Notice rather than propose the regulation, Pulp Subcategory was revised to include market pulp as one of the products from mills in these subcategories.

The definition of the Groundwood: Chemi-mechanical Subcategory was revised to include only those mills with yields of 95 percent or greater, and the definition of the Groundwood: Chemi-mechanical Subcategory was revised to include only those mills with yields of approximately 95 percent or greater.

Definitions of most subcategories were revised to provide clarity and consistency between subcategory definitions.

The Papergrade Sulfite Subcategory was divided into two subcategories, Papergrade Sulfite (Drum Wash) and Papergrade Sulfite (Drum Wash), based upon the type of pulp washing equipment. Within both subcategories, separate allowances were established for (a) barometric condensers and (b) combination equipment (c) and (d).

The Computer, Papergrade Sulfite Subcategory was eliminated since papergrade sulfite market pulp mills are now included in the revised Papergrade Sulfite Subcategory.

The discussion of non-water quality impacts of the regulations has been expanded in the Development Document.

Costs of internal controls were revised, and costs of the external controls were revised based upon revised subcategories and new waste loads and effluent limitations. The revised costs are presented in the Development Document.

Revised energy estimates of achieving BPCTCA are included in the Development Document.

Analyses of new information and data along with the existing data base resulted in revisions of the BOD5 and TSS effluent limitations in the following subparts: F, G, H, I, J, K, L, M, N, O, P, and U.
Applicability; description of the fine paper subcategory.

430.151 Specialized definitions.

430.152 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart O—Groundwood-Fine Papers Subcategory

430.160 Applicability; description of the groundwood-fine paper subcategory.

430.161 Specialized definitions.

430.162 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart P—Soda Subcategory

430.160 Applicability; description of the soda subcategory.

430.161 Specialized definitions.

430.162 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart Q—Drum Subcategory

430.170 Applicability; description of the drum subcategory.

430.171 Specialized definitions.

430.172 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart R—Nl Fine Papers Subcategory

430.180 Applicability; description of the NL fine paper subcategory.

430.181 Specialized definitions.

430.182 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart S—Nl Tissue Papers Subcategory

430.190 Applicability; description of the NL tissue paper subcategory.

430.191 Specialized definitions.

430.192 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart T—Nl Tissue (FPW) Subcategory

430.200 Applicability; description of the NL tissue (FPW) subcategory.

430.201 Specialized definitions.

430.202 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart U—Papergrade Sulphate (Drum Wash) Subcategory

430.210 Applicability; description of the papergrade sulphate (drum wash) subcategory.

430.211 Specialized definitions.

430.212 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart V—Dissolving Kraft Subcategory

§ 430.60 Applicability; description of the dissolving kraft subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of dissolving pulp by kraft mills.

§ 430.61 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production in dry-weight tons (10% moisture) divided by the number of operating days during that year. Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(c) Wet barking operations shall be defined to include hydraulic barking operations and wet drum barking opera-
tions which are those drum backing operations that use substantial quantities of water in either water sprays in the backing drums or in a partial submersion of the drums in a "tub" of water.

(d) A non-continuous discharger is a mill which is not regulated by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with the effluent limitations for non-continuous dischargers established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology as currently available in lieu of the maximum day and average of 30 consecutive day effluent limitations set forth in this subpart.

§ 430.62 Effluent limitations: guidelines representing the degree of effluent reduction attainable by the application of best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be applied to certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator to the State, if the State has the authority to issue NPDES permits, that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger non-continuous effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available, except that all point sources other than non-continuous dischargers shall not be subject to the annual average limitations, and that non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days</th>
<th>Annual average values for 1 year shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BODS</td>
<td>23.6</td>
<td>12.55</td>
<td>0.9</td>
</tr>
<tr>
<td>TSS</td>
<td>70.2</td>
<td>39.66</td>
<td>11.06</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0 to 9.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of wet flumes or log ponds, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days</th>
<th>Annual average values for 1 year shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BODS</td>
<td>47.2</td>
<td>24.5</td>
<td>13.8</td>
</tr>
<tr>
<td>TSS</td>
<td>74.6</td>
<td>40.1</td>
<td>22.1</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0 to 9.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(c) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of log washing or chip washing operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs and/or chips which are subject to such operations.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days</th>
<th>Annual average values for 1 year shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BODS</td>
<td>5.7</td>
<td>0.45</td>
<td>0.2</td>
</tr>
<tr>
<td>TSS</td>
<td>1.4</td>
<td>0.8</td>
<td>0.4</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0 to 9.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
§ 430.70 Applicability; description of the market bleached kraft subcategory. The provisions of this subpart are applicable to discharges resulting from the production of market pulp by bleached kraft mills. 

§ 430.71 Specialized definitions. For the purposes of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production in air-dry tons (10 percent moisture) divided by the number of operating days during that year. Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(c) Wet barking operations shall be defined to include hydraulic barking operations or barking operations which are drum barking operations that use substantial quantities of water in either water sprays in the barking drums or in a partial submergence of the logs in water.

(d) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the mill's maximum daily production, also requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with average of 30 consecutive days effluent limitations. Such maximum daily and average of 30 consecutive days effluent limitations for noncontinuous dischargers shall be established by the NPDES authority in the form of concentration which reflect waste water treatment levels that are representative of application of the best practicable control technology currently available in lieu of the maximum daily and average of 30 consecutive days effluent limitations set forth in this subpart.

