ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 469

[WH-FRL 2298-6]

Electrical and Electronic Components Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency.

ACTION: Proposed regulation.

SUMMARY: EPA is proposing regulations under the Clean Water Act to limit effluent discharges to waters of the United States or to publicly owned treatment works (POTWs) from cathode ray tube and luminescent materials manufacturing facilities. The purpose of this proposal is to establish new source performance standards and pretreatment standards for these industries. After considering comments received in response to this proposal, EPA will promulgate a final rule.

DATE: Comments on this proposal must be submitted by May 9, 1983.

ADDRESS: Send comments to: Mr. John Newbrough, Effluent Guidelines Division (WH-552), Environmental Protection Agency, 401 M St., SW, Washington, D.C. 20460, Attention: Electrical and Electronic Components Rules. Technical information and copies of technical documents may be obtained from Mr. John Newbrough, at the address listed above. The economic analysis may be obtained from Ms. Renee Rico, Economic Analysis Staff (WH-586), Environmental Protection Agency, 401 M St., SW, Washington, D.C. 20460 or call (202) 382-5397. For further information contact: John Newbrough (202-382-7158).

FOR FURTHER INFORMATION CONTACT: John Newbrough (202) 382-7158.

SUPPLEMENTARY INFORMATION:

Overview: The preamble discusses the legal authority and background, the technical and economic data bases, and other aspects of the proposed regulations. Abbreviations, acronyms, and other terms used in the preamble are defined in Appendix A.

These proposed regulations are supported by three major documents available from EPA. Analytical methods are discussed in *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants.* EPA's technical conclusions are detailed in the *Development Document for Effluent Limitations Guidelines and Standards for the Electrical and Electronic Component Point Source Category-Phase 2.* The Agency's economic analysis is found in *Economic Impact Analysis of Effluent Limitations Guidelines and Standards for the Electrical and Electronic Components Point Source Category-Phase 2.*

The supporting information and all comments on this proposal will be available for inspection and copying at the EPA Public Information Reference Unit, Room 2402 (Rear) (EPA Library). The EPA public information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

Organization of This Notice

I. Legal Authority

EPA is proposing the regulations described in this notice under the authority of Sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 USC 1251 et seq., as amended by the Clean Water Act of 1977, Pub. L. 95-217) (the "Act"). These regulations also are proposed in response to the Settlement Agreement in *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), *modified* 12 ERC 1833 (D.D.C. 1979), modified by order dated October 26, 1982.

II. Background

A. The Clean Water Act and the Settlement Agreement

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," Section 101(a).

- Section 301(b)(1)(A) set a deadline of July 1, 1977, for existing industrial direct dischargers to achieve "effluent limitations requiring the application of the best practicable control technology currently available" ("BPT").
- Section 301(b)(2)(A) set a deadline of July 1, 1983, for these dischargers to achieve "effluent limitations requiring the application of the best available technology economically achievable * * * which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants" ("BAT").
- Section 306 required that new industrial direct dischargers comply with new source performance standards ("NSPS"), based on best available demonstrated technology.
- Sections 307 (b) and (c) require pretreatment standards for new and existing dischargers to publicly owned treatment works ("POTW"). While the requirements for direct dischargers were to be incorporated into National Pollutant Discharge Elimination System (NPDES) permits issued under Section 402, the Act made pretreatment standards enforceable directly against dischargers to POTWs (indirect dischargers).
- Section 402(a) of the 1972 Act does allow requirements for direct dischargers to be set case-by-case. However, Congress intended control requirements to be based for the most part on regulations promulgated by the Administrator of EPA.
- Section 304(b) required regulations that establish effluent limitations reflecting the ability of BPT and BAT to reduce effluent discharge.
- Sections 304(c) and 306 of the Act require regulations for NSPS.
- Sections 304(g), 307(b), and 307(c) require regulations for pretreatment standards.
- In addition to these regulations for designated industry categories, Section 307(a) required the Administrator to promulgate effluent standards applicable to all dischargers of toxic pollutants.
- Finally, Section 501(a) authorized the Administrator to prescribe any additional regulations "necessary to carry out his functions" under the Act.

The EPA was unable to promulgate many of these regulations by the deadlines contained in the Act, and as a result, in 1976, EPA was sued by several environmental groups. In settling this lawsuit, EPA and the plaintiffs executed a "Settlement Agreement" which was approved by the Court.This agreement required EPA to develop a program and meet a schedule for controlling 65 "priority" pollutants and classes of pollutants. In carrying out this program EPA must promulgate BAT effluent limitations guidelines, pretreatment standards, and new source performance standards for 21 major industries. See *National Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976) as modified, 12 ERC 1833 (D.D.C. 1979) and by order dated October 26, 1982.

Several of the basic elements of the Settlement Agreement program were incorporated into the Clean Water Act of 1977. This law also makes several important changes in the Federal water pollution control program.

- Sections 301(b)(2)(A) and 301(b)(2)(C) of the Act now set July 1, 1984 as the deadline for industries to achieve effluent limitations requiring application of BAT for "toxic" pollutants. "Toxic" pollutants here includes the 65 "priority" pollutants and classes of pollutants which Congress declared "toxic" under Section 307(a) of the Act.
- Likewise, EPA's programs for new source performance standards and pretreatment standards are now aimed principally at controlling toxic pollutants.
- To strengthen the toxics control program, Section 304(e) of the Act authorizes the Administrator to prescribe certain "best management practices" ("BMPs"). These BMPs are to prevent the release of toxic and hazardous pollutants from: (1) Plant site runoff, (2) spillage or leaks, (3) sludge or waste disposal, and (4) drainage from raw material storage if any of those events are associated with, or ancillary to, the manufacturing or treatment process.

In keeping with its emphasis on toxic pollutants, the Clean Water Act of 1977 also revises the control program for non-toxic pollutants.

- For "conventional" pollutants identified under Section 304(a)(4) (including biochemical oxygen demand, suspended solids, fecal coliform and pH), the new Section 301(b)(2)(E) requires "effluent limitations requiring the application of the best conventional pollutant control technology" ("BCT")—instead of BAT—to be achieved by July 1, 1984. The factors considered in assessing BCT for an industry include the relationship between the cost of attaining a reduction in effluents and the effluents reduction benefits attained, and a comparison of the cost and level of reduction of such pollutants by publicly owned treatment works and industrial sources.

For those pollutants which are neither "toxic" pollutants nor "conventional" pollutants, Sections 301(b)(2)(A) and (b)(2)(F) require achievement of BAT effluent limitations within three years after their establishment or by July 1, 1984, whichever is later, but not later than July 1, 1987.

The purpose of this proposed regulation is to establish NSPS, PSES, and PSNS effluent standards for the Electrical and Electronic Components Point Source Category-Phase 2.

B. General Criteria for Effluent Limitations Considered Under This Regulation

1. New Source Performance Standards. The basis for new source performance standards (NSPS) under Section 306 of the Act is the best available demonstrated technology. New plants have the opportunity to design the best and most efficient processes and wastewater treatment technologies. Therefore, Congress directed EPA to consider the best demonstrated process changes, in-plant controls, and end-of-process treatment technologies that reduce pollution to the maximum extent feasible.

