6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[FRL-]

[Docket No. A-97-05]

Source Category Listing for Section 112(d)(2)Rulemaking Pursuant to Section 112(c)(6) Requirements

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This action provides a list of source categories for regulation under section 112(d)of the Clean Air Act (Act). A draft listing of this action was posted in the Federal Register on June 20, 1997 (62 FR 33625) and public comment was taken on that draft. A document summarizing comments and responses is available on the Internet site (www.epa.gov/ttn/uatw/112c6fac.html) and in the project docket. This action is being taken pursuant to section 112(c)(6) of the Act, as amended in 1990, and a consent decree entered in Sierra Club v. Browner, Civ. No. 95-1747(D.D.C. 1995) (consolidated with Sierra Club v. Browner, Civ. No. 96-436 (D.D.C. 1996)). Draft and final lists were required under the amended consent decree to be completed and made available by EPA by June 11, 1997 and April 3, 1998, respectively.

This listing, under section 112(c)(6) is to identify source categories for which additional standards under section 112(d)(2) or (d)(4) can be developed, but by itself does not automatically result in regulation or control of emissions from sources within these source categories. Based on this list, EPA will perform further analyses on emissions and control methods for the listed source categories. The regulatory development analysis will determine any ultimate regulatory requirements.

DATES: Draft and final lists were required under the amended consent decree to be completed and made available by EPA by June 11, 1997 and April 3, 1998 respectively.

ADDRESSES: A docket containing information relating to the EPA's development of this notice (Docket No. A-97-05) is available for public inspection and copying between 8:00 a.m. and 5:30 p.m., Monday through Friday except for Federal holidays, in the Air and Radiation Docket and Information Center (MC-6102), Room M-1500, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; telephone (202) 260-7548.

FOR FURTHER INFORMATION CONTACT: Laurel Driver, Office of Air Quality Planning and Standards (MD-15), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 27711, telephone number (919) 541-2859,

electronic mail address: driver.laurel@epamail.epa.gov.

SUPPLEMENTARY INFORMATION:

Docket. The docket is an organized and complete file of all the information submitted to or otherwise considered by the Agency in the development of this list of categories for sources for section 112(c)(6). The principal purpose of this docket is to allow interested parties to identify and locate documents that serve as a record of the process engaged in by the Agency to publish today's notice. The docket is available for public inspection at the EPA's Air and Radiation Docket and Information Center, which is listed in the addresses section of this notice.

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I. Introduction

A. Statutory Requirements

Section 112(c)(6) of the Act prescribes the following program for seven specific pollutants:

> With respect to alkylated lead compounds, polycyclic organic matter, hexachlorobenzene, mercury, polychlorinated biphenyls, 2,3,7,8-tetrachlorodibenzofurans and 2,3,7,8-tetrachlorodibenzo-p-dioxin, the Administrator shall, not later than 5 years after November 15, 1990, list categories and subcategories of sources assuring that sources accounting for not less than 90 per centum of the aggregate emissions of each such pollutant are subject to standards under subsection (d)(2) or (d)(4) of this section. Such standards shall be promulgated not later than 10 years after November 15, 1990. This paragraph

> shall not be construed to require the Administrator to promulgate standards for such pollutants emitted by electric utility steam generating units.

B. Schedule

The EPA has entered into a consent decree with the Sierra Club Legal Defense Fund, Inc., in response to Sierra Club v. Browner, Civ. No. 95-1747 (D.D.C. 1995) (consolidated with Sierra Club v. Browner, Civ. No. 96-436 (D.D.C. 1996)). These actions concern performance of certain duties under Act sections 112(c)(3), (c)(6), (k), and 202(l). The consent decree, as amended, required, among other actions, that EPA complete a draft of the list described in section 112(c)(6) no later than June 11, 1997, and make a final list available no later than April 3, 1998.

II. Background

A. Overview of Regulatory Authority

Section 112 of the Act, as amended in 1990, contains the EPA's authorities for reducing emissions of hazardous air pollutants (HAP). Section 112(b)(1) contains an initial list of 189 HAP (revised to contain 188 HAP, 61 FR 30816, June 18, 1996). Section 112(c)(1) requires the Administrator to publish a list of all categories and subcategories of major sources and area sources of the air pollutants listed in or pursuant to section 112(b). Section

112(d) requires the Administrator to promulgate regulations establishing emission standards for each category or subcategory of major sources and area sources of HAP listed in section 112(c). Section 112(d)(2) specifies that emission standards promulgated under the section shall require the maximum degree of reductions in emissions of the HAP subject to section 112 that are deemed achievable, i.e., the maximum achievable control technology (MACT). These regulations are often termed “technology-based” standards because they are based on the degree of emissions control achievable through the application of technologies that the best performing sources in the particular source category are using. These technologies may include equipment or process design, chemical substitution, collection and treatment of emissions, work practices, and other measures.

Section 112(d)(4) provides for consideration of health thresholds with an ample margin of safety. Certain other sections of section 112 require EPA, in addition to technology-based standards, to evaluate risk to public health and the environment in determining whether other control measures are appropriate.

Section 112(c)(6) names seven specific HAP that EPA must evaluate to assure that certain sources of these HAP have been identified and subjected to standards.

B. General Procedure

In order to determine the sources of the seven HAP named in section 112(c)(6), EPA developed a 1990 base-year emissions inventory of known sources to the atmosphere of each HAP (refer to the inventory document or the draft listing notice for a discussion of the base year selection). This inventory of all sources (whether or not the emissions are considered further in the section 112(c)(6) analysis) is summarized in Table 1.

Once these sources of the total emissions were identified, only the stationary, anthropogenic source categories which fall within the scope of section 112 (or the equivalent section 129) were evaluated to determine action necessary under section 112(c)(6). (More discussion of source categories excluded from the section 112(c)(6) analysis follows in section IV. A.)

Once the list of source categories was revised, the remaining pool of source categories was evaluated to determine whether 90 percent of those emissions are subject to standards. A summary of source categories included in the section 112(c)(6) analysis and their percent contributions are contained in Table 2. The majority of the source categories were found to be already subject to either section 112(d)(2) or section 129 standards (see section

IV.B.3. regarding section 112(c)(6) credit for section 129 standards) or listed for such regulation. The EPA reviewed the coverage of source categories to determine whether additional source categories are needed to assure that not less than 90 per centum of the aggregate emissions of each pollutant are subject to standards.

The EPA published a draft listing of source categories accounting for the section 112(c)(6) HAP emissions and the source categories needed to meet the 90 percent requirement in the Federal Register on June 20, 1997 (62 FR 33625). The notice and the base year inventory document contain detailed information about emissions inventory development methodology and its review process. In response to comments on this draft and to new data that have been collected in conjunction with concurrent EPA projects, EPA has made significant changes to the inventory since the draft package. These changes are discussed in section III.

Additionally, EPA has prepared Table 3, which provides a cross-reference between the inventory prepared for section 112(c)(6) and the list of categories under section 112(c)(1) for section 112(d) standards. This table does not change any of the category definitions or listing actions, but is provided solely for the convenience of the public.

While this assessment uses the best available emissions

data currently available for 1990, EPA cannot, at this time, assure that this calculation of the 90 percent will remain constant for two reasons: 1) EPA has not completed the process of developing section 112(d)(2) standards and, therefore, cannot guarantee the outcome of those standards; and 2) the emissions inventory estimates, and the estimates for emissions allocations to major and area sources, for any given source category are likely to change as more source category specific information is collected in the process of developing standards. Congress required this listing activity to be undertaken before completion of many regulatory analyses, and EPA believes this notice represents the best estimate of emissions of section 112(c)(6) pollutants and their regulatory coverage possible at this time.

III. Changes Made From Draft Listing

The EPA posted the draft section 112(c)(6) listing in the Federal Register on June 20, 1997. The EPA posted the notice, the 1990 base year inventory, and an explanatory fact sheet on the EPA's Internet web site (www.epa.gov/ttn/uatw/112c6fac.html). The EPA also notified trade associations, environmental groups, regulatory agencies, and other parties who had expressed interest or supplied data to alert them of the availability of the

section 112(c)(6) package. The EPA accepted comments on the draft listing and base year inventory over a 30-day comment period. A comment summary document is posted on the web site and is available in the docket. A discussion of substantive changes in the listing action resulting from comments and from data collected through related EPA projects follows.

A. Response to Comments

A total of 27 separate comment letters were received regarding the June 20, 1997 Federal Register package. Several of the comments pertained to the accompanying 1990 base year emissions inventory supporting the section 112(c)(6) listing process. Within the 27 individual comment letters, approximately 50 separate comment issues were identified. These comments pertained to both technical and policy issues. The EPA has prepared a document, “Summary of Public Comments on the Section 112(c)(6) Draft Listing Notice,” that summarizes all technical and policy comments received on the July 20, 1997 section 112(c)(6) Federal Register package. Similarly focused comments have been aggregated and summarized in the document, along with the EPA responses to the comments. The responses indicate how a technical or policy issue is being addressed in the final Federal Register listing notice for section 112(c)(6) or in

the final supporting emissions inventory. The comment summary/response document can be found in the docket for the section 112(c)(6) project and on the EPA air toxics web page (http://www.epa.gov/ttn/uatw/112c6fac.html).

1. Comments on Emissions Inventories

The majority of the technical comments regarded items relating to some aspect of an emissions inventory estimate for a source category. Most of these comments questioned the use of a particular emission rate or factor or the use of an activity rate for a source category. The EPA evaluated the technical data submitted and revised several emissions estimates based on these comments. Any changes made in emissions estimates based on these comments are reflected in the base-year inventory document, Tables 1 and 2, and Figure 1 at the end of this notice.

2. Comments on EPA Policy

The policy-oriented comments predominantly addressed what regulatory programs could be counted as fulfilling the section 112(c)(6) “subject to standards” requirement, what portion of total source category emissions can be credited as being “subject to standards” for the section 112(c)(6) 90 percent requirement, what source categories should be included in the 90 percent “subject to standards” analysis, and what are appropriate definitions for the polycyclic

organic matter (POM) and dioxin/furan pollutants. Comments also stated that EPA should do more to communicate the emissions reductions that industries have done for section 112(c)(6) pollutants since 1990 and that current emissions are significantly below 1990 levels; and that the aviation gasoline distribution category should not be included in the listing since there is currently no viable substitute for leaded aviation fuels and recent discussions between the industry and the Federal Aviation Administration (FAA) indicated no regulatory programs would be pursued for leaded aviation fuels. The most substantive of these comments and EPA responses are summarized below:

Comment: Several commenters were concerned that EPA consider aviation safety and performance standards when considering “Gasoline Distribution (Aviation)” as a source category under section 112(c)(6).

Response: The EPA will consider such safety standards. Section 112(d)(2) standards require using the technology and practices of the best performers within an industry to set the standard for the rest of the industry.

Comment: One commenter stated that credits for stage II gasoline distribution regulations under sections 182(b)(3) and 202(a)(6) are only appropriate if they are protective of human health.