§ 430.72 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategory and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator for the purpose of establishing such limitations. If the State has the authority to issue NPDES permits that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharges are fundamentally different than the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document of such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available, except that all point sources other than non-continuous dischargers shall not be subject to the annual average limitations, and that non-continuous dischargers shall not be subject to the maximum daily and average of 30 consecutive days limitations.

(b) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of wet barking operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations.
§ 430.82 Effluent limitations guidelines setting the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this subpart, EPA took into account all information it was able to collect, develop and solicit with respect to factors such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs which can affect the industry subcategory and effluent levels established.

It is, however, possible that data which would affect these limitations have not been available. As a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) may make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of log washing or chip washing operations, which may be discharged by a point source subject to the provisions of this subpart. The following limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations.

(b) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of wet barking operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of chips which are subject to such operations.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine coating where applicable) divided by the number of operating days during that year. Paper production shall be measured in the off-the-machine moisture content whereas market pulp shall be measured in air-dry tons (10 percent moisture). Production shall be determined for each mill based upon past production practices, present trends, or other reliable data.

(c) Wet barking operations shall be defined to include hydraulic barking operations and wet drum barking operations which are those drum barking operations that use substantial quantities of water in either water sprays in the barking drums or in a partial submerison of the drums in a "tub" of water.

(d) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with maximum day and average of 30 consecutive days effluent limitations for non-continuous dischargers shall be established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology currently available in lieu of the maximum day and average of 30 consecutive day effluent limitations set forth in this subpart.

The provisions of this subpart are applicable to discharges resulting from the integrated production of paper-board, coarse paper, and tissue paper by bleached kraft mills.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine coating where applicable) divided by the number of operating days during that year. Paper production shall be measured in the off-the-machine moisture content whereas market pulp shall be measured in air-dry tons (10 percent moisture). Production shall be determined for each mill based upon past production practices, present trends, or other reliable data.

(c) Wet barking operations shall be defined to include hydraulic barking operations and wet drum barking operations which are those drum barking operations that use substantial quantities of water in either water sprays in the barking drums or in a partial submerison of the drums in a "tub" of water.

(d) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with maximum day and average of 30 consecutive days effluent limitations for non-continuous dischargers shall be established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology currently available in lieu of the maximum day and average of 30 consecutive days effluent limitations set forth in this subpart.
In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and collate with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which affect the industry subcategory and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

Subpart I—Fine Bleached Kraft Subcategory

§ 430.90 Applicability; description of the fine bleached Kraft subcategory. The provisions of this subpart are applicable to discharges resulting from the integrated production of pulp and fine papers by bleached Kraft mills.

§ 430.91 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine coating where applicable) divided by the number of operating days during that year. Paper production shall be measured in the off-the-machine moisture content whereas market pulp shall be measured in air-dry tons (10.5% moisture). Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(d) The following limitations establish the quantity or quality of pollutants or pollutant properties controlled by this section, resulting from the use of log flumes or log ponds, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations.

Effluent limitations

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Metric units (kilograms per 1,000 kg of product)</th>
<th>English units (pounds per ton of product)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>0.25</td>
<td>0.55</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 5.0 to 9.0</td>
<td>Within the range 5.0 to 9.0</td>
</tr>
</tbody>
</table>

Subpart II—Fine Bleached Kraft Subcategory

§ 430.92 Effluent limitations guidelines representing the degree of effluent reduction attainable through the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and collate with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which affect the industry subcategory and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart, after application of the best practicable control technology currently available, except that all point sources other than non-continuous dischargers shall not be subject to the annual average limitations, and that non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive day effluent limitations.

Effluent limitations

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Metric units (kilograms per 1,000 kg of product)</th>
<th>English units (pounds per ton of product)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>0.02</td>
<td>0.04</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 5.0 to 9.0</td>
<td>Within the range 5.0 to 9.0</td>
</tr>
</tbody>
</table>

Subpart III—Fine Bleached Kraft Subcategory

§ 430.93 Applicability; description of the fine bleached Kraft subcategory. The provisions of this subpart are applicable to discharges resulting from the integrated production of pulp and fine papers by bleached Kraft mills.

§ 430.94 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine coating where applicable) divided by the number of operating days during that year. Paper production shall be measured in the off-the-machine moisture content whereas market pulp shall be measured in air-dry tons (10.5% moisture). Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(d) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of log flumes or log ponds, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations.

Effluent limitations

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Metric units (kilograms per 1,000 kg of product)</th>
<th>English units (pounds per ton of product)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>0.02</td>
<td>0.04</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 5.0 to 9.0</td>
<td>Within the range 5.0 to 9.0</td>
</tr>
</tbody>
</table>
§ 430.100 Applicability; description of the papergrade sulfite (blow pit wash) subcategory.

The provisions of this subpart are applicable to discharger effluent resulting from the integrated production of pulp and paper by papergrade sulfite mills, which use blow pit pulp washing techniques.

§ 430.101 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine cooking where applicable) divided by the number of operating days during that year. Pulp production shall be measured in the off-the-machine moisture content whereas market pulp shall be measured in air-dry-tons (10 percent moisture). Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(c) Wet barking operations shall be defined to include hydraulic barking operations and wet drum barking operations which are those drum barking operations that use substantial quantities of water in either water sprays in the barking drums or in a partial submersion of the drums in a “tub” of water.

