[AD-FRL-4808-8]

National Emission Standards for Hazardous Air Pollutants Schedule for the Promulgation of Emission Standards Under Section 112(e) of the Clean Air Act Amendments of 1990

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of the source category schedule for standards.

SUMMARY: This notice publishes the schedule for standards as required under section 112(e) of the Clean Air Act as amended in 1990 (1990 Amendments). A draft schedule for the promulgation of emission standards providing the opportunity for public comment was published in the **Federal Register** (57 FR 44147, September 24, 1992). Today's schedule, which satisfies the requirement of section 112(e)(3) that the Administrator publish a schedule for the promulgation of emission standards, was established after considering the public comments and further EPA review. This schedule establishes deadlines for the promulgation of emission standards for the categories of sources emitting hazardous air pollutants (HAP's) initially listed pursuant to section 112(c)(1) and (3).

The initial list of categories of sources, developed under section 112(c), was published in the **Federal Register** (57 FR 31576; July 16, 1992). The initial list includes 166 categories of major sources and eight categories of area sources for a total of 174 source categories. The schedule for standards is organized such that the 174 listed source categories are grouped in four separate timeframes with promulgation deadlines of November 15, 1992, November 15, 1994, November 15, 1997, or November 15, 2000.

Sources within the listed categories will be subject to emission standards developed pursuant to section 112(d) in accordance with today's schedule. In the event an applicable standard is not promulgated on schedule for a listed category of major sources, the owner or operator of a major source in such category may be subject to emission limitations determined on a case-by-case basis, pursuant to section 112(j). Section 112(j) requires that the owner or operator of any major source, in a category for which emissions standards are delayed by at least 18 months from today's scheduled date for promulgation of standards, must submit a permit application to the applicable permit authority in compliance with title V of the 1990 Amendments. The case-by-case equivalent emission limitations by permit, under section 112(j), are discussed more thoroughly in section I.B. of today's notice.

EFFECTIVE DATE: December 3, 1994.

ADDRESSES: Relevant information can be found in the **Federal Register** notice (57 FR 44147; September 24, 1992) entitled "National Emission Standards for Hazardous Air Pollutants (NESHAP); Availability:

Draft Schedule for the Promulgation of Emission Standards" and also in the **Federal Register** notice (57 FR 31576; July 16, 1992) entitled "Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990."

Docket: Docket No. A-91-14, containing information considered by the EPA in development of the schedule for standards, is available for public inspection and copying between 8:30 a.m. and 3:30 p.m., Monday through Friday, at the EPA's Air Docket Section, Room M1500, U.S. EPA, 401 M Street, Southwest, Washington, D.C. 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For information concerning categories involving the production, handling, refining or use of chemicals or petroleum, or products thereof, contact Mr. David Svendsgaard, Chemicals and Petroleum Branch (MD-13), Emission Standards Division, U.S. EPA, Research Triangle Park, North Carolina 27711, telephone number (919) 541-2380. For information concerning categories involving fuel combustion, incineration, metals and minerals processing, contact Mr. William Maxwell, Industrial Studies Branch (MD-13), telephone number (919) 541-5430, at the above address. For information concerning pollutant health effects and the Source Category Ranking System, contact Mr. Charles French, Pollutant Assessment Branch (MD-13), telephone number (919) 541-0467 at the above address. For general information concerning this notice contact Mr. French or Mr. Svendsgaard.

SUPPLEMENTARY INFORMATION:

The information in this notice is organized as follows:

Acronym List:

ATB = Aquatic Toxicity and Bioconcentration
CTG = Control Techniques Guidelines
EPA = Environmental Protection Agency
FR = Federal Register
HAP = Hazardous Air Pollutant
HON = Hazardous Organic NESHAP
MACT = Maximum Achievable Control Technology
NESHAP = National Emission Standards for Hazardous Air Pollutants
RTECS = Registry of Toxic Effects of Chemical Substances
SCRS = Source Category Ranking System
SIC = Standard Industrial Classification
SOCMI = Synthetic Organic Chemical Manufacturing Industry

I. Introduction

A. Initial List of Categories of Sources

A preliminary draft list of over 700 categories and subcategories of sources emitting one or more of the HAP's listed in section 112(b)(1) of the 1990 Amendments was published in the **Federal Register** for public comment on June 21, 1991 (56 FR 28548). After consideration of public comment and further EPA review, the list was revised and now contains 174 categories of sources (i.e., source categories). This initial list was published as required by section 112(c)(1) of the 1990 Amendments on July 16, 1992 (57 FR 31576). The reader is referred to that notice for information regarding the development of the list of source categories.

B. Clean Air Act Requirements for the Schedule

Section 112(e) of the 1990 Amendments requires the publication of a schedule for the promulgation of emission standards for listed source categories and subcategories (hereafter referred to as categories), that will result in the promulgation of regulations pursuant to section 112(d) for all initially listed source categories within 10 years of the date of enactment of the 1990 Amendments (i.e., by November 15, 2000). Section 112(e)(1) requires the EPA to promulgate regulations for 40 source categories within 2 years of enactment of the 1990 Amendments (i.e., by November 15, 1992); for coke oven batteries by December 31, 1992; for 25 percent of all initially listed categories within 4 years (i.e., by November 15, 1994); for an additional 25 percent of all initially listed categories within 7 years (i.e., by November 15, 1997); and to complete the promulgation of regulations for all initially listed source categories within 10 years (i.e., by November 15, 2000).

In determining priorities for promulgating emission standards, section 112(e)(2) specifies that the EPA consider three criteria: (1) the known or anticipated adverse effects of HAP's on public health and the environment; (2) the quantity and location of emissions or reasonably anticipated emissions of HAP's; and (3) the efficiency of grouping source categories according to the pollutants emitted, or the processes or technologies used.

Today's emission standards promulgation schedule was required to be published, after consideration of public comments pursuant to section 112(e)(3). Today's schedule will establish the timeframe for the promulgation of section 112(d) standards for each initially listed category of sources.

Section 112(e)(3) explicitly states that "the determination of priorities for the promulgation of standards...is not a rulemaking and shall not be subject to judicial review, except that, failure to promulgate any standard pursuant to the schedule...shall be subject to review under section 304 of this Act". Therefore, the schedule for standards published today is not a rulemaking and is not subject to judicial review.

The Equivalent Emission Limitation by Permit rule, pursuant to section 112(j), which was proposed in the **Federal Register** on July 13, 1993 (58 FR 37778), provides for additional actions in the event the Administrator fails to meet the schedule for establishing regulations for any listed category of sources. Pursuant to section 112(j), the owner or operator of any major source, in a category for which emissions standards are delayed by at least 18 months from the date contained in today's schedule for promulgation of standards, must submit a permit application to the applicable permit authority in compliance with rules implementing Title V of the 1990 Amendments. [The final rule published on July 21, 1992 (57 FR 32250) establishes requirements for state permit programs, and a final future rulemaking will establish similar requirements for Federally issued permits.] This permitting requirement is not applicable until after the effective date of a permit program in a State and not sooner than 42 months after enactment of the 1990 Amendments (i.e., May 15, 1994). The permit must specify emissions limitations that, on a

case-by-case basis, are determined by the Administrator (or the State) to be equivalent to the level of control that would have been required by emission standards established under section 112(d). These permits will be reviewed and approved by the permitting authority on a case-by-case basis. For more information and specifics concerning section 112(j), readers are referred to the proposed Equivalent Emission Limitations by Permit rule which was published in the **Federal Register** on July 13, 1993 (58 FR 37778).

Section 112(e)(1) requires EPA to develop the schedule for emission standards based on categories of sources "...initially listed for regulation pursuant to subsection (c)(1)...." The EPA has interpreted this to mean that the categories of sources included in today's schedule for standards must be the same categories of sources as listed in the **Federal Register** (57 FR 31576; July 16, 1992).

Today's schedule for standards is consistent with the section 112(c) list. Pursuant to section 112(c)(5), source categories subsequently added to the section 112(c) list shall be scheduled for regulation by November 15, 2000, or 2 years after the source categories are listed, whichever is later.

Section 112(e)(3) requires the EPA to publish a schedule for promulgating standards for listed categories by November 15, 1992. However, section 112(e) is silent concerning the permissibility of amending that schedule. The EPA has no intent to defer regulation in any way that would compromise the numerical and temporal requirements in section 112(e)(1). However, because data on many categories of sources are still very limited, the EPA anticipates that there may be circumstances where revision of the schedule would better serve the prioritizing criteria in section 112(e)(2). For example, the EPA might obtain new information, after publication of today's schedule, indicating that emissions from some categories scheduled for early regulation pose less public health and/or environmental concerns than emissions from categories scheduled for regulation in a later timeframe. Because of resource constraints, it is unlikely that the more hazardous categories could be regulated earlier than planned unless regulation of the relatively less hazardous categories could be deferred. In such case, EPA would wish to comply with the directive in the Conference Report that "[t]he conferees wish to emphasize that in promulgating standards, the EPA should devote its resources first to those pollutants which present the greatest risk to the public health and the environment." (Conference Report. on S. 1630, H.R. Rept. 101-952, 101st Cong., 2d Sess. at 338, 1990). For example, if EPA could shift five categories from the 10-year timeframe to the 7-year timeframe, and shift five others from the 7-year timeframe to the 10-year timeframe, this action might more effectively reduce hazards to public health earlier than would strict adherence to today's schedule. In addition, the EPA may, at its discretion, establish standards for listed categories or subsequently defined subcategories sooner than scheduled under section 112(e). The EPA may consider broader

categories for establishing standards. The EPA may aggregate categories or subcategories which have been disaggregated on the initial list into a single category on any revised list. This may be done for the purpose of setting a single emission standard for the aggregated category.

C. Schedule for Coke Oven Batteries

The 1990 Amendments establish a specific timeframe for the regulation of coke oven batteries (charging, topside, and door leaks). As specified in section 112(d)(8), the EPA was required to promulgate emissions standards for this source category by December 31, 1992. An emissions standard for this source category was published in the **Federal Register** on October 27, 1993 (58 FR 57898).