2. Pretreatment Standards for Existing Sources. Section 307(b) of the Act requires EPA to promulgate pretreatment standards for existing sources (PSES), which industry must comply with within a time period not to exceed three years from promulgation. PSES are designed to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of POTWs.

The legislative history of the 1977 Act indicates that pretreatment standards are to be technology-based and analogous to the best available technology for removal of toxic pollutants. The General Pretreatment Regulations which serve as the framework for the proposed pretreatment standards are in 40 CFR Part 403, 46 FR 9404 (January 28, 1981).

EPA has generally determined that there is pass through of pollutants if the percent of pollutants removed by a well-operated POTW achieving secondary treatment is less than the percent removal by the best available technology (BAT) model treatment system.

This proposal does not contain a BAT standard, largely because there are only a few direct dischargers and they already have technology in-place, as required by existing permits. In assessing pass-through EPA has assumed that BAT treatment would be equivalent to that required by PSES.

A study of 40 well-operated POTWs with biological treatment and meeting secondary treatment criteria showed that metals are typically removed at rates varying from 20 to 70 percent. POTWs with only primary treatment have even lower rates of removal. In contrast to POTWs, BAT level treatment by sources in this industrial category can achieve metals removals of approximately 96% or more. Accordingly, these metals "pass through" POTWs.

As for toxic organics, data from the same POTWs illustrate a wide range of removals, from zero to greater than 99%. By comparison, sound solvent management practices preventing the dumping of solvents would achieve a TTO reduction of 99% or more over that which would result from solvent dumping. Data regarding the removal of organic compounds in biological treatment systems used by industry in treating organic waste containing solvents, such as used in this industry, demonstrate removals considerably less than this 99% achieved by solvent management. This indicates that pass-through of toxic organic pollutants does occur.

There is no removal of fluoride by a POTW. Removals of 95–96% by precipitation/clarification have been demonstrated at plants in the cathode ray tube subcategory of this industry. Thus, pass-through of flouride does occur.

These standards rely upon precipitation and clarification for metals removal. This treatment system will also, at no additional cost, remove fluoride to the levels required by this regulation. We propose to limit fluoride in the cathode ray tube subcategory because the levels of fluoride in the raw waste in the CRT subcategory are very high—up to 800 mg/l. This is in contrast to the proposed standards for Phase I of this category which did not rely on end-of-pipe treatment and which did not set limits on fluoride and where fluoride's highest occurrence—in the semiconductor subcategory—was only 146 mg/l.

3. Pretreatment Standards for New Sources. Section 307(c) of the Act requires EPA to promulgate pretreatment standards for new sources (PSNS) at the same time that it

promulgates NSPS. These standards are intended to prevent the discharge of pollutants which pass through, interfere with or are otherwise incompatible with a POTW. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate the best available demonstrated technologies—including process changes, in-plant controls, and end-of-process treatment technologies-and to select plant sites that ensure the treatment system will be adequately installed. Therefore, the Agency sets PSNS after considering the same criteria considered for NSPS. Indirect discharging new sources in these subcategories are expected to have the same pass through of pollutants as existing sources. PSNS will have environmental benefits similar to NSPS.

C. Prior EPA Regulations

On August 24, 1982, EPA proposed Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards as "Phase I" regulations for two subcategories of the Electrical and Electronic Components Category (47 FR 37048). Those subcategories were Semiconductors and Electronic Crystals. No regulations have ever been proposed or promulgated for the Cathode Ray Tube and Luminescent Materials subcategories of E&EC, which are the ones assessed in this rulemaking.

D. Overview of the Industry

The Electrical and Electronic Components Point Source Category (E&EC) includes plants which are a subset of the Standard Industrial Classification (SIC) Major Group 36, Electrical and Electronic Machinery, Equipment and Supplies. However, many of the industries listed under that SIC code were not evaluated as part of the E&EC category because EPA concluded that the wastewater discharges from these industries were more properly associated with unit operations addressed by the Metal Finishing Category. There were originally 21 subcategories in the E&EC industry (47 FR 37048). As part of the Phase I rulemaking, seventeen (17) subcategories were excluded from regulation under Paragraph 8 of the Settlement Agreement, which provides that national guidelines need not be issued for sources which are, generally, not discharging significant toxic pollutants. In Phase I EPA proposed standards for two subcategories (Semiconductors and Electronic Crystals) on August 24, 1982, 47 FR 37048. Two further subcategories—Luminescent Materials and Electron tubes—were to be the subject of these Phase II Standards. 47 FR 37054. In developing these standards, however, EPA has realized that Electron Tubes should be segmented into Cathode Ray Tubes and Receiving and Transmitting Tubes. The latter segment is excluded from regulation under the provision of paragraph 8(a)(1) of the Settlement Agreement. See Section IX(a)(2), below. Thus two subcategories—Cathode Ray Tubes and Luminescent Materials—are the subject of this Phase II rulemaking, which will complete the assessment of the electrical and electronic components category.

The cathode ray tube (CRT) segment of the Electron Tube subcategory (now the Cathode Ray Tube subcategory) is comprised of approximately twenty-two (22) plants: twenty-one (21) are indirect dischargers and one is a direct discharger. The major pollutants discharged by CRT plants are cadmium, zinc, chromium, lead, toxic organics, fluoride, and suspended solids.

The Luminescent Materials subcategory consists of two (2) direct dischargers, two (2) indirect dischargers and one (1) plant which used an evaporation pond with no surface water discharge. The major pollutants discharged by liminescent materials plants are cadmium, fluiride, zinc, antimony and suspended solids.

III. Summary of Methodology

EPA first studied the Electrical and Electronic Components Point Source Category-Phase 2 to determine whether differences in raw materials, final products, manufacturing processes, equipment, age and size of plants, water usage, wastewater constituents, or other factors required the development of separate effluent limitations and standards for different segments of the category. This involved a detailed analysis of wastewater discharge and treated effluent characteristics, including: (1) The sources and volume of water used, the processes employed, and the sources of pollutants and wastewaters in the plant; and (2) the constituents of wastewaters, including toxic pollutants. This analysis enabled the Agency to determine the concentrations of toxic pollutants in the major wastewater discharges.

EPA also identified several distinct control and treatment technologies (both in-plant and end-of-pipe), including those with the potential for use in the Electrical and Electronic Components for use in the Electrical and Electronic Components Point Source Category-Phase 2. The Agency analyzed both historical and newly generate data on the performance of these technologies, including their non-water quality environmental impacts on air quality, solid waste generation, and energy requirements.

The cost of each control and treatment technology was estimated from unit cost curves developed by applying standard engineering analysis to wastewater characteristics. EPA derived the unit process costs by applyng model plant wastewater characteristics (production and flow) to the unit cost curve of each treatment process. These unit process costs were added together to yield the total cost at each treatment level.

Consideration of these factors enabled EPA to characterize the various control and treatment technologies used as a basis for PSES, PSNS, and NSPS. The proposed regulations, however, do not require the installation of any particular technology. Rather, they require achievement of effluent limitations representative of the proper operation of these technologies or equivalent technologies.

