conclusions. Instead, it must respond to the conflicting data and explain why its preferences are reasonable. *See Appalachian Power*, 249 F.3d at 1053-54 ("Yet even in the face of evidence suggesting the EPA's projections were erroneous, the EPA never explained why it adopted this particular methodology. The EPA claims it made a reasonable choice — and it may be right — but simply to state such a claim does not make it so. *There must be an actual reason articulated by the agency at some point in the rulemaking process. There is none here.*" (emphasis added)). EPA also asserted that because facilities have up to three (or possibly four) years to switch to non-PFOS fume suppressants, chromium electroplating and anodizing facilities will have time to "test and refine the use of non-PFOS fume suppressants." RTC at 63. EPA's assertion that time will cure the technical deficiencies in its analysis is a serious indictment of EPA's technical justification for the final rule and contradicts EPA's own conclusions that the new developments are already cost-effective and technologically feasible. Again, EPA must grant reconsideration so that it can fully respond to NASF's comments regarding current limitations on non-PFOS fume suppressants.

c. EPA's Response to NASF's Comments Did Not Include Any Evidence Regarding Emissions Reductions from Non-PFOS Fume Suppressants

In its comments NASF also challenged EPA's assumptions regarding the effectiveness of non-PFOS fume suppressants in reducing chromium emissions. EPA has taken a position that non-PFOS fume suppressants can effectively lower chromium emissions to achieve the new emission limits based solely on the ability to reduce surface tension levels. In an effort to demonstrate that EPA's assumptions were unfounded, NASF included a case study of a Texas facility that had a significant decline in performance controlling emissions with the use of non-PFOS fume suppressants. NASF Comments at 62. The case study provided actual data that demonstrated that the facility was able to maintain the surface tension levels with non-PFOS fume suppressants at the same levels achieved with PFOS (at least for a year), but the non-PFOS fume suppressants were not as effective as PFOS fume suppressants in reducing chromium emissions. *Id.* at 102-08.

Rather than addressing the conflict between this study and EPA's unsupported assumption, EPA summarily dismissed these data stating that "[t]he Texas facility in the case study uses high hardness dense chromium and a low-temperature (136°F to 140°F), multi-state surface finishing process. EPA believes that this process is not typical or representative of most hard chromium electroplating operations." RTC at 63. This criticism is unfounded. This facility used a hard chromium process that operates with a more concentrated plating bath, more electrical current in the bath, and has a bath temperature that is only a few degrees F higher than a typical hard chromium plating bath. To say that this process is not representative of hard chromium electroplating operations ignores the wide range of operating parameters and

variability found in hard chromium electroplating processes. In short, EPA's cursory dismissal lacks merit and appears a convenient way to dismiss the study without providing an adequate response as required by CAA § 307(d)(6)(B).

Rather than addressing these conflicting data, EPA simply reiterated in the preamble to the final Rule its prior assumptions that:

[t]he lower surface tension also reduces the energy with which the resulting droplets are ejected into the air. Together both of these effects can reduce the emission droplets, which in turn reduces the amount of chromium emissions is dependent primarily on the surface tension of the tank and not the product used to reduce surface tension.

77 Fed. Reg. at 58,237. In other words, EPA continues to claim—in the absence of any credible data—that the use of non-PFOS fume suppressants to achieve the new lower surface tension levels will necessarily lower chromium emissions to achieve the new emission limits. EPA offers no scientific proof to support this assumption. Instead, it responded to NASF's comments by citing a series of studies and other information that simply reiterate EPA's assertion that non-PFOS fume suppressants can reduce surface tensions. *See* 77 Fed. Reg. at 58,236-37. None of these studies, which are addressed individually below, provide any nexus between reduced surface tension and reduced emissions as EPA suggests.

