THE POLICY GROUP
1155 FIFTEENTH STREET, NW
SUITE 500
WASHINGTON, DC 20005
(202) 457-0630
(202) 530-0659

August 8, 2006

Document Control Office (7407M)
Office of Pollution Prevention and Toxics (OPPT)
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460-001

Re: Proposed Significant New Use Rule (SNUR) for Perfluoroalkyl Sulfonates
Docket No. EPA-HQ-OPPT-2005-0015

Dear Sir or Madam:

On behalf of the Surface Finishing Industry Council, we hereby submit the following comments on EPA's proposed significant new use rule (SNUR) for perfluoroalkyl sulfonates (PFAS) published in the Federal Register on March 10, 2006. 71 Fed. Reg. 12311.

If you have any questions or need additional information, please contact Christian Richter or me at (202) 457-0630. Thank you for your attention to this matter.

Sincerely,

Jeffery S. Hannapel
Vice President

COMMENTS OF THE

SURFACE FINISHING INDUSTRY COUNCIL

BEFORE THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PROPOSED SIGNIFICANT NEW USE RULE FOR PERFLUOROALKYL SULFONATES

Docket No. EPA-HQ-OPPT-2005-0015

71 Fed. Reg. 12311 (March 10, 2006)

August 8, 2006

Christian M. Richter
Jeffery S. Hannapel
The Policy Group
1155 Fifteenth Street, N.W.
Suite 500
Washington, D.C. 20005
(202) 457-0630
(202) 530-0659 (fax)

I. Introduction

We hereby submit these comments on EPA's proposed significant new use rule (SNUR) for perfluoroalkyl sulfonate (PFAS) materials (71 Fed. Reg. 12311, October 4, 2004) on behalf of the Surface Finishing Industry Council ("SFIC"), which includes the National Association of Metal Finishers (NAMF), the American Electroplaters and Surface Finishers Society, Inc. (AESF) and the Metal Finishing Suppliers' Association (MFSA). The NAMF has over 700 member companies, the AESF has over 3,000 individual members and the MFSA has over 100 member companies. The SFIC, through these three organizations, represents the business, management, technical and educational programs as well as the regulatory and legislative advocacy interests of the metal finishing industry in the United States.

The proposed SNUR for PFAS materials will have a dramatic impact on the finishing industry – along with the major manufacturing supply chains it serves, including automotive, industrial equipment, appliances and hardware, aerospace and defense, medical instrumentation, electronics and others. Specifically, the proposed restrictions will leave the industry with no viable alternatives to use as fume suppressants that are critical to reducing air emissions and workplace exposures for the metal finishing industry.

The surface finishing industry plays a vital role in the lives of consumers and in the nation's economic future. Everyone relies on surface finishing, whether they realize it or not - to maximize their productivity, their safety and their quality of life. Surface finishing is the process of coating, usually a metal or plastic object, with one or more layers of another metal, paint or plastic to furnish its surface with desired properties, such as: corrosion, abrasion and wear resistance, improved lubrication, non-toxicity, altered dimensions, light reflection, insulation or conductivity, improved electrical properties, solderability, heat and cold resistance, and improved appearance. Surface finishing ensures that products people use every day last longer and look better. The many industries that rely on metal finishing include: computers and electronics, medical equipment, aerospace and defense, automotive, tools and dies, shipbuilding, petroleum, furniture, steel mill products, jewelry, plumbing fixtures, household appliances, and construction.

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.

There are over 3,000 job-shop electroplaters in the United States, employing approximately 200,000 nationwide. According to a 1997-98 survey by the Surface Finishing Market Research Board, 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. Median annual sales for job shops are approximately $1.6 million.

The industry is subject to very high costs for environmental, health and safety compliance. Roughly 7.5 percent of total payroll is spent on regulatory-related employees, and these employees cost on average over 20 percent more than other personnel. In the early 1990s, plating operations spent nearly 28 percent of their total capital expenditures on pollution prevention and regulatory controls. Further, in 1998, total compliance operating costs for an average job shop were 6.5 percent of sales, or nearly $200,000 for a company with a sales volume of $3 million.