IV. Data Gathering Efforts

Between 1979 and 1982, under the authority of Section 308 of the Act, EPA and its contractors contacted by letter and phone approximately 150 plants producing electron tubes and luminescent materials. Using information gathered from these contacts, EPA selected nine plants to visit to view their operations and discuss products, manufacturing processes, water use and wastewater treatment. Six plants were selected for sampling visits to determine pollutant characteristics of the wastewater.

The Agency also collected information on treatment systems not currently used in the industry. In collecting this information, EPA surveyed literature, contacted waste treatment equipment manufacturers and observed applicable treatment systems used by other industries.

Data for the economic analysis were obtained from published information, inquiries to waste treatment equipment manufacturers, and personal contacts with industry.

In addition to the foregoing data sources, supplementary data were obtained from NPDES permit files in EPA regional offices and contacts with state pollution control offices.

V. Sampling and Analytical Program

The sampling and analysis program for this rulemaking concentrated on the toxic pollutants designated in the Clean Water Act. However, conventional and nonconventional pollutants were also

sampled and analyzed. Both inorganic toxic and organic toxic pollutants were sampled for in the wastes. EPA used the analytical techniques described in *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants,* revised April 1977. A very similar method is found among those proposed on December 3, 1979. Metals analysis was by AA spectrophotometry, except that the standard cold vapor method was used for mercury. We made minor changes in the 304(h) method in order to avoid excessive matrix interference that caused high limits of detection. Analyses for cyanide and cyanide amenable to chlorination also used 304(h) methods. Analysis for abestos fibers used transmission electron microscopy with selected area defraction; results were reported as chrysotile fiber count. Analyses for conventional pollutants (BOD^5, TSS, pH, and oil and grease) and nonconventional pollutants (total residual chlorine, iron, ammonia, fluoride, and COD) were performed by 304(h) methods. The Agency has not promulgated analytical methods for many of the organic toxic pollutants under Section 304(h) of the Act, although a number of these methods have been proposed (44 FR 69464, December 3, 1979; 44 FR 75028, December 18, 1979). Additional information on the development of sampling and analysis methods for toxic organic pollutants is contained in the preamble to the proposed regulations for the Leather Tanning Point Source Category, 44 FR 38749, July 2, 1979.

EPA checked for the presence and magnitude of 65 toxic pollutants and classes of pollutants (as listed in the NRDC Consent Decree) and a smaller group of conventional and non-conventional pollutants suspected to be present in this industry's wastewaters. Sampled plants were selected to be representative of the manufacturing processes, the prevalent mix of production among plants, and the current treatment technology in the industry. During the sampling program EPA sampled 4 plants in the cathode ray tube and 2 plants in the luminescent materials subcategories.

Wherever possible, each sample of an individual raw waste stream, a combined waste stream, or a treated effluent was collected by an automatic time series compositor during sampling periods as long as 72 hours. Where automatic compositing was not possible, grab samples were taken and composited manually.

VI. Industry Subcategorization

In developing this regulation, the Agency considered whether different effluent limitations and standards are appropriate for different segments of the Electrical and Electronic Components manufacturing industry. The Act requires EPA to consider a number of factors to determine if subcategorization is needed. These factors include raw materials, final products, manufacturing processes, geographical location, plant size and age, wastewater characteristics, non-water-quality environmental impacts, treatment costs, energy costs, and solid waste generation.

After considering the above factors the Agency concluded that product type was the appropriate basis for subcategorization. Product type determines both the raw and process material requirements and the number and type of manufacturing processes used. Plants manufacturing the same product were found to have similar wastewater characteristics. Other factors affected the wastewater characteristics, but were not significant enough in themselves to be used as the basis for subcategorization.

Using product type as a basis, EPA identified (1) the Luminescent Materials subcategory and redefined the Electron Tube subcategory as (2) Receiving and Transmitting tubes and (3) Cathode Ray Tubes subcategories.

This redefinition was necessary because Electron Tube manufacturing is comprised of two distinct product types employing different raw materials and manufacturing processes. Therefore this subcategory has been divided into two segments, based on the products produced; (1) cathode ray tubes, and (2) receiving and transmitting tubes.

Luminescent Materials production generates significant wastewater and EPA has retained it as a subcategory. Cathode Ray Tube manufacture also employs raw materials and process operations which generate wastewater. These standards cover wastewater from those processes. However, production of receiving and transmitting tubes is a dry process. Thus EPA is not proposing that today's standards cover the Receiving and Transmitting Tubes subcategory.

The Development Document provides further background on decisions concerning subcategorization and on the make-up of the regulated subcategories.

VII. Available Wastewater Control and Treatment Technology

A. Status of In-Place Technology

This section describes the status of in-place technology for the subcategories to be regulated by this rulemaking: Cathode Ray Tubes and Luminescent Materials.

Wastewater treatment techniques currently used in the cathode ray tube subcategory include both in-process and end-of-pipe waste treatment. In-plant process waste treatment is designed to remove pollutants from contaminated manufacturing process wastewater at some point in the manufacturing process. End-of-pipe treatment is wastewater treatment at the point of discharge.

In-process control techniques with widespread use in the cathode ray tube subcategory are: (1) Collection of spent solvents for resale, reuse or disposal, and (2) segregation of spent acid wastes for contract hauling. Contract hauling refers to the industry practice of contracting a firm to collect and transport wastes for off-site disposal.

End-of-pipe controls in the cathode ray tube subcategory consist primarily of neutralization. In addition, six of the seven Cathode ray tube plants, which manufacture tubes, and three of the fifteen remaining cathode ray tube plants use end-of-pipe precipitation/clarification for control of toxic metals.

In the Luminescent Materials subcategory the two direct dischargers have combined end-of-pipe treatment systems that utilize precipitation/clarification technologies. Of the three other plants in the subcategory, one evaporates its liquid waste and has no industrial discharge and two are indirect dischargers, one of which neutralizes its wastes end-of-pipe and the third uses precipitation/clarification technology to control toxic metals prior to discharge.

B. Water Use

The water used in the production of CRTs is deionized DI) water which is very expensive to produce using an ion exchange process. Because of the high costs of DI water, the industry practice is to reuse/recycle and conserve water to whatever extent is practical. Therefore, further wastewater flow reduction by increased water conservation and recycle does not appear practicable. The plant-to-plant variability of the degree of water reuse and recycle is a function of general product quality requirements and, to a lesser extent, of site specific water supply factors. This made it infeasible to derive a correlation between water flow and production. An effort was even made to establish a relationship between DI water produced and plant production level. This absence of a relationship between production and wastewater flow precluded the use of

mass based limits. That is why this proposal would set concentration-based limits.

C. Control Treatment Options

EPA considered the following treatment and control options for wastewater discharges from facilities within the Cathode Ray Tube and Luminescent Materials subcategories. The options evaluated are based on treatment observed in plants EPA visited or which described their own treatment processes. They are discussed in further detail in the Development Document, in Chapter VII.

Option 1—Neutralization for pH control.

