Federal Register

Monday,
October 20, 2008

Part II

Environmental Protection Agency

40 CFR Part 63

National Emission Standards for Halogenated Solvent Cleaning; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2002–0009; FRL–8727–5]

RIN 2060–AP07

National Emission Standards for Halogenated Solvent Cleaning

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed Notice of Reconsideration and Request for Public Comment.

SUMMARY: On May 3, 2007, EPA promulgated the final rule titled: National Air Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (the Halogenated Solvent Cleaning rule) pursuant to sections 112(d)(6) and 112(f) of the Clean Air Act. The Halogenated Solvent Cleaning rule set facility-wide emission limits for certain halogenated solvent cleaning machines and a May 3, 2010, compliance deadline.

Following promulgation of the Halogenated Solvent Cleaning rule, the Administrator received several petitions for reconsideration, pursuant to Clean Air Act section 307(d)(7)(B). The purpose of this notice is to initiate a process for responding to certain issues raised in the petitions. We are requesting comment on the particular issues for which we are granting reconsideration, and those issues are identified, in detail, below. Specifically, we are requesting comment on the revised risk assessment, our use of the 2002 National Emissions Inventory data in lieu of the 1999 National Emissions Inventory data, which was used at proposal, our ample margin of safety determination under Clean Air Act section 112(f)(2), our determination under Clean Air Act section 112(d)(6), and the compliance deadline.

DATES: *Comments.* Comments must be received on or before December 4, 2008.

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing by October 30, 2008, a public hearing will be held November 4, 2008.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2002–0009, by one of the following methods:

- *http://www.regulations.gov*. Follow the on-line instructions for submitting comments.
- *E-mail: a-and-r-docket@epa.gov*.
- *Fax:* (202)566–1741.
- *Mail:* Air and Radiation Docket, EPA, Mailcode: 6102T, 1200 Pennsylvania Ave., NW., Washington, DC 20460. Please include a duplicate copy, if possible. We request that a separate copy of each public comment also be sent to the contact person listed below (see **FOR FURTHER INFORMATION CONTACT**).
- *Hand Delivery:* In person or by courier, deliver comments to: EPA Docket Center (2822T), EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC 20004. Such deliveries are only accepted during the Docket's normal hours of operation and special arrangements should be made for deliveries of boxed information. We request that a separate copy of each public comment also be sent to the contact person listed below (see **FOR FURTHER INFORMATION CONTACT**).

Instructions: Direct your comments to Docket ID No. EPA–HQ–OAR–2002–0009. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or e-mail. The *http://www.regulations.gov* Web site is an ''anonymous access'' system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *http://www.regulations.gov*, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the EPA Docket Center, Docket ID No. EPA–HQ–OAR–2002–0009, EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about this proposed action, contact Mr. H. Lynn Dail, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Natural Resources and Commerce Group (E143–03), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541–2363; fax number: (919) 541–3470; and e-mail address: *dail.lynn@epa.gov*. For specific information regarding the modeling methodology, contact Ms. Elaine Manning, Office of Air Quality Planning and Standards, Health and Environmental Impacts Division, Sector Based Assessment Group (C539–02), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541–5499; fax number: (919) 541–0840; and e-mail address: *manning.elaine@epa.gov*. For information about the applicability of these national emission standards for hazardous air pollutants (NESHAP) to a particular entity, contact Mr. Scott Throwe, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, Washington, DC, (202) 564–7013; and e-mail address: *throwe.scott@epa.gov*.

SUPPLEMENTARY INFORMATION: Regulated Entities. Categories and entities potentially affected by this notice include:

Category	NAICS [1] code	Examples of potentially regulated entities
Industry	Any of numerous industries using halogenated solvent cleaning, primary affected industries include those in NAICS Codes beginning with: 331 (primary metal manufacturing), 332 (fabricated metal manufacturing), 333 (machinery manufacturing), 334 (computer and electronic product manufacturing), 335 (electrical equipment, appliance, and component manufacturing); 336 (transportation equipment manufacturing); 337 (furniture and related products manufacturing); and 339 (misc. manufacturing).	Operations at sources that are engaged in solvent cleaning using methylene chloride (MC), perchloroethylene (PCE), or trichloroethylene (TCE).
Federal, State, local, and tribal government.	.....	Operations at sources that are engaged in solvent cleaning using MC, PCE, or TCE.

[1] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this proposed action. This action proposes to require an owner or operator of a facility that is subject to the 1994 NESHAP for Halogenated Solvent Cleaning (40 CFR part 63.460 of subpart T) to operate under certain specific emission limits. If you have any questions regarding the applicability of this proposal to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Submitting Comments/CBI. Direct your comments to Docket ID No. EPA–HQ–OAR–2002–0009. Do not submit CBI to EPA through *http://www.regulations.gov* or e-mail. Instead, send or deliver information identified as CBI only to the following address: Mr. Roberto Morales, OAQPS Document Control Officer (C404–02), U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711, Attention Docket ID No. EPA–HQ–OAR–2002–0009. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on a disk or CD–ROM that you mail to Mr. Morales, mark the outside of the disk or CD–ROM as CBI and then identify electronically within the disk or CD–ROM the specific information that is claimed as CBI.

In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. If you submit a CD–ROM or disk that does not contain CBI, mark the outside of the disk or CD–ROM clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and EPA's electronic public docket without prior notice.

If you have any questions about CBI or the procedures for claiming CBI, please consult the person identified in the **FOR FURTHER INFORMATION CONTACT** section. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. *Worldwide Web (WWW).* In addition to being available in the docket, an electronic copy of this proposed action will also be available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of the proposed action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at the following address: *http://www.epa.gov/ttn/oarpg/*. The TTN provides information and technology exchange in various areas of air pollution control.

Additional information is available in section I of this preamble and on the Halogenated Solvents Cleaning Web page at *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html*. This information includes source category descriptions and detailed emissions and other data that were used as inputs to the risk assessments.

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing concerning the particular issues for which we are granting reconsideration by October 30, 2008, we will hold a public hearing at 10 a.m. at EPA's Campus located at 109 T.W. Alexander Drive in Research Triangle Park, NC, or an alternate site nearby on November 4, 2008. Persons interested in presenting oral testimony should contact Ms. Joan C. Rogers, Natural Resources and Commerce Group (E143–03), Sector Policies and Programs Division, EPA, Research Triangle Park, NC 27711, telephone number: (919) 541–4487, e-mail address: *rogers.joanc@epa.gov*, by October 30, 2008. Persons interested in attending the public hearing should also call Ms. Rogers to verify the time, date, and location of the hearing. A public hearing will provide interested parties the opportunity to present data, views, or arguments concerning the proposed standards.

Outline. The information presented in this Preamble is organized as follows:

I. Background

A. What is the statutory authority for regulating hazardous air pollutants?

Section 112 of the Clean Air Act (CAA) establishes a two-stage regulatory process to address emissions of hazardous air pollutants (HAP) from stationary sources. In the first stage,

after EPA has identified categories of sources emitting one or more of the HAP listed in section 112(b) of the CAA, section 112(d) of the CAA calls for us to promulgate NESHAP for those sources: ''Major sources'' are those that emit or have the potential to emit any single HAP at a rate of 10 tons or more per year or 25 tons or more per year of any combination of HAP. For major sources, the technology-based standards must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts) and are commonly referred to as maximum achievable control technology (MACT) standards.

The MACT floor is the minimum control level allowed for NESHAP and is defined under section 112(d)(3) of the CAA. For new sources, the MACT floor cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than standards for new sources, but it cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources). In developing MACT standards, we must also consider control options that are more stringent than the floor. We may establish standards more stringent than the floor based on the consideration of the cost of achieving the emission reductions, any non-air quality health and environmental impacts, and energy requirements.

EPA is then required to review these technology-based standards and to revise them ''as necessary (taking into account developments in practices, processes, and control technologies)'' no less frequently than every 8 years, under CAA section 112(d)(6). In this proposal, we are publishing the results of our 8-year technology review for the halogenated cleaning solvent source category.

The second stage in standard-setting focuses on reducing any remaining ''residual'' risk according to CAA section 112(f). This provision requires, first, that EPA prepare a Report to Congress discussing (among other things) methods of calculating risk posed (or potentially posed) by sources after implementation of the MACT standards, the public health significance of those risks, the means and costs of controlling them, actual health effects to persons in proximity of emitting sources, and recommendations as to legislation regarding such remaining risk. EPA prepared and submitted this report (Residual Risk Report to Congress, EPA–453/R–99–001) in March 1999. Congress did not act in response to the report, thereby triggering EPA's obligation under CAA section 112(f)(2) to analyze and address residual risk.

CAA section 112(f)(2) requires us to determine for source categories subject to certain CAA section 112(d) standards whether the emission limitations provide an ample margin of safety to protect public health. If the MACT standards for HAP ''classified as a known, probable, or possible human carcinogen do not reduce lifetime excess cancer risks to the individual most exposed to emissions from a source in the category or subcategory to less than 1-in-1 million,'' EPA must promulgate residual risk standards for the source category (or subcategory) as necessary to provide an ample margin of safety to protect public health. EPA must also adopt more stringent standards, if necessary, to prevent an adverse environmental effect,[1] but must consider cost, energy, safety, and other relevant factors in doing so. In a residual risk rulemaking under section 112(f)(2), EPA may adopt standards equal to the existing MACT standards (*NRDC* v. *EPA,* 529 F.3d 1077, 1083 (D.C. Cir. 2008).

Section 112(f)(2) of the CAA expressly preserves our use of the two-step process for developing standards to address residual risk and our interpretation of ''ample margin of safety'' developed in the National Emission Standards for Hazardous Air Pollutants: Benzene Emissions from Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants (Benzene NESHAP) (54 FR 38044, September 14, 1989). See *NRDC* v. *EPA,* 529 F.3d 1077 D.C. Cir. 2008). The first step in the residual risk process is the determination of acceptable risk. The second step provides for an ample margin of safety to protect public health, which is the level at which the standards are set (unless a more stringent standard is required to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect).

The terms ''individual most exposed,'' ''acceptable level,'' and ''ample margin of safety'' are not specifically defined in the CAA. However, CAA section 112(f)(2)(B) directs us to use the interpretation set out in the Benzene NESHAP. See also, A Legislative History of the Clean Air Act Amendments of 1990, volume 1, p. 877 (Senate debate on Conference Report). We notified Congress in the Residual Risk Report to Congress that we intended to use the Benzene NESHAP approach in making CAA section 112(f) residual risk determinations (EPA–453/R–99–001, p. ES–11).

In the Benzene NESHAP, we stated as an overall objective:

> * * * in protecting public health with an ample margin of safety, we strive to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately 1-in-1 million; and (2) limiting to no higher than approximately 1-in-10 thousand (i.e., 100-in-1 million) the estimated risk that a person living near a facility would have if he or she were exposed to the maximum pollutant concentrations for 70 years.

We also stated that, ''The EPA also considers incidence (the number of persons estimated to suffer cancer or other serious health effects as a result of exposure to a pollutant) to be an important measure of the health risk to the exposed population. Incidence measures the extent of health risk to the exposed population as a whole, by providing an estimate of the occurrence of cancer or other serious health effects in the exposed population.'' The EPA went on to conclude that ''estimated incidence would be weighed along with other health risk information in judging acceptability.'' As explained more fully in our Residual Risk Report to Congress, EPA does not define ''rigid line(s) of acceptability,'' but considers rather broad objectives to be weighed with a series of other health measures and factors (EPA–453/R–99–001, p. ES–11).

> The determination of what represents an ''acceptable'' risk is based on a judgment of ''what risks are acceptable in the world in which we live'' (54 FR 38045, quoting the *Vinyl Chloride* decision at 824 F.2d 1165) recognizing that our world is not risk-free.

In the Benzene NESHAP, we stated that ''EPA will generally presume that if the risk to (the maximum exposed) individual is no higher than approximately 1-in-10 thousand, that risk level is considered acceptable.'' We discussed the maximum individual lifetime cancer risk as being ''the

[1] ''Adverse environmental effect'' is defined in CAA Section 112(a)(7) as any significant and widespread adverse effect, which may be reasonably anticipated to wildlife, aquatic life, or natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas.

estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years.'' We explained that this measure of risk ''is an estimate of the upperbound of risk based on conservative assumptions, such as continuous exposure for 24 hours per day for 70 years.'' [2] We acknowledge that maximum individual lifetime cancer risk ''does not necessarily reflect the true risk, but displays a health-protective risk level which is an upper bound that is unlikely to be exceeded.'' [3]

Understanding that there are both benefits and limitations to using maximum individual lifetime cancer risk as a metric for determining acceptability, we acknowledged in the 1989 Benzene NESHAP that ''consideration of maximum individual risk * * * must take into account the strengths and weaknesses of this measure of risk.'' [4] Consequently, the presumptive risk level of 100-in-1 million (1-in-10 thousand) provides a benchmark for judging the acceptability of maximum individual lifetime cancer risk, but does not constitute a rigid line for making that determination.

The EPA also explained in the 1989 Benzene NESHAP the following:

> In establishing a presumption for MIR [5], rather than rigid line for acceptability, the Agency intends to weigh it with a series of other health measures and factors. These include the overall incidence of cancer or other serious health effects within the exposed population, the numbers of persons exposed within each individual lifetime risk range and associated incidence within, typically, a 50 kilometer (km) exposure radius around facilities, the science policy assumptions and estimation uncertainties associated with the risk measures, weight of the scientific evidence for human health effects, other quantified or unquantified health effects, effects due to co-location of facilities, and co-emission of pollutants.

In some cases, these health measures and factors taken together may provide a more realistic description of the magnitude of risk in the exposed population than that provided by maximum individual lifetime cancer risk alone.

As explained in the Benzene NESHAP, ''(e)ven though the risks judged ''acceptable'' by EPA in the first step of the Vinyl Chloride inquiry are already low, the second step of the inquiry, determining an ''ample margin of safety,'' again includes consideration of all of the health factors, and whether to reduce the risks even further. In the second step, EPA strives to provide protection to the greatest number of persons possible to an individual lifetime risk level no higher than approximately 1 in 1 million. In the ample margin decision, the EPA again considers all of the health risk and other health information considered in the first step. Beyond that information, additional factors relating to the appropriate level of control will also be considered, including costs and economic impacts of controls, technological feasibility, uncertainties, and any other relevant factors. Considering all of these factors, the EPA will establish the standard at a level that provides an ample margin of safety to protect the public health, as required by section 112.''

B. What is the Halogenated Solvent Cleaning rule?

On December 2, 1994, we promulgated national emission standards for halogenated solvent cleaning machines [6] (59 FR 61801, December 2, 1994) (1994 NESHAP), to control emissions of the halogenated solvents MC, PCE, TCE, 1,1,1,-trichloroethane (TCA), carbon tetrachloride, chloroform, and halogenated solvent blends or their vapors from halogenated solvent cleaning machines, pursuant to Section 112(d) of the CAA. The standards, which can be found in 40 CFR Subpart T, include multiple alternatives that allow maximum compliance flexibility. The final rule is available in the docket for this rulemaking. It can also be accessed at: *http://www.epa.gov/ttn/atw/degrea/halopg.html*.

Carbon tetrachloride and chloroform are no longer used in this source category. The Montreal Protocol, a multi-national treaty signed on September 16, 1987, phased out the production and use of these chlorofluorocarbons by January 1, 1996. The Montreal Protocol also phased out the production and use of TCA. Although production and use of TCA has been phased out since 1998, an exemption to the phase-out allows facilities with essential products or activities to continue their use of TCA, and facilities with non-essential activities or products to continue the use of their remaining TCA stockpiles until depleted. A declining quantity of TCA continued to be used until 2002, when all production of TCA ceased, and eventually, facilities used TCA stockpiles until depleted. Since January 1, 2002, TCA has not been manufactured for domestic use in the United States.

Halogenated solvent cleaning machines use MC, PCE, TCE and TCA to remove soils such as grease, oils, waxes, carbon deposits, fluxes, and tars from metal, plastic, fiberglass, printed circuit boards, and other surfaces. Halogenated solvent cleaning is typically performed prior to processes such as painting, plating, inspection, repair, assembly, heat treatment, and machining. Types of halogenated solvent cleaning machines include, but are not limited to, batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machines. Buckets, pails, and beakers with capacities of 7.6 liters (2 gallons) or less are not considered halogenated solvent cleaning machines.