Response: Section 112(c)(6) does not require EPA to determine an emissions level "protective of human health." In any case, EPA is not including stage II gasoline distribution emissions in the section 112(c)(6) analysis for the reasons described in IV.A.5. below.

Comment: One commenter stated that in its section 112(c)(6) proposal, EPA improperly and illegally counts emissions as "subject to standards" that are not yet subject to standards, that are subject to standards other than MACT, or that are only partially subject to standards. Only emissions that are subject to standards under section 112(d)(2) and 112 (d)(4) can be counted toward the 90 percent goal contained in section 112(c)(6).

Response: The EPA made changes in the final listing action in response to this comment. First, HAP emissions from electric utility steam generating units were removed from the analysis. Section 112(c)(6) provides that, "This paragraph shall not be construed to require the Administrator to promulgate standards for such pollutants emitted by electric utility steam generating units." Furthermore, section 112(n)(1)(A) requires EPA to perform a study of the public health hazards posed by HAP emissions from electric utility steam generating units and to regulate those sources if "appropriate and necessary after

considering the results of the study." The EPA believes that those provisions give the Agency discretion to exclude utility emissions from listing and regulation under section 112(c)(6). Congress enacted section 112(n)(1)(A) to establish the mechanism for determining whether regulation of utility HAP emissions under section 112 was "appropriate and necessary" and section 112(c)(6) specifically acknowledges that function. The EPA believes that the language used in section 112(c)(6) reflects Congress' determination that the mechanism established by section 112(c)(6) is not appropriate for the regulation of utility HAP emissions. Therefore, EPA has removed utility HAP emissions from this analysis.

Second, EPA has added information on whether each Industrial Combustion Coordinated Rulemaking (ICCR) category will be subject to section 112 or section 129 standards. (EPA has found section 112(d)(2) and 129 standards to be substantively the same, as discussed in the draft listing Federal Register notice.

Comment: One commenter stated that in determining source categories subject to standards and counting emissions toward the section 112(c)(6) 90 percent goal, EPA has assumed that 100 percent of all emissions for each MACT category are major source emissions. Therefore, all

emissions from a category for which there is a MACT are covered, even if there are actually area sources that may not be subject to the MACT.

Response: The EPA has made a significant effort to characterize emissions from each of the section 112(c)(6) emissions source categories. These area and major source emissions allocations are detailed in the draft and final emissions inventory documents which have been made available with the draft and final listing notices. Information on these area/major allocations comes primarily from work conducted in association with MACT standard development or derived from definitions of facilities. The EPA finds the MACT data to be of generally higher quality than the facility definition data, which are expected to improve as MACT standards are developed for these categories.

For the section 112(c)(6) analysis, in cases where a regulation for a given source category has been promulgated, the percent of emissions subject to the standard has been credited. For example, in the source category gasoline distribution stage I, only 10 percent of the emissions are from major sources subject to the standard and have been counted toward the 90 percent goal. For source categories with regulations that have not yet been promulgated, EPA will subject each significant area source category to

standards as directed by section 112(c)(6). When the regulations for each of those categories are developed, EPA will analyze the data specific to those sources and determine, under section 112(d), in what manner requirements will be established. Some area categories may be negligible contributors to the 90 percent goal, and as such pose unwarranted burdens for subjecting to standards. These trivial source categories will be removed from the listing as they are evaluated since they will not contribute significantly to the 90 percent goal.

Comment: One commenter stated that EPA's treatment of emissions in the proposed notice implies that the Agency believes it has identified all source categories of section 112(c)(6) pollutant emissions and, therefore, has accounted for 100 percent of emissions. The EPA should document the basis for this assumption. If this cannot be documented, the EPA should not assume that 90 percent of the emissions reported in the proposal notice equal 90 percent of the total amount of section 112(c)(6) pollutant emissions.

Response: The EPA has documented all sources for which emissions data could be found and has indicated all source categories for which emissions are suspected but no data to estimate emissions could be found. The methodology for developing the emissions inventory estimates is described in

detail within the base year inventory document. Any supported additional data that have been submitted by reviewers have also been incorporated. The EPA believes it has sufficiently supported its emissions estimates and has been as inclusive as possible of all relevant data. The EPA further notes that the commenter has supplied no information which would contradict or refute EPA's belief that all source categories have been identified.

Comment: One commenter stated that the only MACT standards that are countable toward the section 112(c)(6) 90 percent requirement are those standards that specifically establish requirements for section 112(c)(6) HAP (i.e., EPA cannot claim credit for a MACT for benzene as subjecting the source to standards for dioxin), and that a section 112(d)(2) standard for which EPA claims credit for section 112(c)(6) purposes must specifically regulate the emissions of the section 112(c)(6) pollutant.

Similarly, another comment asserted that Congress intended for EPA to reduce section 112(c)(6) HAP emissions by even more than they would be reduced by any other section 112(d)(2) standard means, and that this is why they imposed especially stringent emissions targets. The commenter asserted that this interpretation is supported by the legislative history of the Act.

Another commenter stated it is not appropriate for EPA to have claimed section 112(c)(6) credit for section 112(d)(2) applicability and MACT emission reductions when the subject standard does not reduce nor require any reductions for the section 112(c)(6) HAP. If EPA evaluates this situation for a category and determines that no real reductions are possible under a given MACT, the commenter stated that they should report this finding to Congress. The commenter further argued that claiming these credits for standards that do nothing in terms of real emission reductions is not appropriate.

Response: The EPA responds that section 112(c)(6) and 112(d) does not require a specific quantitative reduction in emissions for any particular HAP. Section 112(c)(6) calls for EPA to assure that certain sources “are subject to standards under subsection 112(d)(2) or (d)(4).” The relevant sources are selected on the basis of whether they emit the seven listed HAP. Section 112(c)(6) does not, however, require that EPA achieve a specific amount of reductions of those seven listed HAP. Today’s action satisfies section 112(c)(6) by assuring that source categories accounting for 90 percent of the emissions are subject to standards under section 112(d)(2) or (d)(4).

Section 112(d)(2) and (d)(4), in turn, define the

mechanism for setting standards. That mechanism establishes a minimum level of performance. Like section 112(c)(6), it does not mandate any particular percentage reduction in emissions of any particular HAP. However, standards under section 112(d)(2) will be reevaluated for “residual risk” under section 112(f). Under this provision, EPA can impose additional standards, if necessary, “to provide an ample margin of safety to protect public health ... or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect.”

Comment: Some commenters emphasized the point that in order for area sources within the source categories listed in the section 112(c)(6) inventory to be regulated or for the area sources within the applicable MACT to be regulated, EPA must first make a determination that the sources pose an adverse threat to human health or the environment pursuant to section 112(c)(3) requirements. The EPA cannot impose MACT or any other control requirements on area sources without making such a determination first.

Similarly, a commenter did not believe that section 112(c)(6) mandates the control of area sources within a listed source category. The commenter went on to say that the proposal notice was unclear on whether area sources were presumed to be affected by the credited MACT, but that

whether they were or were not, area sources within the Portland cement industry are not presumed to be regulated by the industry MACT standards as a result of their inclusion in the section 112(c)(6) source list.

Response: The EPA responds that section 112(c)(6) requires that sources accounting for at least 90 percent of emissions of the specified pollutants be subject to section 112(d)(2) standards or section 112(d)(4). Unlike section 112(c)(3), this requirement does not call for, nor does EPA believe it permits, a finding of health or environmental threat from area sources to determine if such sources need to be included to meet the 90 percent requirement. However, EPA will determine whether specific regulation of the area source component of a source category is appropriate, or necessary to meet the 90 percent goal, based on more source category-specific data collected as part of the regulatory process.

Comment: Another commenter challenged that EPA should not, in its listing for section 112(c)(6), split the Portland cement category into two categories, one for sources combusting hazardous waste fuel and one for sources not combusting hazardous waste fuel.

Response: Section 112(c) generally authorizes EPA to establish source categories or subcategories for regulation

as appropriate. The EPA chose to split hazardous and non-hazardous waste-burning source categories in order to reflect the distinctions made in MACT standards currently under development within EPA's Office of Air Quality Planning and Standards (OAQPS) and the Office of Solid Waste (OSW). The OAQPS rule, which is not yet proposed, applies to cement kilns that do not burn hazardous waste and to other HAP-emitting sources at a cement plant, regardless of whether or not the cement kiln burns hazardous waste. Cement kilns that burn hazardous waste will be covered by the hazardous waste combustor rule which was proposed April 19, 1996 (61 FR 17358). Approximately 40 out of the 210 cement kilns in the U.S. burn hazardous waste as a fuel. The sources burning hazardous and nonhazardous fuel are being regulated under separate actions due to their different emissions characteristics, different air pollution controls, and separate classification by virtue of section 3004 (q) of the Resource Conservation and Recovery Act.

Comment: Several commenters responded to EPA's request for input on the most appropriate definition of POM for use in this action. While many comments provided information that will improve the emissions estimates for the various source categories emitting these compounds, EPA did not receive information which would favor the selection of one

surrogate approach over another as a basis to make listing determinations for all categories associated with emissions of section 112(c)(6) HAP.

Response: POM is defined in section 112(b) to "[i]nclude[] organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C." The complex mixture of POM consists of literally thousands of organic compounds, and no standardized method exists at this time to measure these emissions. There are, however, some valid surrogates for POM that provide sufficient emissions inventory data for this analysis: 1) extractable organic matter (EOM), which is composed of the solvent-extractable fraction of particulate matter, 2) the sum of the seven polynuclear aromatic hydrocarbon compounds that are probable carcinogens (7-PAH), and 3) the sum of the sixteen PAHs measured in EPA test method 610 (16-PAH). (For a more complete discussion of POM surrogates, refer to the section 112(c)(6) emissions inventory document.) The EPA and others are engaged in further efforts to better characterize the constituents of POM that are most significant in evaluating health and environmental effects.

Rather than circumventing that effort by selecting one surrogate, EPA collected and used data for all three approaches in the section 112(c)(6) assessment. As a

result, the Agency did not discard any of the possible surrogates for POM; the section 112(c)(6) listing reflects an analysis that satisfies the 90 percent requirement using each one of the three approaches.

Comment: One commenter argued that use of toxic equivalency (TEQ) is inappropriate as a surrogate for 2,3,7,8-TCDD. While 2,3,7,8-TCDD is a single compound, TEQs sum emissions of various dioxins and furans based on toxic equivalency (see inventory document for more discussion of this issue).

Response: As explained in the draft listing Federal Register notice, EPA chose to use the TEQ surrogate for evaluating 2,3,7,8-TCDD because data on 2,3,7,8-TCDD emissions were not available for analysis. Both EPA's MACT program and the ongoing Office of Research and Development's Dioxin Reassessment Study predominantly report emission estimates on a 2,3,7,8-TCDD TEQ basis. Therefore, to maximize the number of source categories for which national estimates could be determined on a common basis and best carry out the objectives of section 112(c)(6), EPA chose to use the TEQ method for inventorying 2,3,7,8-TCDD and 2,3,7,8-TCDF as specified under section 112(c)(6).