Option 2—Option 1 plus end-of-pipe precipitation/clarification for treatment of toxic metals (cadmium, chromium, antimony, lead, zinc), fluoride, and total suspended solids (TSS).

Option 3—Option 2 plus filtration for further reduction of toxic metals.

Option 4—Solvent management for control of toxic organics. Solvent management is not an end-of-pipe treatment system, but rather an in-plant control which consists of modifying piping to collect used solvents for resale or contract disposal. Process wastewater is the only other source of toxic organics for these subcategories. Since the spent solvents would not be discharged into the wastewater, toxic organic limitations based on this control would be equivalent to the maximum concentration of toxic organics found in the discharge as a result of process wastewater contamination. As an in-plant control, this option could be used in consort with any of the other options and it was considered in connection with each.

As previously stated, one plant in the luminescent materials subcategory utilizes a non-discharging evaporation pond. Evaporation ponds were not considered because they achieve a zero discharge status through evaporative losses only in dry, arid, regions of the country. Therefore, because of the geographical constraints on the viability of an evaporation system, it is not amenable to being utilized in national regulations. In addition evaporation cost is tied to space availability. The only plant now using evaporation as a control technology had process wastewater flows below those generally observed at larger plants. Further flow reductions are unlikely since, as discussed above, plants already have incentives to minimize process water use.

VIII. Selection of Treatment Options and Effluent Limitations

A. Cathode Ray Tubes

The technology basis for each standard for the Cathode Ray Tube subcategory is presented below, along with the rationale for selecting the specific treatment option. The technologies and wastewater characteristics are discussed in more detail in the Development Document for this rulemaking.

The Agency is proposing not to regulate existing direct dischargers for the reasons cited in Section IX (Pollutants and Subcategories Not Regulated). Therefore, BPT, BAT and BCT effluent limitations have not been proposed.

1. *PSES.* EPA has selected precipitation/clarification for the control of toxic metals and fluoride (Option 2) plus solvent management for control of toxic organics (Option 4) for PSES. This technology is widely demonstrated in this industry as well as other industries with similar raw wastes. Metals removal greater than 96% have been demonstrated. Option 1 was rejected because data indicated that greater removals were achievable at Option 2 which was economically achievable and already widely utilized. EPA is continuing to give serious consideration to, and is soliciting comment regarding, the selection of Option 3 as a final regulation. Filtration is not now the proposal of choice because the additional 1472 annual pounds of national pollutant reduction accomplished by Option 3 are not significant in comparison to the low effluent levels already accomplished by Option 2 in the treatment train. Section VII of the Development Document contains a discussion and tables concerning the effluent concentrations that can be achieved using lime precipitation/clarification (Option 2) and those that would be achieved by the addition of a filter (Option 3).

Pollutant removals and costs of options 2 and 3 are summarized below. (See Section X of this preamble for the economic impacts.) Removals and compliance costs are increments beyond estimates of current discharge and treatment in place.

	Pollutant removal (number per year)		Costs (dollars in thousand)	
	Toxics (lb/yr)	Fluoride (lb/yr)	Capital	Annual
Option 2	62,270	1,476,000	$4,946	$2,744
Option 3 (beyond Option 2)	1,472		719	301

Toxic organics are being regulated as the total of all toxic organics found in the discharge at concentrations greater than 0.01 milligrams per liter. Toxic organics summed for the total are listed in Appendix A. The rationale for regulating toxic organics as a combined total is that many different solvents are used by the cathode ray tube subcategory and it would be very difficult to collect sufficient data to limit the individual toxic organic compounds resulting from the use of these solvents. (See paragraph C, in Section XIV.) As stated before, the limitation for total toxic organics (TTO) is the highest concentration of TTO found in the discharge from any CRT plant, all of which already practice in-plant solvent management. Accordingly, no additional cost will result from this regulation.

Because only limited TTO date are available from the CRT subcategory, the Agency also reviewed data from other industries, including other E&EC subcategories, to assess the reasonableness of this limitation. In the metal finishing industry, data indicate that precipitation/clarification technology reduces TTO by 80 percent. In the semiconductor subcategory of this industry, raw waste TTO levels at plants practicing good solvent management occur at from 0.03 to 1.4 milligrams per liter. Thus, if the CRT subcategory were to exhibit raw waste TTO levels within the range observed at semiconductor plants, reduction of TTO through Option 2 technology would result in effluent TTO levels near the proposed 0.15 milligram per liter limitation. EPA believes, however, that most plants will continue to meet TTO levels through solvent management rather than through reliance on end-of-pipe treatment.

The Agency is not proposing a monthly average limitation for TTO. Monthly averages differ from daily limits in order to deal with expected performance variations. The proposed daily maximum limitation for TTO is based on solvent management, which, unlike most treatment options, does not entail pollution control equipment and is therefore not subject to significant performance variations. Accordingly, there is no need to establish a monthly

average different from the daily maximum.

EPA is proposing to establish a compliance date of eighteen months from the date of promulgation for these pretreatment standards because that period reflects the time that our analyses indicate will be required to plan, install, and adjust necessary control technology.

2. *NSPS and PSNS.* For NSPS and PSNS, the Agency is proposing standards based on Options 3 and 4. This technology consists of solvent management plus end-of-pipe precipitation/clarification followed by filtration. Based on model plant flows ranging from 10,000 to 500,000 gals/day, incremental capital investment costs for PSNS range from $5,200 to $165,000, and annualized costs from $2,100 to $68,500. The annualized costs represent less than an 8% increase in treatment costs over treatment required for similarly sized existing plants with an additional estimated 2.4 percent of metals removed. This cost should present no significant barrier to entry of new firms. For NSPS, since BAT is not proposed, the analysis for new direct dischargers uses total costs rather than incremental costs. Total capital investment costs for pollution control range from $113,100 to $1.7 million, and total annualized costs range from $77,660 to $905,200 depending on the size of the relevant plants. The impact of these costs is considered to be small, but the Agency invites comment on the effect of treatment costs on new sources.

B. Luminescent Materials

The technology basis for each standard for the Luminescent Materials subcategory is presented below along with the rationale for selecting the specific treatment option. The technologies and wastewater characteristics are discussed in more detail in the Development Document. The Agency is not proposing to regulate existing direct or indirect dischargers in this subcategory for the reasons cited in Section IX (Pollutants and Subcategories Not Regulated). Therefore, BPT, BAT, BCT and PSES effluent limitations and standards have not been proposed.

1. *NSPS and PSNS.* For NSPS and PSNS, EPA is proposing limitations based on end-of-pipe precipitation/clarification (Option 2) which has been demonstrated within the industry. This option would control cadmium, antimony, zinc, fluoride, TSS and pH in both the NSPS and PSNS. Option 1 alone (pH neutralization) was not selected because Option 2 achieved far greater removals of toxic metals at economically achievable costs. Option 3 (Option 2 plus filtration) is not now the proposal of choice because it will only achieve minimal further reduction of pollutant levels in the effluent, as presented in Chapter VII of the development document. Total capital investment costs for new sources in the Luminescent Materials subcategory range from $91,100 to $1.2 million, total annualized costs range from $68,200 to $589,600 depending on the size of the relevant plants. A comparison of annual treatment cost to sales indicates that the impact on end-products would be small, and treatment costs are not expected to result in significant barriers to entry. While the Agency does not project a significant impact from these new sources standards, this conclusion is based on available data, and the Agency invites comments and data on the effect of new source treatment costs.