1. EPA contacted several fume suppressant vendors who responded that they were confident that non-PFOS fume suppressants can achieve the revised surface tension levels. 77 Fed. Reg. at 58,237. These vendors, however, made no claims and expressed no confidence regarding the use of non-PFOS fume suppressants to meet the revised emissions limits.
2. EPA cited Barlowe and Patton (2011) who reported that non-PFOS fume suppressants are available for hard and decorative chromium electroplating, and can reduce surface tension to as low as 20 dynes/cm. 77 Fed. Reg. at 58,237. The study found that surface tension can be maintained at 30 dynes/cm, and at that level "consumption of the suppressant is minimized and emissions are controlled." *Id.* The study did not state that effective non-PFOS fume suppressants were available for anodizing, nor did it describe what emission limits could be achieved with the non-PFOS fume suppressants.
3. EPA cited the use of non-PFOS fume suppressants by a decorative chromium facility in Minnesota with average surface tension reading of 28.7 dynes/cm and a maximum of 32.4 dynes/cm and concluded that it is feasible to achieve a surface tension level of 33 dynes/cm. 77 Fed. Reg. at 58,237. This is similar to the data submitted by NASF for another decorative chromium facility in Minnesota that had an average reading of 30.6 dynes/cm and a maximum of 34 dynes/cm. NASF Comments at 64. While these data demonstrate that the new surface tension level is achievable with non-PFOS, there would be virtually no compliance margin. In addition, neither of these facilities provided any data regarding the emission limits that can be achieved with the use of non-PFOS fume suppressants.
4. EPA also referenced a March 1, 2012 meeting with officials from Atotech, a major distributor of both PFOS and non-PFOS fume suppressants for chromium electroplating.

EPA stated in the preamble to the final rule that “[t]he distributor was confident that their non-PFOS based products could reach the proposed *limits* and noted that the phase-out of PFOS fume suppressants in Europe and Japan occurred seamlessly.” (*emphasis added*) 77 Fed. Reg. at 58,237.²⁸ However, in its summary of the meeting, EPA clarified that the Atotech officials confirmed that the revised *surface tension levels* could be achieved with the use of non-PFOS fume suppressant, but did not state what *emission limits* could be achieved. *See* Atotech Meeting Summary. Atotech also indicated that one or two anodizing facilities in the U.S. are using non-PFOS fume suppressants, but offered no information on how effective the non-PFOS fume suppressants are for this process. *Id.*

While the quantity of EPA’s data is impressive, it simply fails to address the key issue raised in NASF’s comments with respect to the emission limit achievable by non-PFOS fume suppressants. In fact, the only evidence EPA provided on this issue—the Danish and German studies discussed above, *see supra* Section II.B—corroborated NASF’s concerns, as well as the results of the Texas case study that non-PFOS fume suppressants may be less effective than PFOS fume suppressants in reducing emissions. Thus, even in the final Rule, EPA offers no evidence to counter the “real world observations” provided by NASF and thus has not adequately responded to its comments. *Appalachian Power*, 249 F.3d at 1054. In light of this unaddressed contradictory evidence, EPA must grant reconsideration and either adopt a rule that is consistent with this real world data regarding non-PFOS fume suppressants or develop additional data related to emissions reductions rather than surface tension measurements.²⁹

d. EPA’s Final Rule Failed to Establish Equivalency Between the Revised Emissions Limits and Revised Surface Tension Levels.

In addition, in response to a comment challenging its authority to use surface tension levels as an alternative to numerical emissions limits, EPA stated:

The CAA allows us to establish alternatives to numerical emissions limits if we can demonstrate that the alternative limit (in this case, the surface tension limit) is at least as stringent as the numerical emissions limit. . . . Our analysis shows that maintaining the surface tension at the proposed levels is at least as stringent as the proposed emissions limits, both for existing and new sources. . . . When surface tension is no greater than 40 dynes/cm . . . or 33 dynes/cm, emissions will be no greater than the new emission limits.

77 Fed. Reg. at 58,232. This response is problematic for several reasons. First, as described above, EPA has not presented any evidence to support its assertion that reductions in surface tension produce uniform reductions in emissions. EPA has presented inconclusive evidence with respect to the use of PFOS fume suppressants and no data to demonstrate that the use of non-

²⁸ Emissions limits in Japan and Europe are significantly less stringent than the revised standards and thus offer little information regarding the ease with which U.S. facilities could switch to non-PFOS fume suppressants.