B. Other Significant Changes

In addition to data supplied via the comments on the

draft listing package, EPA also incorporated significant changes to the section 112(c)(6) base year emissions inventory based on information gathered through another EPA program. The urban area source program (section 112(c)(3) and 112(k)) requires an inventory information collection effort which includes some of the section 112(c)(6) pollutants. This emissions inventory effort has been under way concurrently with the development of the section 112(c)(6) analysis, with public comment on that inventory ending in November 1997. The data collected from that program have been incorporated into the section 112(c)(6) inventory and are reflected in the base year inventory document and the tables and figures included in this notice.

IV. Listing Determination Process

As described before, early in the analysis, source categories that are not considered appropriate for section 112 regulation (i.e., nonstationary, nonanthropogenic sources) were identified and excluded from further evaluation for regulation under section 112(c)(6). From this revised inventory list, source categories currently considered to be subject to section 112(d)(2) and (d)(4) standards were identified, along with source categories that are subject to section 129 standards which substantively meet equivalent requirements.

The emission contributions from these source categories were tallied for each pollutant to determine whether the sources of 90 percent of emissions are already subject to standards or listed for such standards, as required by section 112(c)(6). Those pollutants that do not have 90 percent coverage require listing of additional source categories under section 112(c)(6) to attain the 90 percent level.

A. Sources Excluded from Section 112(c)(6) Analysis

Certain sources of section 112(c)(6) pollutants, although included in the 1990 base year emissions inventory documentation, are not included in the analysis of source categories subject to section 112(c)(6). For example, section 112 applies to stationary sources, therefore mobile source emissions were excluded.

1. Exclusions Identified in the Draft Listing Notice

In addition to mobile source emissions, emissions from wild and prescribed fires, residential fuel combustion, and pesticide application were also excluded. The rationale for these exclusions was discussed in the draft listing notice. In this notice, EPA has also excluded cigarette smoke, utility boilers emissions, consumer products emissions, and refueling emissions at gasoline dispensing facilities. A discussion of each of these excluded source categories

follows.

2. Cigarette Smoke

Although the section 112(c)(6) emissions inventory includes estimates of emissions from cigarette smoke, EPA does not deem this to be a source category intended for regulation as a stationary source under section 112. Section 112(a)(3) defines “stationary source” by referring to section 111(a), which provides that a stationary source is “any building, structure, facility, or installation which emits or may emit any air pollutant.” Cigarette smoke does not fall within that definition because it is not emitted by a fixed edifice such as a “building, structure, facility, or installation.” Therefore, this source category was excluded from the inventory of emission sources that are potentially subject to standards under section 112(c)(6).

3. Utility Emissions

The language in section 112(c)(6) states that the “paragraph shall not be construed to require the Administrator to promulgate standards for such pollutants emitted by electric utility steam generating units.” The EPA believes this statement gives the Agency discretion about whether EPA is required to include utility emissions in the section 112(c)(6) analysis. In section 112(n)(1)(A), EPA is required to assess the HAP emissions from electric

utility steam generating units and to regulate if "appropriate and necessary." More information about the utility study can be obtained from the Clean Air Act Amendments bulletin board of the EPA's electronic Technology Transfer Network (TTN) under "Recently Signed Rules," (http://ttnwww.rtpnc.epa.gov).

The EPA believes that section 112(n)(1)(A) is the appropriate authority for evaluating utility emissions and determining the necessity of regulation for this source category. In the draft section 112(c)(6) listing notice, EPA proposed to credit the emissions of section 112(c)(6) pollutants from utilities as subject to standards through section 112(n)(1)(A). This interpretation was challenged by commenters. Therefore, as discussed above, EPA has determined it to be more appropriate to exclude utility emissions from those considered for the section 112(c)(6) analysis and to address them under section 112(n)(1)(A).

4. Consumer Products

Consumer products, such as surface coatings, metal cleaning solvents, personal care products, and household cleaning products contribute significantly to emissions of POM, as defined in the 16-polyaromatic hydrocarbon (PAH) definition. These emissions are composed primarily of naphthalene. These emissions come primarily from the use,

consumption, storage, disposal, destruction, or decomposition of such products, and as such, do not fit the definition of “stationary source” provided in sections 111(a)(3) and 112(a)(3). These emissions were not quantified in the draft section 112(c)(6) emissions inventory or draft listing Federal Register notice. The emissions estimates are a result of inventory-development work on a concurrent EPA project related to emissions in urban areas (section 112(c)(3) and 112(k)). The EPA believes it is important that the emissions from consumer products be identified and the public informed of their potential significance. Although these emissions account for a significant fraction of total 16-PAH emissions, EPA does not consider them appropriate for regulation under section 112 and believes instead that they should be addressed through other means.

Regulations for consumer products have been proposed for control of volatile organic compounds (VOC) pursuant to section 183(e) of the Act and are expected to result in significant reductions in VOC. Naphthalene is a VOC. This provision requires EPA to account for sources of 80 percent of total VOC emissions from consumer products in ozone nonattainment areas and subject these sources to best available controls.

The proposed rule would affect approximately 220 consumer product manufacturers and importers nationwide. Many of these companies are already taking steps to reformulate their products to emit less VOC. The EPA worked closely with these companies in developing the proposed rule.

More information on the proposed rule for consumer products can be downloaded from the Clean Air Act Amendments bulletin board (under “Recently Signed Rules”) of EPA’s electronic Technology Transfer Network (TTN), or by calling (919) 541-5742.

5. Refueling Emissions at Gasoline Dispensing Facilities

Refueling emissions at gasoline dispensing facilities (gas stations) occur when vapors are displaced from a motor vehicle’s fuel tank during the refueling process. Refueling accounts for 374 tons of the 16-PAH emissions (naphthalene) in the 1990 base year inventory. The EPA recognizes the importance of controlling these emissions but believes that they are not appropriately the subject of regulation under section 112.

Promulgation of a section 112 standard to control emissions from refueling would frustrate Congress’ intent to regulate those emissions through sections 182(b)(3) and 202(a)(6). Rather than treating refueling emissions in the

same manner that they treated other HAP emissions, Congress elected to provide a special, comprehensive program specifically tailored to refueling.

The first step of the program, in section 182(b)(3), sets forth a short-term solution. It requires the installation of controls on fuel pumps to recover refueling emissions ("stage II") and includes a schedule which calls for prompt compliance with its requirements. Stage II was initially required for gasoline dispensing facilities which sell more than 10,000 gallons of gasoline per month (or 50,000 gallons per month, in the case of independent small business marketers) in all areas that are "moderate" or worse nonattainment areas for ozone. In addition, section 184(b)(2) of the Act requires all areas in the ozone transport region (OTR) to adopt stage II controls or control measures capable of achieving comparable emissions reductions.

The second step, in section 202(a)(6), mandates the use of vehicle-based vapor recovery systems in all new light-duty vehicles ("onboard"). The schedule provided in section 202(a)(6) allows for a lengthier compliance process that imposes onboard controls after the installation of Stage II. Upon promulgation of EPA's onboard regulations, the section 182(b)(3) Stage II requirements no longer

applied to “moderate” ozone nonattainment areas, although States were free to leave stage II controls in place. For instance, some States concluded that stage II was necessary for them to meet reasonable further progress or attainment and maintenance requirements under title I of the Act. Moreover, States are free under section 116 of the Act to apply Stage II requirements more stringently than is federally required. Once EPA determines by rule that those onboard controls are in widespread use throughout the motor vehicle fleet, the Stage II controls may be scaled back in “serious” or worse ozone nonattainment areas, while areas in the OTR will remain subject to the requirements of section 184(b)(2) to apply Stage II or comparable measures.

Enactment of sections 182(b)(3) and 202(a)(6) was preceded by lengthy, detailed debate about the all aspects of Stage II and onboard systems (e.g., S. Rep. No. 231, 100th Cong., 1st Sess. 404-407 (1987)), including the safety of the systems (e.g., Environmental and Natural Resources Policy Division, Library of Congress, 103d Cong., 1st Sess., A Legislative History of the Clean Air Act Amendments of 1990, at 10729-33 (Comm. Print 1993) (statement of Sen. Coats)), the relationship between the requirements (e.g., H.R. Rep. No. 490, 101st Cong., 2d Sess., pt. 1, at 303-304 (1990)), and the costs imposed by the controls (e.g.,

Legislative History, supra, at 4837, 4843 (statement of Sen. Chafee)). Moreover, Congress recognized that the Stage II and onboard requirements of sections 182(b)(3) and 202(a)(6) would produce substantial toxics benefits:

> Both Stage II and onboard are designed to capture emissions from refueling of mobile sources. They capture emissions of benzene, a known carcinogen, and other toxic pollutants (S. Rep. No. 231, at 23).
>
> Two other benefits attributable to Stage II systems are reduced human exposure to toxics compounds and increased safety (S. Rep. No. 228, 101st Cong., 1st Sess. 40 (1989)).
>
> Onboard systems also reduce human exposure to toxic pollution (S. Rep. No. 228, at 94).

See also Legislative History, supra, at 5617-18 (statement of Sen. Baucus); S. Rep. 231, at 137, 460.

Congress' intent to comprehensively address refueling emissions from gasoline dispensing stations through stage II and onboard requirements is clearly illustrated by the focused regulatory scheme provided in those provisions, by the prolonged and detailed debate on the issue, and by the recognition that sections 182(b)(3) and 202(a)(6) control toxics. Imposition of a section 112 standard upon that unique arrangement would frustrate Congress' intent to control emissions from refueling through the comprehensive regulatory structure anticipated by sections 182(b)(3) and 202(a)(6).

To be sure, other types of emission sources are subject

to regulation under more than one provision of the Act. For example, an industrial facility may have both section 110 State implementation plan requirements and section 112 air toxics standards. In those situations, sources become subject to multiple requirements because Congress constructed those parts of the Act to allow for overlapping coverage. Sections 110 and 112 are intended to apply broadly to a wide range of sources without excluding the application of other general requirements. In the case of evaporative losses from vehicle refueling, however, Congress required stage II and onboard as controls specifically focused on regulating the emissions from a single type of emission point after significant and lengthy discussion and after recognizing that those controls accomplish the goals of section 112. The unique structure and history of sections 182(b)(3) and 202(a)(6) indicate Congress' intent to strike a balance between burdens on gasoline station owners and refiners and to achieve a uniform, comprehensive regulatory approach to control of refueling emissions. By contrast, the remainder of the Act contemplates the application of multiple provisions to sources.