(d) A non-continuous discharge is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharged unless its permit, in addition to setting forth the prohibition described above, requires compliance with the effluent limitations established by this subpart for noncontinuous dischargers and also requires compliance with maximum day and average of 30 consecutive days effluent limitations. Such maximum day and average of 30 consecutive days effluent limitations for noncontinuous dischargers shall be established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology currently available in lieu of the maximum day and average of 30 consecutive day effluent limitations set forth in this subpart.

(e) Sulfite cooking liquor shall be defined as bisulfite cooking liquor when the pH of the liquor is between 3.0 and 0.0 and as acid sulfite cooking liquor when the pH is less than 3.0.

§ 430.102 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop, and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategory and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.
(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production subject to such operations.

(b) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of wet barking operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production subject to such operations.

(c) The following limitations establish the quantity or quality of pollutants or pollutant parameters, controlled by this section, resulting from the use of log washing or chip washing operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production subject to such operations.

(d) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of log flumes or log ponds, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production subject to such operations.

(e) The following limitations establish the quantity or quality of pollutants or pollutant parameters, controlled by this section, resulting from the use of sulfite cooking liquor and barometric condensers, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production subject to such operations.
the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology currently available in lieu of the maximum day and average of 30 consecutive day effluent limitations set forth in this subpart.

§ 430.112 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different from that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of logs which are subject to such operations.

Subpart K—Dissolving Sulfite Pulp Subcategory

§ 430.110 Applicability; description of the dissolving sulfite pulp subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of pulp by dissolving sulfite mills.

§ 430.111 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production in air-dry tons (10 percent moisture) divided by the number of operating days during that year. Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(c) Wet barking operations shall be defined to include hydraulic barking operations and wet drum barking operations which are those drum barking operations that use substantial quantities of water in either water sprays in the barking drums or in a partial submersion of the drums in a tank of water.

(d) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with the effluent limitations established by this subpart for noncontinuous dischargers and also requires compliance with maximum daily and average of 30 consecutive days effluent limitations. Such maximum daily and average of 30 consecutive days effluent limitations for noncontinuous dischargers shall be established by the NPDES authority in
### Rules and Regulations

#### Subpart L—Groundwood-Chemical Mechanical Subcategory

<table>
<thead>
<tr>
<th>Efficient Limitations</th>
<th>Averages of Daily Values</th>
<th>Annual Averages of Daily Values for 1 yr</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effluent character-</strong></td>
<td><strong>Maximum</strong></td>
<td><strong>Minimum</strong></td>
</tr>
<tr>
<td><strong>istics</strong></td>
<td>for any 1 day</td>
<td>shall not exceed</td>
</tr>
<tr>
<td><strong>BOD</strong></td>
<td>0.15</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>TSS</strong></td>
<td>0.15</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>-</td>
<td>Within the range 6.0 to 9.0</td>
</tr>
</tbody>
</table>

**English units (pounds per ton of product):**

<table>
<thead>
<tr>
<th>Efficient Limitations</th>
<th>Averages of Daily Values</th>
<th>Annual Averages of Daily Values for 1 yr</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effluent character-</strong></td>
<td><strong>Maximum</strong></td>
<td><strong>Minimum</strong></td>
</tr>
<tr>
<td><strong>istics</strong></td>
<td>for any 1 day</td>
<td>shall not exceed</td>
</tr>
<tr>
<td><strong>BOD</strong></td>
<td>0.15</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>TSS</strong></td>
<td>0.15</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>-</td>
<td>Within the range 6.0 to 9.0</td>
</tr>
</tbody>
</table>

**Metric units (kilograms per 1,000 kg of product):**

<table>
<thead>
<tr>
<th>Efficient Limitations</th>
<th>Averages of Daily Values</th>
<th>Annual Averages of Daily Values for 1 yr</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effluent character-</strong></td>
<td><strong>Maximum</strong></td>
<td><strong>Minimum</strong></td>
</tr>
<tr>
<td><strong>istics</strong></td>
<td>for any 1 day</td>
<td>shall not exceed</td>
</tr>
<tr>
<td><strong>BOD</strong></td>
<td>0.15</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>TSS</strong></td>
<td>0.15</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>-</td>
<td>Within the range 6.0 to 9.0</td>
</tr>
</tbody>
</table>

**Subpart L—Groundwood-Chemical Mechanical Subcategory**

§ 430.120 Applicability; description of the groundwood-chemical-mechanical subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of pulp and paper by groundwood chemical-mechanical mills.

§ 430.121 Specialized definitions.

For the purposes of this subpart:

(a) Except as provided below, the general definitions, abbreviations, and methods of analysis set forth in 40 CFR Part 430 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine coating where applicable) divided by the number of operating days during that year. Paper production shall be measured in the off-the-machine moisture content whereas market pulp shall be measured in air-dry tons (10% moisture). Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(c) Wet barking operations shall be defined to include hydraulic barking operations and wet drum barking operations which are those drum barking operations that use substantial quantities of water in either water sprays in the barking drums or in a partial submersion of the drums in a "tub" of water.

(d) A non-continuous discharger is a mill which is prohibited by the appropriate authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with the efficient limitations established by this subpart.
for non-continuous dischargers and also requires compliance with maximum day and average of 30 consecutive days effluent limitations. The average of 30 consecutive days effluent limitations for non-continuous dischargers shall be set forth in the NPDES permit.

§ 430.122 Effluent limitations guidelines and standards. Except that all point sources subject to the provisions of this subpart, these limitations are in addition to the limitations set forth in paragraph (a) of this section, resulting from the use of logs or log ponds, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section.