In May 2007, we promulgated the Halogenated Solvent Cleaning rule (72 FR 25138), which established revised standards that further limit emissions of MC, TCE and PCE from facilities engaged in halogenated solvent cleaning, pursuant to CAA section 112(f). Specifically, we promulgated a facility-wide emission limit of 60,000 kilograms per year (kg/yr) MC equivalent [7] that applied to all halogenated solvent cleaning machines with the exception of halogenated solvent cleaning machines used by the following industries: Facilities that manufacture narrow tubing, facilities that use continuous web cleaning machines, aerospace manufacturing and maintenance facilities, and military maintenance and depot facilities. We also promulgated a facility-wide emission limit of 100,000 kg/yr MC

[2] Quoted text is from the Benzene NESHAP preamble, pages 38045 and 38046.

[3] Quoted text is from the Benzene NESHAP preamble, pages 38045 and 38046.

[4] Quoted text is from the Benzene NESHAP preamble, pages 38045 and 38046.

[5] MIR is the maximum individual cancer risk.

[6] Halogenated solvent cleaning does not constitute a distinct industrial category, but is an integral part of many major industries. The five 3-digit NAICS Codes that use the largest quantities of halogenated solvents for cleaning are NAICS 337 (furniture and related products manufacturing), NAICS 332 (fabricated metal manufacturing), NAICS 335 (electrical equipment, appliance, and component manufacturing), NAICS 336 (transportation equipment manufacturing), and NAICS 339 (miscellaneous manufacturing). Additional industries that use halogenated solvents for cleaning include NAICS 331 (primary metals), NAICS 333 (machinery), and NAICS 334 (electronic equipment manufacturing). Non-manufacturing industries such as railroad (NAICS 482), bus (NAICS 485), aircraft (NAICS 481), and truck (NAICS 484) maintenance facilities; automotive and electric tool repair shops (NAICS 811); and automobile dealers (NAICS 411) also use halogenated solvent cleaning machines.

[7] All emission limits and emission rates in the assessments were converted to MC equivalents based on the relative cancer potency of the HAP emitted. The cancer potency-weighted MC equivalent emission rate was calculated as the estimated emissions for the HAP in kg/yr or lb/yr times the unit risk estimate (URE) for the HAP divided by the URE for MC.

equivalent for halogenated solvent cleaning machines used at military maintenance and depot facilities. We required existing facilities to comply with the revised standards by May 3, 2010, which is three years after the effective date of the Halogenated Solvent Cleaning rule. Further, with regard to halogenated solvent cleaning machines used by facilities that manufacture narrow tubing, facilities that use continuous web cleaning machines, and aerospace manufacturing and maintenance facilities we found, after considering risks, associated compliance costs and the availability of control measures, that the 1994 NESHAP reduces risk to acceptable levels, provides an ample margin of safety to protect public health, and prevents adverse environmental effects. We also reviewed the 1994 NESHAP as required by CAA section 112(d)(6).

C. What have we been asked to reconsider?

Following promulgation of the Halogenated Solvent Cleaning rule, the Administrator received several petitions [8] for reconsideration (Petitions), under CAA section 307(d)(7)(B). Generally, petitioners claimed that the Halogenated Solvent Cleaning rule contained legal interpretations and information that are of central relevance to the final rule that were not sufficiently reflected at proposal, and that they, therefore, did not have adequate opportunity to provide input during the designated public comment period. Further, petitioners claimed that additional information on compliance measures had become available since the close of the public comment period for the Halogenated Solvent Cleaning rule, and that this new information is also of central relevance to the Halogenated Solvent Cleaning rule.

On August 15, 2007, EPA informed petitioners of its intent to initiate notice and comment rulemaking to address the Petitions. We also informed petitioners that the particular issues for reconsideration and the specifics of the reconsideration process would be addressed in a forthcoming **Federal Register** notice. Additionally, we denied the request to stay the effectiveness of the Halogenated Solvent Cleaning rule pending completion of the reconsideration proceedings. (These letters are in the docket for this rulemaking.)

Finally, petitioners challenged the Halogenated Solvent Cleaning rule in the Court of Appeals for the District of Columbia Circuit.[9] Because we intended to initiate notice and comment rulemaking to address the Petitions, the Court has granted our request to hold the litigation in abeyance. The Court has directed the parties to the litigation to file Motions to Govern Further Proceedings by November 3, 2008.

II. Proposed Response to the Petitions for Reconsideration

A. What is our proposed action?

In this action, we are proposing to find that the risk associated with the 1994 NESHAP for the halogenated solvent cleaning source category is acceptable within the meaning of Section 112(f). We are also proposing various regulatory options that would provide an ample margin of safety to protect public health and prevent adverse environmental effects. These proposed requirements would apply to owners and operators of halogenated solvent cleaning machines that are subject to the 1994 NESHAP. We are proposing these requirements under both CAA sections 112(d)(6) and 112(f)(2). For existing sources that were not subject to the emission reduction requirements in the Halogenated Solvent Cleaning rule,[10] we are proposing a 2-year compliance deadline from the date of publication of the final rule in the **Federal Register**. As to those sources that were subject to emission reduction requirements in the Halogenated Solvent Cleaning rule,[11] if the final rule on reconsideration changes those requirements and makes them more stringent, we propose that these sources have two years from the date of publication of the final rule to comply with the requirements of the final rule. We believe that such an extension is appropriate to allow the affected facilities time to meet the more stringent emission limitations.

We are seeking public comment on all aspects of this proposed reconsideration rule. As noted above, the issues identified below are the ones for which we are granting reconsideration. We will convey our decision as to any other issues raised in the reconsideration petitions no later than the date by which we take final action on the issues discussed in this action.

B. What is the reason for our proposed action?

On August 17, 2006, pursuant to CAA section 112(f), we proposed revised standards (71 FR 47670, August 17, 2006) (August 2006 Proposal) to further limit emissions of MC, TCE and PCE from facilities engaged in halogenated solvent cleaning. We co-proposed emission limits of 25,000 kg/yr MC equivalent and 40,000 kg/yr MC equivalent to provide an ample margin of safety to protect public health and prevent adverse environmental effects. The August 2006 proposal also identified other levels of emission reductions, including the 60,000 and 100,000 kg/yr MC equivalent levels. 71 FR 47680–81. We indicated that we expected to finalize one of the two co-proposed options, and that the standards finalized would apply to the entire source category in addition to the 1994 NESHAP requirements. We also proposed a compliance deadline for existing sources of two years after the effective date of the final rule.

Industry, States, solvent manufacturers, industry trade associations and district air associations submitted comments in response to our August 2006 proposal. Industry's comments were primarily submitted by the aerospace manufacturing and maintenance industry, the narrow tubing manufacturing industry, facilities that use continuous web cleaning machines, and military maintenance and depot facilities. Comments focused on associated compliance costs, technical feasibility, and the proposed compliance deadline. In response to these comments, we issued a Notice of Data Availability (NODA), on December 14, 2006 (71 FR 75182), requesting specific information on compliance costs, technical feasibility, and compliance deadlines as they related to halogenated solvent machines used by the above-referenced industries. Responses to the NODA provided significant data and information that led

[8] These petitions for reconsideration were filed by the Commonwealth of Pennsylvania Department of Environmental Protection, Natural Resources Defense Council, Citizens for Pennsylvania's Future and Sierra Club, several State and federal legislators and the Governor of the Commonwealth of Pennsylvania (petitioners).

[9] Commonwealth of Pennsylvania Department of Environmental *Protection* v. *EPA,* No. 07–1129 (D.C. Cir.); Citizens for Pennsylvania's Future and *Sierra Club* v. *EPA,* No. 07–1255 (D.C. Cir.); *Natural Resources Defense Council* v. *EPA,* No. 07–1256 (D.C. Cir.). These cases have since been consolidated.

[10] These sources include halogenated solvent cleaning machines used by facilities that manufacture narrow tubing, facilities that manufacture specialized products requiring continuous web cleaning machines, and aerospace manufacturing and maintenance facilities.

[11] These sources include halogenated solvent cleaning machines at military maintenance and depot facilities and the general population of halogenated solvent cleaning machines. The general population of halogenated solvent cleaning machines includes all halogenated solvent cleaning machines, except those machines used by facilities that manufacture narrow tubing, facilities that manufacture specialized products requiring continuous web cleaning, aerospace manufacturing and maintenance facilities, and military maintenance and depot facilities.

EPA to re-evaluate the data and assumptions used to estimate risks, costs and technical feasibility of compliance with the co-proposed emission limits.

In the Halogenated Solvent Cleaning rule, we presented our re-evaluation of risks, costs and technical feasibility of compliance with the co-proposed emission limits. As a result of our re-evaluation, we promulgated a facility-wide emission limit of 60,000 kg/yr MC equivalent for all halogenated solvent cleaning machines with the exception of halogenated solvent cleaning machines used by facilities that manufacture narrow tubing, facilities that use continuous web cleaning machines, aerospace manufacturing and maintenance facilities, and military maintenance and depot facilities. We determined that this emission limit would provide an ample margin of safety to protect health and prevent adverse environmental effects. For all halogenated solvent cleaning machines used at military maintenance and depot facilities, we promulgated a facility-wide emission limit of 100,000 kg/yr MC equivalent that would provide an ample margin of safety to protect health and prevent adverse environmental effects. We also set a compliance deadline of three years from the effective date of the Halogenated Solvent Cleaning rule. Finally, with regard to facilities that use continuous web cleaning machines and halogenated solvent cleaning machines used by facilities that manufacture narrow tubing and aerospace manufacturing and maintenance facilities, we found that the current level of control required by the 1994 NESHAP reduces HAP emissions to levels that provide an ample margin of safety to protect public health and prevent any adverse environmental effects.

As noted earlier above, following promulgation of the Halogenated Solvent Cleaning rule, the Administrator received several petitions for reconsideration, under CAA Section 307(d)(7)(B). In general, petitioners alleged that the following issues appeared for the first time in the Halogenated Solvent Cleaning rule, making it impracticable to raise objections during the period provided for public comment: The 60,000 kg/yr MC equivalent limit for the general population of halogenated solvent cleaning machines; the 100,000 kg/yr MC equivalent limit for halogenated solvent cleaning machines used by military maintenance and depot facilities; EPA's decision to use in support of its risk assessment, data from the 2002 National Emissions Inventory (NEI) as opposed to data from the 1999 NEI; EPA's conclusion that the 1994 NESHAP reduces risk to acceptable levels and provides an ample margin of safety to protect public health for aerospace manufacturing and maintenance facilities, facilities that manufacture narrow tubing, and facilities that use continuous web cleaning machines; EPA's technical feasibility and cost analyses in the final rule; and the 3-year compliance period for existing sources.

Petitioners also provided information on technical feasibility that was not otherwise available to EPA at the time of promulgation of the Halogenated Solvent Cleaning rule. That information shows certain facilities that manufacture narrow tubing either taking steps or planning to take steps to reduce HAP emissions at their facilities. This information is discussed in greater detail below.

In response to the petitions, we are reconsidering various issues, and those issues are described in detail below.

III. Discussion of Issues Subject to Reconsideration

A. Baseline Risk Assessment and Decision on Acceptable Risk

In addition to the general issues raised above, petitioners raised several specific issues relating to the baseline risk assessment and EPA's decision on acceptable risk.

Before discussing the issues on which we are granting reconsideration, we would like to clarify a misunderstanding that was revealed to us in the Petitions. Specifically, certain petitioners contend that by removing facilities that use continuous web cleaning machines, and halogenated solvent cleaning machines used by facilities that manufacture narrow tubing, aerospace manufacturing and maintenance, and military maintenance and depot facilities in the risk assessments for the Halogenated Solvent Cleaning rule, we failed to consider the health risks from the entire source category and thus, that the Halogenated Solvent Cleaning rule deviated from the Benzene NESHAP (54 FR 38044, September 14, 1989) framework and CAA Section 112(f)(2)(B). Petitioners also contend that the risks associated with the source category are ''gross underestimates of actual risks'' because of our removal of this subset of sources. One petitioner asserts that because the risk assessment at proposal showed the baseline maximum individual risk (MIR) as 200-in-1 million with 0.40 annual cancer incidences, as compared to 100-in-1 million and 0.55 annual cancer incidences presented in the Halogenated Solvent Cleaning rule, the resulting 38 percent increased cancer incidence was not subject to public comment. The petitioner further contends that cancer risks would have increased beyond 38 percent but for the exemptions of certain halogenated solvent cleaning machines that had a further effect of removing the Collegeville, PA, population from the population risk distribution.

However, contrary to petitioners understanding, we performed a risk assessment for the entire halogenated solvent cleaning machines source category both for the August 2006 Proposal (71 FR 47670) and for the Halogenated Solvent Cleaning rule (72 FR 25138). Our re-evaluation of risks involved the re-assessment of the risks for the entire category using both the 1999 and the 2002 NEI inventory (discussed in greater detail, below), which was not available at the time of the August 2006 Proposal, but was available for the Halogenated Solvent Cleaning rule. The preamble and risk assessment also provided separate analyses for each of the industry sectors (facilities that manufacture narrow tubing, aerospace manufacturing and maintenance, military maintenance and depots, facilities that use continuous web cleaning machines) and the subset of remaining facilities not included in one of these four sectors that make up the halogenated solvent cleaning source category. This approach allowed us to compare the risk contribution of each sector to the overall risks presented by the facilities in the halogenated solvent source category. In this way, we were able to show the contribution of each sector's risk to the risk from the entire category. Therefore, contrary to petitioners' allegations, our re-analyses of the risks in the Halogenated Solvent Cleaning rule did not exclude a subset of the halogenated solvent cleaning machines source category and therefore, did not understate or fail to consider a portion of the risks associated with the entire source category.

With regard to the issues on which EPA is granting reconsideration, one petitioner states that we failed to consider the risk assessment prepared by the Commonwealth of Pennsylvania Department of Environmental Protection (PADEP),[12] and that our maximum

[12] In addition to raising the PADEP risk assessment in their Petitions, Petitioners identified certain other documents dated after the close of the public comment period, which they argue are of central relevance to the Halogenated Solvent Cleaning rule. If the Petitioners believe that these documents are relevant to the issues on which we

Continued

individual cancer risk level of 70-in-1 million associated with the narrow tubing industry was erroneous given the associated risks of 160-in-1 million indicated by PADEP's risk assessment. Another petitioner contends that the certain assumptions underlying EPA's risk assessment for the Halogenated Solvent Cleaning rule are erroneous. In support of its position, the petitioner cites EPA's use of census block centroids to predict MIR. The petitioner argues that EPA should have estimated risk at the nearest residence and that EPA's census block approach may have resulted in an underprediction of risk.

We reviewed the risk assessment prepared by the PADEP, and we disagree with their conclusion that our estimated MIR risk level associated with the narrow tubing industry is erroneous. The PADEP risk assessment was based on ambient monitoring data collected in 2004. (PADEP continues to collect ambient data on TCE in the Collegeville, PA, area.) From 2004 to 2007, the annual average TCE concentrations measured over the 4 years ranged from 0.6 micrograms per cubic meter ($\mu g/m^3$) to 1.5 $\mu g/m^3$ (avg. = 0.9 $\mu g/m^3$) at the Evansberg, PA site and 1.2 $\mu g/m^3$ to 1.3 $\mu g/m^3$ (avg. = 1.3 $\mu g/m^3$) at the Trappe, PA, site. We extended our risk assessment, which was based on dispersion modeling of TCE emissions from the two Collegeville, PA, halogenated solvent cleaning facilities in the 2002 NEI emissions inventory, to estimate TCE concentrations of 0.8 $\mu g/m^3$ and 1.4 $\mu g/m^3$ at the Evansberg and Trappe monitoring sites, respectively. Thus, from an ambient air concentration perspective, the two risk assessments are consistent. The risk assessments differ, however, because TCE exposures were assessed using different cancer unit risk estimates (URE) for TCE. Following the long-established EPA policy, we used the California EPA (CalEPA) inhalation URE for TCE. In contrast, PADEP used a unit risk value for TCE developed by EPA in a draft report issued in 2001. That draft report was subjected to peer review by the EPA's Science Advisory Board, and the Board raised several important issues. As a result of the Science Advisory Board's input on the draft report, EPA asked the National Academy of Sciences (NAS) to examine issues critical to developing an objective, realistic, and scientifically-based health assessment of TCE. The NAS released their report in 2006, providing EPA further insight as they develop a revised health risk assessment for TCE. EPA never finalized the 2001 draft report because of the significant issues raised by the Science Advisory Board and NAS. Thus, PADEP's use of EPA's draft 2001 TCE risk assessment neither satisfies the basic requirements of our peer review policy, nor is the draft 2001 TCE risk assessment currently endorsed by the EPA's Office of Research and Development.