Recognition of Congress' plan to control refueling emissions through stage II and onboard, rather than through MACT, does not affect the public health. As mentioned

above, Congress understood that the emission reductions achieved by sections 182(b)(3) and 202(a)(6) will be comparable to those achieved by a standard under section 112. The onboard controls yield a 95 percent emissions reduction over uncontrolled levels. Due to fleet turnover, 90 percent of light duty vehicles are expected to be equipped with onboard controls by 2015. Once it is fully phased in, onboard will achieve that level of control for 97 percent of new vehicles and 94 percent of refueling emissions. That will lead to reductions of VOC and HAP emissions of 300,000 to 400,000 tons per year. Imposition of a section 112 standard on refueling would not be likely to achieve greater reductions.

More information about stage II and onboard can be obtained at EPA's Internet web site (http://www.epa.gov/OMSWWW/gopher/Regs/LD-hwy/Onboard/orvrq&a.txt).

B. Defining "Subject to Standards"

The focus of the regulations under section 112(d) has been to initially develop standards for emissions of air toxics based on the MACT available for each industry source category emitting HAP. Section 112(c)(6) specifically states that sources that account for 90 percent of emissions of section 112(c)(6) specific pollutants be subject to

standards under section 112(d)(2) or 112(d)(4). It is important to recognize that in making sources “subject to standards,” the language of section 112(c)(6) does not specify either a particular degree of emissions control or a reduction in these specific pollutants’ emissions to be achieved by such regulations. Rather, specific control requirements are set as referenced in section 112(d)(2) and (d)(4).

In the next phase of section 112 programs (under section 112(f)), EPA will evaluate the necessity of further emissions reductions in order “to provide an ample margin of safety to protect public health ... or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect.” These latter determinations will rely on information required by the 1990 Amendments to the Act or gathered since they were passed. For example, the Dioxin Reassessment Study, the Great Waters Report to Congress, and the Mercury Report to Congress, represent extensive assessments of the health effects and the potential exposure of humans and the environment to the pollutants identified in section 112(c)(6). This information will be used in future decisions regarding the imposition of health-based emission reductions.

1. <u>Section 112(d)(2)</u>

Section 112(d)(2) standards are based on the maximum level of control, defined in section 112(d)(3) as the “maximum degree of reduction in emissions that is deemed achievable” (i.e., MACT), as determined by the best-performing 12 percent of sources within the source category for existing sources. Section 112(d)(2) provides for measures that (a) reduce the volume or eliminate emissions of HAP through process changes, substitution of materials or modifications; (b) enclose systems or processes to eliminate HAP emissions; © collect, capture, or treat HAP when released from a process, stack, storage, or fugitive emissions point; (d) are design, equipment, work practice, or operational standards (including requirements for operator training or certification); or (e) are a combination of the above.

Many source categories, which have been identified as ones that account for the emissions of the various section 112(c)(6) pollutants, have previously been listed for section 112(d)(2) regulation and appear on the source category list promulgated for section 112(c)(1) (57 FR 31576, July 16, 1992; 61 FR 28197, June 4, 1996). These standards are at varying phases of completion, and, for many, analysis has not yet been initiated. In developing the basis for today’s action, EPA relied on the

best available information. However, as EPA recognizes, and many commenters have noted, many uncertainties remain concerning the accuracy of its identification of source categories and estimates of emissions. As the Agency proceeds to develop appropriate emission standards, it will necessarily develop improved source category-specific information, which may affect the estimates of total emissions, the percentage of emissions subject to standards, allocation of emissions within a source category to major and area sources, and source categories for which standards need to be developed. As it proceeds to develop these standards and associated information, EPA intends to further evaluate this information against its obligation to assure that sources accounting for not less than 90 percent of emissions are subject to standards. In accordance with section 112(c)(6), EPA is ultimately responsible for adopting regulations to meet the 90 percent requirement.

In cases where regulatory development has proceeded to a point such that data are sufficient to estimate the portion of the emissions from a given source category that will be subject to the regulation, such an estimate was made. For instance, if a section 112(d)(2) standard will apply only to sources determined to be major as defined in section 112(a), then only the fraction of the total source

category emissions that are estimated from major sources would be counted as subject to standards. For example, the section 112(d)(2) standard for stage I gasoline distribution (40 CFR Part 63, subpart R, promulgated December 14, 1994) only regulates major sources, which account for 10 percent of emissions from that source category. As a result, the section 112(c)(6) analysis only credits 10 percent of the emissions (refer to Table 2).

2. Section 112(d)(4)

Congress provided in section 112(d)(4) that EPA could, at its discretion, develop risk-based standards for HAP "for which a health threshold has been established," provided that the standard achieves an "ample margin of safety." The full text of the provision reads:

> With respect to pollutants for which a health threshold has been established, the Administrator may consider such threshold level, with an ample margin of safety, when establishing emission standards under this subsection.

A determination that a threshold exists has not been made for alkylated lead, POM, hexachlorobenzene (HCB), polychlorinated biphenyls (PCB's), 2,3,7,8-TCDF, or 2,3,7,8-TCDD. Therefore, section 112(d)(4) authority has not been, and cannot yet be, used to regulate the emissions of any of these pollutants.

The EPA has established a reference dose (RfD) for

methyl mercury and a reference concentration (RfC) for inorganic mercury, but section 112(d)(4) has not been used in regulating the emissions of these mercury compounds. Regulation based on these mercury thresholds is difficult because EPA lacks a method to link deposition or ambient concentrations to exposure concentrations for these pollutants. (A more detailed discussion of section 112(d)(4) appears in the draft listing Federal Register notice.)

3. Section 129

Some source categories identified as contributors to the estimates of emissions of section 112(c)(6) pollutants are not currently listed for regulation under section 112(d)(2), but are subject to section 129 standards.

Because section 129 provides for a substantively equivalent level of control as section 112(d)(2) and because section 129(h)(2) prohibits subjecting solid waste incinerators to both section 129 and section 112(d) standards, the Agency believes that it is appropriate to include section 129 as a regulatory instrument equivalent to section 112(d)(2). The EPA further believes that listing source categories for section 112(c)(6) that are already covered under section 129 would lead to a redundant regulatory effort and would produce no additional

environmental benefit. The EPA is, therefore, crediting the emissions of section 112(c)(6) pollutants from section 129 source categories as subject to standards under section 112(c)(6). A more complete discussion of section 129 standards and comparison to section 112(d)(2) standards is provided in the draft listing Federal Register notice.

Some section 129 standards are being developed as part of the ICCR. The ICCR is based on the authority of sections 112 and 129. Each of the ICCR source categories will be subject to either section 112 or 129 authority (as noted in Table 2) depending on the materials the source category burns (a conventional fuel or a waste product). This project was discussed in detail in the draft listing notice. Source categories previously identified in the draft notice as ICCR standards have been modified to identify whether they will be subject to section 112 or section 129 in conjunction with the ICCR. These identifications of section 112 and 129 standards may change as EPA determines whether combustion devices used at these sources burn “fuel” or “waste.” Additional information about the ICCR is available on the EPA TTN or at the ICCR Main Menu on the Internet (http://ttnwww.rtpnc.epa.gov). When accessing the World Wide Web site, select “TTN BBS Web” from the first menu, then select “Gateway to Technical

Areas” from the second menu, and, finally, select “ICCR-Industrial Combustion Coordinated Rulemaking” from the third menu.

C. Regulatory Coverage for Section 112(c)(6) Pollutants

Table 2 provides a summary of the source categories that emit section 112(c)(6) HAP and the percentage of emissions attributable to each category. Note that as described in section IV.A., only the sources that EPA believes are appropriate for regulation under section 112 are included in this analysis. Table 1 shows the full emissions inventory.

In Table 2, the percent contributions of source categories that are eligible for section 112(d) standards (and, therefore, included in the section 112(c)(6) analysis) are summed for each pollutant in order to identify those section 112(c)(6) pollutants that do not have at least 90 percent of emissions subject to standards. Those section 112(c)(6) pollutants at or above the 90 percent level are: POM (as defined by EOM), 2,3,7,8-TCDD, mercury, PCB’s, and HCB. These pollutants do not appear, at this time, to require the listing of any additional source categories for future rulemaking.

Based on the 1990 baseline emissions inventory, the 90 percent subject to standards requirement is not met for

the following pollutants: POM (as defined by 7-PAH), POM (as defined by 16-PAH), and alkylated lead. For these pollutants, additional source categories will have to be identified to attain the 90 percent level. These additional source categories are being listed under section 112(c)(6) for section 112(d)(2) or (d)(4) standards development. As noted earlier, these listings, as presented now, are based on the best information that is currently available. Given the above mentioned uncertainties, however, EPA recognizes that the list may be subject to change. Hence, the EPA anticipates that it may, in the future, amend the list of source categories published in today's notice, in order to fulfill the requirement to subject sources accounting for 90 percent of the emissions of the section 112(c)(6) HAP to standards. For example, as EPA evaluates a particular source category, it may find that area sources contribute insignificantly to the emissions of POM and regulation would not be necessary to attain the 90 percent requirement. In such a situation, EPA may find it appropriate to take credit for regulation of the major sources only. As better estimates of emissions are developed during the MACT development process, EPA intends to evaluate this information against its obligation to assure that sources accounting for 90 percent of emissions are subject to

standards. Any future evaluation of the 90 percent requirement would have to be based on 1990 emissions in order to maintain consistency.

V. Source Categories that Require Listing as a Result of the Section 112(c)(6) Analysis

A review of the available data indicates that a substantial majority of source categories emitting section 112(c)(6) pollutants have already been listed for regulation under section 112(d)(2) or are subject to regulation under equivalent authorities. Based on EPA's current information, in order to meet the section 112(c)(6) requirement to assure that the sources of at least 90 percent of the aggregate emissions of each specific HAP are subject to standards, the following source categories require such listing: open burning of scrap tires and gasoline distribution, leaded aviation fuel. The source category, wood treatment and preservation, had appeared in the draft listing Federal Register notice, but has been removed from consideration for this list. Comments were submitted that significantly reduced the emissions estimates for this source category, as well as changes that affected estimates of other source category emissions, resulting in a lower percent contribution from this source category and in its removal from this listing.

This listing under section 112(c)(6) identifies source categories for which standards under section 112(d)(2) or (d)(4) will be developed, but by itself does not automatically result in regulation or control of emissions from sources within these source categories. The EPA will perform further analyses on emissions and control methods for the listed source categories. This regulatory development analysis will determine any ultimate regulatory requirements.

A summary of the reasons for each of the above source category's inclusion follows.

- Open burning of scrap tires: Although data submitted in response to the draft listing package resulted in a significant reduction in the emissions estimate for this source category, it still accounts for a significant portion of POM emissions in the section 112(c)(6) analysis (14.3 percent defined as 7-PAH, and 3.4 percent defined as 16-PAH). Subjecting emissions from this source to standards will bring the percentage of 7-PAH emissions that are subject to standards up to the level of 99.3 percent, and 16-PAH emissions up to the level of 90.2 percent.