D. Schedule for Publicly Owned Treatment Works

The 1990 Amendments establish a specific schedule for promulgation of emission standards applicable to Publicly Owned Treatment Works (POTW's). Section 112(e)(5) requires the EPA to promulgate emissions standards pursuant to section 112(d) for POTW's by November 15, 1995.

II. Background to the Schedule for Standards

A. Criteria for Establishing the Schedule

In determining priorities for promulgating emission standards, section 112(e)(2) specifies that the EPA consider three criteria: (1) the known or anticipated adverse effects of HAP's on public health and the environment; (2) the quantity and location of emissions or reasonably anticipated emissions of HAP's; and (3) the efficiency of grouping categories according to the pollutants emitted, or the processes or technologies used. The first two criteria are addressed by the Source Category Ranking System (SCRS) which is discussed in section II.B. of this notice. The efficiency of grouping criterion allows for optimizing regulatory efficiency by considering similarities among categories of sources, including emission mechanisms and control technologies. In addition to these criteria, other factors, such as the public comments, further technical analyses, the availability of data for standard development, time needed to develop standards, and the ability to meet the section 112(e) numerical and temporal requirements, were considered in establishing today's schedule.

The EPA interprets the regulatory schedule mandated by the 1990 Amendments as the placement of source categories into groups to be regulated within the required deadlines. For this reason, today's schedule shows whether the regulatory effort for a given category of sources is scheduled for completion by November 15, 1992; November 15, 1994; November 15, 1997; or November 15, 2000. This

schedule does not establish the order in which the rules for particular categories will be proposed or promulgated. Rather, it requires that emissions standards pursuant to section 112(d) for a given category of sources be promulgated by the specified date.

B. The Source Category Ranking System

To assist in its effort to meet the statutory requirements for schedule prioritization, the EPA developed the Source Category Ranking System (SCRS). The SCRS combines readily available health effects data, emission estimates, and population information to rank source categories. By incorporating this information the SCRS considers a broad range of toxicological effects which address "... the known or anticipated adverse effects....on public health..." criterion under section 112(e)(2)(A), and also addresses the "...quantity and location..." criterion under section 112(e)(2)(B).

The SCRS generates a score for each source category based on emissions estimates, estimates of the toxicity of HAP's, and to a lesser degree, the location of the emitting facilities. The result is a scoring system by which a source category is ranked in relation to other listed source categories. Details on scoring methodology and data input are discussed in the **Federal Register** notice for the draft schedule for standards (57 FR 44147; September 24, 1992) as well as in the "Methodology for the Source Category Ranking System" document (Docket No. A-91-14, Item No. IV-A-1).

In developing the schedule for standards, the EPA gathered as much information as was reasonably practical to prioritize the listed categories of sources. The EPA recognizes that the SCRS could not duplicate the level of analysis performed in a regulatory source assessment effort for an individual standard or in a site specific risk assessment. Given that the SCRS was designed to aid in prioritizing categories of sources for developing the schedule based on varying levels of information, the SCRS was a useful tool that assisted in the grouping of source categories into the four timeframes specified in section 112(e). The SCRS was not the sole determining factor in establishing the schedule for standards, but was the basis of EPA's consideration of the quantity and location of emissions, and public health effects criteria. The third criterion for establishing priorities, the efficiency of grouping, is discussed in the following section.

C. Application of Efficiency of Grouping

In developing the schedule for standards, the EPA sought to group separate categories of sources into single regulatory development efforts due to similar processes, emission characteristics, and applicable control technologies. There are some lower priority categories, based on the SCRS results, that have similarities to higher priority categories. Through application

of the efficiency of grouping criterion, a standard may be completed for several similar categories of sources at the same time. By using the SCRS scores in combination with the efficiency of grouping criterion, EPA has sought to avoid duplication of effort and optimize the regulatory development process. As a result, some categories of sources that might have been scheduled for regulatory development at a later date based solely on the SCRS ranking are scheduled earlier due to the efficiency of grouping. An example of this efficiency is the polymers and resins I group. Currently, there are nine source categories in the polymers and resins I group that are all scheduled in the 4-year timeframe. In this industrial group, regulatory efforts initiated for a few relatively high-ranking categories are also applicable to additional categories that ranked lower in the SCRS.

The efficiency of grouping criterion was also applied to schedule lower ranked categories with other similar categories where regulatory development activities have been initiated or are planned. Section 183 of the 1990 Amendments requires development of 13 control technology guidelines (CTG's) for volatile organic compounds (VOC's) emissions by November, 1993. Many of the categories for which CTG's are being developed also emit HAP's. Hence, efficiency of grouping may be achieved by evaluating HAP's concurrently with VOC's. This allows EPA to consider the requirements for establishing CTG's and maximum achievable control technology (MACT) standards at the same time, and to make them compatible. This strategy provides the affected industries with greater certainty about both sets of requirements, so that both can be considered at about the same time by an owner or operator in developing an overall control strategy.

D. Other Considerations for Scheduling

In addition to the three priority-setting criteria specified in section 112(e)(2), the 1990 Amendments also require that the EPA regulate certain percentages of the list of source categories by certain dates. For example, the EPA is required to regulate 25 percent of the listed categories within 4 years after enactment. When establishing the schedule for standards, the EPA also considered the time and resources required for development of emissions standards. Several categories of sources have been studied previously by EPA, and a good understanding of the basis of a technology-based standard is available. All the 2-year, and a substantial portion of the 4-year scheduled standards cover industries that were already under study in preparation for regulations at the time the 1990 Amendments were passed.

For other categories, where little information is currently available, considerable time and effort may be necessary to adequately study the category, analyze the processes, identify emission points, establish regulatory baselines, evaluate potential control strategies, and determine the appropriate regulatory

strategy. Therefore, the amount of available information was another factor in the prioritization of source categories.

III. Summary of Public Comments and EPA's Responses

A. Overview

A draft schedule for standards was published in the **Federal Register** on September 24, 1992 (57 FR 44147), and was followed by a public comment period which concluded on October 26, 1992. A total of 18 letters commenting on the draft schedule were submitted by industry representatives and government agencies. These comments have been reviewed and placed in the docket (Docket No. A-91-14, Category IV-D). A summary of the public comments and EPA's responses is also available in the docket (Docket No. A-91-14, Item No. IV-A-3). The major comments relevant to the development of the schedule for standards and EPA's responses are summarized below.

B. Comments and Responses Related to Category Definitions

Five commenters requested that the EPA provide additional information with the schedule notice to assist owners and operators in determining which source category their sources might be included in. They contended that the sources and HAP's which will be controlled in each of the categories were not well-defined in the source category schedule or in the source category list **Federal Register** publications. The commenters asserted that the EPA should publish a description of each source category and its associated HAP's along with the schedule. One commenter suggested the EPA develop a decision tree for determining regulatory applicability, similar to the one being developed for the SOCMI source category (57 FR 62608; December 31, 1992). Another commenter recommended a hotline be established so facilities can obtain assistance in determining which category a process falls into. The commenter noted that written communication would be needed and that the determination would need to be binding.

Several commenters suggested that a list of major products from each category be included in the schedule. One commenter suggested that a list of relevant Standard Industrial Classification (SIC) codes also be included. The commenters asserted that such additional information would assist operators in identifying the regulations to which they would be subject, and in planning and allocating resources for compliance.

Many commenters suggested the EPA include table 3.1 of the December 14, 1990 document "Draft Documentation for Developing the Source Category List" in the schedule notice because this table provides the corresponding speciation profiles used to associate HAP's with source categories and thus helps clarify the sources and HAP's intended to be regulated under each category.

Two commenters stated it was essential that a mechanism be developed for determining under which category a production unit

is included, to make decisions concerning equivalent emissions limitations under section 112(j), and to file compliance extension requests under the section 112(i)(5) early reduction program.

In response to these comments, some of the information the commenters requested is provided in the EPA report for the initial list, "Documentation for Developing the Initial Source Category List - Final Report" (EPA-450/3-91-030; July 1992. Docket No. A-90-49, Item No. IV-A-55). Hereafter in today's notice, this document is termed the "final report." This final report contains descriptions of each listed category of major sources. Information provided includes the types of operations, processes, and equipment included within each category. However, the source category descriptions in the final report are preliminary, and may be revised during the regulatory development process. Also, during this process, the EPA may discover new information about the various industries (such as different processes or emission points) that require adding new distinct source categories to the section 112(c) list. Tables 3.1 and 4.1 of this report contain listings of some of the HAP's currently associated with each category of major sources, and area sources, respectively. These tables are too lengthy to incorporate into a **Federal Register** notice, but may be accessed by viewing the final report contained in the docket (Docket No. A-90-49, Item No. IV-A-55). Also, people can obtain copies of this final report by contacting the National Technology Information Service (NTIS) at 5285 Port Royal Road, Springfield, Virginia 22161, telephone number 703-487-4650. The NTIS order number for this final report is PB92-218429. Because of current data limitations, a more comprehensive discussion of processes and equipment, and all associated HAP's for each category is not currently available. During the course of regulatory development, each category will be further examined to refine the source category descriptions and determine specifics about processes, equipment, products, HAP emissions and applicability. During this process, relevant SIC codes might be identified on a source category basis where good correlations can be determined. This information will be available from the respective EPA standard development teams, who will be communicating with trade groups, and other interested parties, during the development of emission standards. As stated in the source category list **Federal Register** notice:

> The Agency recognizes that these descriptions [of what each listed source category comprises], like the list itself, may be revised from time to time as better information becomes available. The Agency intends to revise these descriptions as part of the process of establishing standards for each category. Ultimately, a definition of each listed category, or subsequently listed subcategories, will be incorporated in each rule establishing a NESHAP for a category. (57 FR 31576; July 16, 1992).

Therefore, the EPA cannot make such preliminary descriptions binding. The EPA encourages interested parties to communicate with

appropriate EPA standard development teams early in the regulatory process.

In response to the comments relating to section 112(j), the EPA intends to make information available regarding source category definitions, applicability, and controls before the section 112(j) provisions would take effect for a source category. The EPA encourages interested parties to communicate with the appropriate EPA project teams well in advance of the time that section 112(j) provisions might apply for a source category. Readers are referred to the proposed Equivalent Emission Limitations by Permit Rule, which was published in the **Federal Register** on July 13, 1993 (58 FR 37778).