In addition, PADEP used an oral cancer slope value from the draft TCE document instead of the inhalation value derived in that document, and extrapolated the oral cancer slope factor for use in their inhalation risk assessment. Use of such an extrapolation is considered substantially inferior to use of values developed directly from inhalation data. PADEP's use of the draft extrapolated URE in their assessment resulted in the estimation of a maximum individual cancer risk of 160-in-1 million at the Trappe site, a risk which is approximately 50 times higher than what the EPA risk assessment indicates for that location. Thus, while both risk assessments are consistent with respect to the estimates of ambient TCE concentrations around these monitoring sites, there is a significant difference in the estimation of individual cancer risk. The difference results from PADEP using a cancer potency value that would not be considered acceptable under EPA's Information Quality Guidelines because it did not withstand a rigorous scientific peer review.

Several petitioners stated that the EPA's decision to use available data from the 2002 NEI, instead of data from the 1999 NEI as proposed, appeared for the first time in the Halogenated Solvent Cleaning rule, making it impracticable to raise objections during the period provided for public comment.

Based on public comments on our August 2006 Proposal, our risk assessment for the entire source category that was presented in the Halogenated Solvent Cleaning rule used the 2002 NEI database instead of the 1999 NEI database as presented at proposal. The 2002 NEI database was unavailable at proposal. Further, since receipt of the petitions, we have conducted additional risk assessments using facility emissions from both the 1999 and 2002 NEI, explicitly assessing the risks separately for each of the industry sectors identified above at various levels of control, similar to our August 2006 Proposal and the Halogenated Solvent Cleaning rule. In this way, we have been able to show the contribution of each sector's risk to the risk from the entire source category. The 1999 NEI contains information for 1,167 halogenated solvent cleaning facilities, out of which 743 emit carcinogenic HAP. The 2002 NEI contains information for 1,080 halogenated solvent cleaning facilities, out of which 734 emit carcinogenic HAP. Considering the uncertainties associated with the development of emission inventories, we consider neither the 1999 nor the 2002 NEI to be accurate in an absolute sense. Rather, we consider them to be our best estimates of annual snapshots of emissions for this source category. For each base year risk assessment, we scale-up the modeled results to reflect what we believe to be the true number of facilities in the source category, approximately 1,900. Given our knowledge of the NEI database and as a result of meetings with industry we believe that 1,900 is a better estimate of the number of sources in the source category.

To develop an estimate of facilities currently operating, EPA asked State and EPA regional source category contacts for estimates of the number of cleaning machines in their jurisdictions. As a result of that effort, EPA concluded that there were 3,821 halogenated solvent cleaning machines nationwide. EPA also determined that there was on average about two machines per facility, therefore, EPA estimated a total of 1,932 solvent cleaning facilities currently existing nationwide. Therefore, for the development of this rule, the number of sources in this source category was assumed to be about 3,800 cleaning machines located at 1,900 facilities nationwide. This estimate is based on information collected by EPA in 1998 and in 2005. If the scale-up had not been implemented the cost and HI results would be reduced by 56 percent (given that the scale-up factor is 1.76) relative to the number of facilities and may not truly represent the affected universe. We request comment on the use of the scale-up to accurately represent the universe of sources.

In addition, the Johnson and Capel (1992) population mobility model,[13] used to develop the population risk distribution for the Halogenated Solvent Cleaning rule, was updated subsequent to promulgation of that rule. The updated model reflects the use of more recent Surveys of Income and Program

are granting reconsideration in this rule, we invite petitioners to submit the documents to EPA during the public comment period. We will consider such documents at the same time we consider all significant comments received during the comment period for this action.

[13] Ted Johnson and Jim Capel. 1992. A Monte Carlo Approach to Simulating Residential Occupancy Periods and Its Application to the General U.S. Population, EPA–450/3–92–011, U.S. Environmental Protection Agency, Research Triangle Park, N.C. (This information has been placed in the docket for this rule).

Participation (SIPP) data and a newer, more complete modeling approach. The new model randomly selects subjects from the U.S. Census Bureau's American Community Survey database,[14] and estimates time already spent in the residence, future time to be spent in the residence, and future length of life. These estimates are then combined to predict the total time, past and future, that the subject would occupy the current residence. Results are then compared with SIPP residence time data and adjusted to compensate for ''residential inertia'' (i.e., a tendency in the SIPP data for long-term residents to have lower-than-expected move rates). As a result of this update to the modeling approach, the baseline population risk estimates in this preamble differ somewhat from those presented in the Halogenated Solvent Cleaning rule. This preamble (section III) presents risk estimates based on the 2002 NEI. We believe the 2002 NEI is likely to provide more accurate estimates of current emissions from the source category (compared to the 1999 NEI), reflecting known decreases in solvent demand and use.

Since promulgation of the Halogenated Solvent Cleaning rule, we have also become aware of a newer assessment for non-cancer effects of TCE developed by the New York State Department of Health (NYS DOH). The NYS DOH states that their ''air criterion,'' is ''essentially equivalent to an United States Environmental Protection Agency's (US EPA, 2002a) reference concentration (RfC) * * * or an Agency for Toxic Substances and Disease Registry's (ATSDR, 1996) chronic minimal risk level (MRL) * * * .'' [15] In addition to evaluating a number of studies which look at numerous different toxicological endpoints, the NYS DOH air criterion relies on a 1993 study which evaluated clinical neurological effects (as measured by coordination tests) in 99 Danish workers. For 70 of these workers, the dominant exposure was TCE, while for 25 of the workers the dominant exposure was to CFC 113. Air exposures were extrapolated from measurements of the urinary metabolite TCA. Limitations of this study include some uncertainty about the actual long-term exposure levels of the workers to TCE during their employment, and that 25 of the 99 subjects were exposed primarily to CFC 113. The NYS DOH assessment is limited by gaps in the data on developmental effects and immunotoxicity, and concerns about adequacy of methods for evaluating health risks to children (limitations it shares with the CalEPA assessment). The results of the scientific review are described in the NYS DOH toxicological review document.[16]

The CalEPA inhalation reference exposure level (REL) [17] used in the risk assessment for this proposal and our previous assessment was based on a 1973 study of 19 workers who experienced symptoms of drowsiness, fatigue, headache, and eye irritation. CalEPA identified the use of human exposure data from workers exposed over a period of years as a strength of the REL. The lack of reproductive and developmental toxicity studies and the lack of a no effect level were identified as major areas of uncertainty. Both CalEPA and NYS DOH had an external peer review process and allowed for public comment before finalizing their respective assessments. The NYS DOH assessment was finalized in 2006 and the CalEPA assessment was finalized in 2000.

Non-cancer risk results were derived using the NYS DOH TCE air criterion as well as using the CalEPA value in the additional risk assessments completed since promulgation of the Halogenated Solvent Cleaning rule. The results of our additional risk assessments are summarized in section III of this preamble and the complete documentation is available in the docket for this rulemaking. In this action, we are providing this additional risk analysis and are soliciting comment on it, including comments on the use of the NYS DOH air criterion. We note that we received no comments recommending use of the NYS DOH TCE air criterion either in comment on the proposed rule, in comment on the NODA, or in any of the petitions for reconsideration submitted to the EPA.

The additional risk assessment conducted in support of this proposal reaffirms our baseline risk analysis that was presented in the Halogenated Solvent Cleaning rule. The results are summarized in Table 1, below. Specifically, the analysis confirms that: (1) The baseline MIR for the entire source category is approximately 100-in-1 million and (2) the total cancer incidence associated with the source category is approximately 0.55 cases per year. The updated population risk distribution at baseline emission levels shows that 100 people are exposed to risk levels at or above 100-in-1 million, 82,000 people are estimated to have risks between 10-in-1 million and 100-in-1 million, and 8,000,000 people are estimated to have risks between 1-in-1 million and 10-in-1 million. These values can be compared to the baseline risk estimates that we presented in the Halogenated Solvent Cleaning rule, i.e., about 25 people exposed to risks at or above 100-in-1 million, about 22,000 people at estimated risks between 10-in-1 million and 100-in-1 million risk level, and about 4,000,000 people at estimated risks between 1-in-1 million and 10-in-1 million.

Additionally, in our previous risk assessment for the Halogenated Solvent Cleaning rule, the maximum hazard index (HI) was 0.2 (this HI is associated with the compound TCA), and there were no facilities with a HI greater than 1. However, if we were to use the NYS DOH air criterion for TCE mentioned above, rather than the CalEPA REL and apply the national scaling factor [18] we estimate that there are ten facilities with HI greater than 1 and a maximum HI of 7. A chronic HI less than or equal to 1 indicated that there is no appreciable risk of adverse effects. Although, a chronic HI greater than 1 raises concern over potential toxicity, the numerical magnitude of the HI must be interpreted in the context of the supporting information. Thus, we examined these ten HI values greater than 1 in the context of uncertainties and additional supporting information. In the risk assessment document used to support the August 2006 proposal, we stated that the approach used then (and in all subsequent risk analyses for this source category) was a reasonable one which was more likely to over-predict risks than under-predict them. When we consider the distribution of the population at different HI levels, we see that out of a total exposed population of approximately 6 million people living around the ten facilities, only 2,000 people are estimated to be exposed to concentrations whose HI values exceed 1. Further, when the underlying information for the NY value is considered, we see that the NYS DOH air criterion incorporates a significant

[14] U.S. Census Bureau, 2007. American Community Survey. Available online at *http://www.census.gov/acs/www/.*

[15] New York State Department of Health, Trichloroethene Air Criteria Document, October 2006, page 1, *http://www.health.state.ny.us/environmental/chemicals/trichloroethene/docs/cd_tce.pdf.*

[16] NYS DOH toxicological review document. *http://www.health.state.ny.us/environmental/chemicals/trichloroethene/docs/cd_tce.pdf.*

[17] California EPA, 1999. Chronic toxicity summary: Trichloroethylene. Office of Environmental Health Hazard Assessment. *http://www.oehha.ca.gov/air/chronic_rels/pdf/79016.pdf.*

[18] The 2002 NEI contained 1,080 facilities and we estimate that there are a nationwide total of 1,900 facilities in this source category, we scale up the facility population by a factor of 1.76 to obtain an estimated total of facilities for the HI analysis.

degree of health protection in its use of a composite uncertainty factor of 1000. The range of maximum HI values (0.2 to 7) resulting from consideration of reference values from both CalEPA and NYS DOH is indicative of the range of uncertainty in the toxicity estimates for TCE. When the NYS DOH value is used, the maximum HI is 7; however, when the CalEPA value is used, the maximum HI becomes 0.2 and the 0.2 value is no longer driven by TCE emissions, but by TCA emissions. Thus, considering that our models would tend to overestimate risk, the limited number of people living around these ten facilities whose exposures correspond to HI values above 1, and the health-protective factors inherent in the derivation of the NY central nervous system value, we conclude that the chronic non-cancer risks estimated around these ten facilities using the NY criteria value and associated with the baseline scenario are, in this case, acceptable. We are seeking comment on whether the scaling factor applied to the narrow tubing facilities and population exposed, as discussed earlier, is appropriate in this case.

We have not conducted any additional assessment of environmental risks for this source category. The record established in the Halogenated Solvent Cleaning rule is sufficient to conclude that ''no adverse environmental effects,'' as defined in CAA section 112(a)(7), are associated with the emissions from these sources. After considering all of these health risk measures and factors in this action, we are again concluding that the risks associated with the 1994 NESHAP are acceptable.

TABLE 1—ESTIMATED BASELINE CANCER RISK, POPULATION RISK DISTRIBUTION, AND ESTIMATED NUMBER OF FACILITIES AT VARIOUS RISK LEVELS USING NEI 2002 DATA: SCALED TO NATIONAL LEVEL—ALL HALOGENATED SOLVENT CLEANING FACILITIES

Cancer risk results	Baseline no control
Estimated maximum individual lifetime cancer risk (per million) [1]	100
Estimated annual cancer incidence [2]	0.55
Estimated lifetime cancer risk (per million) # persons	
	100
≥ 10 to < 100	82,000
≥ 1 to < 10	8,000,000
Total Pop ≥ 1	8,082,100
Total Population Living within 50 km of any Halogenated Solvent Cleaner	200,000,000
Estimated lifetime cancer risk (per million) # facilities	
	9
≥ 10 to < 100	86
≥ 1 to < 10	394
< 1 (only carcinogen emitters)	802
< 1 (including sources emitting non-carcinogens) [3]	1,411
Estimated total number of facilities [4]	1,900

[1] Estimated maximum individual lifetime cancer risks are rounded to one significant figure.
[2] Estimated annual cancer incidence and population counts have been rounded to two or three significant figures where appropriate.
[3] Includes facilities with cancer risk < 1 plus 609 (346 scaled up) of the Year 2002 facilities that emit only the non-carcinogen 1,1,1-trichloroethane (TCA).
[4] Represents the total number of facilities in this category. This facility count should equal the sum of facilities with any MIR greater than or equal to 1 and the number of facilities with less than 1 (including sources emitting non-carcinogens).

B. Decision on Ample Margin of Safety

Petitioners raised a number of issues related to the approach and information that we used in making the ample margin of safety determination in the Halogenated Solvent Cleaning rule. In the following sections we summarize and address these issues. In addition, the following sections present regulatory options that we are proposing in this action, as well as health information, cost information, and other relevant factors that support an ample margin of safety analysis for those options. Finally, this section provides reasons why EPA might choose one option over another in our final action.

1. What is the approach used in making the ample margin of safety determination?

Petitioners raised a number of issues pertaining to EPA's overall approach to conducting ample margin of safety analyses and making ample margin of safety determinations, and we address these issues in this section of the preamble. The petitioners also raise a number of points directed at EPA's obligations and discretion under the CAA, as well as our exercise of those obligations and that discretion. Issues raised by petitioners that pertain to more specific topics or analyses related to our ample margin of safety determination are addressed later in this notice.

Several petitioners contend that our finding for facilities that manufacture narrow tubing that the 1994 NESHAP provides an ample margin of safety to protect public health is arbitrary and capricious because it rests on an ''erroneous assumption that the MIR from (narrow tubing) facilities is 70-in-1 million'' given that PADEP risk data indicated risks of 160-in-1 million associated with the same facilities in the Collegeville, PA area. As discussed in the previous section, we believe that the PADEP risk assessment is in error, and instead rely on our estimated baseline MIR for the narrow tubing industry of 70-in-1 million. One petitioner also contended that ''(d)espite the principle articulated by EPA in the Benzene NESHAP that residual risk standards

should 'protect the greatest number of persons possible to an individual lifetime risk level no higher than approximately 1-in-1 million,' '' the Halogenated Solvent Cleaning rule failed to demonstrate that it reduced risk in this manner. Petitioners further claim that consideration of cost-effectiveness of controls in making an ample margin of safety finding is unlawful and does not conform to the Benzene NESHAP approach. For example, one petitioner stated that ''EPA claims that 'incremental' reductions in risk that would result from the 40,000 kg/yr instead of the 60,000 kg/yr are not cost-effective.'' Petitioners argue that cost and cost-effectiveness are different concepts and CAA section 112(f)(2)(B) does not contemplate basing the ample margin of safety analysis on cost-effectiveness. The petitioner stated that EPA's reliance on cost-effectiveness changes the inquiry from whether the residual risk standards provide an ample margin of safety to protect public health, as intended by Congress, to a far more discretionary inquiry of whether controls measures are cost-effective.