The EPA realizes that scrap tires are not routinely burned in the open as part of agricultural or industrial processes and that these sources are different from

facilities designed for the incineration of scrap tires. There are numerous storage piles of scrap tires across the country created through legal and illegal practices. These storage piles are often set on fire by arson, accident, or natural causes (lightning). Some states and organizations have created rules and guidelines designed to reduce and eventually eliminate the fire threat posed by stockpiled tires. The EPA will consider these efforts in developing a section 112(d)(2) standard for this source category. These emissions involve inadvertent and incidental releases of emissions rather than discharges as a direct result of process operations; as such it is analogous to the incidental but significant release of emissions through process leaks or from solvent-laden cleaning rags. The EPA believes it can subject these sources to standards in a fashion similar to its approach to other sources from which significant emissions could result from unsafe or ineffective work management practices.

- Gasoline distribution, aviation fuel: This category, consists of evaporative losses from the transfer and storage of leaded aviation fuel, and aircraft refueling and associated spillage. Note that these emissions are associated with fuel containing alkylated lead, commonly referred to as aviation gas, and used primarily in general

aviation aircraft. This is not the same as commercial jet fuel. This source category accounts for 81.3 percent of the 1990 base year inventory. However, since leaded gasoline has been banned for use in motor vehicles since the 1990 inventory estimate, this source category accounts for the only known remaining emissions of alkylated lead. Thus listing this source category will subject 100 percent of current alkylated lead emissions to standards.

VI. Regulatory Requirements

A. General

Today's notice is not a rule; it is essentially a housekeeping or maintenance activity which does not impose regulatory requirements or costs on any sources, including small businesses. Therefore, the EPA has not prepared an economic impact analysis pursuant to section 317 of the Act, nor a regulatory flexibility analysis pursuant to the Regulatory Flexibility Act (Pub. L. 96-354, September 19, 1980), nor a budgetary impact statement pursuant to the Unfunded Mandates Act of 1995. Also, this notice does not contain any information collection requirements and, therefore, is not subject to the Paperwork Reduction Act, 44 U.S.C. 3501 et seq.

B. Executive Order 12866 and Office of Management and Budget (OMB) Review

Under Executive Order 12866 (58 FR 51735; October 4,1993), 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 either: (1) have an annual effect on this economy of $100 million or more, or adversely and materially affect 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 obligations of recipients thereof; or (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, this is a not a “significant regulatory action” within the meaning of the Executive Order. This notice was submitted to OMB for review. Any written comments from OMB and written EPA responses are available in the docket.

C. Small Business Regulatory Enforcement Fairness Act of

1996

Today's action is not a rule subject to notice-and-comment requirements and is thus not subject to the Small Business Regulatory Enforcement Fairness Act of 1996. In addition, as mentioned above, this notice merely lists categories of sources and does not impose any regulatory requirements. Consequently, this notice will not have any economic impact on small entities.

D. Submission to Congress and the Comptroller General

The Congressional Review Act, 5 U.S.C. § 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, does not apply because this action is not a rule, as that term is defined in 5 U.S.C. § 804(3).

_____
Date

_____
Richard D. Wilson
Acting Assistant Administrator
for Air and Radiation

TABLE 1. SUMMARY OF 1990 EMISSION INVENTORY DATA FOR SECTION 112(C)(6) POLLUTANTS (TONS/YR)

SOURCE CATEGORY	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	ALKYLATED LEAD
	7-PAH	16-PAH	EOM					
Abrasive Grain (Media) Manufacturing		2.48e+01						
Adhesives and Sealants (SICs combined)		4.18e+00						
Aerospace Industry (Surface Coating)		1.64e+03			4.00e+00			
Agricultural Chemicals		9.03e+00						
Asphalt Hot-Mix Production	9.40e-02	4.37e+01						
Asphalt Roofing Production	1.68e+00	4.36e+01						
Battery Production					2.00e-02			
Blast Furnace and Steel Mills		4.99e+02			2.50e-01			
Carbamate Insecticides Production		4.08e+00						
Carbon Black Production	4.50e-01	4.33e+00			2.50e-01			
Carbon Reactivation Furnaces				1.25e-07				
Chemical Manufacturing: Cyclic Crude and Intermediate Production		1.04e+02						
Chemical Preparations (SICs combined)		6.79e+00						
Chloralkali Production		4.52e+00			9.80e+00			
Chlorinated Solvents Production							5.81e-01	
Chromium Plating: Chromic Anodizing					2.50e-03			
Cigarette Smoke	5.20e-01	3.45e+00						
Clay Refractories		5.00e-01						
Cleaning Products (SICs combined)		1.38e+00						
Coke Ovens: By-Product Recovery Plants		7.78e+01						
Coke Ovens: Charging, Topside & Door Leaks	7.18e+01	5.39e+02	6.79e+02					
Coke Ovens: Pushing, Quenching & Battery Stacks	3.01e+01	5.17e+02						

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SOURCE CATEGORY	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	ALKYLATED LEAD
	7-PAH	16-PAH	EOM					
Commercial Coal Combustion	3.60e+01	1.73e+02	2.74e+03		7.77e-01			
Commercial Natural Gas Combustion		3.00e-02	1.92e+03					
Commercial Oil Combustion	3.16e-02	5.33e+01	1.32e+03		2.00e-01			
Commercial Printing, Gravure		2.89e+01						
Commercial Printing, Letterpress and Screen		1.04e+01						
Commercial Wood/Wood Residue Combustion	1.01e+00	3.58e+01	1.95e+03		8.00e-03			
Consumer Products Usage		5.73e+03						
Crematories	1.42e-08	8.33e-06		9.15e-12	3.77e-04			
Custom Compound Purchased Resins Manufacture					1.28e-01			
Dental Preparation and Use					8.00e-01			
Drum and Barrel Reclamation	1.27e-06	8.19e-05		2.51e-07				
Electronic and Other Electric Equipment Manufacturing (SICs combined)		3.05e+01			8.83e-01			
Fabricated Metal Products		1.43e+02						
Fabricated Rubber Products		1.48e+02						
Ferroalloy Manufacture	2.60e-01	5.60e-01						
Fiber Cans, Drums, and Similar Products		5.06e+00						
Fluorescent Lamp Recycling					6.00e-03			
Food Products (SICs combined)		3.54e+00						
Gasoline Distribution (Aviation)								3.75e-01
Gasoline Distribution (Stage I)		3.55e+02						8.64e-02
Gasoline Distribution (Stage II)		3.74e+02						1.92e-02
General Laboratory Activities					8.00e-01			
Geothermal Power					1.30e+00			
Gum and Wood Chemical		5.00e-01						
Hazardous Waste Incineration	2.09e-02	1.75e-01		3.30e-05	3.20e+00	2.78e-02		

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SOURCE CATEGORY	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	ALKYLATED LEAD
	7-PAH	16-PAH	EOM					
Industrial Coal Combustion	3.09e+00	1.57e+02	2.41e+03		2.20e+01			
Industrial Gases Manufacturing		9.43e+00						
Industrial Inorganic Chemicals Manufacturing		1.57e+01			1.00e+00			
Industrial Machinery and Electrical Equipment (SICs combined)		2.77e+00						
Industrial Natural Gas Combustion		2.00e-02	9.28e+02					
Industrial Oil Combustion	3.07e-02	5.09e+01	4.94e+02		5.80e+00	4.97e-05		
Industrial Organic Chemicals Manufacturing		2.27e+02			2.00e-02			
Industrial Stationary IC Engines - Diesel	8.93e-02	5.02e+00	1.93e+03					
Industrial Stationary IC Engines - Natural Gas	1.03e+00	4.76e+01			4.47e+00			
Industrial Turbines - Diesel Fired		1.55e-02	1.73e+03		9.00e-02			
Industrial Turbines: Natural Gas Fired		1.38e+01	7.39e+02		1.61e+00			
Industrial Waste Oil Combustion	1.34e+00	7.82e+00						
Industrial Wood/Wood Residue Combustion	1.21e+00	6.88e+01	4.42e+04	5.07e-05	2.03e-01			
Inorganic Pigments Manufacturing					5.00e-03			
Instrument Manufacturing					5.00e-01			
Iron and Steel Foundries	6.00e-02	1.90e-01		1.15e-05				
Lamp Breakage					1.50e+00			
Landfill (Gas) Flares	1.05e-03	4.45e-01						
Lightweight Aggegate Kilns				3.60e-06	3.10e-01			
Lime Manufacturing					7.00e-01			
Lubricating Oils and Grease		6.00e-02						
Medical Waste Incineration		8.00e-01	1.50e+01	6.60e-04	5.00e+01	4.03e-02		
Metal Household Furniture		2.50e-03						
Miscellaneous Manufacturing		6.58e+00						
Miscellaneous Plastics Products		5.76e+00						

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SOURCE CATEGORY	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	ALKYLATED LEAD
	7-PAH	16-PAH	EOM					
Municipal Waste Combustion		9.67e-02	1.82e+02	3.65e-03	5.50e+01	8.01e-02		
Naphthalene - Miscellaneous Uses		1.25e+00						
Naphthalene Production		6.46e+01						
Naphthalene Sulfonates Production		6.53e+00						
Non-Road Vehicles and Equipment (NRVE) - Aircraft	9.00e-02	4.79e+00						
Nonmetallic Mineral Products		2.50e-03			5.00e-03			
NRVE - Other	2.40e+01	4.70e+01	2.51e+04					1.66e-01
Office Furniture, Except Wood Manufacturing		6.45e+00						
On-Road Vehicles	3.44e+01	7.59e+01	5.62e+04	9.50e-05				
Open Burning of Scrap Tires	5.25e+01	2.94e+02						
Other Biological Incineration			1.05e+00	1.60e-04		2.49e-03		
Other Miscellaneous (SICs combined)		1.45e+00			2.50e-01			
Other Secondary Nonferrous Metals Recovery					2.50e-01			
Other Structural Clay Products		5.60e-01			1.10e-01			
Paints and Allied Products		3.07e+01			7.50e-03			
Paper Coated and Laminated, Packaging		5.54e+01						
Partitions and Fixtures		4.35e+00						
Pesticides Application							1.46e-01	
Pesticides Manufacture							4.58e-01	
Petroleum Refining: All Processes	1.64e+01	1.10e+03			4.35e-02			
Pharmaceutical Preparations and Manufacturing (SICs combined)		7.66e-01						
Phthalic Anhydride Production		2.62e+01						
Plastic Foam Products Manufacturing		1.10e+02						
Plastics Material and Resins Manufacturing		8.55e+00			4.00e-03			
Porcelain Electrical Supplies		2.08e+00						