The comments relevant to section 112(i)(5) of the 1990 Amendments have been submitted to the EPA project team implementing this program. The early reductions project team is aware of the commenter's concerns about applicability. Again, the EPA encourages the interested parties to communicate with the appropriate project teams to discuss these concerns.

Regarding the commenter's suggestion to develop decision trees to assist with determining regulatory applicability, the EPA believes that the commenter is referring to the applicability decision framework included in section VI.A. of the proposed emission standard for the SOCMI (57 FR 62608; December 31, 1992), which is commonly referred to as the Hazardous Organic NESHAP (HON). Similar decision trees, if developed, would be produced under individual standard development activities after more information about each category is gathered. Also, the EPA does not plan to establish a hotline for source category determinations. However, status updates on standards and other rulemakings are typically presented through such forums as the National Air Pollution Control Techniques Advisory Committee (NAPCTAC) and the National Air Toxics Inventory Clearinghouse (NATICH). In addition, a Regulatory Agenda is published in the **Federal Register** approximately twice per year which provides descriptions of various regulatory projects and the EPA personnel to contact for more information.

C. Comments and Responses Related to the Source Category List

Several commenters discussed issues related to determinations made during the development of the initial source category list (57 FR 31576; July 16, 1992). The decisions to list source categories, and potential revisions to the source category list, are not being addressed under today's schedule action. As stated in the draft schedule for standards **Federal Register** publication on September 24, 1992 (57 FR 44147), comments on today's action were solicited regarding scheduling of regulatory deadlines for source categories. A public comment period was provided for source category list determinations following the publication of the draft list of source categories on June 21, 1991 (56 FR 28548). During the course of regulatory development for the various source categories, the EPA will study individual source categories in greater detail.

Listing determinations and potential source category list revisions such as addition, removal, aggregation, and subcategorization of source categories will be studied during this process. The public comments submitted relating to the listing of various source categories have been forwarded to the appropriate EPA project teams. If the EPA determines that revisions to the source category list are appropriate, then a revised source category list will likely be published in the FR sometime in the future. The public comments relating to source category list determinations that were submitted during the public comment period for the draft schedule for standards, and the EPA's responses, are summarized in a background information document entitled "Schedule for Standards: Summary of Public Comments and Responses" (Docket No. A-91-14, Item No. IV-A-3).

D. Comments and Responses Related to the Ranking Methodology

1. General

Many commenters approved of the EPA's use of the SCRS in prioritizing source categories. One commenter considered the SCRS approach to be consistent with section 112(e) criteria for determining the schedule. Others were pleased that SCRS scores are derived by combining health effects scores with exposure scores for each pollutant. However, many commenters also stressed that the SCRS has limited or no applicability elsewhere. A group of these commenters agreed with the EPA's position that a higher SCRS score does not necessarily mean a greater risk than a lower SCRS score. One commenter wanted the EPA to confirm in the **Federal Register** notice supporting the final schedule that: (1) the SCRS was used only for this preliminary screening and is not to be used for either risk assessment or any other regulatory purpose; (2) more accurate and realistic information shall be used in developing the section 112 regulations for the scheduled categories; and (3) the commenter may submit additional information in the future that may be relevant to schedule adjustments.

One commenter asserted that the SCRS process must be validated to assure that the ranking it produces has some basis to justify using it for developing the schedule. The commenter suggested doing an in-depth study on a few of the categories to confirm the results from the SCRS process, noting that this could demonstrate whether or not the results are consistent with results that would be expected from a more complete review.

In response to these comments, the EPA emphasizes that the SCRS addresses two of the section 112(e)(2) criteria (i.e., adverse effects of the HAP's on public health; and the quantity and location of emissions of HAP's) by generating a relative ranking score for each source category based on emission estimates, toxicity data, and to a lesser degree, the location of emitting facilities. However, the SCRS does not estimate absolute or relative risk, population exposure, or impacts.

Several factors were considered when developing the schedule for standards including: the SCRS ranking scores; the EPA's capability to meet the numerical and temporal requirements of section 112(e); and the efficiency of grouping categories in the same timeframe. Admittedly, the SCRS methodology and data input have limitations. However, for its limited use, the SCRS and its present results are adequate for assisting with the development of the schedule for standards. It was the only tool reasonably available that could address the criteria of section 112(e)(2) for a large number of source categories in the short time available. The EPA does not plan to revise and rerun the SCRS with new data. Currently, the EPA does not intend to use the SCRS for any other regulatory purposes. The EPA realizes the restricted utility of the SCRS and encourages the public and other government agencies not to use incorrectly, or misinterpret, the SCRS results.

The SCRS methodology includes several assumptions and utilizes simplified algorithms. In order to evaluate thoroughly the SCRS ranking, more facility-specific data would be needed, along with other data such as EPA-verified health effects benchmarks. Currently, this information is not available for many of the categories or pollutants. The EPA considers the current SCRS results to be adequate for assisting with the development of the schedule for standards.

2. Exposure Score

One commenter was concerned with the use of average county population density within a 50-kilometer (km) radius of the facility for the long-term aggregate exposure score because the resulting score may underestimate the risk to individuals that live closer to the facility. Another commenter objected to the use of average population density because this method gives unwarranted priority to facilities located in unpopulated parts of a heavily populated county. One commenter suggested that the EPA incorporate the census-based population exposure capabilities of the Human Exposure Model (HEM) into the SCRS. The commenter was concerned that several assumptions made in the SCRS might underestimate the impact of emissions from source categories, such as the use of: (1) nationwide estimates; (2) uniform population exposure; and (3) constant average dispersion parameters for all pollutants and sources.

For detailed information on SCRS methodology, readers are referred to the draft schedule **Federal Register** notice (57 FR 44147; September 24, 1992) and the SCRS Methodology document (Docket No. A-91-14, Item No. IV-A-1). In summary, the SCRS calculated four separate exposure scores: the long-term aggregate, the long-term maximum, short-term aggregate, and the short-term maximum exposure scores. Emissions estimates were the most sensitive factors in the calculation of each of the four source category exposure scores. Population information, although limited, was factored into one of the four exposure scores, the long-term aggregate. Since the SCRS contains many assumptions, and uses generic algorithms and readily

available data of varying quality, the exposure scores are meant as screening tools and are not to be considered exposure estimates. In response to the comment on use of a 50-km radius, the long-term aggregate exposure score theoretically represents a population-based exposure score and is not intended to represent the maximally exposed individual. A 50-km radius was incorporated into the long term aggregate exposure score algorithm because it is the maximum downwind distance to which meteorological dispersion conditions are considered to be reliable using the EPA's dispersion models. A second long-term score, the long-term maximum exposure score, is used to represent a theoretical maximally exposed individual. In this algorithm, it is assumed that the highest concentration is typically 200 meters (m) downwind. However, since these values are constants incorporated into generic algorithms by which all source categories are scored, and since the SCRS does not estimate exposure or risk, it is arbitrary what radii and distances are used in the SCRS exposure scores. If other constant values for radii or distance were to be used (e.g., 20 km and 100 m, respectively) in the generic algorithms, the SCRS relative ranking results would change very little, if at all.

Exposure modeling using detailed census data (e.g. such as using the HEM model) was not used in the SCRS because the EPA did not have adequate facility-specific data for many of the source categories. Also, performing exposure modeling for all facilities in each of the listed source categories could require an enormous level of effort and is beyond the scope of work believed to be necessary to support the schedule for standards. Average population density, and other assumptions such as constant dispersion parameters for all pollutants, are appropriate for the SCRS given its limited use and data availability.

3. Health Effects Score

One commenter recommended that the EPA use acute health effects endpoints rather than the lethal dose to 50 percent of the exposed population (LD_{50}) currently used in the SCRS. The commenter was also concerned about the combination of health effects data on acute lethality, reproductive effects, and other noncancer effects that may underestimate public health impacts.

In addition, it was argued by a commenter that the nationwide emission estimates and national population density do not accurately show the public health impact from exposure to area source emissions. The commenter also recommended incorporating uncertainty factors and environmental effects in the SCRS.

Another commenter expressed concern over the use of data from the Registry of Toxic Effects of Chemical Substances (RTECS), since it is not a peer-reviewed journal, and recommended using well-supported toxicity data for individual chemicals, if available, to develop the health effects score. Another commenter mentioned that the data used are very limited and frequently out-of-date, and noted that the RTECS data base is 6 years old. The commenter

cautioned that the SCRS mathematical scoring, on several levels, crosses such a diverse stratum of health effects and agents that any scientific relevance is distorted. The commenter also protested that the SCRS approach does not address whether the health effects only occur when a threshold limit is exceeded.

Another commenter noted that the SCRS is too ill-defined for the assignment of potential health effects for a particular source category, and therefore, contended that the term "source category risk score" is not correctly used. The commenter also claimed that the health effects score, particularly the use of RTECS data, should be scientifically based. The commenter pointed out that RTEC's contains a number of inaccurate values, missing data, and misinterpretations on severity.

As part of the response to the above comments, the following summary of the health effects scoring methodology is provided. The health effects score for each pollutant was based on four health effects endpoints (i.e., cancer, reproductive/ developmental effects, acute lethality, and "other toxicity"). The "other toxicity" endpoint was based on acute or chronic health effects data other than cancer (i.e., noncancer effects), that were not included in the reproductive/developmental or acute lethality endpoints. The LD_{50} and lethal concentration to 50 percent of exposed population (LC_{50}) were used to calculate the score for acute lethality. These values were a useful measure of relative toxicity since the data were readily available and the endpoint (i.e., 50 percent death) is consistent across pollutants. Other acute benchmarks, such as levels of concern (LOC's) and doses immediately dangerous to life and health (IDLH's) are based on LD_{50} and LC_{50} data, and therefore, would have yielded similar relative results. The LD_{50} and LC_{50} data were useful for scoring the pollutants in one of the four health effects endpoints. The lowest oral dose reported to cause a health effect (TD_{LO}), or lowest concentration when the substance is in air (TC_{LO}), from the RTECS data base, were used to derive the reproductive/ developmental health effects score, and the "other toxicity" score for most pollutants in the SCRS.