II. EPA States That It Is Not Aware of Any Uses of PFAS Materials in the Metal Finishing Industry

In the preamble to the proposed rule, EPA noted that "[i]n the past, PFAS chemicals in the performance chemicals category were used in a variety of specialized industrial, commercial and consumer applications. Specific applications included . . . acid mist suppressants for metal plating and electronic etching baths," but that "[t]he Agency has no indication that the PFAS chemicals covered by this proposal are in commercial production for any use." 71 Fed. Reg. at 12314. EPA further stated that it was

> aware that PFAS and PFAS-related chemicals have been produced by and/or imported from companies located outside of the United States . . . and that many other companies have sold PFAS-related products. The Agency is not aware of any uses or imports in the United States of the remaining PFAS chemicals on the Inventory. Comments generated by this [proposal] will enable EPA to determine if any remaining uses exist. 71 Fed. Reg. at 12314.

In these comments, the SFIC will identify the critical and beneficial existing uses of PFAS fume suppressants in the metal finishing industry. The SFIC respectfully requests the EPA to consider these significant existing uses of PFAS fume suppressants and to allow the continued use of these materials for metal finishing operations, similar to the exemptions provided for aviation hydraulic fluids; photomicrolithography; analog and digital films, papers and printing plates; and imaging films processing in the proposed rule at 40 C.F.R. § 721.9582(a)(3).

III. Industry's Response to EPA's Past Regulatory Actions for PFAS Materials

EPA has issued two separate final SNURs on other PFAS chemicals in the past four years: 1) on March 11, 2002, EPA issued a final SNUR for 13 PFAS chemicals, and 2) on December 9, 2002 EPA issued a supplemental final SNUR for an additional 75 PFAS chemicals. 67 Fed. Reg. 11008 (2002) and 67 Fed. Reg. 72854 (2002). In addition, the 3M Company voluntarily discontinued manufacture of some PFAS chemicals in 2002 that were widely used for fume suppressants in the metal finishing industry.

Even though chemical suppliers had to cease production and sale of some fume suppressants because of these actions, the surface finishing industry did not strenuously object at the time because several viable PFAS materials were still available for use as fume suppressants in the metal finishing operations. EPA's current proposal to add the remaining PFAS chemicals to the SNUR would leave the metal finishing industry without any viable fume suppressants and could cause significant economic hardships for the industry and numerous major manufacturing supply chains that it serves.

IV. PFAS Fume Suppressants Are Critical to Metal Finishing Operations

PFAS fume suppressants are used extensively in the metal finishing industry, most predominately for chromium electroplating operations, as an efficient and effective means of controlling air emissions and to reduce workplace exposures. Fume suppressants are used to reduce surface tension in plating baths in a variety of chromium electroplating operations such as decorative chromium plating, hard chrome plating and chromic acid anodizing. PFAS materials are also used as critical wetting agents for electroless nickel plating, plating on plastics and alkaline zinc plating. These surface finishes provide critical functions in a variety of major manufacturing supply chains such as automotive, industrial equipment, appliances, hardware, aerospace, defense, medical instrumentation and electronics.

Federal and state regulators have recognized the importance of fume suppressants in controlling air emissions and reducing workplace exposures for metal finishing operations. A brief summary of how fume suppressants are used as regulatory controls in the metal finishing industry are provided below.

A. EPA's Chrome MACT Standard

On January 25, 1995, the EPA issued national emission standards for hazardous air pollutants (NESHAP) under section 112 of the Clean Air Act for Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks. 40 C.F.R § 63, Subpart N. This regulation, referred to as the Chrome MACT Standard, set emission limits for hexavalent chromium for hard and decorative electroplating and chromic acid anodizing operations. Due to the effectiveness of fume suppressants in controlling air emissions, EPA also allowed facilities with *decorative chromium plating and chromic acid anodizing* tanks to comply with the Chrome MACT Standard by maintaining the plating bath's surface tension below 45 dynes/cm through the use of fume suppressants.