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SOURCE CATEGORY	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	ALKYLATED LEAD
	7-PAH	16-PAH	EOM					
Portland Cement Manufacture: Hazardous Waste Kilns	2.08e+00	1.26e+01		4.75e-04	2.75e+00			
Portland Cement Manufacture: Non-Hazardous Waste Kilns	2.60e+00	4.79e+01		4.29e-05	4.13e+00			
Primary Aluminum Production	1.41e+02	6.62e+02	3.88e+03					
Primary Copper Production					7.40e-01			
Primary Lead Smelting					1.30e+00			
Primary Metal Products Manufacturing (SICs combined)		2.69e+01						
Public Building and Related Furniture		1.16e+01						
Pulp and Paper - Kraft Recovery Furnaces	3.74e+00	6.49e+02		3.42e-07	1.90e+00			
Pulp and Paper - Lime Kilns	2.50e-01	1.83e+02						
Pulp and Paper - Sulfite Recovery Furnaces		6.17e+00						
Residential Coal Combustion	3.19e+01	1.03e+02		2.34e-04	6.00e-01			
Residential Natural Gas Combustion	8.02e-02	5.10e+00	4.14e+03					
Residential Oil Combustion	1.70e+00	2.10e+01	1.47e+03	3.78e-06	3.00e+00			
Residential Wood Combustion	5.72e+02	8.86e+03	2.36e+05	3.38e-05				
Scrap or Waste Tire Combustion	2.17e-05	5.18e-03		3.00e-07		1.04e-03		
Secondary Aluminum Smelting				1.90e-04				
Secondary Copper Smelting				6.80e-06				
Secondary Lead Smelting	1.90e-02	6.99e+01		4.25e-06	1.13e-02			
Secondary Mercury Production					7.52e-01			
Sewage Sludge Incineration	8.67e-03	1.64e+00		2.65e-05	1.80e+00	5.12e-03		
Ship Building and Repair (Surface Coating)		1.44e+01						
Surface Active Agents Manufacturing		7.41e+00						
Textiles (SICs Combined)		9.68e+00						
Tire Manufacturing		7.00e+00					4.35e-01	
Transportation Equipment Manufacturing (SICs combined)		5.16e+01						

TABLE 1. SUMMARY OF 1990 EMISSION INVENTORY DATA FOR SECTION 112(C)(6) POLLUTANTS (TONS/YR)

SOURCE CATEGORY	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	ALKYLATED LEAD
	7-PAH	16-PAH	EOM					
Utility Coal Combustion	2.10e-01	7.55e+00	3.86e+04	1.10e-04	5.10e+01		6.80e-01	
Utility Natural Gas Combustion		6.90e-01	1.00e+03		1.60e-03			
Utility Oil Combustion	5.00e-02	5.70e-01	5.31e+02	7.00e-06	2.50e-01	1.49e-04		
Utility Turbines - Diesel Fired					3.00e-02			
Wildfires and Prescribed Burning	9.64e+02	2.54e+03		9.50e-05				
Wood Household Furniture Manufacturing		1.13e+01						
Wood Treatment/Wood Preserving		9.04e+01		3.80e-05				
Total Emissions (tons/yr)	1995.80	26476.54	428035.05	0.0059	234.59	0.16	2.30	0.65

TABLE 2. 1990 ANTHROPOGENIC STATIONARY SOURCE CATEGORY PERCENTAGE CONTRIBUTIONS AND ASSOCIATED REGULATIONS

Source Category	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	Alkylated Lead	Applicable Regulation
	7-PAH	16-PAH	EOM						
SOURCE CATEGORIES SUBJECT TO REGULATION	**Percent Contribution**								
Aerospace Industry (Surface Coating) {Subject to regulations is 100% of total values}		18.838			2.226				Sec. 112(d)(2)
Asphalt Hot-Mix Production	0.026	0.502							Sec. 112(d)(2)
Asphalt Roofing Production	0.458	0.501							Sec. 112(d)(2)
Blast Furnace and Steel Mills		5.732			0.139				Sec. 112(d)(2)
Chemical Manufacturing: Cyclic Crude and Intermediate Production		1.195							Sec. 112(d)(2)
Chloralkali Production		0.052			5.453				Sec. 112(d)(2)
Chlorinated Solvents Production							39.417		Sec. 112(d)(2)
Chromium Plating: Chromic Anodizing {Subject to Regulation is 100% of total values}					0.001				Sec. 112(d)(2)
Coke Ovens: By-Product Recovery Plants		0.894							Sec. 112(d)(2)
Coke Ovens: Charging, Topside & Door Leaks	19.570	6.191	1.043						Sec. 112(d)(2)
Coke Ovens: Pushing, Quenching & Battery Stacks	8.204	5.934							Sec. 112(d)(2)
Commercial Printing, Gravure {Subject to Regulation is 99.35% of total values}		0.330							Sec. 112(d)(2)
Fabricated Metal Products		1.643							Sec. 112(d)(2)
Gasoline Distribution (Stage I) {Subject to Regulation is 10% of total values}		0.408						1.873	Sec. 112(d)(2)
Hazardous Waste Incineration	0.006	0.002		0.616	1.781	17.721			Sec. 112(d)(2)
Industrial Organic Chemicals Manufacturing {Subject to Regulation is 98.91% of total values}		2.579			0.011				Sec. 112(d)(2)
Lightweight Aggegate Kilns				0.067	0.173				Sec. 112(d)(2)
Naphthalene Production		0.742							Sec. 112(d)(2)
Paints and Allied Products		0.353			0.004				Sec. 112(d)(2)
Paper Coated and Laminated, Packaging		0.636							Sec. 112(d)(2)

TABLE 2. 1990 ANTHROPOGENIC STATIONARY SOURCE CATEGORY PERCENTAGE CONTRIBUTIONS AND ASSOCIATED REGULATIONS (Continued)

Source Category	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	Alkylated Lead	Applicable Regulation
	7-PAH	16-PAH	EOM						
Pesticides Manufacture							31.072		Sec. 112(d)(2)
Petroleum Refining: All Processes {Subject to Regulation is 97.55% of total values}	4.360	12.326			0.024				Sec. 112(d)(2)
Phthalic Anhydride Production		0.301							Sec. 112(d)(2)
Plastic Foam Products Manufacturing		1.264							Sec. 112(d)(2)
Portland Cement Manufacture: Hazardous Waste Kilns	0.567	0.145		8.873	1.530				Sec. 112(d)(2)
Portland Cement Manufacture: Non-Hazardous Waste Kilns	0.709	0.550		0.801	2.297				Sec. 112(d)(2)
Primary Aluminum Production	38.431	7.604	5.953						Sec. 112(d)(2)
Pulp and Paper - Kraft Recovery Furnaces	1.019	7.455		0.006	1.057				Sec. 112(d)(2)
Pulp and Paper - Lime Kilns	0.068	2.102							Sec. 112(d)(2)
Secondary Aluminum Smelting				3.549					Sec. 112(d)(2)
Secondary Lead Smelting	0.005	0.803		0.079	0.006				Sec. 112(d)(2)
Ship Building and Repair (Surface Coating) {Subject to Regulation is 94.41% of total values}		0.156							Sec. 112(d)(2)
Tire Manufacturing		0.080					29.512		Sec. 112(d)(2)
Transportation Equipment Manufacturing (SICs combined)		0.593							Sec. 112(d)(2)
Wood Household Furniture Manufacturing {Subject to Regulation is 97.9% of total values}		0.127							Sec. 112(d)(2)
Medical Waste Incineration		0.009	0.023	12.329	27.824	25.689			Sec. 129
Municipal Waste Combustion		0.001	0.280	68.183	30.606	51.042			Sec. 129
Commercial Coal Combustion	9.812	1.984	4.214		0.432				Sect. 112 (ICCR)
Commercial Oil Combustion	0.009	0.612	2.020		0.111				Sect. 112 (ICCR)
Commercial Wood/Wood Residue Combustion[b]	0.275	0.411	2.989		0.004				Sect. 112 (ICCR)
Industrial Coal Combustion	0.842	1.803	3.704		12.253				Sect. 112 (ICCR)
Industrial Oil Combustion	0.008	0.584	0.759		3.228	0.032			Sect. 112 (ICCR)
Industrial Stationary IC Engines - Diesel	0.024	0.058	2.963						Sect. 112 (ICCR)

TABLE 2. 1990 ANTHROPOGENIC STATIONARY SOURCE CATEGORY PERCENTAGE CONTRIBUTIONS AND ASSOCIATED REGULATIONS (Continued)

Source Category	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	Alkylated Lead	Applicable Regulation
	7-PAH	16-PAH	EOM						
Industrial Stationary IC Engines - Natural Gas	0.281	0.547			2.487				Sect. 112 (ICCR)
Industrial Wood/Wood Residue Combustion [b]	0.330	0.790	67.883	0.947	0.113				Sect. 112 (ICCR)
Total % Contribution for Sources Subject to Regulation	85.003	86.834	91.829	95.452	91.762	94.484	100.000	1.873	
112(c)(6) SOURCE CATEGORIES FOR LISTING	**Percent Contribution**								
Gasoline Distribution (Aviation)								81.266	
Open Burning of Scrap Tires	14.309	3.377							
Total % Contribution for 112(c)(6) Source Categories for Listing	14.309	3.377	0.000	0.000	0.000	0.000	0.000	81.266	
Cumulative % Conribution Total	99.313	90.211	91.829	95.452	91.762	94.484	100.000	83.140	
OTHER SOURCE CATEGORIES THAT ARE CANDIDATES FOR LISTING	**Percent Contribution**								
Abrasive Grain (Media) Manufacturing		0.285							
Adhesives and Sealants (SICs combined) [a]		0.048							
Agricultural Chemicals [a]		0.104							
Battery Production					0.011				
Carbamate Insecticides Production [a]		0.047							
Carbon Black Production [a]	0.123	0.050			0.139				
Carbon Reactivation Furnaces				0.002					
Chemical Preparations (SICs combined)		0.078							
Clay Refractories [a]		0.006							
Cleaning Products (SICs combined)		0.016							
Commercial Natural Gas Combustion [a]		< 0.001	2.950						
Commercial Printing, Gravure {Not Subject to Regulation is 0.65% of total values}		0.002							
Commercial Printing, Letterpress [a]		0.119							
Crematories [a]	< 0.001	< 0.001		< 0.001	< 0.001				

TABLE 2. 1990 ANTHROPOGENIC STATIONARY SOURCE CATEGORY PERCENTAGE CONTRIBUTIONS AND ASSOCIATED REGULATIONS (Continued)

Source Category	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	Alkylated Lead	Applicable Regulation
	7-PAH	16-PAH	EOM						
Custom Compound Purchased Resins Manufacture					0.071				
Dental Preparation and Use					0.445				
Drum and Barrel Reclamation	< 0.001	< 0.001		0.005					
Electronic and Other Electric Equipment Manufacturing (SICs combined)		0.350			0.491				
Fabricated Rubber Products		1.700							
Ferroalloy Manufacture [a]	0.071	0.006							
Fiber Cans, Drums, and Similar Products		0.058							
Fluorescent Lamp Recycling					0.003				
Food Products (SICs combined) [a]		0.041							
Gasoline Distribution (Stage I) {Not Subject to Regulation is 90% of total value}		3.670						16.86	
General Laboratory Activities					0.445				
Geothermal Power					0.723				
Gum and Wood Chemical [a]		0.006							
Industrial Gases Manufacturing		0.108							
Industrial Inorganic Chemicals Manufacturing		0.180			0.556				
Industrial Machinery and Electrical Equipment (SICs combined) [a]		0.032							
Industrial Natural Gas Combustion [a]		< 0.001	1.425						
Industrial Organic Chemicals Manufacturing {Not Subject to Regulation is 1.19% of total values}		0.028			< 0.001				
Industrial Turbines - Diesel Fired [a]		< 0.001	2.658		0.050				
Industrial Turbines: Natural Gas Fired [a]		0.159	1.135		0.896				
Industrial Waste Oil Combustion [a]	0.365	0.090							
Inorganic Pigments Manufacturing					0.003				
Instrument Manufacturing					0.278				
Iron Foundries [a]	0.016	0.002		0.215					