The primary source of information for noncancer health effects was RTECS, which is a data base developed and maintained by the National Institute of Occupational Safety and Health. The RTECS data base is widely used by both industry and regulatory agencies as a source of toxicity data. The RTECS represents one of the most readily available and comprehensive sources of information on noncancer toxicological endpoints. When the health effects data were being compiled for the SCRS, the most current RTECS data were used (see Docket No. A-91-14, Item No. II-A-1). It would have been desirable to obtain peer-reviewed, noncancer health data, and verified health effects benchmarks such as the EPA's inhalation reference concentrations (RfC's). However, RfC's are not available for a significant number of the HAP's, and therefore, RfC's were not used in the SCRS. Since LD_{50}'s, LC_{50}'s, TD_{LO}'s and TC_{LO}'s were available for most of the HAP's, these values were used in the SCRS.

Although the RTECS data base itself is not formally peer reviewed, the data are from the scientific literature. The EPA recognizes the limitations associated with the lack of peer review; however, for compiling health effects information for the 189 HAP's for incorporating into a screening tool such as the SCRS, RTECS was a valuable source.

Threshold limits were not considered in the SCRS. For many pollutants, data are inadequate to determine threshold limits, if they exist. More importantly, since the SCRS does not estimate exposure or risk, it cannot determine if a threshold effect level might be exceeded. The pollutants were scored based on relative potency. The SCRS generates a relative ranking based on emissions and toxicity data, but does not attempt to determine if public health impacts actually exist. Therefore, threshold levels were not considered.

The terminology "source category risk score" was used in some earlier docket items. After further review, the EPA recognized that this terminology could be misleading since the SCRS does not estimate risk. Therefore, in the draft schedule notice (57 FR 44147; September 24, 1992), and in the more recent docket items, including the "Methodology for the Source Category Ranking System" (Docket No. A-91-14, Item No. IV-A-1), this terminology has been changed to "source category score." The draft schedule **Federal Register** notice, today's notice, and the methodology document clearly indicate that the SCRS does not estimate risk. The EPA encourages the public not to misinterpret the SCRS results.

As mentioned above, the health effects score was derived for four types of endpoints. This approach was used so that the SCRS would cover a wide range of health concerns. There are other possible methods for combining various toxicity and emissions data to rank source categories. However, given the limitations on time and data availability, the EPA considers the methodology used in the SCRS to be adequate for its limited purpose.

In response to the commenter who suggested that the EPA incorporate uncertainties in the SCRS, the EPA recognizes that uncertainty factors are a very important concern when conducting risk assessments, and that defensible risk assessments should contain uncertainty analyses. For estimating risk or impacts, it is important to consider both quantitative and qualitative uncertainty. However, uncertainty analyses would have limited utility for producing a relative ranking. Since the SCRS generates a relative ranking, and does not estimate risk or impacts, and since the SCRS was only a tool used in conjunction with the efficiency of grouping and other considerations in developing the regulatory schedule, uncertainty factors were not incorporated into the SCRS. Needless to say, outputs from the SCRS are highly uncertain, even on a relative basis.

4. Environmental Effects

Two commenters suggested that potential adverse effects to the environment also be considered in developing the schedule. Specifically, one of these commenters recommended that aquatic toxicity, bioaccumulation, effects on terrestrial wildlife, and the effects of metals on plants be considered. This commenter did, however, recognize that the availability of toxicity data for effects on the environment are limited.

Section 112(e)(2) of the 1990 Amendments states, "In determining priorities for promulgating standards . . . the Administrator shall consider . . . adverse effects to public health and the environment." In response to these comments on environmental effects, and after further EPA review, the EPA has conducted a limited technical analysis to address ecological concerns. The analysis consists of two relative rankings of the source categories. One ranking is based on emissions estimates, aquatic toxicity, and bioconcentration. The other ranking is based on the same three parameters plus environmental partitioning. The ecological data (i.e., aquatic toxicity, bioconcentration, and environmental partitioning) were primarily obtained from the draft "Focus Chemicals for the Clean Air Act Amendments Great Waters Study" report, hereafter called the "Focus Chemicals" report, (Docket No. A-91-14, Item No. IV-A-2). The emissions estimates were gathered from the SCRS data base (Docket No. A-91-14, Item No. II-B-5 and II-B-8). The resulting relative rankings are called the Aquatic Toxicity and Bioconcentration (ATB) rankings in the remainder of this notice. Environmental persistence of the HAP's was not incorporated into the ATB rankings because of the limited available data. Persistence data (from the Focus Chemicals report) were available for less than 50 percent of the HAP's. Although the persistence data were not incorporated into the ATB rankings, source categories were identified if they emit HAP's which were considered persistent in the Focus Chemicals report. Effects on terrestrial species were not considered because of the limitations in readily available data, and the limited time and resources available to the EPA for finalizing the schedule for standards by the deadlines imposed by the 1990 Amendments. The ATB rankings are not ecological risk assessments, but rather relative rankings based on some readily available environmental data. A thorough discussion of methodology, input data, and results are contained in Docket No. A-91-14.

After analyzing the ATB relative rankings along with the separate effort to identify source categories that emit persistent HAP's, and after re-addressing all the other considerations that factored into the development of the schedule [such as the section 112(e)(1) requirements, SCRS results, efficiency of grouping, time needed to develop standards, EPA resources, and ability to meet the numerical and temporal requirements of section 112(e)], some changes have been made to the schedule for standards. These changes are discussed in section IV "Changes to the Draft Schedule."

E. Comments and Responses Concerning Category Specific Scheduling

Two commenters affirmed placement of their particular source categories on the schedule. One of the commenters reported, however, that the docket for the draft schedule did not provide sufficient information regarding the ranking of individual source categories, and the data used in the ranking.

One commenter asserted that the oil and natural gas production category should not be regulated in the 7-year timeframe because a methodological flaw in the SCRS has probably overstated the risk from this category. The commenter argued that this category should have a lower priority because it has low emission rates, and because the remote location of most operations results in lower exposure potential than predicted.

A second commenter voiced concern about the division of petroleum refinery operations into two separate source categories on the initial list, and the different timeframes to which they were assigned within the draft schedule. The commenter was concerned that there might be insufficient time to develop MACT standards for the source category "petroleum refineries - other sources not distinctly listed" before the 1994 deadline. Additionally, the commenter asserted that this separation would preclude emissions trading between these two source categories, even when collocated.

A third commenter argued that the pollutant and emissions information used to list and to develop the SCRS score for the iron foundries and steel foundries source categories was incorrect and ultimately skewed the SCRS ranks upon which the regulatory schedules for the iron foundries and steel foundries source categories are based. Another commenter asserted that, given the current asbestos NESHAP's efficacy and the reduction in asbestos use, the EPA should not schedule the asbestos processing source category for rulemaking anytime in the near future. Also, one commenter requested a 60-day extension to the comment period, in order to further review SCRS ranking information.

For further discussion of public comments and responses relevant to the scheduling of source categories, the reader is referred to a document entitled "Schedule for Standards: Summary of Public Comments and Responses" (Docket No. A-91-14, Item No. IV-A-3). In response to the above comment regarding docket information, the docket number A-91-14 and the referenced docket number A-90-49, contain information, including emissions estimates and health effects data, incorporated into SCRS. In response to the comments relevant to the listing of source categories, the decisions to list categories and to subdivide or aggregate categories such as petroleum refinery operations are not a part of today's schedule publication action. As discussed previously, the source category list will likely be revised sometime in the future.

In response to the specific scheduling comments, the scheduling decision for each source category was made after reviewing all the considerations previously discussed in this notice. The SCRS was considered an adequate tool to assist in the development of the schedule. The commenters did not submit new data on emissions, health effects, or specific facility parameters. After further EPA

review, evaluating all the considerations and criteria previously discussed in today's notice, the EPA decided to move the iron foundries and steel foundries source categories to the 10-year timeframe. However, the EPA does not have sufficient information indicating that the other suggested changes should be made. Therefore, none of these suggested changes has been made, except for the movement of the iron and steel foundries categories to the 10-year timeframe.

After further review, the EPA decided not to extend the comment period as requested by one commenter. The EPA realizes that a 30-day comment period challenges the public to review and respond quickly to the notice. However, the 1990 Amendments imposed an extremely ambitious schedule, and to lengthen the comment period may have resulted in additional delays beyond those which this project has already encountered. The EPA has, however, contacted the commenter directly to clarify some confusion about the SCRS ranking, and to provide assistance in locating the items in the docket related to that particular source category.

F. Comments and Responses Related to Flexibility

Many commenters discussed the need for some degree of flexibility within the schedule, and said that the EPA should have the flexibility to adjust the schedule for regulating source categories after the schedule for standards is published. Some commenters noted that the present rankings should be subject to change in the event that new information becomes available and prompts the EPA to recalculate a source category score which might alter the relative rank upon which its scheduled promulgation date is based. Many commenters asserted that as data quality and availability improves, a new SCRS analysis changing the relative ranking may prove that greater risk reduction may be achieved in a shorter timeframe by amending the schedule.

One commenter stated that flexibility was needed if new source categories are added to the source category list and schedule. Another commenter stressed the importance of revising the methodology used to develop the SCRS as new information becomes available. The commenter suggested that the EPA should have the authority to change the schedule in the future, if necessary, after periodic review and updates in methodology. Another commenter stated that the EPA needs flexibility in order to allow time for proper attention to the technical details of writing the emission standards. Several commenters asserted that the EPA must be able to modify the schedule out of administrative necessity in order to better meet the goals of the statute.

Two commenters asserted that since section 112(c) of the 1990 Amendments allows the EPA to amend the list as appropriate, the EPA should also have the flexibility to alter regulatory promulgation deadlines. One of these commenters proposed that such revisions are appropriate because section 112(b) instructs the EPA to add or delete HAP's when specific conditions are satisfied, and that the 1990 Amendments allow for the removal of source categories if the

pollutants they emit have been delisted, or if the projected risk from those pollutants drops below a certain level.