IX. Pollutants, Subcategories and Subcategory Segments not Regulated

A. Settlement Agreement

The Settlement Agreement specified 65 categories of toxic pollutants as of "priority" concern. EPA, by regulation, specified 126 pollutant parameters as measures for those pollutants. The Agreement also contained provisions authorizing the exclusion from regulation, in certain circumstances, of toxic pollutants and industry categories and subcategories. These provisions have been rewritten in a Revised Settlement Agreement which was approved by the District Court for the District of Columbia on March 9, 1979, *NRDC* v. *Costle,* 12 ERC 1833.

EPA proposes to set standards for some of those 126 pollutant parameters and for two additional subcategories of this industry, while excluding other pollutant parameters and one additional subcategory from these standards. Data supporting exclusion of the pollutants and subcategories and subcategory segments identified below are presented in the Development Document for this rulemaking.

1. *Exclusion of Pollutants in the CRT and Luminescent Materials Subcategories.* EPA proposes to exclude ninety-six (96) toxic pollutants listed in Appendix C from regulation for the Cathode Ray Tube subcategory. The basis of the proposed exclusion for eighty-six (86) of these pollutants is Paragraph 8(a)(iii) which allows exclusion for pollutants which are not detectable with state-of-the-art analytical methods. The basis of exclusion for another 10 (the nine listed in Appendix C plus antimony) is also provided by Paragraph 8(a)(iii) which allows exclusion of pollutants which are present in amounts too small to be effectively reduced by technologies known to the administrator.

For the Luminescent Materials subcategory we are proposing to exclude 123 pollutants under paragraph 8(a)(iii) of the Decree (of these, 26 are organic solvents controlled in the CRT subcategory by the TTO limit). Luminescent Material plants have stated that they do not use solvents containing these 26 pollutant parameters and EPA believes they will not be present in detectable levels in effluent from this subcategory. Of the 96 toxic pollutants excluded under paragraph 8(a)(iii) in the CRT subcategory, one (antimony) was found in significant quantities and will be regulated in the Luminescent Materials subcategory. The remaining 95 will be excluded on the basis of paragraph 8(a)(iii), for the same reasons as in the CRT subcategory. In addition, lead and chromium, which are regulated in the CRT subcategory were not found at treatable levels from plants in the Luminescent Materials subcategory and therefore will be excluded from further regulation under paragraph 8(a)(iii).

2. *Exclusion of Subcategories and Subcategory Segments.* The manufacture of Receiving and Transmitting Type Electron Tubes is a dry process, That subcategory therefore will be excluded from further regulation under the provisions of paragraph 8(a)i of the Settlement Agreement.

The Agency is proposing to exclude from regulation existing direct dischargers in the Cathode Ray Tube segment of the Electron Tube subcategory. This subcategory is excluded from regulation under the provisions of paragraph 8(a)(iv) on the basis that there is only one direct discharger which is already subject to an NPDES permit, and has Option 3 (precipitation/clarification/filtration) treatment in place. Its current discharge of toxic pollutants is less than 2 pounds/day.

The Agency is also proposing to exclude from regulation all existing dischargers in the Luminescent Materials subcategory under the provisions of paragraph 8(a)(iv). Of the five (5) plants in this subcategory, 2 are direct dischargers. Each of these 2 plants discharge after treatment required by existing NPDES permits less than 1 pound/plant of toxic metals per day. Two of the remaining plants in the Luminescent Materials subcategory are indirect dischargers. EPA proposes to exclude these plants from national categorical pretreatment standards under the provisions of paragraph 8(b)(ii) of the Decree on the basis that

the amount of toxic pollutants introduced into POTWs is less than 2 pounds/plant each operating day. The remaining plant in the Luminescent Materials subcategory utilizes an evaporation pond which does not discharge to sufrace water.

B. Conventional Pollutants

BOD, and oil and grease are not being regulated for either subcategory because they were found only at concentrations below treatability.

X. Cost and Economic Impact

Executive Order 12291 requires EPA and other agencies to perform regulatory impacts analyses of major regulations. Major rules are those which impose a cost on the economy of $100 million a year or more or have certain other economic impacts. This regulation is not a major rule because its annualized cost of $2.7 million is less than $100 million and it meets none of the other criteria specified in Section 1(b) of the E.O. 12291.

The Agency's economic impact assessment is presented in the report entitled *Economic Impact Analysis of Proposed Effluent Guidelines and Standards for the Electrical and Electronic Components Industry Phase II—Cathode Ray Tubes and Luminescent Coatings Subcategories* EPA 440/2–83–001. This report details the investment and annual costs for the Phase II portion of the Electrical and Electronic Components Category. Compliance costs are based on engineering estimates of capital requirements for the effluent control systems described earlier in this preamble. The report assesses the impact of effluent control costs in terms of price changes, production changes, plant closures, employment effects, and balance of trade effects. The impacts for each option are discussed in the report and summarized below.

In addition, EPA has conducted an analysis of the incremental removal cost per pound equivalent for each of the proposed technology-based options. A pound equivalent is calculated by multiplying the number of pounds of pollutant discharged by a weighting factor for that pollutant. The weighting factor is equal to the water quality criterion for a standard pollutant, divided by the water quality criterion for the pollutant being evaluated. The use of "pound equivalent" gives relatively more weight to removal of more toxic pollutants. Thus, for a given expenditure, the cost per pound equivalent removed would be lower when a highly toxic pollutant is removed. This analysis is included in the record of rulemaking "Cost Effectiveness Analysis of Proposed Effluent Limitations and Standards for the Electrical and Electronic Components Industry—Phase II". EPA invites comments on the methodology.

EPA has identified 27 plants in the Phase II subcategories that are covered by this regulation. Of these 27 plants, 3 plants are direct dischargers, 18 are indirect dischargers, and 6 discharge no wastewater.

PSES: Compliance costs for PSES for the CFR subcategory total $4.9 million for capital investment and $2.7 million annually (1982 dollars). These are all associated with installation of Option 2 (precipitation/clarification). No additional costs are predicted for Option 4 since all plants already practice solvent recovery. No plant closures or job losses are projected as a result of compliance costs for this regulation.

PSNS: For model plants in the CFT subcategory, incremental capital investment costs range from $5,200 to $165,000, and incremental annualized costs range from $2,100 to $68,000 depending on assumptions concerning plant size. The annualized costs represent less than an 8 percent increase over treatment costs for similarly sized existing plants. The price increases associated with these costs range from 0.1 to 0.8 percent and are not likely to result in a competitive disadvantage for new sources. For the Luminescent Materials subcategory, new source costs reflect the total cost of the treatment technology (not incremental) because no pretreatment standards are proposed for existing indirect dischargers. Capital investment costs range from $91,100 to $1.2 million depending on the size of the plant. Total annualized costs range from $68,200 to $589,600. The analysis of new source costs for this subcategory compares annual treatment costs to annual plant sales. The impacts for an average or large new plant are small and are not expected to result in significant barriers to their entry into the subcategory. The impacts on the smallest new plants, while larger than for the other sizes, are not expected to cause severe problems in entering the industry. Total annual treatment costs as a percentage of sales are expected to range from 1.8 to 10.4% for new small plants.