The following limitations establish the quantity or quality of pollutants or pollutant parameters, controlled by this section, resulting from the use of log flumes or log ponds, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations.

<table>
<thead>
<tr>
<th>Effluent Limitations</th>
<th>Average of daily values for 30 consecutive days</th>
<th>Annual average of daily values for 1 yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric units (kilograms per 1,000 kg of product)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BOD</strong></td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>TSS</strong></td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Within the range 6.0 to 9.0</td>
<td></td>
</tr>
<tr>
<td>English units (pounds per ton of product)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BOD</strong></td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>TSS</strong></td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Within the range 6.0 to 9.0</td>
<td></td>
</tr>
</tbody>
</table>

The following limitations establish the quantity or quality of pollutants or pollutant parameters, controlled by this section, resulting from the use of logs or log ponds, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs and/or chips which are subject to such operations.

<table>
<thead>
<tr>
<th>Effluent Limitations</th>
<th>Average of daily values for 30 consecutive days</th>
<th>Annual average of daily values for 1 yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric units (kilograms per 1,000 kg of product)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Zinc</strong></td>
<td>0.05</td>
<td>0.07</td>
</tr>
<tr>
<td>English units (pounds per ton of product)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Zinc</strong></td>
<td>0.05</td>
<td>0.07</td>
</tr>
</tbody>
</table>
§ 430.130 Applicability; description of the groundwood-thermo-mechanical subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of pulp and paper by groundwood thermo-mechanical mills.

§ 430.131 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production is defined as the annual off-the-machine production (including off-the-machine coating where applicable) divided by the number of operating days during that year. Paper production shall be calculated in the machine moisture content whereas market-pulp shall be measured in air-dry tons (10% moisture). Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(c) Wet barking operations shall be defined to include hydraulic barking operations and wet drum barking operations where drum barking operations take substantial quantities of water in either water sprays in the barking drums or in a partial submersion of the drums in a "tub" of water.

(d) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than normal upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires certain controls which are subject to the annual average of 30 consecutive days effluent limitations. Such maximum day and average of 30 consecutive days effluent limitations for non-continuous dischargers shall be established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of the application of best practicable control technology currently available in lieu of the maximum day and average of 30 consecutive days effluent limitations set forth in this subpart.

§ 430.132 Effluent limitations guidelines and standards for the groundwood-thermo-mechanical mill.

In establishing the limitations set forth in this section, the EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, and ideal and actual usage) which can affect the industry subcategory and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from those factors considered in the establishment of the guideline. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be applied in accordance with the guidelines established by the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

The following limitations establish the quality or quantity of pollutants or pollutant parameters, controlled by this section, resulting from the use of log washing or chip washing operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to those set forth in paragraph (a) of this section, and shall be calculated using the proportion of the mill's total production due to use of logs and/or chips which are subject to such operations.

<table>
<thead>
<tr>
<th>Effluent limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum daily values for 30 consecutive days shall not exceed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Metric units (kilograms per 1,000 kg of product)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bod 0.05</td>
</tr>
<tr>
<td>Ph 0.6</td>
</tr>
<tr>
<td>English units (pounds per ton of product)</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Bod 0.01</td>
</tr>
<tr>
<td>Ph 0.05</td>
</tr>
</tbody>
</table>

(b) The following limitations establish the quality or quantity of pollutants or pollutant parameters, controlled by this section, resulting from the use of wet barking operations, which may be discharge by a point source subject to the provisions of this subpart. These limitations are in addition to those set forth in paragraph (a) of this section, and shall be calculated using the proportion of the mill's total production due to use of logs and/or chips which are subject to such operations.
(f) For those mills using zinc hydro-sulfite as a bleaching agent in the manufacturing process, the following effluent limitations are to be added to the base limitations set forth in paragraph (a):

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Metric units (kilograms per 1,000 kg of product)</th>
<th>Metric units (kilograms per 1,000 kg of product)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>0.10</td>
<td>0.05</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range of 6.0 to 9.0</td>
<td></td>
</tr>
</tbody>
</table>

English units (pounds per ton of product)

- BOD: 0.2
- pH: 6.7

Subpart N—Groundwood-CMN Papers Subcategory

§ 340.140 Applicability; description of the groundwood-CMN papers subcategory.

The provisions of this subpart are applicable to discharges resulting from the integrated production of pulp and coarse paper, molded pulp products, and newspaper by groundwood mills.

§ 340.141 Specialized definitions.

For the purpose of this subpart: (a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine coating where applicable) divided by the number of operating days during that year. Paper production shall be measured in the off-the-machine moisture content whereas market pulp shall be measured in air-dry-tons (10% moisture). Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(c) Wet drum barking operations shall be defined to include hydraulic barking operations and wet drum barking operations which use substantial quantities of water in the barking of logs or in washing the barking drums or in a partial submersion of the drums in a "tub" of water.

(d) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with maximum daily and average of 30 consecutive days effluent limitations. Such maximum day and average of 30 consecutive days effluent limitations for non-continuous dischargers shall be established by the NPDES authority. In the form of concentrations which, reflect waste water treatment levels that are representative of best practicable control technology currently available in lieu of the maximum day and average of 30 consecutive day effluent limitations set forth in this subpart.