Six commenters alleged that section 112(e) contains no prohibitions against the EPA changing the schedule. One of the commenters interpreted the absence of such prohibition to mean that the decision has been left to the EPA's discretion. The commenter argued that Congress would have firmly indicated that the EPA would not have the authority to adjust the regulatory schedule if Congress had so intended. Finally, the commenter asserted that if the EPA was deprived of its authority to adjust the schedule, the revision authority described in sections 112(b) and 112(c) would lose much of its value. Others added that since section 112(e) is not considered a rulemaking subject to judicial review, the EPA should not be pressured regarding revisions to the schedule by possible lawsuits or the requirements of the Administrative Procedure Act, 5 U.S.C 7551 (1992). However, one commenter stated that the schedule should not be altered unless a significant change in the ranking of source categories occurs based on the changing state of knowledge supporting the three criteria used in establishing the schedule.

In response to the above comments on flexibility, the EPA interprets section 112 of the 1990 Amendments as permitting some flexibility concerning amendment of the schedule. The comments received regarding this issue support the interpretation that the EPA has the authority to amend the schedule, and to retain some regulatory flexibility, after publication of today's schedule. The EPA considers it impractical to have a strictly rigid schedule for the reasons discussed in section I.B. of today's notice. To reiterate some of these reasons, as new data become available, the EPA may identify changes to the schedule that would facilitate greater achievement of the prioritizing criteria of section 112(e). As pointed out by some commenters, there may be situations where significant new information is obtained (e.g., data indicating that a source category presents much less of a hazard to public health than previously thought, or the discovery that a source category is posing a significant threat to the environment) that warrants limited changes to the schedule. In addition, amendment of the schedule may also be necessary if categories on the initial source category list are delisted under the authority of section 112(c)(9). Hence, the EPA anticipates that it may, from time to time, amend the schedule for standards published in today's notice.

The EPA does not anticipate frequent amendment of the schedule for standards for important reasons. First, because of the long lead time and significant resources required to promulgate an emissions standard, the EPA will not have the technical ability or resources to reschedule many standards, particularly to move significant numbers of source categories into earlier timeframes. Second, because of the section 112(e) numerical and temporal requirements regarding scheduling of standards (e.g., regulate 25 percent of all listed source categories by November 15, 1994, and an additional 25 percent by November 15, 1997), the EPA is limited

in its ability to defer categories into later timeframes without moving a commensurate number of standards to earlier timeframes.

Therefore, the schedule will not change frequently, but rather, may undergo some modifications as significant new information becomes available. Of course, any entirely newly listed categories will not affect the schedule, as they have their own schedule under section 112(c)(5). Source categories subsequently added to the section 112(c) list shall be scheduled for regulation by November 2000, or 2 years after they are listed, whichever is later.

G. Comments and Responses Concerning Efficiency of Grouping

A few commenters cautioned the EPA to refrain from arbitrarily grouping source categories for the sole purpose of making the regulatory process easier and more convenient. They were concerned that arbitrary groupings could lead to implementation bottlenecks and could complicate the residual risk determinations that will be made under section 112(f). The commenters recommended that, if the EPA determines a single standard applies to more than one source category, the standard should be promulgated separately for each source category.

One commenter stressed that it is incorrect to hasten the regulatory schedule for categories for which information is more readily available just because they are easier to regulate in a given timeframe, notwithstanding the impact of their emissions on public health.

Another commenter noted that the source category list should be reviewed for inconsistencies. Specifically, they pointed out that polyester resins production, which had a scheduled promulgation date of November 15, 1997 on the draft schedule, and polyethylene terepthalate production, which has a schedule promulgation date of November 15, 1994, are essentially the same category and, therefore, should both be scheduled under the November 15, 1997 timeframe.

One commenter reiterated concerns they had expressed in their comments on the preliminary draft list of source categories regarding the approach the EPA used to identify which sources fell under which categories and their respective schedules. The commenter questioned why butyl benzyl phthalate, a phthalate plasticizer, is included in the draft list of SOCMI processes (scheduled for MACT promulgation by November 15, 1992). This would result in butyl benzyl phthlate production being regulated before the phthalate plasticizers production source category listed under miscellaneous processes. The commenter questioned the logic of requiring regulation of one phthalate plasticizer 8 years before the others. In addition, the commenter indicated that the EPA had not specified which category the formaldehyde resins group would fall under, stating that it could fit under the acetal resins production, the amino resins production, or the phenolic resins production categories.

Another commenter alleged that little reliable quantitative data on emissions of HAP's from iron or steel foundries were presented. They stated that due to different emissions, process,

and technology characteristics, iron foundries and steel foundries should not be assigned the same regulatory schedule as other sources grouped in the ferrous metal processing industry group. The commenter requested a November 15, 2000 schedule assignment.

In response to these comments, section 112(e)(2)(C) allows the EPA to prioritize regulations for source categories based on "the efficiency of grouping categories... according to the pollutants emitted, or the processes or technologies used." This criterion enables the EPA to more effectively utilize its technical resources for developing regulations, and helps prevent the EPA from duplicating regulatory efforts for similar categories. The EPA has considered in the past, and will consider in the future, characteristics such as end products, processing steps, raw materials, emitted pollutants, emission controls, economic factors, and efficiency of using EPA resources in grouping source categories into single regulatory projects. Of course, without extensively studying each source category, it is often difficult for the EPA to predict whether a particular emission standard will closely resemble a standard for another source category. The EPA understands that if it is later discovered that initially grouped categories may not effectively be regulated by one standard, the EPA may promulgate separate standards for the source categories as necessary. However, to follow the commenter's suggestion of continuing to have project groupings for similar categories but then to promulgate each emission standard at different times based on the SCRS ranking would defeat the purpose of the efficiency of grouping criteria and could have a substantial impact on the EPA meeting other goals of section 112.

The EPA investigated the commenter's allegation that the polyester resins production is identical to polyethylene terephthalate production. This review revealed that these categories are in fact distinct from one another, and should remain as separate source categories. In particular, polyethylene terephthalate is an ethylene glycol-based polymer which is spun into fibers for clothing, blow-molded into plastic bottles, or quenched and stretched to form specialty films. Polyester resins, on the other hand, are styrene-based resins that are used primarily in the manufacture of fiberglass. Because of these differences, there is no technical reason to schedule the two source categories in the same timeframe. The polyester resins production source category has been moved to the 10-year timeframe. And, the polyethylene terephthalate production source category remains scheduled in the 4-year timeframe. The reader is referred to section IV of today's notice for further discussion of the changes to the draft schedule.

In response to the comments regarding the formaldehyde resins group, this is merely a title that has been adopted by the EPA to refer to the NESHAP project intended to regulate the acetal, amino, and phenolic resins production source categories. By researching these individual categories, the EPA discovered that each of these resin producers used formaldehyde as a principal reactant in the polymerization reaction. Consequently, the EPA decided to minimize

its regulatory resource efforts by grouping these three source categories into one project. Although the same regulatory project focuses on all three categories, this does not necessarily suggest that the emission standards will be equivalent. However, it means that information will be gathered simultaneously, that Agency work group membership will presumably be similar (if not identical), and that the emission standard(s) will most likely be proposed and promulgated on the same schedules.

In response to a commenter's concerns regarding butyl benzyl phthalate, the production of butyl benzyl phthalate is included in the list of SOCMI processes which are proposed for regulation under the HON (57 FR 62608; December 31, 1992). It is included in the list of SOCMI processes because butyl benzyl phthalate fits the definition delineated in the proposed HON. The other phthalate plasticizers do not meet the HON definition. Therefore, the other phthalate plasticizers productions are grouped into a separate category of major sources and were ranked separately in the SCRS. They ranked relatively low in the SCRS and were scheduled in the 10-year timeframe. The list of SOCMI processes is not an item for review under this action. However, the comment has been forwarded to the EPA staff responsible for the proposed HON.

Regarding the comment on the iron foundries and steel foundries source categories, these categories were scheduled independently of the other categories within the ferrous metals processing industry group. However, after further review by the EPA, the iron foundries and steel foundries source categories have been moved to the 10-year timeframe. In consideration of regulatory efficiency, individual source categories within the ferrous metals industry group may subsequently be grouped with one or more other similar categories within or outside of the industry group.

H. Comments and Responses Related to Other Considerations

One commenter urged the EPA to avoid setting schedule dates for source categories that are clearly unattainable. The commenter mentioned the difficult challenge imposed on the EPA to meet the statutory deadlines, and stated that it is important that section 112(d) standards be of the highest quality possible. Therefore, the commenter recommended and encouraged the EPA to focus on the practical considerations of setting and meeting the source category schedule. The commenter stated that the EPA should consider data availability and resource needs when determining where to place certain source categories in the schedule, recognizing that writing standards for certain categories will be extremely resource-intensive compared to other categories.

In response, the EPA agrees with the above recommendations. The EPA considered data availability and resource needs, and the ability to meet the scheduled deadlines, when developing today's schedule. Some of the changes made to the draft schedule for

standards were partly based on these considerations. The changes to the draft schedule are discussed in the following section.

IV. Changes to the Draft Schedule

The schedule published in today's notice is similar to the draft schedule published on September 24, 1992 (57 FR 44147). However, some changes have been made. After reevaluating the prioritizing considerations previously discussed in this notice, and considering public comments, limitations in EPA resources, time needed to develop standards, section 112(e)(1) requirements, the ATB rankings, and persistence of HAP's, and after further EPA review, the EPA decided to move 29 source categories from the 7-year to the 10-year timeframe, and to move nine source categories from the 10-year to the 7-year timeframe.

The draft schedule published on September 24, 1992 (57 FR 44147) had 107 source categories (61 percent of the initially listed source categories) scheduled within 7 years of enactment of the 1990 Amendments. This is 20 source categories (11 percent) more than the 87 source categories (50 percent) required by section 112(e)(1). Thus, under the conditions of the draft schedule, the EPA could have met the statutory requirement of regulating 50 percent of the listed source categories by November 15, 1997, and still triggered section 112(j) requirements if the EPA failed to promulgate emission standards on time for all 107 source categories. After further review, the EPA decided to change the schedule so that there are 87 source categories (50 percent) scheduled within 7 years of enactment of the 1990 Amendments. This percentage change more closely reflects the requirements of section 112(e)(1), and helps avoid triggering 112(j) requirements for the extra categories.