²⁹ Unless EPA can provide evidentiary support for its conclusions, neither the phased-out PFOS fume suppressants or the untested non-PFOS fume suppressants can qualify as “developments in practices, processes, and control technologies” that are technologically feasible and cost effective and EPA cannot justify the revised standards.

PFOS fume suppressants to achieve the new surface tension levels can achieve the equivalent emission limits. Under these circumstances, EPA has no scientific basis for concluding that compliance with the revised surface tension limits will produce compliance with the revised emissions limits, regardless of the fume suppressant that is used.

Second, as a practical matter, it seems unlikely that the revised alternative limits can be equivalent to the revised emissions limits as EPA indicated in the final Rule. In response to comments challenging EPA’s use of alternative limits, EPA asserted that the reduction in surface tension levels “will achieve an emissions reduction of approximately 15 percent.” RTC at 61. If, as EPA claims, the surface tension reductions will reduce emissions by 15 percent—an unlikely proposition given the smaller percentage reductions in surface tension required by the final Rule—the reductions would fall far short of the numeric emissions reductions called for in the final Rule. As shown in Tables 7 and 8 below, the revised numeric emissions limits represent significantly larger percentage reductions than the revised surface tension levels. Assuming that the previous surface tension levels and emission limits were equivalent standards, the new surface tension levels and emissions limits no longer appear to be equivalent standards and the alternative surface tension limits cannot be at least as stringent as the numeric standards as EPA suggests.

TABLE 7: Equivalence of Proposed Surface Tension Levels and Emission Limits (Tensiometer)

	Current Standard	Proposed Standard	Percentage Reduction	Equivalent Surface Tension Level for Proposed Emissions Limit	Equivalent Emission Limit for Proposed Surface Tension Level
Surface Tension Level					
Tensiometer	35 dynes	33 dynes	6%		
Emission Limits					
Decorative & Anodizing	0.010 mg/m ³	0.007 mg/m ³	30%	24.5 dynes	0.0094 mg/m ³
Small Hard	0.030 mg/m ³	0.015 mg/m ³	50%	17.5 dynes	0.0282 mg/m ³
Large Hard	0.015 mg/m ³	0.011 mg/m ³	27%	25.5 dynes	0.0141 mg/m ³

TABLE 8: Equivalence of Proposed Surface Tension Levels and Emission Limits (Stalagmometer)

	Current Standard	Proposed Standard	Percentage Reduction	Equivalent Surface Tension Level for Proposed Emissions Limit	Equivalent Emission Limit for Proposed Surface Tension Level
Surface Tension Level					
Stalagmometer	45 dynes	40 dynes	11%		
Emission Limits					
Decorative & Anodizing	0.010 mg/m ³	0.007 mg/m ³	30%	31.5 dynes	0.0089 mg/m ³
Small Hard	0.030 mg/m ³	0.015 mg/m ³	50%	22.5 dynes	0.0267 mg/m ³
Large Hard	0.015 mg/m ³	0.011 mg/m ³	27%	32.8 dynes	0.0134 mg/m ³

NASF has submitted data to EPA that demonstrate that the revised surface tension levels are achievable (even with non-PFOS fume suppressants), but that data would not support a reduction of surface tension levels to the lower levels that are equivalent to the new emission limits. Likewise, EPA’s own data show that if the surface tension levels are lowered further, even the Minnesota facilities using non-PFOS fume suppressants could not achieve them based on the variability in the data points and the need to maintain a reasonable compliance margin. In addition, EPA is aware that, although lower surface tension levels below the revised standards are achievable, explosion hazards exist in plating baths with surface tension levels as low as those that are equivalent to the new emission limits (particularly with respect to small hard chromium plating).