If fume suppressants are not used, facilities would have to install ventilation systems with scrubbers and conduct stack performance tests to demonstrate compliance with the Chrome MACT Standard. This would require a significant capital investment in control equipment and monitoring. Such an investment would not be economically feasible for most metal finishing facilities.

EPA's Office of Research and Development conducted *in situ* and production testing for hard chrome electroplating operations and found that fume suppressants can also be an effective, environmentally favorable, and cost-efficient option to control emissions from many *hard chrome plating* operations. As a result, EPA reaffirmed the effectiveness of PFAS fume suppressants as a control mechanism for chromium emissions and amended the Chrome MACT Standard to allow the use of fume suppressants for *hard chrome plating* operations. 69 Fed. Reg. 69702 (July 19, 2004). Because the use of fume suppressants can interfere with product quality specifications in some applications, not all hard chrome operations can use fume suppressants to control emissions.

B. California Air Regulations Allow the Use of Certified PFAS Fume Suppressants

In the State of California one of the most stringent regional control authorities in the nation, the South Coast Air Quality Management District (SCAQMD), conducted tests on the control efficiencies of fume suppressants for chromium plating emissions. Based on these results, SCAQMD compiled a list of five certified PFAS fume suppressants that are approved as control mechanisms for emissions from chromium plating and chromic acid anodizing operations. SCAQMD Rule 1469. The application of these approved fume suppressants pursuant to the rule's usage restrictions allow facilities to demonstrate compliance with the Chrome MACT Standard in California. The certification process for approved fume suppressants is such an onerous process that few, if any, companies try to get additional fume suppressants approved for use in California.

C. OSHA's Workplace Exposure Standard for Hexavalent Chromium

On February 28, 2006, OSHA issued a new workplace exposure standard for hexavalent chromium that lowered the permissible exposure level (PEL) to 5 ug/m^3 from the previous level of 52 ug/m^3. 71 Fed. Reg. 10099 (2006). OSHA concluded that the new PEL of 5 ug/m^3 was technologically feasible for electroplating operations because the use of fume suppressants in many applications was effective in lowering workplace exposures below the regulatory limit. 71 Fed. Reg. at 10262. OSHA did, however, express some concerns that because some hard chrome plating operations could not use fume suppressants due to product quality specifications, other more expensive engineering controls such as local exhaust ventilation would have to be installed to meet the new standard. 71 Fed. Reg. at 10262, 10337. As part of its evaluation of engineering controls to reduce hexavalent chromium exposures in the workplace, OSHA found fume suppressants to be a very effective solution to meet the new OSHA chrome PEL.

D. Additional Regulatory Standards Based on the Use of Fume Suppressants

Given how effective PFAS fume suppressants are in reducing chromium air emissions and controlling chromium workplace exposures in the metal finishing industry, regulators are exploring fume suppressants as potential engineering controls for other types of surface finishing applications. For example, recent studies and tests conducted by EPA and the surface finishing industry suggest that fume suppressants may be effective in reducing emissions from nickel plating processes. This information has become part of EPA's evaluation for a new hazardous air emissions regulation for the plating and polishing source categories. In developing the new standards for this rule, EPA could identify fume suppressants as the best generally available control technology or work practice for the industry and set the new standard based on the performance of fume suppressants. This just another example of how important the use of fume suppressants is for the metal finishing industry.

V. No Viable Alternatives Are Available to Replace PFAS Fume Suppressants at This Time

EPA's proposed restrictions could be reasonable if viable alternatives were available. Unfortunately, the industry has not identified any alternatives to PFAS fume suppressants that provide the same functional properties. In addition, substitute plating processes to replace those that require the use of fume suppressants are not available for all current applications. Provided below is a summary of why no viable alternative fume suppressants or plating processes are currently available to support the restrictions proposed by EPA.