§ 340.142 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop, and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect these limitations have not been available and, as a result, these limitations are not consistent for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator or to the State, if the State has the authority to issue NPDES permits that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharges are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence, or other available evidence, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for those plants limitations different from those established for plants which do not have such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or institute proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of wet drum barking operations, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available, except that all point sources other than non-continuous dischargers shall not be subject to the annual average limitations, and that non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Metric units (kilograms per 1,000 kg of product)</th>
<th>Metric units (kilograms per 1,000 kg of product)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>7.45</td>
<td>5.0</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range of 6.0 to 9.0</td>
<td></td>
</tr>
</tbody>
</table>

English units (pounds per ton of product)

- BOD: 14.5
- pH: 6.5

(b) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of wet drum barking operations, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available, except that all point sources other than non-continuous dischargers shall not be subject to the annual average limitations, and that non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Metric units (kilograms per 1,000 kg of product)</th>
<th>Metric units (kilograms per 1,000 kg of product)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>1.26</td>
<td>0.55</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range of 6.0 to 9.0</td>
<td></td>
</tr>
</tbody>
</table>

English units (pounds per ton of product)

- BOD: 2.5
- pH: 6.5

FEDERAL REGISTER, VOL 42, NO. 4—THURSDAY, JANUARY 6, 1977
(c) The following limitations establish the quantity or quality of pollutants or pollutant parameters, controlled by this section, resulting from the use of log washing or chip washing operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs and/or chips which are subject to such operations.

### Effluent Limitations

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Maximum Daily Average Value</th>
<th>Annual Average Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD₅</td>
<td>0.25</td>
<td>20</td>
</tr>
<tr>
<td>TS</td>
<td>0.4</td>
<td>4</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0 to 9.0</td>
<td></td>
</tr>
</tbody>
</table>

### Subpart O—Groundwood—Fine Papers Subcategory

#### § 340.150 Applicability; description of the groundwood-fine papers subcategory.

The provisions of this subpart are applicable to discharges resulting from the integrated production of pulp and fine paper by groundwood and fine papers.

#### § 340.151 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine coating where applicable) divided by the number of operating days during that year. Paper production shall be measured in the off-the-machine moisture content whereas market pulp shall be measured in air-dry tons (10% moisture). Production shall be determined from each mill based upon past production practices, present trends, or committed growth.

(c) Wet-barking operations shall be defined to include hydraulic barking operations and wet-drum barking operations which are those drum barking operations that use substantial quantities of water in either water sprays in the barking drums or in a partial submergence of the drums in a 'tub' of water.

(d) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with maximum day and average of 30 consecutive days effluent limitations. Such maximum day and average of 30 consecutive days effluent limitations for non-continuous dischargers shall be established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology currently available in lieu of the maximum day and average of 30 consecutive day effluent limitations set forth in this subpart.

#### § 340.152 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested party may present evidence to the Regional Administrator for or to the State if the State has the authority to issue NPDES permits that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The States may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(e) The following limitations establish the quantity or quality of pollutants or pollutant parameters, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available, except that all point sources other than non-continuous dischargers shall not be subject to the annual average limitations, and that non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations.
Subpart P—Soda Subcategory

§ 430.160 Applicability; description of the soda subcategory.

The provisions of this subpart are applicable to discharges resulting from the integrated production of pulp and paper by soda mills.

§ 430.161 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations, and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine casting where applicable) divided by the number of operating days during that year. Paper production shall be measured in the off-the-machine moisture content whereas market pulp shall be measured in air-dry-tons (10 percent moisture). Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(c) Wet barking operations shall be defined to include hydraulic barking operations and wet drum barking operations which are those drum barking operations that use substantial quantities of water in either water sprays in the barking drums or in a partial submission of the drums in a "tub" of water.

(d) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with the effluent limitations established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology currently available in lieu of the maximum day and average of 30 consecutive days effluent limitations. Such maximum day and average of 30 consecutive days effluent limitations for non-continuous dischargers shall be established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology currently available in lieu of the maximum day and average of 30 consecutive days effluent limitations set forth in this subpart.

§ 430.162 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took full information it was able to collect, develop and solicit with respect to factors such as age and size of plant, raw materials, manufacturing processes, products produced, treatment plant energy requirements and costs which may affect the industry subcategorization
and effluent levels established. It is however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator for the purposes of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Maximum允许</th>
<th>Annual average for one year</th>
<th>Annual average daily values for one year</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>0.05</td>
<td>0.10</td>
<td>0.01</td>
</tr>
<tr>
<td>pH</td>
<td>7.0</td>
<td>7.2</td>
<td>7.0</td>
</tr>
<tr>
<td>TS</td>
<td>2.0</td>
<td>4.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

(c) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of wet banking operations, which may be discharged by a point source subject to the provisions of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Maximum允许</th>
<th>Annual average for one year</th>
<th>Annual average daily values for one year</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>0.05</td>
<td>0.10</td>
<td>0.01</td>
</tr>
<tr>
<td>pH</td>
<td>7.0</td>
<td>7.2</td>
<td>7.0</td>
</tr>
<tr>
<td>TS</td>
<td>2.0</td>
<td>4.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Subpart Q-Deink Subcategory

§ 130.170 Applicability; description of the deink subcategory.

The provisions of this subpart are applicable to discharges resulting from the integrated production of pulp and paper by deink mills.

§ 130.171 Specialized definitions.