This apparent disparity between the numeric emissions limits and alternative surface tension limits raises serious concerns that warrant reconsideration. Without specific data to demonstrate the nexus between the use of fume suppressants to achieve the new emission limits (*e.g.*, a relationship that is other than linear), EPA cannot justify the new emission limits based on equivalency. On the one hand, the alternative surface tension limits may be unlawful because they are not at least as stringent as the numerical emissions limit. On the other hand, the numeric emissions limit may not be cost effective and technologically feasible as EPA suggests because they are more stringent than the alternative surface tension limits on which EPA’s analysis of fume suppressants was based. In either case, the revised standards adopted in the final Rule are inconsistent and cannot be justified. As shown above, a simply comparison of the revised standards suggests that EPA’s assumptions are flawed, yet the Agency continues to assert

without explanation or evidentiary support, that the emission limits and surface tension levels are the same. *See Small Refiners*, 705 F.2d at 535.

6. *EPA Failed to Adequately Explain its Decision Not to Convene a Small Business Regulatory Enforcement Fairness Act Panel*

In issuing the final Rule, EPA failed to complete a full Regulatory Flexibility Analysis or convene a SBREFA panel instead certified “that this action will not have a significant impact on a substantial number of entities.” 77 Fed. Reg. at 58,241. In doing so, EPA failed to adequately address the comments raised by NASF and the SBA.

In its comments on the Supplemental Proposal, NASF described the impacts that the revised standards would have on small business and explained why, in light of current economic conditions, even small increases in compliance costs could threaten the viability of small businesses in the industry and exacerbate the already high incidence of plant closures. *See, e.g.*, NASF Comments at 36. NASF argued that EPA should have convened an SBREFA panel pursuant to its obligations in the Regulatory Flexibility Act (“RFA”) to assess the potential economic impacts of the rule on small business. *Id.* at 7. The SBA echoed NASF’s concerns and noted that, under the RFA, EPA was required to provide a certification with a description of the affected entities and the anticipated impacts that clearly justify a finding of “no significant impact” and had failed to do so here. SBA Comments at 3;³⁰ RTC at 53.

In its response to NASF and SBA’s comments, EPA explained that the rule had been issued on a compressed schedule. RTC at 54. EPA also explained that it had in fact initiated a SBREFA panel, but that it was never convened. *Id.* Rather than convening an SBREFA panel, EPA indicated that it “performed a screening analysis for impacts on all affected entities,” concluded that the rule would not have a significant economic impact on a substantial number of small entities, and, therefore, determined that the SBREFA panel was not needed. *Id.* at 54.

Despite this response, NASF does not believe that EPA has fully considered the economic impact that this Rule will have on chromium electroplating and anodizing facilities. As NASF explained in its comments, the chromium electroplating and anodizing industry is already under economic stress and even marginal increases in compliance costs could threaten the economic viability of many facilities, especially smaller operations. Further as described above, EPA cannot rely on the unsubstantiated claims that facilities that do not already meet the new emission limits can do so simply by adding non-PFOS fume suppressants to avoid its obligations under the RFA. *See supra* Section II.D.5. Instead, EPA’s lack of data regarding actual emissions from affected facilities underscores the fact that EPA could have benefitted greatly from convening an SBREFA panel for this rulemaking in order to fully understand the challenges faced by small businesses. Nor can EPA justify this failure by the compressed time schedule for issuing a proposed rule. By failing to take the time at the beginning of the rulemaking process to collect critical information about impacts on small businesses through an

³⁰ SBA, Comments on EPA’s Proposed Rule, “ “National Emission Standards for Hazardous Air Pollutant Emissions: Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks; and Steel Pickling-HCl Process Facilities and Hydrochloric Acid Regeneration Plans,” 77 Fed. Reg. 6628 (February 8, 2012), Docket No. EPA-HQ-OAR-2010-0600, EPA-HQ-OAR-2010-0600-0610 (March 12, 2012).

SBREFA panel, EPA has only exacerbated the problem and must now take the additional time to address the comments appropriately and meet its legal obligations under the RFA by granting reconsideration.