A. Alternatives to PFAS Fume Suppressants

EPA's proposal to add the remaining PFAS chemicals to the SNUR would leave the metal finishing industry without any viable fume suppressants, particularly with respect to chromium plating processes such as hard and decorative chromium plating, chromic acid anodizing and plating on plastics. Because of the extremely acidic, high temperature and oxidizing nature of hexavavelnt chromium plating baths, it is difficult for fume suppressants to function and remain stable. PFAS fume suppressants are able to withstand the harsh conditions of plating baths and continue to provide the superior functional performance of lowering plating bath surface tensions, controlling air emissions, and reducing workplace exposures.

Substitute fume suppressants do not exhibit the same quality functions as the PFAS fume suppressants. In the harsh chemical conditions of plating baths, the substitutes degrade rapidly, precipitously decrease in performance quality, and are too easily lost through capture in existing ventilation systems. Use of the substitutes would also require that more chemicals must be used, more frequent chemical additions to the plating baths must occur, less consistent performance of plating baths would be achieved, and more monitoring of the plating bath chemistry would be required. Despite all of these drawbacks, the most significant reason why substitute fume suppressants are not viable alternatives to PFAS products is simply because they do not function as well (*i.e.*, maintain low surface tension of plating baths) and do not produce the same consistent results (*i.e.*, reduce air emissions and workplace exposures).

Chemical suppliers report that they are continuing to conduct research and development to find new types of fume suppressants. Based on the best estimates of the industry, a viable alternative to PFAS fume suppressants is at best five years away, but it will more likely take another 10 to 15 years to develop an adequate substitute. Until that time, the metal finishing industry needs to continue using PFAS fume suppressants to reduce air emissions and workplace exposures.

B. Alternatives to Hexavalent Chromium Plating

Some commenters have suggested that PFAS fume suppressants would not be needed if hexavalent chromium plating was replaced with other plating processes. It is well known and recognized by virtually everyone that at the present time there are no commercially available technologies that are capable of widespread replacement of hexavalent chromium plating. That this has been a long-term goal in all regions of the world for many years is well documented. Below is a brief update of those technologies that have managed to gain some, albeit small, commercial application. Even though alternatives to hexavalent chromium plating exist, none of the alternatives are viable replacements for most of the hexavalent chromium applications currently in use.

1. Decorative Trivalent Plating

This technology has been commercially available for approximately 20 years. It is essentially limited to decorative applications. Trivalent chromium has obtained a small market share in the US, primarily because it allows a greater number of parts per rack, and because it affords a reduced tendency for “white wash” rejects from the chromium plating bath, and, finally, because it facilitates air permitting for new plating shops or new decorative plating installations in existing installations.

Trivalent chromium processes are available in either sulfate or chloride based electrolytes. The sulfate electrolyte offers a lower make-up cost, but it is typically limited to depositing chromium coatings of 5 to 7 millionths of an inch thick. The chloride electrolyte compensates for its higher make-up cost by allowing a thickness of 10 to 12 millionth of an inch to be applied, which results in deposits that more closely resemble hexavalent chromium in color.

Both trivalent chromium electrolytes are technically more difficult to operate than hexavalent chromium, but this is not a serious limitation. As mentioned above, there remain some color match problems with deposits from trivalent chromium electrolytes, particularly when the chemistries are not well maintained. The color match problem is the main reason the automotive industry has not yet fully qualified trivalent chromium as a replacement for hexavalent chromium, and until the automotive companies grant full approval for the use of trivalent chromium, this will remain a serious limitation in the expansion of trivalent chromium processes for the US decorative chromium plating industry.

An additional disadvantage of trivalent chromium is that the cost of the replenishment chemistries for either type of electrolyte is significantly higher than for hexavalent chromium. There are also only a very few quality suppliers for the chemistry and the technology training, as opposed to hexavalent chromium, which is widely available as both a commodity or a proprietary plating bath chemistry.

