

**H. Pollutant Reductions**

The Agency estimated the reduction in the mass of pollutants that would be discharged from pharmaceutical manufacturing plants after the implementation of the regulations being proposed today. The reduction in pollutant mass is attributable both to in-plant treatment technologies and improved end-of-pipe treatment. In-plant technologies such as steam stripping achieve pollutant load reductions by physical removal or extraction of volatile organic pollutants. Other technologies such as end-of-pipe biological treatment and in-plant

cyanide destruction achieve pollutant reduction by chemically or biochemically altering the nature of the pollutants (e.g., by converting them to different substances like carbon dioxide and water). Additional information on the methodology used to estimate the pollutant reductions resulting from the implementation of the proposed effluent limitations and standards is included in Section 9 of the Technical Development Document.

**1. Conventional Pollutants**

For each subcategory, the Agency developed an estimate of the annual

average mass loadings of BOD<sub>5</sub> and TSS that would be discharged after the implementation of the proposed BPT limitations. Since EPA proposes to set BCT limitations for conventional pollutants equal to the proposed BPT limitations for all subcategories, there would be no further reduction in BOD<sub>5</sub> and TSS achieved through BCT. Then EPA subtracted these loadings from the discharge loadings reported in the Section 308 questionnaire responses for 1990. The resultant pollutant reductions for BOD<sub>5</sub> and TSS are summarized in Table IX.H.1.

TABLE IX.H.1.—BPT, BOD<sub>5</sub> AND TSS REDUCTIONS

Subcategories	BOD <sub>5</sub> reduction (lbs. per yr.)	TSS reduction (lbs. per yr.)
A and C .....	931,000	2,150,000
B and D .....	10,000	4,820

**2. Priority Pollutants**

For the ten priority pollutants EPA proposes to regulate, EPA estimated the removals achieved by the various BPT, BAT, and PSES technologies based on

raw waste load data provided by plants in their Section 308 questionnaire responses. In estimating these pollutant reductions, EPA did not include pollutant reductions being achieved by

existing technology, including advanced biological treatment, already in place. The resultant priority pollutant reductions are summarized in Table IX.H.2.

TABLE IX.H.2.—BPT, BAT AND PSES PRIORITY POLLUTANT REDUCTIONS

Subcategories	BPT reduction (cyanide) (lbs. per yr.)	BAT reduction (lbs. per yr.)	PSES reduction (lbs. per yr.)
A and C .....	38	2,650,000	7,140,000
B and D .....	<sup>1</sup> N/A	0	694,000

<sup>1</sup> Cyanide is not a pollutant of concern for facilities with subcategory B and D operations.

**3. Nonconventional Pollutants**

For the 45 nonconventional pollutants (excluding COD) for which limitations and standards are being proposed, EPA estimated the removals achieved by the

various proposed BPT, BAT, and PSES technology bases, using raw waste load data provided by plants in their Section 308 questionnaire responses. In estimating these pollutant reductions, EPA did not include pollutant

reductions being achieved by technology already in place, including in many cases advanced biological treatment. The resultant priority pollutant reductions are summarized in Table IX.H.3.

TABLE IX.H.3.—BPT, BAT AND PSES NONCONVENTIONAL POLLUTANT REDUCTIONS

Subcategories	BPT reduction (lbs. per yr.) COD only	BAT reduction (lbs. per yr.)	PSES reduction (lbs. per yr.)
A and C .....	9,840,000	16,800,000	30,900,000
B and D .....	59,600	22,600	3,440,000

**I. Regulatory Implementation**

**1. Applicability**

The regulation proposed today is just that—a proposed regulation. As such, although it represents EPA's best judgment at this time, it is not intended to be relied upon by permit writers in establishing effluent limitations. Indeed,

because EPA solicits comment and data (see specific solicitation numbers 1.2 and 1.3) regarding the proposed effluent limitations and standards specified in today's notice as well as on the technologies upon which they are based, the proposed limitations and standards and any conclusions set forth in this notice are subject to change.

**2. Upset and Bypass Provisions**

A "bypass" is an intentional diversion of waste streams from any portion of a treatment facility. An "upset" is an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of