III. EPA Must Stay the Final Rule Pending Reconsideration

A. A stay is warranted pursuant to both § 307 of the CAA and § 705 of the APA

Pending reconsideration, the Administrator should stay the Rule as it applies to chromium electroplating and anodizing facilities. Both the APA and CAA Section 307(d)(7)(B) authorize an administrative stay during reconsideration. Given the potential economic impact of these regulations on chromium electroplating and anodizing facilities and the significance of the issues addressed above, justice and basic principles of good government require that EPA stay the Rule's application to these facilities.

EPA has broad authority and discretion to stay the effectiveness of rules promulgated under the CAA under both CAA § 307 and APA § 705. The criteria that EPA must apply are significantly less stringent than the criteria generally used by the courts, for example, because a demonstration of irreparable harm is not mandatory:³¹

- First, CAA Section 307(d)(7)(B) provides that EPA may grant a stay if the Agency has decided to reconsider a rule. *See* 42 U.S.C. § 7607(d)(7)(B).³² No other criteria or conditions are imposed on the Agency's authority to issue a stay.
- Second, "when justice so requires," EPA may stay the effective date of a CAA rule pending judicial review, under Section 705 of the APA, 5 U.S.C. § 705.³³ *See, e.g.,* Final

³¹ Nothing in the CAA requires a showing of irreparable harm in order to justify an administrative stay; instead, all that is required are proper grounds for reconsideration. The APA deliberately contrasts what is required for an administrative stay ("justice so requires") and a judicial stay ("conditions as may be required" and "irreparable harm"). 5 U.S.C. § 705. Such differences must be given effect, and, therefore, there is no irreparable harm requirement for an administrative stay under the APA either.

³² CAA § 7607(d)(7)(B) provides, in relevant part:

If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. . . . The effectiveness of the rule may be stayed during such reconsideration, however, by the Administrator or the court for a period not to exceed three months.

³³ APA § 705 reads:

When an agency finds that justice so requires, it may postpone the effective date of action taken by it, pending judicial review. On such conditions as may be required and to the extent necessary to prevent irreparable injury, the reviewing court, including the court to which a case may be taken on appeal from or on application for certiorari or other writ to a reviewing court, may issue all necessary and appropriate process to postpone the effective date of an agency action or to preserve status or rights pending conclusion of the review proceedings.

Rule, Amendments of Final Rule To Postpone Requirements, 61 Fed. Reg. 28,508 (June 5, 1996).

Thus, the only express condition imposed on EPA's authority to grant a stay under CAA § 307 is that the Agency must have decided to reconsider the rule. APA § 705 is similarly broad, authorizing EPA to issue a stay: (1) if judicial review is pending; and (2) when "justice so requires."³⁴ Of course, EPA also has the fundamental obligation to engage in reasoned decision making and must not make arbitrary and capricious determinations. All of these criteria leave EPA with considerable authority to stay the rules—especially under the current circumstances.

A stay under § 307 is clearly warranted. As discussed above, the CAA § 307(d)(7)(B) standard for reconsideration is met, and it therefore follows that the standard for a stay under the CAA has similarly been met. In order to avoid the significant adverse impacts on NASF's members and their communities of a rule that is arbitrary and should be reconsidered, justice requires that EPA grant the stay.

EPA's authority to issue a stay under APA § 705 is even broader than § 307 in two respects. First, 5 U.S.C. § 705 allows EPA to grant a stay "[r]egardless of whether [the stay request] meet[s] the requirements of Section 307(d)(7)(B)." *See, e.g.*, Ohio: Approval and Promulgation of Implementation Plans, 46 Fed. Reg. at 8,582 n.1. Second, EPA's stay authority is not limited to three months. Furthermore, nothing in the CAA has abrogated EPA's authority under § 705 of the APA. *See, e.g.*, CAA § 7607(d)(1) (specifying sections of the APA that do not apply to CAA rulemaking, but not including APA § 705). EPA has regularly used this authority to "postpone"³⁵ the effective date of a rule indefinitely. *See, e.g.*, Reconsideration of the Prevention of Significant Deterioration and Nonattainment New Source Review (NSR): Aggregation, 75 Fed. Reg. 27,643 (May 18, 2010); Final Rule, Amendments of Final Rule To Postpone Requirements, 61 Fed. Reg. 28,508 (June 5, 1996) (staying rules to prevent facilities from incurring "compliance expenditures . . . which may prove unnecessary in light of the projected amendments"); Hazardous Waste Management System: Identification and Listing of Hazardous Waste; Burning of Hazardous Waste In Boilers and Industrial Furnaces, 56 Fed. Reg. 43,874 (Sept. 5, 1991).