Dr. Don Snyder reviewed the present status of decorative and functional trivalent plating at the AESF SUR/FIN Conference, Chicago, June 2004 in a paper entitled *Alternatives to Chromium Coatings: Trivalent Chromium Plating*.

2. Functional Trivalent Plating

Many research and development groups around the world have been working for many years to try to develop a functional (*i.e.*, hard chrome) trivalent chromium chemistry. A recent review of the current status and the problems holding back this chemistry to date was given by Dr. Kenneth Newby at the May 24-27, 2004 4th International Chromium Colloquium held in St. Etienne, France. The paper was entitled, *What Seems to be Holding Back Functional Trivalent Chromium Plating*. The most significant problem cited was the inability of trivalent chromium chemistries to obtain both good wear and good corrosion resistance at the same time, which is a primary attribute of hexavalent chromium deposits.

3. High Velocity Oxygen Fuel (HVOF)

High velocity oxygen fuel (HVOF) technology injects a powder, for example a tungsten carbide – cobalt mixture, into a hot, supersonic, oxygen fueled torch that accelerates the powder onto the part to be coated. It provides a relatively rapid deposit build up. The most significant attribute is that the substrate is not subject to hydrogen embrittlement as can be the case with chromium plating. This saves significant turn around time in those instances where this is important.

HVOF is significantly more expensive than chromium plating from the perspective of capital cost for equipment, labor both during deposition and for later grinding operations and productivity. Robots that are used must be monitored and can only work on one part at a time. Most chromium plating is done with many parts on a rack and with relatively less labor compared to HVOF, except for loading and unloading the chromium plating racks.

HVOF has found a small commercial market with some aircraft landing gears. *See* Legg & Sartwell, *HCAT – Replacing Hard Chrome Plating in the US Department of Defense and the Aerospace Industry*, 4th International Chromium Conference, St. Etienne, France, May 2004. Because HVOF is much more portable than a chrome plating tank, HVOF may also be used for the repair of oil drilling equipment in remote locations where time is of the essence in order to minimize downtime for the operation while the part is being repaired. *See* Sahraoui, et al, *Remplacement du Chrome Dur: Etude Tribologique des Revetements Elabores par Projection Thermique a la Flamme de Type HVOF*, 4th International Chromium Conference, St. Etienne, France, May 2004.

One of the significant technical limitations to HVOF is that it can only operate on a "line of sight" basis. In other words, the substrate must be in front of the robotic gun. Hence, inside diameters of a manufactured part are very difficult, if not impossible, to coat using HVOF.

HVOF is probably the most developed alternative to functional hexavalent chromium plating. Other than the increased labor demands, productivity concerns and high capital investment needed, the major shortcoming is that the deposits are only approved for a very limited number of applications -- predominately U.S. Department of Defense ("DOD") applications where cost is not typically the controlling variable. To date, efforts to get the technique and deposit approved in other industries such as automotive have been limited, if they exist at all. These concerns, coupled with the limitations discussed above, effectively means that HVOF as a commercially viable alternative to hard chromium plating is at best many years away, if at all.

Keith Legg and Bruce Sartwell summarized the current status of HVOF from an economic and customer qualification point of view at the AESF SUR/FIN Conference held in Chicago during June 2004 in a paper entitled, *Alternatives to Functional Hexavalent Chromium Coatings: HVOF Thermal Spray*.

4. Electroless Nickel Boron Alloys

Virtually every "known" or "under development" wet chemistry, whether it is electroplating or electroless plating, has been evaluated as a potential functional chromium alternative. Dr. Melissa Klingenberg of Concurrent Technologies Corporation reviewed these technologies at the AESF SUR/FIN Conference, Chicago, June 2004 in a paper entitled, *Alternatives to Chromium Coatings: Wet Deposition Technologies*.