TABLE 2. 1990 ANTHROPOGENIC STATIONARY SOURCE CATEGORY PERCENTAGE CONTRIBUTIONS AND ASSOCIATED REGULATIONS

Source Category	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	Alkylated Lead	Applicable Regulation
	7-PAH	16-PAH	EOM						
Lamp Breakage					0.835				
Landfill (Gas) Flares [a]	< 0.001	0.005							
Lime Manufacturing [a]					0.390				
Lubricating Oils and Grease [a]		0.001							
Metal Household Furniture [a]		< 0.001							
Miscellaneous Manufacturing		0.076							
Miscellaneous Plastics Products [a]		0.066							
Naphthalene - Miscellaneous Uses [a]		0.014							
Naphthalene Sulfonates Production [a]		0.075							
Nonmetallic Mineral Products		< 0.001			0.003				
Office Furniture, Except Wood Manufacturing [a]		0.074							
Other Biological Incineration [a]			0.002	2.989		1.585			
Other Miscellaneous (SICs combined)		0.017			0.139				
Other Secondary Nonferrous Metals Recovery					0.139				
Other Structural Clay Products [a]		0.006			0.061				
Partitions and Fixtures [a]		0.050							
Petroleum Refining: All Processes {Not Subject to Regulation is 2.45% of total value}	0.110	0.310			0.001				
Pharmaceutical Preparations and Manufacturing (SICs combined) [a]		0.009							
Plastics Material and Resins Manufacturing [a]		0.098			0.002				
Porcelain Electrical Supplies		0.024							
Primary Copper Production [a]					0.412				
Primary Lead Smelting [a]					0.723				
Primary Metal Products Manufacturing (SICs combined)		0.309							
Public Building and Related Furniture [a]		0.133							
Pulp and Paper - Sulfite Recovery Furnaces [a]		0.071							
Scrap or Waste Tire Incineration [a]	< 0.001	< 0.001		0.006		0.666			

Source Category	POM			2,3,7,8-TCDD TEQ	MERCURY	PCB	HCB	Alkylated Lead	Applicable Regulation
	7-PAH	16-PAH	EOM						
Secondary Copper Smelting				0.127					
Secondary Mercury Production					0.418				
Sewage Sludge Incineration [a]	0.002	0.019		0.495	1.002	3.265			
Ship Building and Repair (Surface Coating) {Not Subject to Regulation is 5.59% of total value}		0.009							
Surface Active Agents Manufacturing [a]		0.085							
Textiles (SICs Combined) [a]		0.111							
Wood Household Furniture Manufacturing {Not Subject to Regulation is 2.1% of total value}		0.003							
Wood Treatment/Wood Preserving		1.038		0.710					
Total % Contribution for Other Source Categories that are Candidates for Listing	0.687	9.789	8.171	4.548	8.238	5.516	0.000	16.860	

a Source categories for which major sources are listed for regulation under section 112(c)(1), but for which the EPA is not counting emissions toward the section 112(c)(6) 90 percent goal. These source categories emit minor amounts of 112(c)(6) HAPs, and, as such, although the major sources in the source category will be regulated under section 112(d)(2), as already planned, the area sources will not.

b At this time, it is unclear as to whether this source category will be regulated as section 112 or section 129 authority

TABLE 3. CROSS-REFERENCE BETWEEN SECTION 112(c)(6) INVENTORY OF SOURCES AND APPLICABLE REGULATIONS

112(c)(6) Category	Applicable Regulation	112 Source Category Names[a]
Adhesives and Sealants	Sec. 112(d)(2)	Manufacture of Paints, Coatings, and Adhesives[b]
Aerospace Industry (Surface Coating)	Sec. 112(d)(2)	Aerospace Industries
Agricultural Chemicals	Sec. 112(d)(2)	4-Chloro-2-Methylphenoxyacetic Acid Production, 2,4-D Salts and Esters Production, 4,6-Dinitro-o-Cresol Production, Butadiene-Furfural Cotrimer Production, Captafol Production, Captan Production, Chloroneb Production, Chlorothalonil Production, Dacthal (tm) Production, Sodium Pentachlorophenate Production, Tordon (tm) Acid Production[b]
Asphalt Hot-Mix Production	Sec. 112(d)(2)	Asphalt Concrete Manufacturing
Asphalt Roofing Production	Sec. 112(d)(2)	Asphalt Roofing Manufacturing
Blast Furnace and Steel Mills	Sec. 112(d)(2)	Integrated Iron and Steel Manufacture
Carbamate Insecticides Production	Sec. 112(d)(2)	4-Chloro-2-Methylphenoxyacetic Acid Production, 2,4-D Salts and Esters Production, 4,6-Dinitro-o-Cresol Production, Butadiene-Furfural Cotrimer Production, Captafol Production, Captan Production, Chloroneb Production, Chlorothalonil Production, Dacthal (tm) Production, Sodium Pentachlorophenate Production, Tordon (tm) Acid Production
Carbon Black Production	Sec. 112(d)(2)	Carbon Black Production
Chemical Manufacturing: Cyclic Crude and Intermediate Production	Sec. 112(d)(2)	Synthetic Organic Chemical Manufacturing
Chloralkali Production	Sec. 112(d)(2)	Chlorine Production
Chlorinated Solvents Production	Sec. 112(d)(2)	Synthetic Organic Chemical Manufacturing
Chromium Plating: Chromic Anodizing	Sec. 112(d)(2)	Chromic Acid Anodizing
Clay Refractories	Sec. 112(d)(2)	Chromium Refractory Production [c]
Coke Ovens: By-Product Recovery Plants	Sec. 112(d)(2)	Coke By-Product Plants

TABLE 3. CROSS-REFERENCE BETWEEN SECTION 112(c)(6) INVENTORY OF SOURCES AND APPLICABLE REGULATIONS

112(c)(6) Category	Applicable Regulation	112 Source Category Names[a]
Coke Ovens: Charging, Topside & Door Leaks	Sec. 112(d)(2)	Coke Ovens: Charging, Top Side, and Door Leaks
Coke Ovens: Pushing, Quenching & Battery Stacks	Sec. 112(d)(2)	Coke Ovens: Pushing, Quenching, and Battery Stacks
Commercial Printing, Gravure	Sec. 112(d)(2)	Printing/Publishing (Surface Coating)
Commercial Printing, Letterpress and Screen	Sec. 112(d)(2)	Printing/Publishing (Surface Coating)
Fabricated Metal Products	Sec. 112(d)(2)	Miscellaneous Metal Parts and Products (Surface Coating), Halogenated Solvent Cleaning
Ferroalloy Manufacture	Sec. 112(d)(2)	Ferroalloys Production
Food Products	Sec. 112(d)(2)	Vegetable Oil Production
Gasoline Distribution (Stage I)	Sec. 112(d)(2)	Gasoline Distribution (Stage 1)
Gum and Wood Chemical	Sec. 112(d)(2)	Synthetic Organic Chemical Manufacturing
Hazardous Waste Incineration	Sec. 112(d)(2)	Hazardous Waste Incineration
Industrial Machinery and Electrical Equipment	Sec. 112(d)(2)	Miscellaneous Metal Parts and Products (Surface Coating), Semiconductor Manufacturing, Halogenated Solvent Cleaning
Industrial Organic Chemicals Manufacturing	Sec. 112(d)(2)	Synthetic Organic Chemical Manufacturing
Iron Foundries	Sec. 112(d)(2)	Iron Foundries
Lightweight Aggregate Kilns	Sec. 112(d)(2)	Hazardous Waste Incineration
Lime Manufacturing	Sec. 112(d)(2)	Lime Manufacturing
Lubricating Oils and Grease	Sec. 112(d)(2)	Organic Liquids Distribution (Non-Gasoline), Petroleum Refineries
Metal Household Furniture	Sec. 112(d)(2)	Metal Furniture (Surface Coating), Halogenated Solvent Cleaners
Miscellaneous Plastics Products	Sec. 112(d)(2)	Plastic Parts and Products (Surface Coating)
Naphthalene - Miscellaneous Uses	Sec. 112(d)(2)	Synthetic Organic Chemical Manufacturing
Naphthalene Production	Sec. 112(d)(2)	Synthetic Organic Chemical Manufacturing
Naphthalene Sulfonates Production	Sec. 112(d)(2)	Synthetic Organic Chemical Manufacturing

TABLE 3. CROSS-REFERENCE BETWEEN SECTION 112(c)(6) INVENTORY OF SOURCES AND APPLICABLE REGULATIONS

112(c)(6) Category	Applicable Regulation	112 Source Category Names[a]
Office Furniture, Except Wood Manufacturing	Sec. 112(d)(2)	Metal Furniture (Surface Coating), Halogenated Solvent Cleaners
Other Structural Clay Products	Sec. 112(d)(2)	Clay Products Manufacturing
Paints and Allied Products	Sec. 112(d)(2)	Manufacture of Paints, Coatings, and Adhesives[b]
Paper Coated and Laminated, Packaging	Sec. 112(d)(2)	Printing/Publishing (Surface Coating), Paper and Other Webs (Surface Coating)
Partitions and Fixtures	Sec. 112(d)(2)	Metal Furniture (Surface Coating), Wood Furniture (Surface Coating), Halogenated Solvent Cleaners, Flat Wood Paneling, Miscellaneous Metal Parts and Products (Surface Coating), Plastic Parts and Products (Surface Coating)
Pesticides Manufacture	Sec. 112(d)(2)	4-Chloro-2-Methylphenoxyacetic Acid Production, 2,4-D Salts and Esters Production, 4,6-Dinitro-o-Cresol Production, Butadiene-Furfural Cotrimer Production, Captafol Production, Captan Production, Chloroneb Production, Chlorothalonil Production, Dacthal (tm) Production, Sodium Pentachlorophenate Production, Tordon (tm) Acid Production
Petroleum Refining: All Processes	Sec. 112(d)(2)	Petroleum Refineries - Other Sources Not Distinctly Listed, Petroleum Refineries - Catalytic Cracking (Fluid and other) Units, Catalytic Reforming Units, and Sulfur Plant Units
Pharmaceutical Preparations and Manufacturing	Sec. 112(d)(2)	Pharmaceuticals Production
Phthalic Anhydride Production	Sec. 112(d)(2)	Synthetic Organic Chemical Manufacturing
Plastic Foam Products Manufacturing	Sec. 112(d)(2)	Flexible Polyurethane Foam Production