Petitioners claim that CAA section 112(f)(2)(B) does not contemplate basing the ample margin of safety analysis on cost-effectiveness, suggesting that EPA inappropriately and impermissibly considered cost-effectiveness as well as incremental cost-effectiveness (as opposed to just cost) in making our ample margin of safety determination.

EPA disagrees with the petitioners and contends that the CAA contemplates consideration of cost-effectiveness in ample margin of safety determinations. The Benzene NESHAP, which is incorporated into CAA section 112(f)(2) by reference, explains that in the second step of the ample margin of safety analysis we consider all of the health risks and other health information considered in the first step—determining what level of risk is acceptable. The Benzene NESHAP goes on to explain that in the second step; in the ample margin of safety decision, we consider additional factors relating to the appropriate level of control, including costs and economic impacts of controls, technological feasibility, uncertainties and other relevant factors. To reiterate, in the second step of the ample margin of safety determination, we adopt standards at the level that provides an ample margin of safety to protect public health. That level may be equal to or more stringent than the acceptable risk level. The EPA's authority to consider such factors was affirmed in *NRDC* v. *EPA*, 529 F.3d. 1077, 1083 (D.C. Cir. 2008), which stated:

> * * * subsection 112(f)(2)(B) expressly incorporates EPA's interpretation of the Clean Air Act from the Benzene standard, complete with a citation to the **Federal Register**. In that rulemaking, EPA set forth its standard for benzene ''at a level that provides an 'ample margin of safety' in consideration of all health information * * * as well as other relevant factors *including costs and economic impacts,* technological feasibility, and other factors relevant to each particular decision.'' 54 FR 38045. (Emphasis in original).

In discussing the second step of the ample margin of safety analysis in the Benzene NESHAP, the EPA stated that other relevant factors, aside from cost and feasibility, could include, but are not limited to, impact on the national economy, small business impacts, cost-effectiveness, incremental cost-effectiveness, or net benefits. Indeed, with regard to the consideration of cost-effectiveness and incremental cost-effectiveness, the Benzene NESHAP states that:

> Because the court (in Vinyl Chloride) has specifically sanctioned the consideration of costs as well as feasibility of controls, it is clear that Vinyl Chloride does not require imposition of the maximum feasible controls without regard to cost or effectiveness. (54 FR 38057).

The EPA further stated in the Benzene NESHAP that:

> * * * EPA concluded that all the relevant health, technological and economic information should be considered in making the ample margin of safety decision. Accordingly, EPA rejects the position that the maximum feasible control technologies should be applied in all cases and accepts the position that an analysis of incremental risk reduction benefits versus incremental costs of additional controls be performed to help determine if additional control is warranted. (54 FR 38061).

Based on the foregoing, the EPA can consider, among other things, cost-effectiveness and incremental cost-effectiveness in the second step of the ample margin of safety decision.

Petitioners contend that even if CAA section 112(f)(2)(B) allows for consideration of cost-effectiveness, the EPA failed to provide a reasoned explanation supporting its cost conclusions in the Halogenated Solvent Cleaning rule. In particular, the petitioners argue that the EPA has not explained why the cost and cost-effectiveness values estimated by the EPA for options that were assessed in the rule, but ultimately rejected, were unacceptable. Petitioners also contend that in the past the EPA has promulgated other rules where estimates of cost or cost-effectiveness are within the range of those for options rejected in the Halogenated Solvent Cleaning rule. For example, Petitioners assert that a $3,600/ton cost-effectiveness is well within range of cost-effectiveness that the EPA has found acceptable in the past for less toxic pollutants. Petitioners also question why a cost-effectiveness of $3,400/ton and $2,000/ton for facilities that use continuous web cleaning machines and aerospace manufacturing and maintenance facilities, respectively, is not reasonable. Petitioners further contend that a cost-effectiveness of $520/ton and annualized costs of $1.2 million for the proposed 25,000 kg/yr MC equivalent limit and $74/ton and annualized costs of $130,000 for the proposed 40,000 kg/yr MC equivalent limit are well within the range of costs the EPA has found acceptable in the past. Some petitioners also contend that the EPA failed to calculate costs of 30 percent TCE reduction as indicated in response to comments at proposal by one facility that manufactures narrow tubing.

The EPA's rationale supporting its ample margin of safety decision was set forth in the Halogenated Solvent Cleaning rule. Consistent with the Benzene NESHAP, after determining that risks were acceptable, the EPA weighed the health information evaluated in the acceptability determination and other relevant factors as specified in the Benzene NESHAP to determine the appropriate level of control to provide an ample margin of safety (e.g., see excerpts from the EPA's analysis in the Halogenated Solvent Cleaning rule, below). As noted above, the Benzene NESHAP is inherently and necessarily flexible regarding what factors the EPA might consider, and how they might be weighed, in our ample margin of safety analysis, stating that ''* * * EPA believes the relative weight of the many factors that can be considered in selecting an ample margin of safety can only be determined for each specific source category. This occurs mainly because technological and economic factors (along with the health-related factors) vary from source category to source category.'' (54 FR 38061).

Concerning the petitioners' assertion that the EPA did not explain why the magnitude of certain cost and cost-effectiveness values that supported the EPA's decision were unacceptable, and the petitioner's contention that these values are in fact similar to values estimated for other pollutants in previous rulemakings, the EPA affirms that we conducted our analysis in

accordance with the framework established in the Benzene NESHAP. With regard to comparing cost or cost-effectiveness values to values in past rules, the EPA points out that the Benzene NESHAP specifically discourages such a practice: ''(EPA) does not intend to use 'bright-line' cost-effectiveness ratios to make the ample margin of safety decision but rather will consider such information with all the other relevant information available for this decision.'' (54 FR 38061). Further, as explained above, the Benzene NESHAP provides that the ample margin of safety analysis is a category-specific determination (''the relative weight of the many factors that can be considered in selecting an ample margin of safety can only be determined for each specific source category'') reflecting the consideration of a number of factors, all of which may be weighed differently for different source categories such that comparisons of the magnitudes of factors are rendered meaningless.

The EPA also clearly explained how we determined ample margin of safety and why the minimal risk reductions achieved by the options we ultimately rejected in the Halogenated Solvent Cleaning rule did not warrant the disproportionate costs. For example, in addition to other detailed results, we stated in the Halogenated Solvent Cleaning rule that:

> The finding regarding an 'ample margin of safety' is based on a consideration of the relatively small reductions in health risks likely to result from the feasible emission reductions we evaluated, the additional costs required to achieve further control, the lack of technically feasible control options for these sectors, and the time required to comply with any requirements. (72 FR 25146)

and

> Therefore, we believe that a requirement for these facilities to meet a 100,000 kg/yr MC equivalent emission limit is technically feasible, provides an annual and long-term cost savings, provides an ample margin of safety to protect public health and prevents adverse environmental effects. (72 FR 25145)

and

> After considering revisions to the risk and cost estimates presented at proposal, we believe that the 60,000 kg/yr MC equivalent emission limit for those halogenated solvent cleaning machines not identified as being in use by one of the four sectors discussed in section II, above, protects public health with an ample margin of safety and prevents adverse environmental effects. Specifically, the 60,000 kg/yr level reduces 90 percent of the HAP emissions reduced at the 40,000 kg/yr level. The 60,000 kg/year emission limit achieves reductions in MIR and cancer incidence that are similar to those expected at the 25,000 kg/yr and 40,000 kg/yr emission levels. The incremental reduction in emissions with a 40,000 kg/yr level instead of 60,000 kg/yr imposes an incremental cost of $1.5 million per year. The incremental cost per ton of this reduction is roughly $9,000/ton.
>
> Moreover, in comparing the 40,000 kg/yr and the 60,000 kg/yr emission limits, the incremental cost per cancer case avoided, $73 million/case, is substantial, supporting our conclusion that the $60,000 kg/yr emission limit provides an ample margin of safety consistent with the Benzene NESHAP. (72 FR 25145)

Moreover, contrary to the petitioners' claims, an analysis such as the one we provided in the Halogenated Solvent Cleaning rule is consistent with, and more comprehensive than, similar analyses presented in the Benzene NESHAP. For example, one ample margin of safety analysis in the Benzene NESHAP offered the conclusion that:

> * * * this control option will reduce benzene emissions by 70 to 90 Mg/yr, which represents less than an additional one percent reduction over the uncontrolled level. The cost of this additional emission reduction (and consequent risk reduction) would be about $200,000/yr (1982 dollars). While this additional cost is small, it is disproportionately large in comparison to the small additional emission and risk reduction achieved. (54 FR 38050)

While it is ultimately irrelevant (for the reasons stated above), the EPA notes that annualized costs rejected in the Benzene NESHAP itself—$200,000 per year in 1982 dollars, or approximately $430,000 [19] per year in 2007 dollars—are even less than the cost estimates for options that the EPA rejected that are cited by the petitioners (e.g., see above where the petitioner cites $600,000; $630,000, and $700,000 per year).

Petitioners cite to the Benzene NESHAP, arguing ''that residual risk standards should 'protect the greatest number of persons possible to an individual lifetime risk level no higher than approximately 1-in-1 million.' '' Petitioners focus, however, on one facet of the Benzene NESHAP in isolation, without accounting for the fact that the EPA evaluates various factors as part of the ample margin of safety determination. Specifically, the Benzene NESHAP states that ''* * * EPA strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately 1 in 1 million and (2) limiting (maximum individual risk, the MIR) to no higher than approximately 1 in 10 thousand * * *'' (54 FR 38044–38045). The Benzene NESHAP continues with an explicit statement that

> ''(i)mplementation of these goals is by means of a two-step standard-setting approach'' (54 FR 38045), which the notice explains further in greater detail. As described in this preamble (and in the Halogenated Solvent Cleaning rule), the EPA has implemented the two-step standard-setting approach to achieve these goals. As an additional note, the EPA points out that the Benzene NESHAP is unambiguous that ''* * * it is clear that * * * (the court) does not require imposition of the maximum feasible controls without regard to cost or effectiveness'' (54 FR 38057).

Petitioners further claim that category-wide residual risk standards must be set for the entire source category, but that the EPA's rule exempted certain machines. First, the EPA would like to reiterate that we did not ''exempt'' machines in our Halogenated Solvent Cleaning rule. The EPA implemented the statutorily-mandated two-step Benzene NESHAP framework and ultimately re-adopted the 1994 NESHAP for certain segments of the source category. Our authority to re-adopt the NESHAP in our residual risk rulemaking was recently affirmed by the United States Court of Appeals for the District of Columbia Circuit in *NRDC* v. *EPA, 529 F.3d 1077* (D.C. Cir. 2008). In that case, the court stated that ''If EPA determines that the existing technology-based standards already provide an 'ample margin of safety,' then the agency is free to readopt those standards during a residual risk rulemaking.'' In this rule, we have adhered to the two-step approach set forth in the Benzene NESHAP, and we are proposing a range of regulatory options.

2. Overview of Options Examined

Similar to the approach taken in our August 2006 Proposal and discussed in the Halogenated Solvent Cleaning rule, we have evaluated a range of regulatory options and have assessed the residual risk reductions that could be achieved if post-MACT HAP emissions were controlled further. These options incorporate MC equivalent based emission limits because we continue to believe that such emission limits (e.g., as promulgated in the Halogenated Solvent Cleaning rule that is the subject of this reconsideration) may provide an opportunity for additional risk reduction. These options were derived from information on the availability and feasibility of specific emission control technologies or practices, and are expressed as maximum facility-wide

[19] Escalation in costs is calculated using the CPI–U *(ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt)*.

emission limits and requirements that would apply to the total emissions from all of a facility's solvent cleaning machines that are subject to the 1994 NESHAP. This proposal also reflects our investigations of information received subsequent to promulgation of the Halogenated Solvent Cleaning rule and our belief based on that information that certain emission limits could be achieved through both solvent switching and traditional technologies and practices for some sectors of the category. We have produced additional risk and cost analyses to support the evaluation of these proposed regulatory options.

We recognize that some commenters may either endorse aspects of one or more of the proposed regulatory options or advocate for a combination of the options in ways other than presented in this proposal. Specifically, comments that we receive may lead us to conclude that the most appropriate regulatory approach would be one that combines sector-specific alternatives from different options. This proposal seeks to allow such an approach by providing the risk (Table 3, section III) and cost (Table 5, section III) estimates that correspond to each of the sector-specific alternatives that make up the broader options (Options 1, 2, and 3) we are proposing. The estimated risk reductions and associated costs for Options 1, 2 and 3 are presented in Tables 2 and 4 below. This approach differs from our August 2006 Proposal where we explicitly solicited comments on only two co-proposed options, although we had also developed six emission levels to evaluate reductions in residual risk if post-MACT emissions (i.e., baseline emissions) were controlled further from this source category. Thus, we are soliciting comments on options 1 through 3, and any combination of the proposed sector-specific options identified in this proposal. Our decision on the final regulatory approach will reflect the comments we receive. The options are summarized below:

i. Proposed Option 1

A 60,000 kg/yr MC equivalent limit would be applicable to sources associated with the general population of halogenated solvent cleaning machines. A 100,000 kg/yr MC equivalent limit would be applicable to halogenated solvent cleaning machines located at military maintenance and depot facilities. With respect to facilities that use continuous web cleaning machines, halogenated solvent cleaning machines used by facilities that manufacture narrow tubing, and halogenated solvent cleaning machines used by aerospace manufacturing and maintenance facilities, we are proposing to re-adopt the 1994 NESHAP under CAA section 112(f)(2) because we are proposing that the current level of control called for by the 1994 NESHAP reduces HAP emissions to levels that present an acceptable level of risk, provide an ample margin of safety to protect public health, and prevent any adverse environmental effects. (This option represents the standards promulgated in the Halogenated Solvent Cleaning rule.)

ii. Proposed Option 2

A 60,000 kg/yr MC equivalent limit would be applicable to sources associated with the general population of halogenated solvent cleaning machines and halogenated solvent cleaning machines used by facilities that manufacture narrow tubing. A 100,000 kg/yr MC equivalent limit would be applicable to halogenated solvent cleaning machines located at military maintenance and depot facilities. With respect to facilities that use continuous web cleaning machines, and halogenated solvent cleaning machines used by aerospace manufacturing and maintenance facilities, we are proposing to re-adopt the 1994 NESHAP under CAA section 112(f)(2) because we are proposing that the current level of control called for by the 1994 NESHAP reduces HAP emissions to levels that present an acceptable level of risk, provide an ample margin of safety to protect public health, and prevent any adverse environmental effects.

iii. Proposed Option 3

A 60,000 kg/yr MC equivalent limit would be applicable to sources associated with the general population of halogenated solvent cleaning machines and halogenated solvent cleaning machines used by facilities that manufacture narrow tubing. A 100,000 kg/yr MC equivalent limit would be applicable to halogenated solvent cleaning machines used by aerospace manufacturing and maintenance facilities and halogenated solvent cleaning machines located at military maintenance and depot facilities. Facilities that use continuous web cleaning machines that exceed 60,000 kg/yr MC equivalent HAP emissions would have to achieve 80 percent overall control efficiency for those units.

3. How Did the EPA Establish the Proposed Regulatory Options?

This section describes our determination that the above proposed regulatory options are technically feasible. Additionally, section III discusses human health risks and costs associated with these options. Similar to our August 2006 Proposal and our May 3, 2007 final rule, we have also re-examined and re-evaluated the impacts to small businesses associated with the alternative emission limits based on supporting information from the Halogenated Solvent Cleaning rule (contained in the docket for that rule) and information we received after promulgation of the Halogenated Solvent Cleaning rule. Our discussion of the small business impacts of this action are presented in section VI of this preamble.

Several petitioners contend that we did not evaluate all of the control options provided in response to our August 2006 Proposal and subsequent NODA. However, the EPA did carefully evaluate specific comments from commenters on costs, on results, on technical compatibility with products and technical feasibility. While commenters identified specific control options, most indicated implementing such controls were not feasible because of physical limitations of the facility or the proposed compliance timeframes.