Of all the potential wet chemistries that have been evaluated, only electroless nickel boron has had any commercial success, and even that has been very limited due to the extremely high cost of applying this technology, which includes approximately one percent by weight of boron into the coating. This alloy offers excellent corrosion protection, as well as outstanding wear resistance, but has not gained widespread commercial application due to the high cost associated with it.

There are two reasons for the very high deposition cost. First, because all electroless plating processes coat parts wherever the solution contacts the parts, expensive masking materials must be used to prevent solution contact on the areas where deposition is not needed. This is in stark contrast to hexavalent chromium plating where the limited covering power of the electrolyte is actually an advantage in preventing deposition in unwanted areas of parts. A second reason for the extremely high deposition cost is because the additives that are needed to apply the nickel boron coatings are quite expensive and generally have an additional royalty fee associated with them as well. For these reasons, electroless nickel boron alloys have been used almost exclusively on small parts that frequently have small holes that require plating, and where the extra cost of plating non-critical areas is not significant.

Often after a chemistry or technology has been identified as a possible alternative to another chemistry, it receives heightened regulatory attention focused on the potential risks posed by the chemicals or the process. This phenomenon may be another factor that has contributed to the limited use of electroless nickel alloys. Nickel coatings of all types are coming under increasing environmental and human exposure scrutiny. This is especially true in Europe, where all applications of nickel, not just coatings, are being closely investigated for potential human health risks.

5. PVD, CVD, Ion Beam Deposition, Brush Plating, Laser Cladding, Explosive Bonding, Ion Implantation

These are also a variety of "dry processes" that are being examined as potential replacements for hard or functional chromium plating applications. Dr. Eric Brooman provided an overview of these technologies at the AESF SUR/FIN Conference, Chicago, June 2004 in a paper entitled, *Alternatives to Chromium Coatings: Dry Deposition Technologies*.

None of these processes have reached commercial success of any significant consequence, although each can claim specific, limited applications for which the technology offers some environmental and performance advantages compared to hard chromium plating. Significant cost and application limitations must be overcome before any of these technologies will increase the relatively small "niche" market share they currently enjoy. Additionally, all of these technologies (with the exception of brush plating) require a substantial capital investment, which is a significant limiting factor, particularly for the many small businesses that currently operate chromium plating processes.

6. Trivalent Chromates

While it is true that *in certain applications* trivalent passivates have made great strides in providing corrosion protection that matches the protection that hexavalent materials provide, these trivalent materials are significantly more expensive to use in production. The make-up cost of trivalent passivates is as much as 10 to 12 times the cost of hexavalent materials. Additionally, the trivalent materials have a significantly shorter operating life, because they are considerably less tolerant to the presence of dissolved metals such as zinc and iron, compared to hexavalent materials. Finally, many trivalent passivates operate at elevated temperatures and are, therefore, much more energy intensive than the hexavalent materials.

In addition, trivalent passivates cannot be used as drop-in replacements for all post-treatment applications. For example, there are no trivalent passivates that provide reliable performance that is equivalent to hexavalent olive drab chromates, which are required for many military and aircraft applications. Furthermore, there are no reliable substitute trivalent materials that will produce a true black finish on conventional zinc plated deposits, whereas there are several choices that are based on hexavalent chrome compounds. Finally, many customers in supply chains such as automotive continue to specify hexavalent chromates because of superior corrosion protection over trivalent chromates.

7. Summary of Alternative Technologies

The metal finishing industry continues to support research and development efforts to identify commercially viable alternatives to hexavalent chromium plating chemistries. To date, alternative technologies show some promise for niche applications, but have not gained widespread commercial application due to 1) the superior coating performance in decorative, functional and corrosion protection applications for hexavalent chromium plating, 2) cost effective applications, 3) broad and flexible ranges of use, and 4) strong customer/market preferences for hexavalent chromium plating. Accordingly, U.S. hexavalent chromium plating and anodizing operations should continue under the industry's existing effective engineering controls and workplace practices that include the use of PFAS fume suppressants.