Nine source categories from the agricultural chemicals industry group were moved from the 10- to the 7-year timeframe. For a listing of these nine source categories included in the agricultural chemicals industry group that were moved to the 7-year timeframe, the readers are referred to table 1 of today's notice. This change was made after reevaluating all the prioritizing considerations previously discussed in today's notice, but especially after considering the efficiency of grouping criterion, data availability, and the time and resources needed to promulgate emission standards for the 174 source categories included in today's schedule. The EPA has attempted to optimize the resources available for developing emission standards. By grouping these source categories together under one regulatory project, and moving them to the 7-year timeframe, the EPA believes that resources are being used more efficiently for meeting the requirements of section 112(e). The EPA believes that this scheduling change should facilitate meeting the numerical and temporal requirements of section 112(e), and also, facilitate a greater achievement of the prioritizing criteria of section 112(e)(2). In addition, five of these nine source categories emit

HAP's that were considered ecologically persistent in the draft Focus Chemicals report.

After reevaluating all the criteria and considerations for prioritizing that were previously discussed in today's notice, the EPA moved the following 29 source categories from the 7- to the 10-year timeframe: (1) Stationary Turbines; (2) Polyvinyl Alcohol Production; (3) Benzyl-Trimethyl-Ammonium Chloride Production; (4) Carboxy-Methyl-Cellulose Production; (5) Polyvinyl Acetate Emulsions Production; (6) Polyvinyl Butyral Production; (7) Stationary Internal Combustion Engines; (8) Photographic Chemicals Production; (9) Paper and Other Webs (Surface Coating); (10) Polymethyl Methacrylate Resins Production; (11) Sewage Sludge Incineration; (12) Semiconductors Manufacturing; (13) Aerosal Can Filling; (14) Cellophane Production; (15) Rayon Production; (16) Chromium Refactories Production; (17) Hydrochloric Acid Production; (18) Hydrogen Fluoride Production; (19) Polyester Resins Production; (20) Hydrazine Production; (21) Chelating Agents Production; (22) Rubber Chemicals Manufacturing; (23) Iron Foundries; (24) Steel Foundries; (25) Auto and Light Duty Truck (surface coating); (26) Municipal Landfills; (27) Integrated Iron and Steel; (28) Phosphoric Acid Manufacturing; and (29) Phosphate Fertilizers Production.

V. Schedule for the Promulgation of Emission Standards

The schedule, in tables 1 and 2 of today's notice, establishes timeframes for the promulgation of emission standards for the categories of sources initially listed pursuant to section 112(c). The listed categories are prioritized considering the three criteria identified in section 112(e)(2) and the other considerations discussed in today's notice. Today's schedule specifies that each of the initially listed source categories are scheduled to be regulated within 2, 4, 7, or 10 years of the enactment of the 1990 Amendments, as required by section 112(e).

The schedule for the first two years (i.e., requiring promulgation of standards by November 15, 1992) includes five categories of dry cleaners and the SOCMI source category. The SOCMI category, along with equipment leaks from 20 other non-SOCMI source categories or subsets of source categories would be subject to the proposed HON (57 FR 62608; December 31, 1992). A subset of a source category, as used in today's notice, is defined as a particular process or emission point that is part of the more broadly defined source category. The proposed HON includes a negotiated standard for equipment leaks in the SOCMI and 20 non-SOCMI source categories or subsets of source categories (see table 1, footnote c). These non-SOCMI source categories, or subsets of source categories, are consistent with the seven manufacturing processes listed in the notice of agreement on negotiated regulation for equipment leaks (56 FR 9318; March 6, 1991). The negotiated standard was proposed as part of the HON. Only the equipment leak emissions in these non-SOCMI source categories or subsets of source categories are

scheduled for regulation by November 15, 1992. Regulations covering other emission sources in these non-SOCMI source categories are scheduled for later years because of insufficient time and information. Although the remainder of the source categories will be regulated in a later timeframe, sources will need to comply with the equipment leaks requirements in the HON, according to the deadlines specified in the HON.

To fulfill the section 112(e)(1)(C) requirement to regulate 25 percent of listed categories within 4 years of enactment of the 1990 Amendments, 45 source categories (26 percent of the initially listed source categories) are scheduled for regulation in the 2- and 4-year timeframes. This group includes several active projects previously identified as high priority through earlier prioritization efforts; categories already under investigation as part of active CTG projects; and others selected because of efficiency of grouping, level of knowledge, and potential for completion by November 15, 1994.

The remaining 129 source categories are scheduled for regulation within either 7 or 10 years of enactment. The SCRS ranking, along with efficiency of grouping and the other considerations discussed previously in today's notice, were the primary criteria for scheduling the remaining categories in either 7- or 10-years. To fulfill the section 112(e)(1)(D) requirement to promulgate emissions standards for an additional 25 percent of the initially listed source categories by November 15, 1997, a total of 87 source categories (50 percent) are scheduled for regulation within 7 years of enactment of the 1990 Amendments.

As required in section 112(c)(5), source categories that are added to the source category list after publication of the initial source category list (57 FR 31576; July 16, 1992) shall be regulated by November 15, 2000, or within 2 years after the listing date, which ever is later.

VI. Administrative Requirements

A. Docket

The docket for this action is No. A-91-14. The docket is an organized and complete file of all the information submitted to or otherwise considered by the EPA in the development of this schedule. The principal purpose of the docket is to allow interested parties a means to access documents relevant to developing the schedule. The docket is available for public inspection at the EPA's Air Docket Section, listed in the ADDRESSES section of this notice.

B. Regulatory Requirements

1. General

Because today's schedule notice is not a rule, the EPA has not prepared an assessment of the potential costs and benefits pursuant

to Executive Order 12866, nor an economic impact analysis pursuant to section 317, nor a regulatory flexibility analysis pursuant to Regulatory Flexibility Act (Public Law 96-354, September 19, 1980). Also, this notice is not subject to the Paperwork Reduction Act of 1990,
44 U.S.C. 3501 et. seq.

2. Executive Order and Office of Management and Budget Review

Under Executive Order 12866 (58 FR 51735, 10/04/93), the Agency must determine whether a regulatory action is "significant" and therefore subject to OMB review and the requirements of the Executive Order. The Order defines "significant" regulatory action as one that is likely to lead to a rule that may: (1) have an annual effect on the economy of $100 million or more, or adversely and materially affecting a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligation of recipients thereof; (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, the Office of Management and Budget (OMB) has notified the EPA that this schedule notice is a "significant" regulatory action within the meaning of the Executive Order. For this reason, this schedule action was submitted to the OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record.

VII. Organization of the Schedule for Standards

The Schedule for Standards is presented in tabular form. In table 1, the schedule is organized by industry group. Within each industry group are related categories of sources and the scheduled deadline for promulgation of emissions standards. The source categories are scheduled for regulation within 2, 4, 7, or 10 years of enactment of the 1990 Amendments. However, as indicated in the footnotes of table 1, some source categories are subject to court-ordered deadlines in accordance with a consent decree entered in *Sierra Club* v. *Browner*, Case Number 93-0124 (and related cases) (DC District Court). It should be noted that the section 112(j) requirements, which are discussed in section I.B. of today's notice, take effect 18 months after the statutory deadlines (i.e., November 15, 1992, November 15, 1994, November 15, 1997, and November 15, 2000). The court-ordered deadlines do not affect the section 112(j) provisions. In table 1, categories of area sources have been listed separately. In table 2, the schedule is organized by the four timeframes (i.e., the 2, 4, 7 and 10 year groups).

Dated: November 15, 1993.

Michael Shapiro,
Assistant Administrator.

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Billing Code 6560-50-P

TABLE 1. CATEGORIES OF SOURCES OF HAZARDOUS AIR POLLUTANTS AND REGULATION PROMULGATION SCHEDULE BY INDUSTRY GROUP

INDUSTRY GROUP Source Category [a]	Schedule Date
FUEL COMBUSTION	
Engine Test Facilities	11/15/00
Industrial Boilers [b]	11/15/00
Institutional/Commercial Boilers [b]	11/15/00
Process Heaters	11/15/00
Stationary Internal Combustion Engines [b]	11/15/00
Stationary Turbines [b]	11/15/00
NON-FERROUS METALS PROCESSING	
Primary Aluminum Production	11/15/97
Secondary Aluminum Production	11/15/97
Primary Copper Smelting	11/15/97
Primary Lead Smelting	11/15/97
Secondary Lead Smelting [j]	11/15/94
Lead Acid Battery Manufacturing	11/15/00
Primary Magnesium Refining	11/15/00
FERROUS METALS PROCESSING	
Coke By-Product Plants	11/15/00
Coke Ovens: Charging, Top Side, and Door Leaks	12/31/92
Coke Ovens: Pushing, Quenching, and Battery Stacks	11/15/00
Ferroalloys Production	11/15/97
Integrated Iron and Steel Manufacturing	11/15/00
Non-Stainless Steel Manufacturing - Electric Arc Furnace (EAF) Operation	11/15/97
Stainless Steel Manufacturing - Electric Arc Furnace (EAF) Operation	11/15/97
Iron Foundries	11/15/00
Steel Foundries	11/15/00
Steel Pickling - HCl Process	11/15/97

MINERAL PRODUCTS PROCESSING

Alumina Processing	11/15/00
Asphalt Concrete Manufacturing	11/15/00
Asphalt Processing	11/15/00
Asphalt Roofing Manufacturing	11/15/00
Asphalt/Coal Tar Application - Metal Pipes	11/15/00
Chromium Refractories Production	11/15/00
Clay Products Manufacturing	11/15/00
Lime Manufacturing	11/15/00
Mineral Wool Production	11/15/97
Portland Cement Manufacturing	11/15/97
Taconite Iron Ore Processing	11/15/00
Wool Fiberglass Manufacturing	11/15/97