For the purpose of this subpart: (a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine coating where applicable) divided by the number of operating days during that year. Paper production shall be measured in the off-the-machine moisture content unless market pulp shall be measured in air-dry-tons (10% moisture). Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(c) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibitions described above, requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with maximum day and average of 30 consecutive days effluent limitations.
for non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subsection after application of the best practicable control technology currently available, except that all point sources other than non-continuous dischargers shall not be subject to the annual average limitations, and that non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations.

§ 430.182 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subsection after application of the best practicable control technology currently available, except that all point sources other than non-continuous dischargers shall not be subject to the annual average limitations, and that non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations.
RULES AND REGULATIONS

<table>
<thead>
<tr>
<th>Subpart E—NI Tissue Papers Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td>§ 430.190 Applicability; description of the NI tissue papers subcategory,</td>
</tr>
<tr>
<td>The provisions of this subpart are applicable to discharges resulting from the production of tissue papers by non-integrated mills.</td>
</tr>
<tr>
<td>§ 430.191 Specialized definitions.</td>
</tr>
<tr>
<td>For the purpose of this subpart:</td>
</tr>
<tr>
<td>(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.</td>
</tr>
<tr>
<td>(b) Production shall be defined as the annual off-the-machine production (stating off-the-machine coating where applicable) divided by the number of operating days during that year. Production shall be in terms of off-the-machine moisture content. Production shall be determined for each mill based upon past production practices, present trends, or committed growth.</td>
</tr>
<tr>
<td>(c) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with maximum daily and average of 30 consecutive days effluent limitations for non-continuous dischargers and also requires compliance with maximum daily and average of 30 consecutive days effluent limitations. Such maximum daily and average of 30 consecutive days effluent limitations for non-continuous dischargers shall be established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology currently available and in lieu of the maximum daily and average of 30 consecutive days effluent limitations set forth in this subpart.</td>
</tr>
<tr>
<td>§ 430.192 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available in lieu of the maximum daily and average of 30 consecutive days effluent limitations set forth in this subpart,</td>
</tr>
<tr>
<td>In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and collate with respect to factors such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs which can affect the industry classification and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such dischargers are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) may make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.</td>
</tr>
<tr>
<td>(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available, except that point sources other than non-continuous dischargers shall not be subject to the annual average limitations, and that non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subpart F—NI Tissue (FWP) Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td>§ 430.200 Applicability; description of the FWP tissue (FWP) subcategory,</td>
</tr>
<tr>
<td>The provisions of this subpart are applicable to discharges resulting from the production of tissue paper from waste paper by non-integrated mills.</td>
</tr>
<tr>
<td>§ 430.201 Specialized definitions.</td>
</tr>
<tr>
<td>For the purpose of this subpart:</td>
</tr>
<tr>
<td>(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.</td>
</tr>
<tr>
<td>(b) Production shall be defined as the annual off-the-machine production (stating off-the-machine coating where applicable) divided by the number of operating days during that year. Production shall be in terms of off-the-machine moisture content. Production shall be determined for each mill based upon past production practices, present trends, or committed growth.</td>
</tr>
<tr>
<td>(c) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with maximum daily and average of 30 consecutive days effluent limitations for non-continuous dischargers and also requires compliance with maximum daily and average of 30 consecutive days effluent limitations. Such maximum daily and average of 30 consecutive days effluent limitations for non-continuous dischargers shall be established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology currently available in lieu of...</td>
</tr>
</tbody>
</table>
§ 430.202 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to develop and solicit with respect to factors such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available, except that all point sources other than non-continuous dischargers shall not be subject to the annual average limitations, and that non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations.

§ 430.210 Applicability; description of the papergrade sulfite (drum wash) subcategory.

The provisions of this subpart are applicable to discharges resulting from the integrated production of pulp and paper by papergrade sulfite mills, using vacuum or pressure drums in their pulp washing operations.

§ 430.211 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine cooking where applicable) divided by the number of operating days during that year. Paper production shall be measured in the off-the-machine moisture content whereas market pulp shall be measured in air-dry-tons (10% moisture). Production shall be determined for each mill based upon past production practices, present traction, or committed growth.

(c) Wet barking operations shall be defined to include hydraulic barking operations and wet drum barking operations which are those drum barking operations that use substantial quantities of water in either water sprays in the barking drums or in a partial submersion of the drums in a "tub" of water.

(d) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with maximum day and average of 30 consecutive days effluent limitations. Such maximum day and average of 30 consecutive days effluent limitations for non-continuous dischargers shall be established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology currently available in lieu of the maximum day and average of 30 consecutive day effluent limitations set forth in this subpart.

(e) Sulfite cooking liquor shall be defined as bleached cooking liquor when the pH of the liquor is between 3.0 and 6.0 and as acid sulfite cooking liquor when the pH is less than 3.0.

§ 430.212 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to develop and solicit with respect to factors such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator or the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different

---

The table below provides effluent limitations for specific substances:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Maximum Value</th>
<th>Annual Average Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bod</td>
<td>15.7</td>
<td>7.1</td>
</tr>
<tr>
<td>Ph</td>
<td>7.8-7.9</td>
<td>9.0</td>
</tr>
<tr>
<td>Eff</td>
<td>8.9</td>
<td>10.1</td>
</tr>
</tbody>
</table>

---

The figures below represent concentrations in various units:

- COD: 15.7 kg/1,000 kg of product
- Ph: Between 7.8 and 7.9
- Eff: 8.9

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Subpart U—Papergrade Sulfite (Drum Wash) Subcategory

§ 430.210 Applicability; description of the papergrade sulfite (drum wash) subcategory.