B. Even under the more stringent judicial standard, a stay is warranted

While a stay is warranted under the standards established by both the CAA and APA, it would be justified even under the more stringent standard employed by the courts. Courts typically consider four factors in determining whether to grant a judicial stay: "(1) whether the stay applicant has made a strong showing that he is likely to succeed on the merits; (2) whether the applicant will be irreparably injured absent a stay; (3) whether issuance of the stay will substantially injure the other parties interested in the proceeding; and (4) where the public interest lies." *Nken v. Holder*, 129 S. Ct. 1749, 1761 (2009). These factors must be balanced

³⁴ NASF intends to file a petition for review.

³⁵ EPA can utilize the authority of APA § 705 either before, or after, the rules at issue have become effective. The plain meaning of the term "postpone" encompasses rules that are already in effect, just as a baseball game may be postponed after it has begun.

against one another, such that “[a] stay may be granted with either a high probability of success and some injury, or vice versa.” *Cuomo v. US Nuclear Reg. Comm’n*, 772 F.2d 972, 974 (D.C. Cir. 1985). All four factors are amply satisfied in this case.

First, as described above, NASF has identified serious legal, factual, and procedural flaws in EPA’s rulemaking process and reconsideration is warranted on the merits.

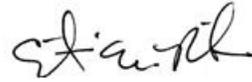
Second, failure to grant a stay will irreparably harm NASF’s members. Even though the compliance dates for achieving the revised standards and eliminating PFOS fume suppressants are in September of 2014 and 2015, 77 Fed. Reg. at 58,230, the effects of this Rule will be felt immediately by NASF’s members. For many of NASF’s members, achieving the revised standards with an sufficient compliance margin will require installation of new control equipment or the use of non-PFOS fume suppressants. The process of assessing necessary emissions reductions and selecting, installing, and testing new control equipment can take several years and facilities will have to begin planning immediately to meet the compliance deadlines. In fact, EPA has acknowledged that these compliance periods may be too short in some cases. RTC at 63 (“EPA acknowledges that some facilities may need additional time to test and refine the use of non-PFOS fume suppressants and such facilities could request an additional year for compliance pursuant to CAA section 112(h)(3)(B).”). Thus, without a stay, NASF’s members will have to commence the compliance process and associated capital expenditures immediately and will be unable to recover those costs if the Rule is withdrawn by EPA or vacated by a court.

Third, there are minimal, if any, offsetting harms to third-parties or the public interest from the stay sought by NASF. To the contrary, these factors strongly favor a stay. As EPA has consistently explained, the current risk levels under the existing standards are “acceptable” and continuing under that standard will not harm third parties or the public. Moreover, as explained above, any marginal reduction of risks under the revised standards will be minimal, under EPA’s own analysis or the revised emissions data provided by the NASF survey. Thus, staying the Rule as it applies to chromium electroplating and anodizing facilities while EPA reconsiders the Rule will have little, if any, discernable environmental impact. By comparison, absent a stay, the harm to others beyond NASF’s members could be significant. For every dollar of impact to NASF’s members, there will be a spillover impact to economic activity, taxes and jobs in the local region and beyond. As noted above, many of the most affected facilities are likely to be small business who often have deep ties to their local communities. For these small businesses in particular, there will be an increased risk of facility closures which will have even greater impacts on local communities. The balance of harms and public interest, thus, clearly favor granting a stay.

Conclusion

For the foregoing reasons, the Administrator must convene a proceeding for reconsideration of the Rule and stay the Rule pending reconsideration.

Respectfully submitted



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