NSPS: For model plants in the CFR subcategory, new source costs for direct dischargers reflect the total costs of the pollution control technology. Capital investment ranges from $113,100 to $1.7 million, and total annualized costs range from $77,600 to $905,200 depending on plant size. The impact of the treatment costs per tube ranges from 0.2 to 3.1 percent. These impacts are considered to be small, but the Agency invites comment on the effect of treatment costs on new sources. For new sources in the Luminescent Materials subcategory, the costs and impacts are the same for both direct and indirect dischargers. The costs and comparisons to sales are shown above, under PSNS. No significant barriers to entry are expected.

Public Law 96–354 requires EPA to prepare an initial Regulatory Flexibility Analysis for all proposed regulations that have a significant impact on a substantial number of small entities. This analysis may be done in conjunction with or as a part of any other analysis conducted by the Agency. The economic impact analysis described above indicates that there will not be a significant impact on any segment of the regulated population, large or small. Therefore, a formal regulatory flexibility analysis is not reqiured.

XI. Non-Water Quality Aspects of Pollution Contol

The elimination or reduction of one form of pollution may aggravate other environmental problems. Sections 304(b) and 306 of the Act require EPA to consider the non-water quality environmental inpacts of these regulations including air and noise pollution, radiation, solid waste generation, and energy requirements.

Compliance with the proposed regulations, including NSPS and PSNS will have no effect on air, noise, or radition pollution and will only result in minimal solid waste generation and will only result in minimal solid waste generation and minimal increased energy usage. The amount of solid waste generated per year will be 1,200 metric tons, beyond that now generated. Available information indicates that the solid waste generated will not be hazardous as defined in the Resource Conservation and Recovery Act (RCRA). Energy requirements associated with these regulations will be 24,000 kilowatt-hours per year of only 6.4 kilowatt-hours per day per facility, beyond that now used for wastewater treatment.

EPA's relevant program offices have had an opportunity to review this data and, based on the above non-water quality impacts from these regulations, the Agency has concluded that the proposed regulation best serves overall national environmental goals.

XII. Upset and Bypass Provisions

A recurring issue is whether industry limitations and standards should include

provisions that authorize noncompliance during "excursion" is unintentional noncompliance beyond the reasonable control of the permittee. EPA believes that upset provisions are necessary, because upsets will inevitably occur, even if the control equipment is properly operated. Because technology based limitations can require only what technology can achieve, many claim that liability for upsets is improper. When confronted with this issue, courts have been divided on the questions of whether an explicit upset or excursion exemption is necessary or whether upset or excursions incidents may be handled through EPA's enforcement discretion. Compare *Marathon Oil Co.* v. *EPA*, 564 F. 2d 1253 (9th Cir. 1977) with *Weyerhaeuser* v. *Costle, supra* and *Corn Refiners Association, et al.* v. *Costle*, No. 78–1069 (8th Cir. April 2, 1979). See also *American Petroleum Institute* v. *EPA*, 540 F. 2d 1023 (10th Cir. 1976); (*CPC International, Inc.* v. *Train*, 540 F. 2d 1320 (8th Cir. 1976); *FMC Corp.* v. *Train*, 539 F. 2d 973 (4th Cir. 1979).

Unlike an upset—which is an unintentional episode—a bypass is an intentional noncompliance to circumvent waste treatment facilities during an emergency. EPA has both upset and bypass provisions in NPDES permits, and the NPDES portions of the Consolidated Permit regulations include upset and bypass permit provision. See 40 CFR Part 122.60, 44 FR 32854, 32862–3 (June 7, 1979). The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-base effluent limitations. The bypass provision authorizes bypassing to prevent loss of life, personal injury, or severe property damage. Since permittees in the cathode ray tube and luminescent materials subcategories are entitled to the upset and bypass provisions in NPDES permits, this proposed regulation does not repeat these provisions. Upset provisions are also contained in the Genral Pretreatment regulation.

XIII. Variances and Modifications

When the final regulation for a point source category is promulgated, subsequent Federal and State NPDES permits to direct dischargers must enforce the effluent standards. Also, the pretreatment limitations apply directly to indirect dischargers.

Indirect dischargers subject to PSES are eligible for the "fundamentally different factors" variance and credits for pollutants removed by POTW. See 40 CFR 403.7; 403.13; 46 FR 9404 (January 28, 1981). Indirect dischargers subject to PSNS are eligible only for the credits provided for in 40 CFR 403.7. New sources subject to PSNS are not eligible for EPA's "fundamentally different factors" variance or any statutory or regulatory modifications. See *E. I. du Pont de Nemours* v. *Train*, supra.

XIV. Relation to NPDES Permits and General BCT Treatment

A. The NSPS in this regulation will be applied to individual plants through NPDES permits issued by EPA or approved State agencies under Section 402 of the Act. Under the proposed regulation for the Electrical and Electronic Components Category, all limitations are concentration based. As discussed in section VII–B, national mass based limitations are not provided because the Agency has determined that a fundamental relationship between production and pollutant loadings cannot be broadly established for either subcategory. See 40 CFR 122.63(f). Permitting authorities can derive mass based limitations by multiplying the concentration limit by the undiluted discharge flow. The Effluent Guidelines Division can assist the permitting authorities in making this determination, especially with respect to the validity of the flow levels presented by a permittee as representative of their plant.

The preceding section of this preamble discusses the binding effect of this regulation on NPDES permits, except when variances and modifications are expressly authorized. The following adds more detail on the relation between this regulation and NPDES permits.

B. One subject that has received different judicial rulings is the scope of NPDES permit proceedings when effluent limitations and standards do not exist. Under current EPA regulations, States and EPA regions that issue NPDES permits before regulations are promulgated must do so on a case-by-case basis. This regulation provides a technical and legal base for new permits.

Another issue is how the regulation affects the authority of those that issue NPDES permits. EPA has developed the limitations and standards in this regulation to cover the typical facility for this point source category. In specific cases, the NPDES permitting authority may have to establish permit limits on toxic pollutants that are not covered by this regulation. This regulation does not restrict the power of any permit-issuing authority to comply with law or any EPA regulation, guideline, or policy. For example, if this regulation does not control a particular pollutant, the permit issuer may still limit the pollutant on a case-by-case basis, when such action conforms with the purposes of the Act. In addition, if State water quality standards or other provisions of State or Federal law require limits on pollutants not covered by this regulation (or require more stringent limits on covered pollutants), the permit-issuing authority *must* apply those limitations.