Petitioners also provided information indicating that certain manufacturers in the narrow tube industry, after the close of the comment period for our August 17, 2006 proposal, either instituted or began planning the installation of various control measures that would have achieved the emission limitations that the EPA co-proposed in August 2006 and contend that this information was of central relevance to the outcome of the Halogenated Solvent Cleaning rule. Petitioners further contend that we excluded available alternative control measures without providing an explanation in the Halogenated Solvent Cleaning rule, that we frequently set technology-forcing standards, and that recognizing the responses by the affected industries regarding compliance difficulty is not an excuse for our failure to set a standard. In the May 3, 2007 rule, the EPA set a final standard according to section 112(f)(2) and 112(d)(6) and provided explanations for that final standard. In response to the petitioners comment on setting technology-forcing standards, the EPA is bound by CAA section 112(f)(2) to make an ample margin of safety decision according to the Benzene NESHAP and not to extend this authority in setting technology-forcing standards. In summary, petitioners contend that the requirements promulgated in the Halogenated Solvent Cleaning rule were not a logical

outgrowth of the August 2006 Proposal and December 2006 NODA.

As part of this reconsideration effort, we have re-analyzed our conclusions on risk, cost, technical feasibility, and compliance deadlines made in the Halogenated Solvent Cleaning rule. In this action and in response to the petitions we reassessed the regulatory options for halogenated solvent cleaning machines used by facilities that manufacture narrow tubing, aerospace manufacturing and maintenance, military maintenance and depot facilities, facilities that use continuous web cleaning machines, and for all other halogenated solvent cleaning machines that are not included in these named sectors.

This proposal is based on supporting data and information from the Halogenated Solvent Cleaning rule (contained in the docket for that rule) and data and information received since promulgation of the Halogenated Solvent Cleaning rule. Data and information received since promulgation of the Halogenated Solvent Cleaning rule indicates the availability of control measures that would enable certain facilities in the narrow tube industry and certain facilities that use continuous web cleaning machines to achieve HAP emission reductions that we did not believe feasible when we finalized the Halogenated Solvent Cleaning rule. In some cases, this proposal reflects a re-evaluation of the information on availability of control measures that we received in response to both the August 17, 2006 proposal and subsequent NODA, in light of information that we received since we promulgated the Halogenated Solvent Cleaning rule.

As in the final Halogenated Solvent Cleaning rule, today's proposal recognizes that certain facilities might be able to use control measures that include retrofit technologies, such as a carbon adsorption device (CAD), and vacuum-to-vacuum machines, switching from HAP to non-HAP solvents, such as n-propyl bromide (nPB), changes to the manufacturing process, and instituting emission reduction programs. Further, this proposal recognizes and reflects the differences between facilities that use continuous web cleaning machines and batch cleaning machines, and acknowledges comments on the August 2006 Proposal and subsequent NODA indicating that control efficiency requirements rather than straight emission limits are a preferable approach for expressing emission limitations for facilities that use continuous web cleaning machines because continuous web cleaning machines must control emissions at both entry and exit points. These comments from some facilities that use continuous web cleaning machines suggested that their emission capture systems could be modified within a 3-year period to achieve an 80 percent overall control efficiency, over uncontrolled emission levels. Control efficiency requirements rather than straight emission limits are a preferable approach for expressing emission limitations for facilities that use continuous web cleaning machines, which is the same conclusion that we made in the final Halogenated Solvent Cleaning rule. In this action, we also are soliciting comments on whether CAD or emission capture systems operating at high efficiency would provide an opportunity for facilities that use continuous web cleaning machines to control up to 80 percent of their emissions. We note that although the final Halogenated Solvent Cleaning rule also considered, but ultimately rejected, such an option, the option in today's proposal (described in more detail below) would restrict this requirement to facilities emitting over 60,000 kg/yr MC equivalent HAP emissions.

i. Narrow Tube Manufacturing Facilities

Petitioners contend that we failed to consider and evaluate various compliance options for the facilities that manufacture narrow tubing despite responses and comments we received on both our August 17, 2006 proposal and NODA. Specifically:

- Petitioners cite comments and responses to both the August 17, 2006 proposal and the subsequent NODA from several facilities that manufacture narrow tubing indicating the likelihood of 25 percent TCE emission reductions through installation of CAD and a capture and control system. The EPA considered this comment in our final rule (see 72 FR 25154) and concluded that while reductions may be obtained, the industry, through their comments, was unable to research, design and implement the necessary technological controls within the compliance period and the EPA's proposed costs.
- Petitioners cite responses by various facilities that manufacture narrow tubing indicating an ability to achieve emission reductions ranging from either 25–35 percent or 50–95 percent through installation of emission control devices and changes in production processes. The EPA considered this comment in developing our final rule and concluded that while reductions may be obtained through solvent switching and installation of controls, the narrow tube manufacturing industry, through their comments, indicated that there was inadequate research available to the industry to warrant solvent switching. They indicated the research, design and implementation could not be accomplished within the EPA's proposed compliance period and would exceed the EPA's proposed costs.
- Petitioners also cite responses indicating the ability of one particular facility to reduce TCE emissions from 68.4 tons per year (tpy) to 52 tpy. The EPA considered this comment in developing our final rule (see 72 FR 25154) and concluded that the industry, through their comments, was unable to research, design and implement the necessary technological controls within the compliance period and EPA's proposed costs. Petitioners further argue that we should have investigated the feasibility of establishing a 100,000 kg/yr MC equivalent emission limit given the response of one facility that manufactures narrow tubing indicating the ability to meet this level within five years of promulgation. The EPA did not develop this option for two reasons: First, Congress limits the EPA's ability to impose compliance periods that exceed three years, and, second, the industrial sector commented that they simply could not implement the necessary technology within the 3-year compliance period permitted by Congress and within the cost parameters the EPA assumed in the August 17, 2006 proposal.

Subsequent to promulgation of the Halogenated Solvent Cleaning rule, Petitioners provided information to the EPA indicating that this industrial sector may, in fact, be capable of complying with the co-proposed limits in our August 17, 2006 proposal within the 3-year compliance period provided in the Halogenated Solvent Cleaning rule. Petitioners also provided information indicating that subsequent to the close of the comment period of the Halogenated Solvent Cleaning rule various facilities that manufacture narrow tubing either installed control devices or were in advanced planning stages to install control devices that would enable them to achieve either of our August 17, 2006 co-proposed emission limits. Specifically, subsequent to promulgation of the Halogenated Solvent Cleaning rule, one facility that manufactures narrow tubing has installed vacuum-to-vacuum machines. Two other facilities that manufacture narrow tubing have switched from solvent HAP to a non-HAP, nPB. One of these two facilities also indicated an ability to achieve eight

percent and 22 percent TCE emission reductions through reconfiguration of two flush degreasers and use of reformulated materials, respectively.[20] Petitioners also provided information indicating that the other of the two facilities was in advanced installation stages for CAD and a capture and control system that would likely achieve 30 percent TCE reduction. This information and supporting documentation have been placed in the docket for this rulemaking.

As explained earlier, our August 17, 2006 proposal would have required all owners and operators of all halogenated solvent cleaning machines to comply with either 25,000 kg/yr or 40,000 kg/yr MC equivalent facility-wide emission limit. We assumed compliance with these limits could be achieved by installation of control technologies, such as vacuum-to-vacuum machines and CAD, and switching solvents, either from PCE to TCE or TCE to MC. We also assumed compliance would be achieved through retrofit technologies such as freeboard ratios, working mode covers and freeboard refrigeration devices. In commenting on our August 17, 2006 proposal, various facilities that manufacture narrow tubing indicated that further HAP control that would be required by the co-proposed standards would likely be achieved only through installation of expensive technology, and that such technologies had yet to be proven either effective or reliable for their manufacturing processes. They also expressed concerns over the proposed compliance period. Additionally, several facilities that manufacture narrow tubing that use PCE indicated that solvent switching was an unsuitable compliance option because they were bound to their customers' procedural requirements for the higher vapor temperature of PCE and thus, that both TCE and MC, which have lower vapor pressure temperature, would be inadequate for proper cleaning. Although some facilities that manufacture narrow tubing indicated the possibility of switching solvents from TCE to nPB, they also stated that it had yet to be proven as a degreaser and thus, had yet to be approved as an alternative solvent by many original equipment manufacturers. They further indicated that such approval processes would likely be beyond the proposed 2-year compliance period. Some facilities that manufacture narrow tubing also described their halogenated solvent cleaning machines as unique due to their large size and capacity and indicated the non-availability of vacuum-to-vacuum machines as a result.

As explained above, subsequent to our evaluation of these comments, we issued a NODA that requested additional information on costs, compliance deadlines and technical feasibility for halogenated solvent cleaning at facilities that manufacture narrow tubing. In response, most facilities that manufacture narrow tubing reiterated and expanded upon the reasons why they were unable to comply with the 25,000 kg/yr and 40,000 kg/yr MC equivalent co-proposed limits due to technological factors, costs and compliance deadline constraints. The facilities that manufacture narrow tubing did, as noted by the petitioners and described at the beginning of this section, outline those emission reduction measures they believed they could achieve. Because we were persuaded by their assertions, we found, after re-evaluating risks, associated compliance costs and availability of control measures, that the 1994 NESHAP both reduces risk to acceptable levels and provides an ample margin of safety to protect public health for halogenated solvent cleaning machines used by facilities that manufacture narrow tubing. In the final Halogenated Solvent Cleaning rule the EPA also considered, but ultimately rejected in our ample margin of safety analysis, a compliance option that would have required a 10 percent reduction in HAP emissions from facilities that manufacture narrow tubing. We believed this reduction could feasibly be achieved by facilities that manufacture narrow tubing within the compliance period through installation of side chambers, however the estimated risk reductions were small in comparison to the cost.

We are now aware, however, that since promulgation of the Halogenated Solvent Cleaning rule, at least four out of 17 facilities that manufacture narrow tubing have either implemented or instituted plans to install control measures and HAP reduction techniques that would likely achieve either of the August 17, 2006 co-proposed limits, *i.e.*, 25,000 kg/yr and 40,000 k/yr MC equivalent limits. These control measures and HAP emission reduction techniques have been implemented within the compliance period—which earlier comments by the facilities indicated was not possible—and include:

- Installing CAD and vacuum-to-vacuum machines (installed by the facilities that manufacture narrow tubing that indicated uniqueness of their halogenated solvent cleaning machines due to size, in their comments on the August 17, 2006 proposal),
- Switching to nPB (a non-HAP solvent), and
- Manufacturing process changes such as cleaning smaller bundles of tubes and/or allowing product to remain in the machine for a longer duration to allow complete condensation of the solvent vapors before removal.

These accomplishments are applauded by the EPA, yet appear to be in direct conflict with the comments submitted on the August 17, 2006 proposal and subsequent NODA.

We are also aware that at least four facilities would not need to install any additional controls in order to comply with these proposed regulatory options. The remaining nine facilities continue to use HAP solvents and operate in accordance with the 1994 NESHAP. We believe the techniques and technologies employed by the four facilities that manufacture narrow tubing may be used by the remaining facilities to achieve further emission reductions to comply with the emission limit of 60,000 kg/yr MC equivalent.

In light of the information that was otherwise not available to the EPA at the time of promulgation of the Halogenated Solvent Cleaning rule, we have reviewed and revised our conclusions on technical feasibility, the compliance deadline and compliance costs associated with meeting the August 17, 2006 co-proposed limits. With the activities completed by these facilities that manufacture narrow tubing, we believe that the remaining facilities that manufacture narrow tubing nationwide, most with lower total emissions than the facilities mentioned above, could achieve reductions in emissions within a 2-year compliance period and at a potentially reasonable cost. Therefore, as discussed in section III of this Preamble, we are proposing two regulatory options that would be applicable to halogenated solvent cleaning machines in use at facilities that manufacture narrow tubing. We are soliciting comments on the proposed regulatory options as they relate to facilities that manufacture narrow tubing.

ii. Aerospace Manufacturing and Maintenance Facilities

Petitioners contend that the Halogenated Solvent Cleaning rule does

[20] EPA notes that in this case the facility's permit does not identify a specific reformulated material that would be used to achieve 22 percent TCE emissions reduction. In addition, materials reformulation specified in the facility's permit could be implemented to reduce TCE emissions from an activity that is not in the source category addressed in today's notice.

not provide any explanation as to why vacuum-to-vacuum technology and retrofit technologies such as freeboard ratios, working mode covers and freeboard refrigeration devices cannot be used by aerospace manufacturing and maintenance facilities. One petitioner stated that there was no explanation for the rejection of vacuum-to-vacuum technology as a control option for aerospace manufacturing and maintenance facilities even though the Halogenated Solvent Cleaning rule indicated that such technology was in use by ''similar'' aerospace manufacturing and maintenance facilities.

In response to both our August 17, 2006 proposal, and subsequent NODA, aerospace manufacturing and maintenance facilities indicated an inability to comply with our co-proposed limits due to technical infeasibility, associated compliance costs and the limited proposed compliance deadline. Some facilities indicated a 5-year minimum compliance period would be required because they would need to investigate technology and protocol changes called for by the proposed 40,000 kg/yr MC equivalent limit. With regard to vacuum-to-vacuum technology, aerospace manufacturers indicated that vacuum-to-vacuum technology was extremely expensive and had not been proven effective or reliable for the operations at aerospace manufacturing and maintenance facilities. With regard to solvent switching, those aerospace manufacturing and maintenance facilities that use PCE stated that switching to either TCE or MC would be an unsuitable compliance option because of incompatibility issues and lower vapor pressure. Other facilities also stated that they may be able to switch from a HAP solvent to a non-HAP solvent such as nPB, but indicated that nPB solvent was untested in their industry. They also stated that changing solvents involved a rigorous approval process by the original equipment manufacturers and the Federal Aviation Administration in order to ensure that safety and quality criteria continue to be met and that such process would likely be beyond the 2-year proposed compliance deadline. We note, in general, that the bulk of comments indicated an inability to implement these control measures within the proposed 2-year compliance period at the costs presented in our August 17, 2006 proposal.

In the Halogenated Solvent Cleaning rule, we evaluated costs alone for the 60,000 kg/yr MC equivalent emission limit and both risks and costs for the 100,000 kg/yr and 250,000 kg/yr MC equivalent levels for aerospace manufacturing and maintenance, but rejected these options based on our conclusion that they were either not cost-effective or the costs were disproportionate given the emission reductions achieved. We also rejected these options because the industry strongly indicated necessary emission control actions could not be achieved within the compliance timeframe. Additionally, similar to the facilities that manufacture narrow tubing, we were persuaded by the industry's responses and information, and after our re-evaluation of compliance costs, technical feasibility and risks, we determined that the current level of control provided by the 1994 NESHAP for the aerospace manufacturing and maintenance industry both reduces HAP emissions to levels that present an acceptable risk and provides an ample margin of safety to protect public health.

Since receiving the petitions, we have re-evaluated our treatment of the responses to the NODA by aerospace manufacturing and maintenance facilities. Specifically, we have re-evaluated responses we received from various aerospace manufacturing and maintenance facilities indicating the availability of compliance options that include various work practices and installing larger or additional CAD systems, and vacuum-to-vacuum machines and switching from a HAP solvent to nPB. We have also learned that certain aerospace manufacturing and maintenance facilities are testing nPB as a compliance approach to HAP emission reductions. We currently do not have sufficient information that would allow us to conclude definitively that nPB switching is a viable compliance option for this industry primarily because we are aware of material compatibility concerns. Therefore, we do not believe that we can extrapolate the use of nPB by facilities that manufacture narrow tubing to the aerospace manufacturing and maintenance facilities. We have thus calculated compliance costs for the aerospace manufacturing and maintenance facilities using HAP solvent switching, retrofitting of machines, vacuum-to-vacuum machines and CAD using the same assigned costs used in the Halogenated Solvent Cleaning rule, which were based on costs provided in public comments. As discussed in section III of this preamble, we are proposing a range of regulatory options that would be applicable on a facility-wide basis for all halogenated solvent cleaning machines in use at aerospace manufacturing and maintenance facilities.

iii. Continuous Web Cleaning Machines [21]

Petitioners also allege that the EPA failed to provide any explanation as to why several alternative reduction measures, such as either vacuum-to-vacuum machines or solvent switching are not available control options for facilities that use continuous web cleaning machines.