The provisions of this subpart are applicable to discharges resulting from the integrated production of pulp and paper by papergrade sulfite mills, using vacuum or pressure drums in their pulp washing operations.

§ 430.211 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this subpart.

(b) Production shall be defined as the annual off-the-machine production (including off-the-machine cooking where applicable) divided by the number of operating days during that year. Paper production shall be measured in the off-the-machine moisture content whereas market pulp shall be measured in air-dry-tons (10% moisture). Production shall be determined for each mill based upon past production practices, present traction, or committed growth.

(c) Wet barking operations shall be defined to include hydraulic barking operations and wet drum barking operations which are those drum barking operations that use substantial quantities of water in either water sprays in the barking drums or in a partial submersion of the drums in a "tub" of water.

(d) A non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with the effluent limitations established by this subpart for non-continuous dischargers and also requires compliance with maximum day and average of 30 consecutive days effluent limitations. Such maximum day and average of 30 consecutive days effluent limitations for non-continuous dischargers shall be established by the NPDES authority in the form of concentrations which reflect waste water treatment levels that are representative of application of best practicable control technology currently available in lieu of the maximum day and average of 30 consecutive day effluent limitations set forth in this subpart.

(e) Sulfite cooking liquor shall be defined as bleached cooking liquor when the pH of the liquor is between 3.0 and 6.0 and as acid sulfite cooking liquor when the pH is less than 3.0.

§ 430.212 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to develop and solicit with respect to factors such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator or the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors.
factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of log washing or chip washing operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production subject to such operations.

<table>
<thead>
<tr>
<th>Effluent limitations</th>
<th>Efficient character-</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
<th>Effluent limitations</th>
<th>Efficient character-</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5 (kilograms per 1,000 kg of product)</td>
<td>0.25</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSS (milliseconds)</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of wet banking operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production subject to use of logs which are subject to such operations.

<table>
<thead>
<tr>
<th>Effluent limitations</th>
<th>Efficient character-</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
<th>Effluent limitations</th>
<th>Efficient character-</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5 (kilograms per 1,000 kg of product)</td>
<td>0.25</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSS (milliseconds)</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(c) The following limitations establish the quantity or quality of pollutants or pollutant parameters, controlled by this section, resulting from the use of log flumes or log ponds, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production subject to such operations.

<table>
<thead>
<tr>
<th>Effluent limitations</th>
<th>Efficient character-</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
<th>Effluent limitations</th>
<th>Efficient character-</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5 (kilograms per 1,000 kg of product)</td>
<td>0.25</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSS (milliseconds)</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(d) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of acid sulfite cooking liquor and barometric condensers (not including those mills using continuous digesters), which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production subject to such operations.

<table>
<thead>
<tr>
<th>Effluent limitations</th>
<th>Efficient character-</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
<th>Effluent limitations</th>
<th>Efficient character-</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5 (kilograms per 1,000 kg of product)</td>
<td>0.25</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSS (milliseconds)</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(e) The following limitations establish the quantity or quality of pollutants or pollutant parameters, controlled by this section, resulting from the use of bisulfite cooking liquor and barometric condensers (not including those mills using continuous digesters), which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production subject to such operations.

<table>
<thead>
<tr>
<th>Effluent limitations</th>
<th>Efficient character-</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
<th>Effluent limitations</th>
<th>Efficient character-</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5 (kilograms per 1,000 kg of product)</td>
<td>0.25</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSS (milliseconds)</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
which require the application of the best available guidelines for effluent limitations as defined and established by the Administrator pursuant to section 304(b) of the Act.

The definitions of the subcategories in the preamble to the interim final regulations have been revised and are given below.

(3) Subpart K—Dissolving Sulphite Pulp Subcategory. This subcategory includes mills which produce a high-quality bleached pulp by a "full cook" process utilizing a highly alkaline sodium hydroxide and sodium sulfide cooking liquor. Included in the manufacturing process is a "pre-cook" operation termed prehydrolysis. The principal product made by this process is a bleached pulp used principally for use in the manufacture of newsprint. Effluent Limitations are calculated taking into account the virtual absence of lignin and a very high alpha cellulose content.

(b) The following limitations establish the quantity or quality of pollutants or pollutant parameters, controlled by this section, resulting from the use of continuous digesters, which may be discharged to a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production subject to such operations.

APPENDIX A  
LEGAL AUTHORITY

Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act.

APPENDIX B  
TECHNICAL STANDARDS AND BASIS FOR REGULATIONS

For the purpose of identifying the best practicable control technology currently available and in order to establish effluent limitations for other sources, the pulp, paper, and allied products industry was divided into sixteen discrete subcategories, primarily based on a consideration of the raw materials utilized, production processes employed, products manufactured, and age of mills, waste water characteristics and treatability, geographical location, and costs and effectiveness of pollution control procedures and technologies. The Administrator, by regulations entitled "Development Document for Final Rulemaking for the Bleached Kraft, Groundwood, Sulphite, Soda, Delink, and Non-Integrated Paper Mills Segment of the Pulp, Paper, and Paperboard Point Source Category," the definitions of the subcategories in the preamble to the interim final regulations have been revised and are given below.

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process include facial and toilet papers, glass-, size, paper diapers, and paper towels.