PETROLEUM AND NATURAL GAS PRODUCTION AND REFINING	
Oil and Natural Gas Production	11/15/97
Petroleum Refineries - Catalytic Cracking (Fluid and other) Units, Catalytic Reforming Units, and Sulfur Plant Units	11/15/97
Petroleum Refineries - Other Sources Not Distinctly Listed [k]	11/15/94
LIQUIDS DISTRIBUTION	
Gasoline Distribution (Stage 1) [g]	11/15/94
Organic Liquids Distribution (Non-Gasoline)	11/15/00
SURFACE COATING PROCESSES	
Aerospace Industries [l]	11/15/94
Auto and Light Duty Truck (Surface Coating)	11/15/00
Flat Wood Paneling (Surface Coating)	11/15/00
Large Appliance (Surface Coating)	11/15/00
Magnetic Tapes (Surface Coating) [g]	11/15/94
Manufacture of Paints, Coatings, and Adhesives	11/15/00
Metal Can (Surface Coating)	11/15/00
Metal Coil (Surface Coating)	11/15/00
Metal Furniture (Surface Coating)	11/15/00
Miscellaneous Metal Parts and Products (Surface Coating)	11/15/00
Paper and Other Webs (Surface Coating)	11/15/00
Plastic Parts and Products (Surface Coating)	11/15/00
Printing, Coating, and Dyeing of Fabrics	11/15/00
Printing/Publishing (Surface Coating)	11/15/94
Shipbuilding and Ship Repair (Surface Coating)	11/15/94
Wood Furniture (Surface Coating)	11/15/94
WASTE TREATMENT AND DISPOSAL	
Hazardous Waste Incineration	11/15/00
Municipal Landfills	11/15/00
Publicly Owned Treatment Works (POTW) Emissions	11/15/95
Sewage Sludge Incineration	11/15/00
Site Remediation	11/15/00
Solid Waste Treatment, Storage and Disposal Facilities (TSDF)	11/15/94
AGRICULTURAL CHEMICALS PRODUCTION	
4-Chloro-2-Methylphenoxyacetic Acid Production	11/15/97
2,4-D Salts and Esters Production	11/15/97
4,6-Dinitro-o-Cresol Production	11/15/97
Captafol Production [c]	11/15/97
Captan Production [c]	11/15/97
Chloroneb Production	11/15/97
Chlorothalonil Production [c]	11/15/97
Dacthal (tm) Production [c]	11/15/97
Sodium Pentachlorophenate Production	11/15/97
Tordon (tm) Acid Production [c]	11/15/97

FIBERS PRODUCTION PROCESSES	
Acrylic Fibers/Modacrylic Fibers Production	11/15/97
Rayon Production	11/15/00
Spandex Production	11/15/00
FOOD AND AGRICULTURE PROCESSES	
Baker's Yeast Manufacturing	11/15/00
Cellulose Food Casing Manufacturing	11/15/00
Vegetable Oil Production	11/15/00
PHARMACEUTICAL PRODUCTION PROCESSES	
Pharmaceuticals Production [c]	11/15/97
POLYMERS AND RESINS PRODUCTION	
Acetal Resins Production	11/15/97
Acrylonitrile-Butadiene-Styrene Production	11/15/94
Alkyd Resins Production	11/15/00
Amino Resins Production	11/15/97
Boat Manufacturing	11/15/00
Butadiene-Furfural Cotrimer (R-11) [c]	11/15/00
Butyl Rubber Production	11/15/94
Carboxymethylcellulose Production	11/15/00
Cellophane Production	11/15/00
Cellulose Ethers Production	11/15/00
Epichlorohydrin Elastomers Production	11/15/94
Epoxy Resins Production [h]	11/15/94
Ethylene-Propylene Rubber Production	11/15/94
Flexible Polyurethane Foam Production	11/15/97
Hypalon (tm) Production [c]	11/15/94
Maleic Anhydride Copolymers Production	11/15/00
Methylcellulose Production	11/15/00
Methyl Methacrylate-Acrylonitrile-Butadiene-Styrene Production [c]	11/15/94
Methyl Methacrylate-Butadiene-Styrene Terpolymers Production [c]	11/15/94
Neoprene Production	11/15/94
Nitrile Butadiene Rubber Production	11/15/94
Non-Nylon Polyamides Production [h]	11/15/94
Nylon 6 Production	11/15/97
Phenolic Resins Production	11/15/97
Polybutadiene Rubber Production [c]	11/15/94
Polycarbonates Production [c]	11/15/97
Polyester Resins Production	11/15/00
Polyethylene Terephthalate Production	11/15/94
Polymerized Vinylidene Chloride Production	11/15/00
Polymethyl Methacrylate Resins Production	11/15/00
Polystyrene Production	11/15/94
Polysulfide Rubber Production [c]	11/15/94
Polyvinyl Acetate Emulsions Production	11/15/00
Polyvinyl Alcohol Production	11/15/00
Polyvinyl Butyral Production	11/15/00
Polyvinyl Chloride and Copolymers Production	11/15/00
Reinforced Plastic Composites Production	11/15/97

Styrene-Acrylonitrile Production		11/15/94
Styrene-Butadiene Rubber and Latex Production	[c]	11/15/94

PRODUCTION OF INORGANIC CHEMICALS	
Ammonium Sulfate Production - Caprolactam By-Product Plants	11/15/00
Antimony Oxides Manufacturing	11/15/00
Chlorine Production [c]	11/15/97
Chromium Chemicals Manufacturing	11/15/97
Cyanuric Chloride Production	11/15/97
Fume Silica Production	11/15/00
Hydrochloric Acid Production	11/15/00
Hydrogen Cyanide Production	11/15/97
Hydrogen Fluoride Production	11/15/00
Phosphate Fertilizers Production	11/15/00
Phosphoric Acid Manufacturing	11/15/00
Quaternary Ammonium Compounds Production	11/15/00
Sodium Cyanide Production	11/15/97
Uranium Hexafluoride Production	11/15/00
PRODUCTION OF ORGANIC CHEMICALS	
Synthetic Organic Chemical Manufacturing [e]	11/15/92
MISCELLANEOUS PROCESSES	
Aerosol Can-Filling Facilities	11/15/00
Benzyltrimethylammonium Chloride Production	11/15/00
Butadiene Dimers Production	11/15/97
Carbonyl Sulfide Production	11/15/00
Chelating Agents Production	11/15/00
Chlorinated Paraffins Production [c]	11/15/00
Chromic Acid Anodizing [g]	11/15/94
Commercial Dry Cleaning (Perchloroethylene) - Transfer Machines	11/15/92
Commercial Sterilization Facilities [g]	11/15/94
Decorative Chromium Electroplating [g]	11/15/94
Dodecanedioic Acid Production [c]	11/15/00
Dry Cleaning (Petroleum Solvent)	11/15/00
Ethylidene Norbornene Production [c]	11/15/00
Explosives Production	11/15/00
Halogenated Solvent Cleaners [g]	11/15/94
Hard Chromium Electroplating [g]	11/15/94
Hydrazine Production	11/15/00
Industrial Cleaning (Perchloroethylene) - Dry-to-dry machines	11/15/92
Industrial Dry Cleaning (Perchloroethylene) - Transfer Machines	11/15/92
Industrial Process Cooling Towers [f]	11/15/94
OBPA/1,3-Diisocyanate Production [c]	11/15/00
Paint Stripper Users	11/15/00
Photographic Chemicals Production	11/15/00
Phthalate Plasticizers Production	11/15/00
Plywood/Particle Board Manufacturing	11/15/00
Polyether Polyols Production	11/15/97
Pulp and Paper Production	11/15/97
Rocket Engine Test Firing	11/15/00
Rubber Chemicals Manufacturing	11/15/00
Semiconductor Manufacturing	11/15/00
Symmetrical Tetrachloropyridine Production [c]	11/15/00
Tire Production	11/15/00

Wood Treatment 11/15/97

CATEGORIES OF AREA SOURCES [d]	
Asbestos Processing	11/15/94
Chromic Acid Anodizing [g]	11/15/94
Commercial Dry Cleaning (Perchloroethylene) - Dry-to-Dry Machines	11/15/92
Commercial Dry Cleaning (Perchloroethylene) - Transfer Machines	11/15/92
Commercial Sterilization Facilities [g]	11/15/94
Decorative Chromium Electroplating [g]	11/15/94
Halogenated Solvent Cleaners [g]	11/15/94
Hard Chromium Electroplating [g]	11/15/94

[a] Only major sources within any category shall be subject to emission standards under Section 112 unless a finding is made of a threat of adverse effects to human health or the environment for the area sources in a category. All listed categories are exclusive of any specific operations or processes included under other categories that are listed separately.

[b] Sources defined as electric utility steam generating units under Section 112(a)(8) shall not be subject to emission standards pending the findings of the study required under Section 112(n)(1).

[c] Equipment handling specific chemicals for these categories or subsets of these categories are subject to a negotiated standard for equipment leaks contained in the HON, which was proposed on December 31, 1992. The HON includes a negotiated standard for equipment leaks from the SOCMI category and 20 non-SOCMI categories (or subsets of these categories). The specific processes affected within the categories are listed in Section XX.X0(c) of the March 6, 1991 Federal Register notice (56 FR 9315).

[d] A finding of threat of adverse effects to human health or the environment was made for each category of area sources listed.

The following footnotes apply to source categories that are subject to court ordered promulgation deadlines (differing from the above listed regulatory deadlines) in accordance with a consent decree entered in Sierra Club v. Browner, Case No. 93-0124 (and related cases) (D.C. Dist. Ct.).