As explained earlier, in response to both our August 17, 2006 proposal, and subsequent NODA, the EPA received significant comments from some facilities that use continuous web cleaning machines identifying numerous compliance issues presented by the co-proposed limits. Responses included that switching from either PCE or TCE to MC was not an available compliance option due to the fact that MC is incompatible with certain metals, and production processes, has a lower boiling point, and stringent worker safety OSHA requirements. Some facilities also indicated that installation of vacuum-to-vacuum machines was not a compliance option due to the differences between the continuous web cleaning process and other batch cleaning operations. They stated that the 1994 NESHAP, in recognition of these differences, prescribed compliance options for facilities that use continuous web cleaning machines that were different from other halogenated solvent cleaning machines. They requested that we set different compliance requirements that would be based on overall control efficiency rather than an emission limit, in light of the fact that they could not comply with either of the proposed emission limits in the August 2006 proposed rule. They maintained that attaining a degree of control rather than meeting an emission limit was a more appropriate measure of their emission reduction capability. They also indicated that they had installed CAD, which can operate at about 99 percent control efficiency, and that they could possibly achieve an overall effectiveness of 80 percent control efficiency (the

[21] Continuous web cleaners are a subset of in-line cleaners that are used to clean products such as films, sheet metal, and wire in rolls or coils. They are semi-enclosed, with emission points where the workload enters and exits the machine. Squeegee rollers reduce carry out emissions by removing excess solvent from the exiting workload. The workload is uncoiled and conveyorized throughout the cleaning machine at speeds in excess of 11 feet per minute and recoiled or cut as it exits the machine. Emission points are similar to emission points from other in-line cleaners. Also some continuous web machines have exhaust systems that are similar to those used with some in-line cleaners.

1994 NESHAP requires 70 percent overall control efficiency).

Similar to our treatment of comparable assertions by both facilities that manufacture narrow tubing and aerospace manufacturing and maintenance facilities, we were persuaded by these assertions, and in the Halogenated Solvent Cleaning rule, we acknowledged that continuous web machines are designed differently from general halogenated solvent cleaning machines, i.e., batch cleaning machines, and that it would be both technologically infeasible and cost prohibitive for facilities that use continuous web cleaning machines to comply with our final promulgated emission limits. Further, we determined that their control choices were limited to installation of CAD, but that CAD would be insufficient for purposes of complying with either the proposed or final promulgated emission limits because they would likely achieve only a 10 to 30 percent overall emission reductions in facility-wide emissions. 72 FR 25155. In our final Halogenated Solvent Cleaning rule we analyzed and discussed a regulatory alternative that would require 80 percent overall control efficiency for all facilities, but we ultimately concluded that for facilities that use continuous web cleaning machines the current level of control provided by the 1994 NESHAP both reduces HAP emissions to levels that present an acceptable risk and provides an ample margin of safety to protect public health.

Since promulgation of the Halogenated Solvent Cleaning rule, and receipt of the reconsideration petitions, we have also re-evaluated our assumptions on compliance options, and costs for additional emission reductions as it relates to facilities that use continuous web cleaning machines. In doing so, we have re-examined the comments submitted on the August 16, 2006 proposal and NODA, where some facilities that use continuous web cleaning machines indicated their preference for tighter control efficiency as compared to a straight emission limit and more specifically their comments that indicated the ability to achieve 80 percent overall control efficiency over uncontrolled emission levels within a 3-year compliance period. (These comments are in the docket for this rulemaking.) Facilities that use continuous web cleaning machines are currently required to achieve 70 percent overall control efficiency under the 1994 NESHAP.

This proposal reflects this re-evaluation and our belief that a relative reduction limit is more suitable than an emission cap for facilities that use continuous web cleaning machines. Under one of the regulatory options presented in this proposal, six facilities would be required to reduce emissions by 33 percent, i.e., ((1 − 70%) − (1 − 80%)/(1 − 70%) = 33%). To meet this proposed emission requirement, we assumed three facilities could switch their HAP solvent to nPB (based on the use of nPB in the narrow tubing industry). Based on the analysis we conducted to support the Halogenated Solvent Cleaning rule we also assumed that three facilities could install CAD or automated gates control to comply with the proposed option. Thus, as earlier discussed in section III of this preamble, we are proposing an option that includes an overall control efficiency of 80 percent for facilities that use continuous web cleaning machines that exceed a 60,000 kg/yr MC equivalent limit.

iv. Military Maintenance and Depot Facilities

Petitioners also contend that the EPA announced a final rule that dramatically departed from the proposed rule by imposing a 100,000 kg/yr MC equivalent limit for halogenated solvent cleaning machines used by military maintenance and depot facilities. Petitioners contend that the public was deprived of the opportunity to comment on this standard and on the technical, legal and policy rationale the EPA proffered in the Halogenated Solvent Cleaning rule.

In response to both our August 17, 2006 proposal and the NODA, military depot and maintenance facilities indicated an inability to comply with either co-proposed limits due to both technological and compliance deadline constraints. They indicated, however, an ability to comply with a 100,000 kg/yr MC equivalent limit. Persuaded by these responses, we determined that the 100,000 kg/yr MC equivalent limit for halogenated solvent cleaning machines used by military depot and maintenance facilities would provide an ample margin of safety in the Halogenated Solvent Cleaning rule.

Since promulgation of the Halogenated Solvent Cleaning rule, and receipt of the petitions, we have also re-evaluated our assumptions on compliance options, and costs for additional emission reductions as they relate to military maintenance and depot facilities. In this action, as discussed in section III above, for halogenated solvent cleaning machines used by military maintenance and depot facilities we are re-proposing the 100,000 kg/yr MC equivalent emission limit option that we finalized in the Halogenated Solvent Cleaning rule.

v. General Population of Halogenated Solvent Cleaning Machines

Petitioners stated that the 60,000 kg/yr MC equivalent level we promulgated for the general population of halogenated solvent cleaning machines was neither proposed nor made available for public comment. In reconsideration of the Halogenated Solvent Cleaning rule, we re-examined the proposed 40,000 kg/yr and promulgated 60,000 kg/yr MC equivalent levels of control for the general population, retaining the emission control assumptions (and thus the risk reduction and cost assumptions) used in the final rule. As in the Halogenated Solvent Cleaning rule, our evaluation is based on the 2002 NEI data.

Since promulgation of the Halogenated Solvent Cleaning rule, we have received no new information that would lead us to change the facts and conclusions we presented for either the 40,000 kg/yr MC equivalent level (which we rejected in the Halogenated Solvent Cleaning rule) or the 60,000 kg/yr MC equivalent level. Therefore, in this action we are proposing a 60,000 kg/yr MC equivalent emission limit as a regulatory option for the general degreasing units.

4. Health Information for the Proposed Options

As previously mentioned, we have performed additional risk assessments for this source category since the final rule was promulgated. In this section, we provide estimates of the health risk reductions achieved by each of the proposed regulatory options for each of the industry sectors. The estimates were derived using the same analytical methodologies which were used to derive the estimates for the Halogenated Solvent Cleaning rule, with two exceptions: (1) The health risk estimates were derived explicitly (rather than extrapolated, as was done for the Halogenated Solvent Cleaning rule) for each industrial sector as well as for the total population of facilities; and, (2) in addition to our use of the CalEPA chronic REL for TCE, a chronic non-cancer air criterion developed by the NYS DOH was used to characterize non-cancer risks for TCE.

While health risks were estimated using both the 1999 NEI and the 2002 NEI, we only present those derived using the more recent emission inventory data. Additional details and results are provided in the docket for this rule.

Table 2 presents a summary of cancer risk results for the entire source category at baseline levels and for each of the proposed control options, indicating both how the maximum individual cancer risk level and the population within various individual risk ranges vary from option to option. It also shows the projected emission reductions and cancer incidence levels associated with each option, as well as the estimated maximum non-cancer target organ-specific HI values (indicated as a range, depending on which chronic reference value is used in the calculation). We note specifically that the range of exposures (as indicated by the HI values) for the baseline and Option 1 scenarios are near the exposure level where we can say that there is no appreciable risk of non-cancer health effects (see previous discussion in this section). We believe that this result does not indicate that there should be concern; rather, we believe it is indicative of the range of values associated with the chronic non-cancer toxicity of TCE. We also note that using the CalEPA REL there are no facilities with an HI above 1; however, using the NYS DOH air criterion, which incorporates a significant degree of conservatism in its final estimate, the only HAP contributing to non-cancer HI values above 1 becomes TCE. The target organ system which is most sensitive for both the CalEPA REL and the NYS DOH air criterion is the central nervous system, with symptoms including dizziness, drowsiness, and confusion at high enough exposures. Effects to the liver and immune systems have also been observed in people at high enough TCE exposures.

In response to one petitioner's assertion that the Halogenated Solvent Cleaning rule omitted an analysis of the population exposed to lifetime cancer risks greater than 1-in-1 million, Table 1, above, presents updated estimates of this information from the Halogenated Solvent Cleaning rule while Table 2, below, provides population risk information relevant to the different proposed regulatory options that we are seeking comment on in this action.

TABLE 2—EFFECT OF THE PROPOSED OPTIONS ON RISK AND EMISSIONS

Options	Baseline	Option 1	Option 2	Option 3
MIR (in-1 million)	100	~50	~50	~50
>100 in-1 million *	100	0	0	0
≥10 to <100 in-1 million *	82,000	7,500	6,600	5,700
≥1 to <10 in-1 million *	8,000,000	2,100,000	2,087,500	1,946,500
Emissions Reduced (tons/yr)	0	1,681	2,601	3,188
Emissions Remaining (tons/yr)	4,200	2,535	1,615	1,028
Maximum Non-cancer HI	0.2–7.0	0.2–2.0	0.05–1.0	0.05–1.0
Cancer Incidence (cases/yr)	0.55	0.36	0.35	0.32

* Number of people in the specified risk range

Option 1: 60,000 kg/yr MC equivalent applicable to general population of halogenated solvent cleaning machines and 100,000 kg/yr MC equivalent for halogenated solvent cleaning machines in use at military maintenance and depot facilities.

Option 2: 60,000 kg/yr MC equivalent applicable to facilities that manufacture narrow tubing and general population of halogenated solvent cleaning machines and 100,000 kg/yr MC equivalent for halogenated solvent cleaning machines in use at military maintenance and depot facilities.

Option 3: 60,000 kg/yr MC equivalent applicable to general population and facilities that manufacture narrow tubing; 100,000 kg/yr MC equivalent applicable to aerospace manufacturing and maintenance facilities and military maintenance and depot facilities; and 80 percent overall control efficiency for facilities that use continuous web cleaning machines that have emissions exceeding 60,000 kg/yr MC equivalent.

Table 3 presents a summary of cancer incidence, cancer incidence reduction, and emission reductions for the general population and for each of the industrial sectors discussed above, for each of the control options being considered.

TABLE 3—INCIDENCE AND EMISSIONS REDUCTIONS FOR THE SECTOR-SPECIFIC COMPONENTS OF OPTIONS 1, 2, AND 3

Industry group	Emission limit	Baseline incidence (cases/yr)	Incidence after control (cases/yr)	Cases avoided/ year	Tons reduced
General Degreaser Population (not in any other sector).	60,000 kg/yr	0.45	0.26	0.19	1,592
Narrow Tubing Manufacturing	60,000 kg/yr	0.02	0.007	0.013	920
Continuous Web Cleaning Machines (>60,000 kg/yr).	80 percent overall control efficiency.	0.03	0.02	0.01	263
Aerospace Manufacturing and Maintenance.	100,000 kg/yr	0.05	0.03	0.02	324
Military maintenance and depot	100,000 kg/yr	0.0003	0.0001	0.0002	89

After promulgation of the Halogenated Solvent Cleaning rule, we became aware that nPB, a non-HAP, had already been substituted for TCE in at least two facilities that manufacture narrow tubing and that it may be a suitable alternative solvent at other facilities. As a result, in this proposal we have assumed that nPB could and would be used in both the narrow tube manufacturing industry and facilities that use continuous web cleaning machines. Due to materials incompatibility, however, we do not believe we can extrapolate the use of nPB to the aerospace manufacturing and maintenance facilities. The HAP emission reductions, risk reductions, and costs projected under these's proposed regulatory options 2 and 3 rely, and are based, in part, on nPB substitution for TCE in a specific number of machines of specific sizes.

Although nPB is not a HAP, there are known adverse health effects from exposures to high levels of nPB, including effects on the nervous system (headaches, dizziness, nausea, numbness in the lower body) based on studies of exposed workers,[22] and effects on the liver and reproductive system based on animal tests.[23] In its review of the use of nPB as an alternative to using solvents which deplete stratospheric ozone (72 FR 30142, May 30, 2007), the EPA determined that nPB was an acceptable substitute in solvent cleaning applications, but recommended use of personal protective equipment and adherence to the capture and suppression guidelines in the NESHAP for halogenated solvent cleaning.[24] For example, emission controls previously used for MC or TCE should remain in place for worker safety and general public safety reasons.

In evaluating nPB in a specific use under the SNAP program, we evaluated the worst-case level of nPB emissions. We note that even though this worst-case emission level is higher, by at least a factor of 4, than the highest-emitting facility in the halogenated solvents category, the worst-case impact estimated under the SNAP program is still substantially below, by more than a factor of 10, the derived threshold for non-cancer effects. This leads us to conclude that the substitution of nPB for TCE and/or MC in halogenated solvent cleaners should not pose any health risks to the general population.

The SNAP final rule stated that for non-aerosol solvent cleaning, facilities should follow the guidelines in the NESHAP for halogenated solvent cleaning if they are using nPB. The equipment and procedural changes described in the NESHAP for halogenated solvent cleaning can reduce emissions, reduce solvent losses and lower the cost of cleaning with organic solvents.

Based on this information, we conclude that use of nPB to comply with the proposed emission limit is reasonable, and we recommend that those switching to nPB maintain use of their current emission controls for worker and general public safety. In this notice, we request comment on additional or new information which might suggest that this conclusion is incorrect.

5. Costs and Other Relevant Factors for the Proposed Options

As discussed earlier in sections I and III of this preamble, petitioners have raised several issues on our cost conclusions in the Halogenated Solvent Cleaning rule. Since promulgation of the Halogenated Solvent Cleaning rule, we have become aware of certain facilities that manufacture narrow tubing that have voluntarily investigated and instituted HAP emission reductions by installing CAD, vacuum-to-vacuum machines, switching from HAP solvents to a non-HAP solvent and reconfiguration and changing production processes.

Consequently, we have re-evaluated our conclusions on costs, availability of technology and the compliance deadline for the facility-wide limits in the Halogenated Solvent Cleaning rule. As earlier explained in this section, existing information now leads us to conclude, in a change from the Halogenated Solvent Cleaning rule, that certain affected sources in the narrow tubing industry can comply with the proposed limits and requirements through installation of CAD, vacuum-to-vacuum machines, switching from HAP to non-HAP and improved work practices and manufacturing process changes. In addition, we extrapolated information on compliance measures that we obtained for the narrow tubing industry sector to facilities that use continuous web cleaning machines. Specifically, we assumed that facilities that use continuous web cleaning machines could substitute TCE for nPB. As noted earlier, however, due to concerns over materials incompatibility, we do not believe we can extrapolate the information on the use of nPB by facilities that manufacture narrow tubing to aerospace manufacturing and maintenance facilities. Finally, our cost estimates do not reflect any new information on available HAP emission reduction options for both the general population of halogenated solvent cleaning machines, the aerospace manufacturing and maintenance facilities and military maintenance and depot facilities.

To estimate the costs of reducing emissions for individual facilities, the EPA first calculated the percent emission reductions necessary for each facility to comply with the levels being investigated. Then, control technologies were applied on a per unit basis to achieve the percent reduction necessary to achieve the level. The control technologies applied varied depending on the cleaning machine type, the solvent used, and the percent control required. As earlier stated, such control technologies include the replacement of existing units with vacuum-to-vacuum machines, solvent switching, and add-on controls. This proposal reflects our investigation of these control options and a determination of the direct costs associated with these emission reduction measures.