VI. Potential Risks Associated With Use of Fume Suppressants in Metal Finishing Are Minimal

Many of the potential human health risks associated with PFAS materials arise from direct exposure to the chemical. For example, PFAS products were often applied to paper, carpets, textiles, leather, and other consumer goods to protect them from stains and water damage. The PFAS material remained on the product throughout its use, thereby increasing the direct human exposure to the chemical. Unlike these consumer applications for PFAS materials, fume suppressants used in the metal finishing industry do not remain on the finished product. Any fume suppressant that may adhere to the plated part upon removal from the plating bath will be removed in the rinsing process.

The function of the fume suppressant is to reduce air emissions and workplace exposure to other chemical substances in the industrial process or to enhance the plating process and does not provide after-market product performance qualities for the plated part. As a result, only a very limited number of workers in the industrial setting may be exposed to the fume suppressant under controlled conditions, as opposed to the general public's exposure to the consumer products discussed above.

Additional safeguards in how the PFAS material is used also minimizes the potential risks associated with the use of fume suppressants in the metal finishing industry. First, only the liquid form of the fume suppressant is used, so there is no dispersion of dusts or fine particles. Second, the concentration of the PFAS material put into the plating bath is extremely low, generally in the approximate range of 50 to 100 parts per million in solution. Third, the amount of PFAS material that is used is low with a concentration ratio of plating material to fume suppressant of approximately 1000 to one in most applications.

Finally, fume suppressants are used in the metal finishing industry to reduce air emissions and workplace exposures. In a study commissioned by the U.S. Navy to examine the use of PFAS fume suppressants in military plating operations, the authors concluded that the potential risks of using fume suppressants was less of a risk to human health than operating a plating process without it. Naval Health Research Center Detachment (Toxicology) Report, "Risk Report on Perfluorooctanesulfonate (PFOS) as a Component of Mist Suppressants in Chrome-Plating Tanks," TOXDET-03-05, Andrew J. Bobb, Ph.D., USNR, Kenneth R. Still, Ph.D., MSC, USN (February 2003).

The Navy report also noted that the epidemiological studies on PFAS materials demonstrating exposure risks to animals were not supported by any human exposure studies. The authors cast further doubt on the animal exposure studies by concluding that it was not uncommon to overestimate the effects to humans exposed to the same materials.

PFAS fume suppressants can be used effectively, safely and beneficially in the metal finishing industry with minimal potential risks to human health. In fact, the use of fume suppressants is more protective of human health in the industrial setting of metal finishing operations. Thus, the significant and critical existing uses of PFAS fume suppressants in the metal finishing industry should be allowed to continue without restrictions imposed by the SNUR as proposed by EPA.

VII. Global Considerations

A. International Evaluation of PFAS Materials

The use of PFAS materials has also been examined by officials in other countries. The Scientific Committee on Health and Environmental Risks (SCHER) of the European Commission Health and Consumer Protection Directorate has evaluated the potential risks associated with the use of PFAS materials and concluded that the use of PFAS materials in consumer goods such as carpets, textiles, upholstery, leather, apparel, paper, packaging and other similar applications should be banned. The SCHER further noted that "the emissions from the semiconductor industry, photographic industry and aviation industry would be so low that no unacceptable risk can be expected." European Commission Enterprise and Industry Directorate, "Note for the Attention of the Limitation Working Group Regarding Perflurooctane Sulfonates (PFOS)," ENTR/G2/DH/md D (2005), Brussels, 12 May 2005.

The SCHER did also state that with respect to the metal finishing sector, the continued use of PFAS fume suppressants would not pose any unacceptable risk for human health or the environment. The committee did, however, recommend that additional risk studies and health evaluations of PFAS materials and their uses should continue.