C. An alternative to effluent monitoring for TTO was proposed in § 469.12 of the E&EC Phase 1 regulation proposed August 24, 1982, 47 FR 37058. In lieu of monitoring for TTO, EPA proposed to allow the permit authority to allow direct dischargers to make the following certification as a "Comment" on the Discharge Monitoring Report required by § 122.62(e) "I certify that, since filing the last discharge monitoring report, toxic organic compounds have not entered the wastewater in quantities that will exceed the discharge limits for TTO". In addition, in lieu of requiring monitoring for TTO, EPA proposed to permit control authorities to allow industrial users of POTWs to make the following certification as a comment to the periodic reports required by § 403.12(e) "Periodic reports on continued compliance." The Phase I proposal also specified that dischargers must specify the toxic organic compounds used and the procedures used to prevent excessive wastewater discharge of toxic organics. EPA requests comment on applying this same approach to dischargers in the Cathode Ray Tube subcategory.

In response to the Phase I proposal, a number of comments were received suggesting that the certification language was overly restrictive and recommending revision of the language. These comments are being considered, and where appropriate, will be incorporated in the final E&EC Phase I regulation upon promulgation. That regulation is scheduled to be signed by the Administrator by March 31, 1983.

D. A final topic of concern is the operation of EPA's NPDES enforcement program, which was an important consideration in developing this regulation. The Agency emphasizes that although the Clean Water Act is a strict liability statute, EPA can initiate enforcement proceedings at its discretion (*Sierra Club* v. *Train*, 557, F 2d 485, 5th Cir., 1977). EPA has exercised and intends to exercise that discretion in a manner that recognizes and promotes good-faith compliance.

E. Indirect dischargers covered by the PSES and PSNS standards proposed today may also be subject to local pretreatment ordinances and the requirements of EPA's General Pretreatment Regulations. See, 40 CFR § 403. Those regulations include

provisions for base-line monitoring reports, compliance reports, credits for pollutant removals achieved by POTWs, and standards prohibiting interference with POTW operations. The provisions of 40 CFR 403.6(e) also provide a "combined waste stream formula" for determining effluent significant limits when quantities of differing waste streams are combined. Since the plants covered by today's proposal do not combine E&EC wastes with significant other waste streams, that provision should seldom be needed for these subcategories.

XV. Solicitation of Comments

EPA invites and encourages public participation in this rulemaking. The Agency asks that any deficiencies in the record of this proposal be specifically addressed and particularly asks that suggested revisions or corrections be supported by data.

EPA is particularly interested in receiving additional comments and information on the following issues:

1. The Agency is continuing to seek additional data, specifically from those plants engaged in the production of cathode ray tubes and use solvents in the productions process for cleaning and degreasing operations. To regulate the board array of toxic organics, TTO has been selected as the control parameter. The limit for TTO is not based on a specific treatment technology but represents the amount of toxic organics which were detected in the raw waste loan from plants in the data base which practice solvent recovery. The Agency requests that those plants that may have analyzed their effluent for toxic organic compounds known to be present in the solvents used, submit that data along with the analytical method used.

2. The Agency requests comments on the selection of chemical precipitation/clarification versus filtration for new sources and existing sources in the cathode ray tube and luminescent materials subcategories.

The reporting provisions in this rule will be submitted for approval to the Office of Management and Budget of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq. Any final rule will explain how its reporting provisions respond to any Office of Management and Budget or public comments.

List of Subjects in 40 CFR Part 469

Electric and electronic equipment, Waste treatment and disposal, Water pollution control.

Date: February 28, 1983.

Anne M. Burford,

Administrator.

XVII. Appendices

Appendix A—Abbreviations, Acronyms, and Other Terms Used in This Notice

Act—The Clean Water Act.

Agency—The U.S. Environmental Protection Agency.

BAT—The best available technology economically achievable under Section 304(b)(2)(B) of the Act.

BCT—The best conventional pollutant control technology, under Section 304(b)(4) of the Act.

BMP—Best management practices under Section 304(e) of the Act.

BPT—The best practicable control technology currently available under Section 304(b)(1) of the Act.

Clean Water Act—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 et seq.), as amended by the Clean Water Act of 1977 (Public Law 95-217).

Direct Discharger—A facility which discharges or may discharge pollutants into waters of the United States.

Indirect Discharger—A facility which discharges or may discharge pollutants into a publicly owned treatment works.

NPDES Permit—A National Pollutant Discharge Elimination System permit issued under Section 402 of the Act.

NSPS—New source performance standards under Section 306 of the Act.

POTW—Publicly owned treatment works.

PSES—Pretreatment standards for existing sources of indirect discharges under Section 307(b) of the Act.

PSNS—Pretreatment standards for new sources of direct discharges under Section 307(b) and (c) of the Act.

RCRA—Resource Conservation and Recovery Act (Pub. L. 94-580) of 1976. Amendments to Solid Waste Disposal Act.

Appendix B—List of Toxic Organics Comprising Total Toxic Organics (TTO) for the Cathode Ray Tube Subcategory and excluded from the Luminescent Materials Subcategory.

1,2,4 trichlorobenzene
chloroform
1,2, dichlorobenzene
1,3 dichlorobenzene
1,4 dichlorobenzene
ethylbenzene
1,1,1 trichloroethane
methylene chloride
napthalene
2 nitrophenol
phenol
bis(2-ethylhexyl) phthalate
tetrachloroethylene
toluene
trichloroethylene
2 chlorophenol
2,4 dichlorophenol
4 nitrophenol
pentachlorophenol
di-n-butyl phthalate
anthracene
1,2 diphenylhydrazine
isophorone
butyl benzyl phthalate
1,1 dichloroethylene
2,4,6 trichlorophenol

Appendix C—List of Pollutants Excluded From Regulation

The following nine (9) pollutants are being proposed for exclusion from further regulation for both subcategories under Paragraph 8(a)(iii) because they are present in amounts too small to be effectively reduced by technologies known to the administrator: arsenic, beryllium, copper, mercury, nickel, selenium, silver, thallium, and cyanide.

The following list of eighty-six (86) pollutants are being proposed for exclusion from further regulation for both subcategories under Paragraph 8(a)(iii) because they were not detected in the effluent.

1. Acenaphthene
2. Acrolein
3. Acrylonitrile
4. Benzene
5. Benzidine
6. Carbon Tetrachloride
7. Chlorobenzene
8. Hexachlorobenzene
9. 1,2-Dichloroethane
10. Hexachloroethane
11. 1,1-Dichloroethane
12. 1,1,2-Trichloroethane
13. 1,1,2,2-Tetrachloroethane
14. Chloroethane
15. Bis (2-Chloroethyl) Ether
16. 2-Chloroethyl Vinyl Ether (Mixed)
17. 2-Chloronaphthalene
18. Parachlorometa Cresol
19. 3,3'-Dichlorobenzidine
20. 1,2-Trans-Dichloroethylene
21. 1,2-Dichloropropane
22. 1,2-Dichloropropylene
23. 2,4-Dimethylphenol
24. 2,4-Dinitrotoluene
25. 2,6-Dinitrotoluene
26. Fluorathene
27. 4-Chlorophenyl Phenyl Ether
28. 4-Bromophenyl Phenyl Ether
29. Bis(2-chloroisopropyl) Ether
30. Bis-(2-chloroethoxy) Methane
31. Methyl Chloride
32. Methyl Bromide
33. Bromoform
34. Dichlorobromomethane
35. Chlorodibromomethane
36. Hexachlorobutadiene
37. Hexachlorocyclopentadiene
38. Nitrobenzene
39. 2,4-dinitrophenol
40. 4,6-dinitro-o-cresol
41. N-nitrosodimethylamine
42. N-nitrosodiphenylamine
43. N-nitrosodi-n-propylamine
44. Di-n-octyl phthalate
45. diethyl phthalate
46. dimethyl phthalate
47. Benzo (a) anthracene
48. Benzo (a) pyrene
49. 3, 4-benzofluorathene
50. Benzo (k) fluoranthane
51. Chrysene