[e] judicial deadline: 02/28/94
[f] judicial deadline: 07/31/94
[g] judicial deadline: 11/23/94
[h] judicial deadline: 02/28/95
[i] judicial deadline: 04/30/95
[j] judicial deadline: 05/31/95
[k] judicial deadline: 06/30/95
[l] judicial deadline: 07/31/95

TABLE 2. CATEGORIES OF SOURCES OF HAZARDOUS AIR POLLUTANTS AND REGULATION PROMULGATION SCHEDULE BY REGULATORY DEADLINES

Source Categories with Emission Standards Due by November 15, 1992

SYNTHETIC ORGANIC CHEMICAL MANUFACTURING
COMMERCIAL DRYCLEANING (PERCHLOROETHYLENE) - DRY-TO-DRY MACHINES *
COMMERCIAL DRYCLEANING (PERCHLOROETHYLENE) - TRANSFER MACHINES *
COMMERCIAL DRYCLEANING (PERCHLOROETHYLENE) - TRANSFER MACHINES
INDUSTRIAL DRYCLEANING (PERCHLOROETHYLENE) - DRY-TO-DRY MACHINES
INDUSTRIAL DRYCLEANING (PERCHLOROETHYLENE) - TRANSFER MACHINES

Source Categories with Emission Standards Due by November 15, 1994

ACRYLONITRILE-BUTADIENE-STYRENE PRODUCTION
AEROSPACE INDUSTRIES
ASBESTOS PROCESSING *
BUTYL RUBBER PRODUCTION
CHROMIC ACID ANODIZING
CHROMIC ACID ANODIZING *
COKE OVENS: CHARGING, TOPSIDE AND DOOR LEAKS (CAA MANDATED PROMULGATION BY DECEMBER 31, 1992)
COMMERCIAL STERILIZATION FACILITIES
COMMERCIAL STERILIZATION FACILITIES *
DECORATIVE CHROMIUM ELECTROPLATING
DECORATIVE CHROMIUM ELECTROPLATING *
EPICHLOROHYDRIN ELASTOMERS PRODUCTION
EPOXY RESINS PRODUCTION
ETHYLENE-PROPYLENE RUBBER PRODUCTION
GASOLINE DISTRIBUTION - STAGE 1
HALOGENATED SOLVENT CLEANERS
HALOGENATED SOLVENT CLEANERS *
HARD CHROMIUM ELECTROPLATING
HARD CHROMIUM ELECTROPLATING *
HYPALON (TM) PRODUCTION
INDUSTRIAL PROCESS COOLING TOWERS
MAGNETIC TAPES (SURFACE COATING)
METHYL METHACRYLATE-ACRYLONITRILE-BUTADIENE-STYRENE PRODUCTION
METHYL METHACRYLATE-BUTADIENE-STYRENE TERPOLYMERS PRODUCTION
NEOPRENE PRODUCTION
NITRILE BUTADIENE RUBBER PRODUCTION
NON-NYLON POLYAMIDES PRODUCTION
PETROLEUM REFINERIES - OTHER SOURCES NOT DISTINCTLY LISTED
POLYETHYLENE TEREPHTHALATE PRODUCTION
POLYBUTADIENE RUBBER PRODUCTION
POLYSTYRENE PRODUCTION
POLYSULFIDE RUBBER PRODUCTION
PRINTING/PUBLISHING (SURFACE COATING)
SECONDARY LEAD SMELTING
SHIPBUILDING AND SHIP REPAIR (SURFACE COATINGS)
SOLID WASTE TREATMENT, STORAGE, & DISPOSAL FACILITIES (TSDF)

STYRENE-ACRYLONITRILE PRODUCTION
STYRENE-BUTADIENE RUBBER AND LATEX PRODUCTION
WOOD FURNITURE (SURFACE COATING)

Source Categories with Emission Standards Due by November 15, 1997

4-CHLORO-2-METHYLPHENOXYACETIC ACID PRODUCTION
2,4-D SALTS AND ESTERS PRODUCTION
4,6-DINITRO-O-CRESOL PRODUCTION
ACETAL RESINS PRODUCTION
ACRYLIC FIBERS/MODACRYLIC FIBERS PRODUCTION
AMINO RESINS PRODUCTION
BUTADIENE DIMERS PRODUCTION
CAPTAFOL PRODUCTION
CAPTAN PRODUCTION
CHLORONEB PRODUCTION
CHLOROTHALONIL PRODUCTION
CHLORINE PRODUCTION
CHROMIUM CHEMICALS MANUFACTURING
CYANURIC CHLORIDE PRODUCTION
DACTHAL (TM) PRODUCTION
FERROALLOYS PRODUCTION
FLEXIBLE POLYURETHANE FOAM PRODUCTION
HYDROGEN CYANIDE PRODUCTION
MINERAL WOOL PRODUCTION
NON-STAINLESS STEEL MANUFACTURING - ELECTRIC ARC FURNACE (EAF) OPERATION
NYLON 6 PRODUCTION
OIL AND NATURAL GAS PRODUCTION
PETROLEUM REFINERIES - CATALYTIC CRACKING (FLUID AND OTHER) UNITS, CATALYTIC REFORMING UNITS, AND SULFUR PLANT UNITS
PHARMACEUTICALS PRODUCTION
PHENOLIC RESINS PRODUCTION
POLYCARBONATES PRODUCTION
POLYETHER POLYOLS PRODUCTION
PORTLAND CEMENT MANUFACTURING
PRIMARY ALUMINUM PRODUCTION
PRIMARY COPPER SMELTING
PRIMARY LEAD SMELTING
PUBLICLY OWNED TREATMENT WORKS (POTW) EMISSIONS (CAA MANDATED PROMULGATION BY NOVEMBER 15, 1995)
PULP & PAPER PRODUCTION
REINFORCED PLASTIC COMPOSITES PRODUCTION
SECONDARY ALUMINUM PRODUCTION
SODIUM CYANIDE PRODUCTION
SODIUM PENTACHLOROPHENATE PRODUCTION
STAINLESS STEEL MANUFACTURING - ELECTRIC ARC FURNACE (EAF) OPERATION
STEEL PICKLING - HCl PROCESS
TORDON (TM) ACID PRODUCTION
WOOD TREATMENT

WOOL FIBERGLASS MANUFACTURING

Source Categories with Emission Standards Due by November 15, 2000

AEROSOL CAN-FILLING FACILITIES
ALKYD RESINS PRODUCTION
ALUMINA PROCESSING
AMMONIUM SULFATE PRODUCTION - CAPROLACTAM BY-PRODUCT PLANTS
ANTIMONY OXIDES MANUFACTURING
ASPHALT CONCRETE MANUFACTURING
ASPHALT PROCESSING
ASPHALT ROOFING MANUFACTURING
ASPHALT/COAL TAR APPLICATION - METAL PIPES
AUTO AND LIGHT DUTY TRUCK (SURFACE COATING)
BAKERS YEAST MANUFACTURING
BENZYLTRIMETHYLAMMONIUM CHLORIDE PRODUCTION
BOAT MANUFACTURING
BUTADIENE-FURFURAL COTRIMER (R-11)
CARBONYL SULFIDE PRODUCTION
CARBOXYMETHYLCELLULOSE PRODUCTION
CELLOPHANE PRODUCTION
CELLULOSE ETHERS PRODUCTION
CELLULOSE FOOD CASING MANUFACTURING
CHELATING AGENTS PRODUCTION
CHLORINATED PARAFFINS PRODUCTION
CHROMIUM REFRACTORIES PRODUCTION
CLAY PRODUCTS MANUFACTURING
COKE BY-PRODUCT PLANTS
COKE OVENS: PUSHING, QUENCHING AND BATTERY STACKS
DODECANEDIOIC ACID PRODUCTION
DRY CLEANING (PETROLEUM SOLVENT)
ENGINE TEST FACILITIES
ETHYLIDENE NORBORNENE PRODUCTION
EXPLOSIVES PRODUCTION
FLAT WOOD PANELING (SURFACE COATING)
FUME SILICA PRODUCTION
HAZARDOUS WASTE INCINERATION
HYDRAZINE PRODUCTION
HYDROCHLORIC ACID PRODUCTION
HYDROGEN FLUORIDE PRODUCTION
INDUSTRIAL BOILERS
INSTITUTIONAL/COMMERCIAL BOILERS
INTEGRATED IRON & STEEL MANUFACTURING
IRON FOUNDRIES
LARGE APPLIANCE (SURFACE COATING)
LEAD ACID BATTERY MANUFACTURING
LIME MANUFACTURING
MALEIC ANHYDRIDE COPOLYMERS PRODUCTION
MANUFACTURE OF PAINTS, COATINGS & ADHESIVES
METAL CAN (SURFACE COATING)
METAL COIL (SURFACE COATING)
METAL FURNITURE (SURFACE COATING)
METHYLCELLULOSE PRODUCTION

MISCELLANEOUS METAL PARTS & PRODUCTS (SURFACE COATING)
MUNICIPAL LANDFILLS

Source Categories with Emission Standards Due by November 15, 2000
[concluded]

OBPA/1,3-DIISOCYANATE PRODUCTION
ORGANIC LIQUIDS DISTRIBUTION (NON-GASOLINE)
PAINT STRIPPER USERS
PAPER AND OTHER WEBS (SURFACE COATING)
PHOSPHATE FERTILIZERS PRODUCTION
PHOSPHORIC ACID MANUFACTURING
PHOTOGRAPHIC CHEMICALS PRODUCTION
PHTHALATE PLASTICIZERS PRODUCTION
PLASTIC PARTS AND PRODUCTS (SURFACE COATING)
PLYWOOD/PARTICLE BOARD MANUFACTURING
POLYESTER RESINS PRODUCTION
POLYMERIZED VINYLIDENE CHLORIDE PRODUCTION
POLYMETHYL METHACRYLATE RESINS PRODUCTION
POLYVINYL ACETATE EMULSIONS PRODUCTION
POLYVINYL ALCOHOL PRODUCTION
POLYVINYL BUTYRAL PRODUCTION
POLYVINYL CHLORIDE AND COPOLYMERS PRODUCTION
PRIMARY MAGNESIUM REFINING
PRINTING, COATING & DYEING OF FABRICS
PROCESS HEATERS
QUATERNARY AMMONIUM COMPOUNDS PRODUCTION
RAYON PRODUCTION
ROCKET ENGINE TEST FIRING
RUBBER CHEMICALS MANUFACTURING
SEMICONDUCTOR MANUFACTURING
SEWAGE SLUDGE INCINERATION
SITE REMEDIATION
SPANDEX PRODUCTION
STATIONARY INTERNAL COMBUSTION ENGINES
STATIONARY TURBINES
STEEL FOUNDRIES
SYMMETRICAL TETRACHLOROPYRIDINE PRODUCTION
TACONITE IRON ORE PROCESSING
TIRE PRODUCTION
URANIUM HEXAFLUORIDE PRODUCTION
VEGETABLE OIL PRODUCTION

* Denotes area source category