TABLE 3. CROSS-REFERENCE BETWEEN SECTION 112(c)(6) INVENTORY OF SOURCES AND APPLICABLE REGULATIONS

112(c)(6) Category	Applicable Regulation	112 Source Category Names[a]
Plastics Material and Resins Manufacturing	Sec. 112(d)(2)	Acetal Resins Production, Alkyd Resins Production, Amino Resins Production, Boat Manufacturing, Carboxymethylcellulose Production, Cellophane Production, Cellulose Ethers Production, Maleic Anhydride Copolymers Production, Methylcellulose Production, Phenolic Resins Production, 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, Reinforced Plastic Composites Production, Epoxy Resins Production and Non-Nylon Polyamides Production, Polyether Polyols Production, Group I Polymers and Resins, Group IV Polymers and Resins: acrylonitrile butadiene styrene resin (ABS), styrene acrylonitrile resin (SAN), methyl methacrylate acrylonitrile butadiene styrene resin (MABS), methyl methacrylate butadiene styrene resin (MBS), polystyrene resin, poly (ethylene terephthalate) resin (PET), and nitrile resin.[b]
Portland Cement Manufacture: Hazardous Waste Kilns	Sec. 112(d)(2)	Hazardous Waste Incineration
Portland Cement Manufacture: Non-Hazardous Waste Kilns	Sec. 112(d)(2)	Portland Cement Manufacturing
Primary Aluminum Production	Sec. 112(d)(2)	Primary Aluminum Production
Primary Copper Production	Sec. 112(d)(2)	Primary Copper Smelting
Primary Lead Smelting	Sec. 112(d)(2)	Primary Lead Smelting
Public Building and Related Furniture	Sec. 112(d)(2)	Metal Furniture (Surface Coating), Halogenated Solvent Cleaners, Wood Furniture (Surface Coating)
Pulp and Paper - Kraft Recovery Furnaces	Sec. 112(d)(2)	Pulp and Paper Production
Pulp and Paper - Lime Kilns	Sec. 112(d)(2)	Pulp and Paper Production
Pulp and Paper - Sulfite Recovery Furnaces	Sec. 112(d)(2)	Pulp and Paper Production

TABLE 3. CROSS-REFERENCE BETWEEN SECTION 112(c)(6) INVENTORY OF SOURCES AND APPLICABLE REGULATIONS

112(c)(6) Category	Applicable Regulation	112 Source Category Names[a]
Secondary Aluminum Smelting	Sec. 112(d)(2)	Secondary Aluminum Production
Secondary Lead Smelting	Sec. 112(d)(2)	Secondary Lead Smelting
Sewage Sludge Incineration	Sec. 112(d)(2)	Sewage Sludge Incineration
Ship Building and Repair (Surface Coating)	Sec. 112(d)(2)	Shipbuilding and Ship Repair (Surface Coating)
Surface Active Agents Manufacturing	Sec. 112(d)(2)	Synthetic Organic Chemical Manufacturing
Textiles	Sec. 112(d)(2)	Printing, Coating, and Dyeing of Fabrics
Tire Manufacturing	Sec. 112(d)(2)	Tire Production
Transportation Equipment Manufacturing	Sec. 112(d)(2)	Miscellaneous Metal Parts and Products (Surface Coating), Auto and Light Duty Truck (Surface Coating), Shipbuilding and Ship Repair (Surface Coating), Boat Manufacturing, Halogenated Solvent Cleaners
Wood Household Furniture Manufacturing	Sec. 112(d)(2)	Wood Furniture (Surface Coating)
Medical Waste Incineration	Sec. 129	Medical Waste Incineration
Municipal Waste Combustion	Sec. 129	Municipal Waste Combustion
Commercial Coal Combustion	Sect. 112 (ICCR)	Institutional/Commercial Boilers[d]
Commercial Natural Gas Combustion	Sect. 112 (ICCR)	Institutional/Commercial Boilers[d]
Commercial Oil Combustion	Sect. 112 (ICCR)	Institutional/Commercial Boilers[d]
Commercial Wood/Wood Residue Combustion	Sect. 112 (ICCR)	Institutional/Commercial Boilers[d]
Industrial Coal Combustion	Sect. 112 (ICCR)	Industrial Boilers[d]
Industrial Natural Gas Combustion	Sect. 112 (ICCR)	Industrial Boilers[d]
Industrial Oil Combustion	Sect. 112 (ICCR)	Industrial Boilers[d]
Industrial Stationary IC Engines - Diesel	Sect. 112 (ICCR)	Stationary Internal Combustion Engines[d]
Industrial Stationary IC Engines - Natural Gas	Sect. 112 (ICCR)	Stationary Internal Combustion Engines[d]
Industrial Turbines - Diesel Fired	Sect. 112 (ICCR)	Stationary Turbines[d]
Industrial Turbines: Natural Gas Fired	Sect. 112 (ICCR)	Stationary Turbines[d]

TABLE 3. CROSS-REFERENCE BETWEEN SECTION 112(c)(6) INVENTORY OF SOURCES AND APPLICABLE REGULATIONS

112(c)(6) Category	Applicable Regulation	112 Source Category Names[a]
Industrial Waste Oil Combustion	Sect. 112 (ICCR)	Industrial Boilers[d]
Industrial Wood/Wood Residue Combustion	Sect. 112 (ICCR)	Industrial Boilers[d]
Landfill (Gas) Flares	Sect. 112 (ICCR)	Municipal Landfills[d]
Crematories	Sect. 129 (ICCR)	Crematories[d]
Other Biological Incineration	Sect. 129 (ICCR)	Other Biological Incineration[d]
Scrap or Waste Tire Incineration	Sect. 129 (ICCR)	Scrap or Waste Tire Incineration[d]

[a] 112 Source Category Names were from the *National Emission Standard for Hazardous Air Pollutants; Revision of List of Categories of Sources and Schedule for Standards Under Section 112 of the Clean Air Act*, Federal Register Notice, February 12, 1998 pages 7155 - 7166.

[b] The reader is referred to a November 7, 1996 Federal Register Notice (61 FR 57602) which concerns the anticipated listing action involving the subsumption of a number of source categories into one source category, called the Miscellaneous Organic Chemical Processes source category. Each of the anticipated subsumed categories are scheduled for standards promulgation no later than November 15, 2000; thus, the new source category would be also scheduled for that regulatory time frame.

[c] Source category “chromium refractory production” will be expanded to become “refractories production.”

[d] The Industrial Combustion Coordinated Rulemaking (ICCR) is to regulate various combustion sources by consolidating authorities under sections 112 and 129. The section 112 categories are: combustion turbines, reciprocating internal combustion engines, process heaters, institutional/commercial boilers, and industrial boilers; while the section 129 categories are: industrial/commercial incinerators and other solid waste incinerators.
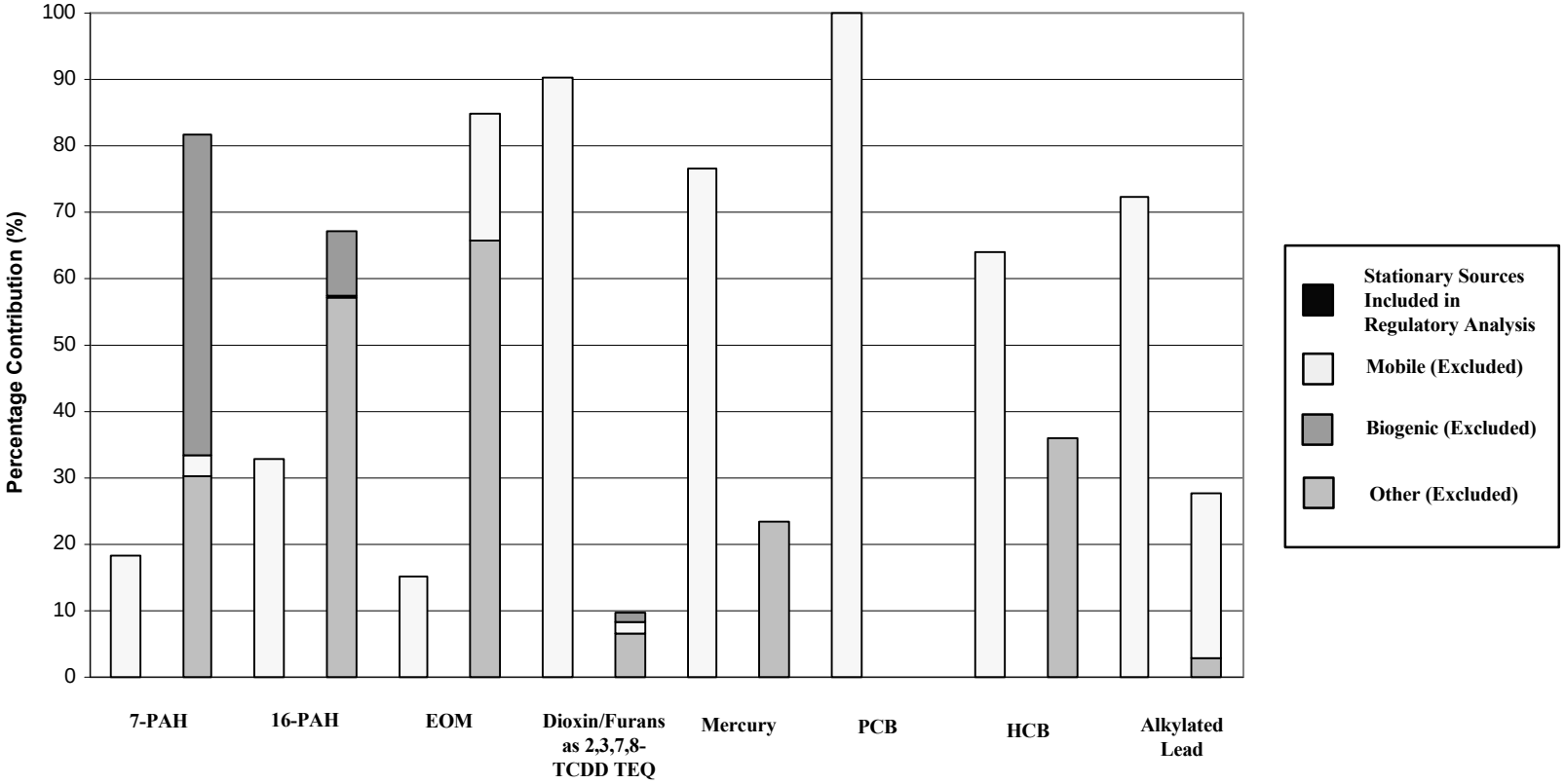
Figure 1. Percentage Contribution of Total Emissions - Included and Excluded from Regulatory Analysis