52. Acenaphthylene
53. Benzo(ghi) perylene
54. Fluorene
55. Phenanthrene
56. Dibenzo(a,h)anthracene
57. Indeno(1,2,3-cd)pyrene
58. Pyrene
59. 2,3,7,8-tetrachlorodibenzo-p-dioxin
60. Vinyl Chloride
61. Aldrin
62. Dieldrin
63. Chlordane
64. 4,4' DDT
65. 4,4' DDE
66. 4,4' DDD
67. A-endosulfan-Alpha
68. B-endosulfan-Beta
69. Endosulfan Sulfate
70. Endrin
71. Endrin Aldehyde
72. Heptachlor
73. Heptachlor Epoxide
74. A-BHC-Alpha
75. R-BHC-Beta
76. G-BHC-Delta
77. PCB-1242
78. PCB-1254
79. PCB-1221
80. PCB-1232
81. PCB-1248
82. PCB-1260
83. PCB-1016
84. Toxaphene
85. Asbestos

For the Cathode Ray Tube subcategory only, an additional toxic pollutant, antimony, is being proposed for exclusion from further regulation under Paragraph 8(a)(iii), because it was found in amounts too small to be effectively treated.

In the Luminescent Materials subcategory, the twenty-six (26) additional toxic pollutants listed in appendix C are being proposed for exclusion under Paragraph 8(a)(iii) because EPA believes they are not present at detectable concentrations using state-of-the-art analytical methods. The two additional toxic pollutants being considered for exclusion under paragraph 8(a)(iii) are lead and chromium which were not detected in effluents from the subcategory.

For the reasons stated above, EPA proposes to add new subpart C and D to Part 469 of 40 CFR, Chapter I as follows:

PART 469—ELECTRICAL AND ELECTRONIC COMPONENTS POINT SOURCE CATEGORY

* * * * *

Subpart C—Cathode Ray Tube Subcategory

Sec.
469.30 Applicablity.
469.31 Specialized definitions.
469.32 Monitoring requirements.
469.34 Pretreatment standards for existing sources (PSES).
469.35 New source performance standards (NSPS).
469.36 Pretreatment standards for new sources (PSNS).

Subpart D—Luminescent Materials Subcategory

449.40 Applicability
469.41 Specialized definitions.
469.42 New source performance standards (NSPS).
469.43 Pretreatment standards for new sources (PSNS).

Authority: Secs. 301, 304, 306, 307, 308, and 501, Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977, 33 U.S.C. 1311, 1314, 1316, 1317, 1318, and 1361; 86 Stat. 816, Pub. L. 92500; 91 Stat. 1567, Pub. L. 95–217).

Subpart C—Cathode Ray Tube Subcategory

§ 469.30 Applicability.

(a) The provisions of this subpart are applicable to discharges resulting from the manufacture of cathode ray tubes.

(b) The compliance deadline for PSES standards shall be no later than September 10, 1984.

§ 469.31 Specialized definitions.

The definitions in 40 CFR Part 401 and the chemical analysis methods in 40 CFR Part 136 apply to this subpart. In addition,

(a) The term "total toxic organics (TTO)" shall mean the sum of the concentrations for each of the following toxic organic compounds which is found in the discharge at a concentration greater than ten (10) micrograms per liter:

1,2,4 trichlorobenzene
chloroform
1,2 dichlorobenzene
1,3 dichlorobenzene
1,4 dichlorobenzene
ethylbenzene
1,1,1 trichloroethane
methylene chloride
napthalene
2 nitrophenol
phenol
bis(2-ethylhexyl) phthalate
tetrachloroethylene
toluene
trichloroethylene
2 chlorophenol
2,4 dichlorophenol
4 nitrophenol
pentachlorophenol
di-n-butyl phthalate
anthracene
1,2 diphenylhydrazine
isophorone
butyl benzyl phthalate
1,1 dichloroethylene
2,4,6 trichlorophenol

(b) The term "cathode ray tubes" shall mean electronic devices in which high velocity electrons focus through a vacuum to generate an image on a luminescent surface.

§469.32 Monitoring.

Certification for TTO as specified in § 469.12(a), 47 FR 37058 will be applicable to this subpart.

§ 469.34 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES):

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
	Milligrams per liter (mg/l)	
TTO [1]	0.15	
Cadmium	0.046	0.022
Chromium	0.91	0.26
Lead	1.13	0.36
Zinc	2.06	0.49
Fluoride	32.6	22.3

[1] Total toxic organics.

§ 469.35 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
	Milligrams per liter (mg/l)	
ph	([2])	([2])
TTO [1]	0.15	
Cadmium	0.046	0.022
Chromium	0.77	0.22
Lead	0.73	0.23
Zinc	1.18	0.28
Fluoride	32.6	22.3
TSS	42.9	16.1

[1] Total toxic organics.
[2] Within the range of 6.0 to 9.0.

§ 469.36 Pretreatment standards for new source (PSNS).

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources (PSNS);

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
	Milligrams per liter (mg/l)	
TTO [1]	0.015	
Cadmium	0.046	0.022
Chromium	0.77	0.22
Lead	0.73	0.23
Zinc	1.18	0.26
Fluoride	32.6	22.3

[1] Total toxic organics.

Subpart D—Luminescent Materials Subcategory

§ 469.40 Applicability.

(a) The provisions of this subpart are applicable to discharges resulting from the manufacture of luminescent materials.

(b) The compliance deadline for PSES standards shall be no later than September 10, 1984.

§ 469.41 Specialized definitions.

The definitions in 40 CFR Part 401 and the chemical analysis methods in 40 CFR Part 136 apply to this subpart. In addition,

(a) The term "luminescent materials" shall mean materials that emit electromagnetic radiation (light) upon excitation by such energy sources as photons, electrons, applied voltage, chemical reactions or mechanical energy and which are specifically used as coatings in fluorescent lamps and cathode ray tubes.

§ 469.42 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
	Milligrams per liter (mg/l)	
pH	(1)	(1)
Cadmium	0.48	0.23
Antimony	0.18	0.044
Zinc	2.84	0.68
Fluoride	32.6	22.3
TSS	61.0	22.9

[1] Within the range of 6.0 to 9.0.

§ 469.43 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources (PSNS):

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
	Milligrams per liter (mg/l)	
Cadmium	0.48	0.23
Antimony	0.18	0.044
Zinc	2.84	0.68
Fluoride	32.6	22.3

[FR Doc. 83-5877 Filed 3-8-83; 8:45 am]
BILLING CODE 6560-50-M