In a report at the Fifth Meeting of the Convention of Long-Range Transboundary Air Pollution (LRTAP) Task Force on Persistent Organic Pollutants (POPs) in Tallinn, Estonia (29 April to 1 June 2006), the Swedish government submitted a report entitled, "Exploration of Management Options for PFOS." The report noted that "current small scale uses of PFOS are limited to those areas where suitable alternatives have not yet been identified," including applications in photography, photolithography, semiconductors, aviation hydraulic fluids and metal finishing.

With respect to metal finishing applications, the Swedish report recommended that the use of PFAS fume suppressants should be allowed until at least 2010. The limited time frame for continued use was based on an over-simplified conclusion that alternatives to the use of PFAS fume suppressants exist. The report did not identify any new fume suppressant, but rather indicated that alternatives to hexavalent chromium plating would be available by 2010 and that ventilation and other engineering controls could be installed economically, thereby obviating the need for fume suppressants. As discussed above, viable alternatives to PFAS fume suppressants are not currently available, and are not likely to be developed by 2010. Similarly, while alternatives to some hexavalent chromium plating are available, they are not available, and are not likely to be available by 2010, for all hexavalent chromium plating applications. Similarly, the installation of ventilation and other engineering controls would simply not be economically feasible for most metal finishing operations. As result, the continued use PFAS fume suppressants is needed for the metal finishing industry.

Other countries such as Canada are also evaluating the potential risks associated with the use of PFAS materials and for specific applications such as metal finishing. Canadian officials have indicated that Environment Canada and the provincial governments are likely to wait on issuing any regulations and follow the lead of U.S. EPA. EPA as well as other international regulatory agencies should continue to evaluate the potential risks associated with PFAS fume suppressants and not place any further restrictions on their use until viable alternatives are available or unacceptable risks have been clearly identified.

B. EPA’s Proposed Restrictions on PFAS Materials Would Impose Substantial Competitive Disadvantage U.S. Metal Finishing Industry

The metal finishing industry is a vital sector of the U.S. manufacturing base, providing an estimated 200,000 jobs to American workers. The industry already has a very high cost for environmental, health and safety compliance. Imposing additional regulatory restrictions on U.S. metal finishing operations could damage the industry’s competitive position in global markets.

It is reasonable to evaluate the regulatory standards of other nations, for two reasons. First, a comparison provides a rough benchmark for assessing whether EPA’s proposal reflects a consensus on risk management within the larger global policy community. Second, an international comparison is important for ensuring that domestic regulatory policy is guided away from decisions that unnecessarily and unjustifiably harm competitiveness for otherwise productive U.S. manufacturing sectors, particularly in cases where regulatory standards produce marginal or uncertain benefits in health protection.

During this period in which global competition is providing substantial advantages to companies who locate or invest in surface finishing operations overseas, the proposed SNUR for the remaining PFAS materials will dramatically increase costs for U.S. based facilities with metal finishing operations. Because no other country has imposed such restrictions on the use of PFAS fume suppressants in the metal finishing industry, EPA’s proposal would place a significant cost penalty on U.S. domestic operations for both job shop and captive operations.

VIII. Conclusion

Restrictions like those proposed by EPA on the use of PFAS fume suppressants in the metal finishing industry either now or in five years would mean that many surface finishes would no longer be available, particularly for many chromium plating and anodizing finishes. For example, plating on plastics would not be possible for many applications and decorative chromium plating could only be continued with a substantial capital investment for engineering controls and far greater levels of energy consumption to operate the engineering controls. Such negative consequences are not necessary because the risks associated with the use of PFAS fume suppressants in the metal finishing industry are minimal. Imposing restrictions on the use of PFAS materials as EPA has proposed would also place U.S. metal finishers at a distinct competitive disadvantage in global markets, particularly because no other country has imposed similar restrictions on the use of fume suppressants in metal finishing.

The SFIC supports and will continue to work with its members on research and development efforts to find alternatives that provide the same environmental protections and quality performance as PFAS fume suppressants. Until that time, EPA should allow the critical, effective and beneficial existing uses of PFAS fume suppressants to continue in the metal finishing industry.