Prior to selection of the proposed emission limits and control efficiency requirements, we have considered the costs of each of the emission limits in providing various degrees of emission reductions, similar to our August 17, 2006, proposal and our Halogenated Solvent Cleaning rule. The costs for an individual facility were then determined based on the costs associated with the controls needed to meet the level and taking into account any increase or decrease in solvent costs. We have determined facilities in each sector of industries engaging in halogenated solvent cleaning that would have to add technology measures to control emissions at the various emission limits discussed in this preamble. With regard to the narrow tube manufacturing industry, we have applied costs that were incurred by specific facilities in Pennsylvania for purposes of meeting various proposed emission limits. We have also extrapolated some of these costs to facilities that use continuous web cleaning machines (e.g., use of nPB as a substitute for TCE). We also assumed that the necessary controls were all high efficiency and costlier controls. We did not apply any mid-level controls and their associated costs for instances where we had direct compliance costs to use as examples. In other words, when estimating costs for the facilities

[22] Ichihara *et al.* 2004b. Neurological Abnormalities in Workers of 1-Bromopropane Factory, Environmental Health Perspectives published by the National Institute of Environmental Health Sciences, National Institute of Health, U.S. Department of Health and Human Services, June 2004.

Ichihara *et al.* 2002. Neurological disorders in three workers exposed to 1-bromopropane. Journal of Occupational Health 44:1–7 (2002).

[23] WIL. 2001. An Inhalation Two-Generation Reproductive Toxicity Study of 1–Bromopropane in Rats. Conducted by Stump D. G. at WIL Research Laboratories, Inc., Sponsored by Brominated Solvents Consortium. May 24, 2001.

[24] The EPA has addressed the use of nPB as a solvent in industrial equipment for metals cleaning, electronics cleaning and precision cleaning under the Significant New Alternative Policy (SNAP) Program. Under SNAP, EPA reviews substitutes for ozone depleting substances to determine if a substitute would pose a substantially greater risk to human health or the environment than other substitutes that are available. See CAA section 612(c), 40 CFR Part 82, subpart G. Specifically, based on evidence that in solvent cleaning worker exposure levels were consistently below levels of concern, EPA concluded that users could use nPB as safely as other available substitutes. Thus, EPA found nPB acceptable as a substitute for methyl chloroform and CFC–113, (72 FR 30142 May 30, 2007). While under SNAP no restrictions were placed on the use of nPB in the solvent cleaning end uses addressed in the rule, SNAP approval does not relieve users from the obligation to comply with any other regulatory obligations, such as those that might apply under the 1994 NESHAP.

that manufacture narrow tubing, the EPA used cost information provided by facilities that manufacture narrow tubing that had already implemented control technologies, such as CAD, vacuum-to-vacuum machines, and switching to nPB. Additionally, costs and risk estimates were developed for the narrow tube manufacturing industry at various percent emission reduction levels and MC equivalent levels. We have then applied these associated direct costs to facilities that use continuous web cleaning machines because we have assumed that these associated direct costs would be a primary example of costs of complying with the various proposed emission limits for any facility with similar cleaning machines, similar solvent usage and similar HAP emission reduction. These applied assumptions are similar to our cost assumptions in the August 17, 2006, proposal. To more fully analyze the implications of the various emission limits, we re-calculated the overall and incremental annualized cost per cancer case avoided for each proposed option. The results of our analyses are summarized in Table 4 below. In general, we expect that facilities that use halogenated solvents with a higher URE, and as a result have lower emission limits, would likely incur higher costs to reduce emissions to the necessary limit. We are soliciting comments on these aspects of this proposal.

TABLE 4—COST ANALYSIS FOR PROPOSED OPTIONS

Option	1	2	3
Total Capital Costs (Millions)	$15.65	$37.58	$49.89
Net Annualized Costs (Millions)	$1.50	$3.73	$5.19
Operation and Maintenance Costs (Millions)	$0.76	$1.88	$2.61
Solvent Savings (Millions)	($3.65)	($4.00)	($4.96)
Total Annual Costs* (Millions)	($1.38)	$1.60	$2.83
Emissions Reduced (tons/yr)	1,681	2,601	3,058
Cancer Cases Avoided/yr	0.19	0.20	0.23
Cost Effectiveness of Control ($/ton)	($821)	$616	$927
Incremental Cost effectiveness (compared to next least stringent option) (Millions $/case avoided)	($7.0)	$293	$41

* Net Annualized Costs plus O&M plus Solvent Savings.

We are also presenting in Table 5 the associated costs and emission reductions for the sector-specific control options in light of the fact that we are soliciting comments on combinations of limits other than those represented by options 1 through 3 presented above in section III.

TABLE 5—COST ANALYSIS FOR SECTOR-SPECIFIC COMPONENTS OF OPTIONS 1, 2, AND 3

Emission limit	60,000 kg/yr MC equivalent for general degreaser population (does not include named sectors)	60,000 kg/yr MC equivalent for narrow tubing	80 percent overall control for continuous web cleaning machines at facilities emitting >60,000 kg/yr	100,000 kg MC equivalent for aerospace manufacture and maintenance	100,000 kg/yr MC equivalent for military maintenance and depot
Total Capital Costs (Millions)	$15.7	$21.92	$3.29	$9.02	$0.54
Net Annualized Costs (Millions)	$1.45	$2.23	$0.63	$0.87	$0.06
Operation and Maintenance Costs (Millions)	$0.72	$1.11	$0.31	$0.44	$0.04
Solvent Savings (Millions)	($3.50)	($0.36)	($0.34)	($0.68)	($0.16)
Total Annual Costs* (Millions)	($1.32) Million	$2.97 Thousand	$0.60 Thousand	$0.63 Thousand	$0.06 Thousand
Emissions Reduced (tons/yr)	1,621	920	290	324	89
Cost of Control ($/ton)	($832)	$3,238	$2,774	$1,933	($625)
Cost per Case Avoided (Millions)	($7.0)	$596	$177	$31	($56)

* Net Annualized Costs plus O&M plus Solvent Savings.

Other factors relevant to our ample margin of safety determination include (but are not limited to) impact on the national economy, small business impacts, cost-effectiveness, incremental cost-effectiveness, or net benefits.

All economic impact estimates incorporate the scale-up factor of 1.76 applied to affected source populations and costs. Option 1 is expected to affect 120 ultimate parent entities, and 40 of these parent entities (one-third of the total number of ultimate parent entities affected) are small as defined by the Small Business Administration (SBA) small business size standards. Of these 40 small entities, none have an annualized cost of greater than one percent of their sales. Option 2 is expected to affect 148 ultimate parent entities, and 52 (or 35 percent) of these entities are small. Of these 52 small entities, three have an annualized cost of greater than one percent of their sales. Finally, Option 3 is expected to affect 181 ultimate parent entities, and 56 (or 31 percent) of these entities are small. Of these 56 small entities, three have an annualized cost of greater than one percent of their sales.

6. Ample Margin of Safety Rationale for Each of the Proposed Options

This section provides the results of our reconsideration analysis and the options that the EPA believes suitable for proposal considering the issues raised by the petitioners and the capabilities of the industries affected by the source category NESHAP regulations. Specifically, Option 1 proposes the same limits promulgated in the Halogenated Solvent Cleaning rule that is the subject of this reconsideration. Option 2 introduces

more stringent emission limits (60,000 kg/yr MC equivalent) for the narrow tube manufacturing industry. Finally, Option 3 introduces more stringent limits for aerospace manufacturing and maintenance facilities (100,000 kg/yr MC equivalent) and facilities that use continuous web cleaning machines (80% overall control efficiency for units at facilities emitting greater than 60,000 kg/yr MC equivalent).

We recognize that there are significant differences between these options in terms of the level of emission reductions, the number of cancer cases avoided per year, and the associated costs of control, but we believe that each of the options presented provides an ample margin of safety consistent with the Benzene framework. We specifically solicit comment on the information included in Table 4 above and any other information relevant to our ample margin of safety determination.

i. What is our rationale for Option 1?

A 60,000 kg/yr MC equivalent limit would be applicable to sources associated with the general population of halogenated solvent cleaning machines. A 100,000 kg/yr MC equivalent limit would be applicable to halogenated solvent cleaning machines located at military maintenance and depot facilities. With respect to facilities that use continuous web cleaning machines, and halogenated solvent cleaning machines used by facilities that manufacture narrow tubing and aerospace manufacturing and maintenance facilities, we are proposing to readopt the 1994 NESHAP under CAA section 112(d)(6) and (f)(2) because, as discussed below, we are proposing that the current level of control called for by the 1994 NESHAP reduces HAP emissions to limits that present an acceptable level of risk, provide an ample margin of safety to protect public health, and prevent any adverse environmental effects. (This option represents the standards promulgated in the Halogenated Solvent Cleaning rule).

Under this option, the total HAP emissions would be reduced by 1,681 tpy. We anticipate that about 82 facilities and 98 halogenated solvent cleaning machines would be affected by this proposed option. Facilities would reduce their emissions to meet this proposed regulatory option by selecting control options that might include one or more of the following: (1) Solvent switching from a HAP solvent with a higher URE to a HAP solvent with a lower URE, such as switching from PCE or TCE to MC; (2) solvent switching from a HAP solvent to a non-HAP solvent; (3) retrofitting additional freeboard; (4) installing CAD; or (5) installing vacuum-to-vacuum machines.

We are proposing to conclude that Option 1 reduces HAP emissions to levels that present an acceptable level of risk, provides an ample margin of safety to protect public health, and prevents any adverse environmental effects. When Option 1 is applied to the facilities in the 2002 NEI database we estimate that the MIR decreases to about 50-in-1 million with an estimated reduction in cancer incidence of about 0.19 cases annually, with an annualized cost savings of $1.3 million, or a cost savings of about $822 per ton. The maximum chronic noncancer HI is lower than the baseline, ranging from 0.2 to 2.0 depending on which noncancer toxicity value is used in the assessment. Specifically, using the CalEPA chronic REL to assess TCE noncancer hazard, emissions from no facilities would result in exposures exceeding an HI of 1. Using the NYS DOH noncancer criterion to assess TCE noncancer hazard, emissions from the five narrow tube manufacturing facilities would result in exposures exceeding an HI of 1, the HI value is 2 for each of these facilities. The HIs for the five other facilities that are above 1 in the baseline using the NYS DOH noncancer criterion would fall below 1 under this option. In addition, considering the discussion of the conservatism associated with the chronic non-cancer toxicity of TCE using the NYS DOH criterion (discussed previously in section III), along with the additional cost and risk factors discussed above, we propose that this option provides an ample margin of safety to protect public health.

ii. What is our rationale for Option 2?

A 60,000 kg/yr MC equivalent limit would be applicable to sources associated with the general population of halogenated solvent cleaning machines and halogenated solvent cleaning machines used by facilities that manufacture narrow tubing. A 100,000 kg/yr MC equivalent limit would be applicable to halogenated solvent cleaning machines located at military maintenance and depot facilities. With respect to facilities that use continuous web cleaning machines, and halogenated solvent cleaning machines used by aerospace manufacturing and maintenance facilities, we are proposing to re-adopt the 1994 NESHAP under CAA section 112(d)(6) and (f)(2) because, as discussed below, we are proposing that the current level of control called for by the 1994 NESHAP reduces HAP emissions to levels that present an acceptable level of risk, provide an ample margin of safety to protect public health, and prevent any adverse environmental effects. We anticipate that about 105 facilities and 150 halogenated solvent cleaning machines would be subject to this proposed option. Facilities would reduce their emissions by selecting control options that might include one or more of the following: (1) Solvent switching from a HAP solvent with a higher URE to a HAP solvent with a lower URE, such as switching from PCE or TCE to MC; (2) solvent switching from a HAP solvent to a non-HAP solvent; (3) retrofitting additional freeboard; (4) installing CAD or; (5) installing vacuum-to-vacuum machines.

We are proposing to conclude that Option 2 reduces HAP emissions to levels that present an acceptable level of risk, provides an ample margin of safety to protect public health, and prevents any adverse environmental effects. When Option 2 is applied to the facilities in the 2002 NEI database, the MIR decreases to about 30-in-1 million with an estimated reduction in cancer incidence of about 0.20 cases annually, and annualized costs of $1.6 million, or annual costs of about $615 per ton. The maximum chronic noncancer HI is reduced from the baseline, to a range of 0.05 to 1 depending on which noncancer toxicity value is used in the assessment. The incremental annualized cost of control options 1 and 2 is about $3 million. The incremental emission reduced from Option 1 to Option 2 is 920 tons. Therefore the incremental cost-effectiveness between Options 1 and 2 is nearly $3,200/ton/year. The incremental cancer incidence reduction between options 1 and 2 is 0.01. The incremental cost-effectiveness/cancer case avoided is nearly $293 million.

iii. What is our rationale for Option 3?

A 60,000 kg/yr MC equivalent limit would be applicable to sources associated with the general population of halogenated solvent cleaning machines and halogenated solvent cleaning machines used by facilities that manufacture narrow tubing. A 100,000 kg/yr MC equivalent limit would be applicable to halogenated solvent cleaning machines used by aerospace manufacturing and maintenance facilities and halogenated solvent cleaning machines located at military maintenance and depot facilities. Facilities that use continuous web cleaning machines that exceed 60,000 kg/yr MC equivalent HAP emissions would have to achieve 80 percent overall control efficiency for those units.

We anticipate that about 130 facilities and 260 halogenated solvent cleaning machines would be subject to this proposed option. Facilities would reduce their emissions by selecting control options that might include one or more of the following: (1) Solvent switching from a HAP solvent with a higher URE to a HAP solvent with a lower URE, such as switching from PCE or TCE to MC; (2) solvent switching from a HAP solvent to a non-HAP solvent; (3) retrofitting additional freeboard; (4) installing CAD; or (5) installing vacuum-to-vacuum machines.

We are proposing to conclude that Option 3 reduces HAP emissions to levels that present an acceptable level of risk, provides an ample margin of safety to protect public health, and prevents any adverse environmental effects. When Option 3 is applied to 130 facilities in the 2002 NEI database, the MIR decreases to about 30-in-1 million with an estimated reduction in cancer incidence of about 0.23 cases annually, and annualized costs of $2.8 million, or annual costs of about $887 per ton. The incremental annualized cost of control Options 2 and 3 is about $1.2 million. The incremental emission reduced from Option 2 to Option 3 is 587 tons. Therefore the incremental cost-effectiveness/tons emissions reduced between Options 2 and 3 is nearly $2,100/ton/year. The incremental cancer incidence reduction between Options 2 and 3 is 0.03. The incremental cost-effectiveness/cancer case avoided is $41 million.

C. Clean Air Act Section 112(d)(6) Review

Petitioners also contend that the Halogenated Solvent Cleaning rule does not satisfy our obligations under CAA section 112(d)(6). Several petitioners state that our review of the 1994 NESHAP failed to consider the availability of current control technology, such as CAD, and capture and control system that could achieve upwards of 35 percent TCE emissions reduction by facilities that manufacture narrow tubing. Petitioners also identify CAD, and vacuum-to-vacuum machines, and other control options, such as solvent switching as compliance options for halogenated solvent cleaning machines used by facilities that manufacture narrow tubing that became available subsequent to promulgation of the Halogenated Solvent Cleaning rule. Further, petitioners allege that we failed to provide any explanation as to why several alternative emission reduction measures, such as either vacuum-to-vacuum machines or solvent switching were not available control options for facilities that use continuous web cleaning machines.

CAA section 112(d)(6) requires the EPA to review and revise, as necessary (taking into account developments in practices, processes, and control technologies), emission standards promulgated under CAA section 112(d) no less often than every eight years. In light of the petitions, we have re-assessed the issue of whether there have been developments in practices, processes and control technologies since issuance of the 1994 NESHAP. We have also reviewed the information concerning compliance options included in the various petitions, as some of that information was not available to the EPA at the time of promulgation of the Halogenated Solvent Cleaning rule. Additionally, we have held discussions with industry representatives on the availability of control measures and the potential for additional emission reductions.

We believe that there have been some developments in control technologies, practices and processes for the facilities that manufacture narrow tubing. The control technologies include the use of vacuum-to-vacuum technology and CAD. Other measures include, for example, switching from HAP to non-HAP cleaners, such as nPB and manufacturing process changes. We solicit comment on the extent to which these control approaches represent advances in the control of halogenated solvents for the entire source category or whether they are relevant only to certain sectors within the category.

Section 112(d)(6) grants EPA much discretion to revise the standards ''as necessary.'' Thus, although the specifically enumerated factors that EPA should consider all relate to technology (*e.g.*, developments in practices, processes and control technologies), the instruction to revise ''as necessary'' indicates that EPA is to exercise its judgment in this regulatory decision, and is not precluded from considering additional relevant factors, such as costs and risk. EPA has substantial discretion in weighing all of the relevant factors in arriving at the best balance of costs and emissions reduction and determining what further controls, if any, are necessary. This interpretation is consistent with numerous rulings by the U.S. Court of Appeals for the DC Circuit regarding EPA's approach to weighing similar enumerated factors under statutory provisions directing the agency to issue technology-based standards. *See, e.g. Husqvarna AB* v. *EPA*, 254 F.3d 195 (DC Cir. 2001). After weighing all relevant factors, we are proposing the same regulatory options described above for our 112(f)(2) residual risk analysis. Based on the information analyzed for the regulatory options, and discussed in detail above, we are proposing three options for emissions standards to satisfy the requirements of section 112(d)(6) review:

Proposed Option 1: A 60,000 kg/yr MC equivalent limit would be applicable to sources associated with the general population of halogenated solvent cleaning machines. A 100,000 kg/yr MC equivalent limit would be applicable to halogenated solvent cleaning machines located at military maintenance and depot facilities. With respect to facilities that use continuous web cleaning machines, halogenated solvent cleaning machines used by facilities that manufacture narrow tubing, and halogenated solvent cleaning machines used by aerospace manufacturing and maintenance facilities, we are proposing to re-adopt the 1994 NESHAP under CAA section 112(f)(2).

Proposed Option 2: A 60,000 kg/yr MC equivalent limit would be applicable to sources associated with the general population of halogenated solvent cleaning machines and halogenated solvent cleaning machines used by facilities that manufacture narrow tubing. A 100,000 kg/yr MC equivalent limit would be applicable to halogenated solvent cleaning machines located at military maintenance and depot facilities. With respect to facilities that use continuous web cleaning machines, and halogenated solvent cleaning machines used by aerospace manufacturing and maintenance facilities, we are proposing to re-adopt the 1994 NESHAP under CAA section 112(f)(2).

Proposed Option 3: A 60,000 kg/yr MC equivalent limit would be applicable to sources associated with the general population of halogenated solvent cleaning machines and halogenated solvent cleaning machines used by facilities that manufacture narrow tubing. A 100,000 kg/yr MC equivalent limit would be applicable to halogenated solvent cleaning machines used by aerospace manufacturing and maintenance facilities and halogenated solvent cleaning machines located at military maintenance and depot facilities. Facilities that use continuous web cleaning machines that exceed 60,000 kg/yr MC equivalent HAP emissions would have to achieve 80 percent overall control efficiency for those units.

We solicit comments on these proposed options.

D. Compliance Schedule

As discussed in section II, one petitioner stated that the 3-year compliance period appeared for the first time in the Halogenated Solvent Cleaning rule, making it impracticable to raise objections during the period provided for public comment. One petitioner argued that our assumption that facilities that manufacture narrow tubing could only achieve a 10 percent emission reduction within a 3-year compliance period was unsupported by the record and unexplained. Another petitioner argued that CAA section 112(f)(4) is the controlling provision that addresses compliance deadlines for existing sources with regard to standards promulgated under CAA sections 112(d)(6) and (f)(2).

At proposal, we determined that CAA section 112(i) was the controlling provision that addressed compliance deadlines for existing sources with regard to standards promulgated under CAA sections 112(d)(6) and (f)(2). For existing sources, we proposed a 2-year compliance deadline from the effective date of the rule. We were persuaded, however, by comments on our August 17, 2006 proposal and subsequent NODA, indicating that additional time beyond the proposed 2-year compliance deadline would be needed, and in the Halogenated Solvent Cleaning rule, we set a 3-year compliance period for existing sources, finding that this period was more appropriate given the time necessary to implement control approaches necessary to meet the emission requirements. Thus, we promulgated a 3-year compliance deadline for existing sources from the effective date of the Halogenated Solvent Cleaning rule.

In this action, for existing sources that were not subject to the emission reduction requirements in the Halogenated Solvent Cleaning rule,[25] we are proposing a 2-year compliance deadline from the date of publication of the final rule in the **Federal Register**. As to those sources that were subject to emission reduction requirements in the Halogenated Solvent Cleaning rule,[26] if the final rule on reconsideration changes those requirements significantly and makes them more stringent, we propose that these sources have two years from the date of publication of the final rule to comply with the requirements of the final rule. We believe that such an extension is appropriate to allow the affected facilities time to meet the more stringent emission limitations.

In the Halogenated Solvent Cleaning rule, we identified a conflict between section 112(i) and section 112(f)(4) of the Act. To avoid a conflict in these provisions addressing compliance deadlines, we interpreted the more specific and comprehensive set of provisions in section 112(i) as governing both CAA section 112(d) and (f) standards. We maintain this interpretation in this rule. We note, however, that the 2-year compliance deadline proposed in this action is consistent with an alternative interpretation of the Act, which petitioners endorse, that the provisions of CAA section 112(f)(4) control. CAA section 112(f)(4) would allow us to grant a 2-year extension of the compliance deadline for existing sources, in addition to the 90-day compliance date otherwise applicable. We believe that the proposed 2-year compliance deadline is necessary for the installation of controls at existing sources, and section 112(f)(4) would allow us to grant such an extension for the installation of controls. The proposed 2-year compliance deadline takes into account that the sources that have already installed controls appear to have done so within a two year period. Thus, we believe that this proposal falls within the 2-year plus 90-day period that would be allowed under CAA section 112(f)(4)(A)–(B) and is therefore within the permissible range of CAA section 112(f)(4), even if that section applies. We are also soliciting comments on this aspect of this proposal.

IV. Proposed Regulatory Text

Given that we are proposing a range of regulatory options, we have not prepared proposed regulatory text for each option. The regulatory text for Option 1 is, however, set forth in the Halogenated Solvent Cleaning rule. If we elect to finalize options 2 or 3 or some combination thereof, the regulatory text will follow the framework set forth in the Halogenated Solvent Cleaning rule.

V. Impacts

For the general population degreasing sources required to comply with the 60,000 kg/yr MC equivalent emission limit, the national capital costs to reach compliance are estimated to be $15,000,000 with annualized cost savings of $1.3 million (2007 dollars). The capital costs for individual facilities would range from $15,000 to $800,000 with an average cost of about $190,000.

More than 60 percent of the facilities implementing a control technology would recognize a cost savings primarily from solvent savings. Controlling solvent use is a pollution prevention approach where emissions reduction translate into less PCE, TCE and MC consumption and reduced operating costs primarily because facilities would need to purchase less solvents. Using the 2002 NEI database, the maximum individual cancer risk is estimated to be reduced from 100-in-1 million to between 50 and 20-in-1 million, depending on the control option selected. The options outlined here are expected to reduce cancer incidence from a source category wide baseline of 0.55 cases annually to 0.33 for Option 1, with reductions to 0.33 when continuing to Option 3, resulting in a range of reduction in cancer incidence from between 0.19 to 0.22 cases annually, depending upon the option selected. Additionally, Option 1 is expected to reduce the range of possible chronic noncancer HI values from 0.2 to 7 at the baseline, to 0.2 to 2, depending on which noncancer toxicity value is used in the assessment. Both Options 2 and 3 result in a reduction of the range of possible maximum chronic noncancer HI values from between 0.2 and 7 at the baseline, to between 0.05 and 1, depending on which noncancer toxicity value is used in the assessment.

The EPA estimates that to comply with the 100,000 kg/yr MC equivalent emission limit, military maintenance and depot facilities are expected to incur $540,000 in capital costs with annualized savings of about $56,000. Using the 2002 NEI database, the maximum individual cancer risk is estimated to be reduced from 6-in-1 million to 3-in-1 million. The emission limit for military maintenance and depot facilities is expected to reduce cancer incidence by 0.0002 cases annually.

The EPA also estimates that to comply with the 100,000 kg/yr MC equivalent emission limit, aerospace manufacturing and maintenance facilities are expected to incur $9 million in capital costs with annualized costs of about $626,000. Using the 2002 NEI database, this emission limit for aerospace manufacturing and maintenance facilities is expected to reduce cancer incidence by 0.03 cases annually.

The EPA also estimates that to comply with the 60,000 kg/yr MC equivalent emission limit, facilities that manufacture narrow tubing are expected

[25] These sources include halogenated solvent cleaning machines used by facilities that manufacture narrow tubing, facilities that manufacture specialized products requiring continuous web cleaning, and aerospace manufacturing and maintenance facilities.

[26] These sources include halogenated solvent cleaning machines at military maintenance and depot facilities and the general population of halogenated solvent cleaning machines.

to incur $22 million in capital costs with annualized costs of about $3 million. Using the 2002 NEI database, this emission limit for facilities that manufacture narrow tubing is expected to reduce cancer incidence by 0.005 cases annually.

The EPA further estimates that to comply with the 80 percent overall control efficiency, facilities that use continuous web cleaning machines with total emissions over the 60,000 kg/yr MC equivalent thresholds are expected to incur $3 million in capital costs with annualized costs of about $601,000. Using the 2002 NEI database, this emission limit for facilities that use continuous web cleaning machines is expected to reduce cancer incidence by 0.003 cases annually.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order (EO) 12866 (58 FR 51735, October 4, 1993), this action is a ''significant regulatory action.'' EO 12866 gives the Office of Management and Budget (OMB) the authority to review regulatory actions that are categorized as ''significant'' under section 3(f) of the EO, i.e., those actions that are likely to result in a rule that may raise novel legal and policy issues arising out of mandates in CAA section 112(f)(2) and 112(d)(6). Accordingly, EPA submitted this action to OMB for review under EO 12866 and any changes made in response to OMB recommendations have been documented in the docket for this action.

In addition, EPA prepared an analysis of the potential costs and benefits associated with this action. The analysis, which is briefly summarized in section III of this Preamble, is contained in the Costs Analyses Memorandum, and has been placed in the docket for this action.

B. Paperwork Reduction Act

This action does not impose any new information collection burden. Owners or operators will continue to keep records and submit required reports to EPA or the delegated State regulatory authority. Notifications, reports, and records are essential in determining compliance and are required, in general, of all sources subject to the 1994 NESHAP. Owners or operators subject to the 1994 NESHAP continue to maintain records and retain them for at least five years following the date of such measurements, reports, and records. Information collection requirements that were promulgated on December 2, 1994, in the Halogenated Solvent Cleaning NESHAP prior to the 2006 proposed amendments, as well as the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all owners or operators subject to national emission standards, are documented in EPA ICR No. 1652.06. OMB has previously approved the information collection requirements contained in the existing regulations 40 CFR part 63 Subpart T under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* and has assigned OMB control number 2060–0273. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

The companies owning the affected facilities using halogenated solvents can be grouped into small and large categories using SBA general size standard definitions. Size standards are based on industry classification codes (i.e., North American Industrial Classification System, or NAICS) that each company uses to identify the industry or industries in which they operate. SBA defines a small business in terms of the maximum employment, annual sales, or annual energy-generating capacity (for electricity generating units) of the owning entity. These thresholds vary by industry and are evaluated based on the primary industry classification of the affected companies. In cases where companies are classified by multiple NAICS codes, the most conservative SBA definition (i.e., the NAICS code with the highest employee or revenue size standard) was used.

As mentioned earlier in this preamble, facilities across a large number of industries use halogenated solvents, therefore a number of size standards are utilized in this analysis. For the 41 industries identified at the 6-digit NAICS code represented in this analysis, the employment size standard varies from 500 to 1,500 employees. The annual sales standard is as low as four million dollars and as high as 150 million dollars. The specific SBA size standard is identified for each affected industry within the small entity database created for this economic analysis.

After considering the economic impacts of this action on small entities, we have concluded that this action will not have a significant economic impact on a substantial number of small entities. This certification is based on the economic impact of this action on all affected small entities in the entire halogenated solvent cleaning source category. Option 1 is expected to affect 120 ultimate parent entities, and 40 of these parent entities (one-third of the total number of ultimate parent entities affected) are small as defined by SBA small business size standards. Of these 40 small entities none have an annualized cost of greater than one percent of their sales. Option 2 is expected to affect 148 ultimate parent entities, and 52 (or 35 percent) of these entities are small. Of these 52 small entities, three have an annualized cost of greater than one percent of their sales. Finally, Option 3 is expected to affect 181 ultimate parent entities, and 56 (or 31 percent) of these entities are small. Of these 56 small entities, three have an annualized cost of greater than one percent of their sales. More information on these impacts can be found in the economic impact analysis for this proposed rule, a document available in the public docket for this action.

Although this proposed rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities. When developing the proposed rule, we took special steps to ensure that the burdens imposed on small entities were minimal. We conducted several meetings with industry trade associations to discuss regulatory options and the corresponding burden on industry, such as recordkeeping and reporting.

Following publication of the proposed rule, copies of the **Federal Register** notice and, in some cases, background

documents, will be publicly available to all industries, organizations, and trade associations that have had input during the regulation development, as well as State and local agencies.

We continue to be interested in the potential impacts of this proposed rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

This action contains no Federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531–1538 for State, local, or tribal governments or the private sector. The action imposes no enforceable duty on any State, local or tribal governments or the private sector. [The term ''enforceable duty'' does not include duties and conditions in voluntary Federal contracts for goods and services.] Therefore, this action is not subject to the requirements of sections 202 or 205 of the UMRA.

This action is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments.

E. Executive Order 13132: Federalism

Executive Order (EO) 13132, entitled ''Federalism,'' (64 FR 43255, August 10, 1999) requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the EO to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.''

This proposed action does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in EO 13132. None of the affected halogenated solvent cleaning facilities are owned or operated by State or local governments. Thus, EO 13132 does not apply to this proposed action.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed rule from State and local officials.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This proposed action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes as specified in EO 13175. Thus, Executive Order 13175 does not apply to this proposed action.

EPA specifically solicits additional comment on this proposed rule from tribal officials.

G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

EPA interprets EO 13045 (62 FR 19885, April 23, 1997) as applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Order has the potential to influence the regulation. This action is not subject to EO 13045 because it is based solely on technology performance.

This proposed action is not subject to the EO because it is not economically significant as defined in EO 12866; the Agency believes this action represents reasonable further efforts to mitigate risks to the general public, including effects on children. This conclusion is based on our assessment of the imposed emission limits that would reduce chlorinated solvent impacts on human health associated with exposures to halogenated solvent cleaning operations.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This proposed action is not a ''significant energy action'' as defined in Executive Order 13211 (66 FR 28355, May 22, 2001), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This proposed action will have a negligible impact on energy consumption because about 10 percent of entities using halogenated solvent cleaning will have to reduce emissions through a range of activities involving simple process changes to the installation of additional emission control equipment or special low emitting machines to comply. The cost of energy distribution should not be affected by this proposed action at all since the standards do not affect energy distribution facilities. We also expect that there would be no impact on the import of foreign energy supplies, and no other adverse outcomes are expected to occur with regards to energy supplies. Further, we have concluded that this proposed action is not likely to have any significant adverse energy effects.

I. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Pub. L. 104–113, 12(d) (15 U.S.C. 272 note), directs EPA to use voluntary consensus standards (VCS) in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. VCS are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by VCS bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable VCS.

This proposed action does not involve technical standards. Therefore, we are not considering the use of any voluntary consensus standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, Feb. 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Reporting and recordkeeping requirements.

Dated: October 3, 2008.

Stephen L. Johnson,

Administrator.

[FR Doc. E8–24013 Filed 10–17–08; 8:45 am]

BILLING CODE 6560–50–P