(18) Subpart U—Papergrade Sulfité (Drum Wash) Substitutes for Woodpulp. These products include integrated production of sulfite pulp and paper. The sulfite pulp is produced in a "full cook" process using an acidic cooking liquor of sulfates of calcium, magnesium, ammonium, or sodium. Following the cooking operations, the lignin is removed from the pulp on vacuum or pressure drums. Also included are mills using belt extraction systems for pulp washing. The products made from pulp manufactured by these processes are tissue papers, fine papers, newspapers, and market pulp.

APPENDIX C
SUMMARY OF PUBLIC PARTICIPATION

Prior to this publication, many agencies and groups were consulted and had the opportunity to participate in the development of effluent limitations and standards proposed for the proposed category. An initial draft of the Development Document was sent to all participants and comments were solicited on that draft. These comments were reviewed with a result that numerous significant changes were made. A second draft of the Development Document entitled "Development Document for Advanced Notice of Proposed or Promulgated Rule Making on Effluent Limitations Guidelines and Standards for the Pulp, Paper, and Paperboard Mills Point Source Category" (August 1975) was also distributed for comment. The Notice of Proposed or Promulgated Rulemaking was published in the FEDERAL REGISTER on September 3, 1975, and the "Development Document for Interim Final and Proposed Effluent Limitations Guidelines and New Source Performance Standards for the Bleached Kraft, Groundwood, Sulfité, Soda, Deink, and Non-Integrated Paper Mills Segment of the Pulp, Paper, and Paperboard Point Source Category" (July 1976) was also distributed for comment. This notice and comments were solicited, and the maximum possible participation of interested parties prior to promulgation of the effluent limitations and standards is sought. The final regulations as set forth contain a number of changes from the interim final regulations as published in the FEDERAL REGISTER on February 19, 1976, and the "Development Document for Interim Final and Proposed Effluent Limitations Guidelines and New Source Performance Standards for the Bleached Kraft, Groundwood, Sulfité, Soda, Deink, and Non-Integrated Paper Mills Segment of the Pulp, Paper, and Paperboard Point Source Category" (July 1976) was also distributed for comment. All interested parties following the FEDERAL REGISTER notice and comments were solicited. A substantial number of comments were received, some of which provided new information and data. Review of the comments and analysis of the submitted information has resulted in the development of effluent limitations and standards that, in the judgment of the Agency, are appropriate and reasonable. These limitations and standards have been developed following an appropriate sequence of data collection and analysis. The limitations and standards are presented in the final regulations. The following are the principal agencies and groups consulted: (1) Efficient Standards and Water Quality Information Advisory Committee; (2) all State and U.S. Territory Pollution Control Agencies; (3) other public agencies identified in their comments; (4) U.S. Department of the Interior; (5) U.S. Department of Health, Education, and Welfare; (6) Environmental Defense Fund, Inc.; (7) Natural Resources Defense Council; (8) Water Pollution Control Federation; (9) Wisconsin Department of Transportation; (10) U.S. Department of Transportation; (11) Tennessee Valley Authority; (12) U.S. Department of Housing and Urban Development; (13) U.S. Department of Agriculture; (14) U.S. Nuclear Regulatory Commission; (15) U.S. Department of Defense; (16) U.S. Internal Revenue Service; (17) U.S. Nuclear Regulatory Commission on Water Quality; (18) U.S. Federal Energy Administration; (19) Water Resource Council; (20) Council on Environmental Quality; (21) National Academy of Sciences; (22) National Academy of Engineering; (23) American Society of Mechanical Engineers; (24) Businessman for the Public Interest; (25) The American Paper Institute; and (26) the Krakst Watton League.

The following responded with comments on the Notice of Proposed or Promulgated Rule Making for Effluent Limitations for Advanced Notice of Proposed or Promulgated Rulemaking was published in the FEDERAL REGISTER, VOL 42, NO. 4-THURSDAY, JANUARY 6, 1977

0. Several comments were received that stated that the low alpha dissolving pulp mill category should be further divided to take into account the differences in raw waste load resulting from the production of the different grades of pulp (nitration, viscoso, and cellulose) produced by mills within the subcategory. Data were submitted showing raw waste loads associated with the production of each grade. The Agency has carefully examined the submitted data and has determined that significant differences in raw waste loads result from the production of different grades of dissolving sulfite pulp. Previous analyses for this category and similar categories in the past have been based upon its pilot plant operations to determine the effluent quality. This has been, in part, because reliable data are not available. One commenter stated that drawing any conclusion using these data is questionable both on statistical and practical grounds. The commenter recommended setting effluent limitations on mill-by-mill basis as an alternative or delaying establishment of effluent limitations Until more full scale biological treatment data are available.

Because of the limited application of full scale biological treatment systems at papergrade mill 512, the Agency has developed the effluent limitations for these mills based upon both full scale systems to achieve significant effluent reductions and full scale biological treatment. The Agency has also developed effluent limitations for the pulp, paper, and paperboard mill category for the papergrade mill 512. These limitations were proposed in the FEDERAL REGISTER on September 3, 1975, and have been promulgated as final in the FEDERAL REGISTER on February 19, 1976, and are now in effect.

The Agency agrees that pilot plants are sometimes operated under certain controls in order to determine how effectively the treatment system is in reducing the raw waste load. However, in scale-up to a full sized system, conservative design considerations are generally included in designing the pieces of equipment in order to assure achievement of a specific effluent quality. This has been demonstrated by mill 512. Pilot plant data have been used in setting effluent limitations for the papergrade mill 512. Mill 512 is now designing and installing full scale biological treatment systems and is expected to exceed the limits established by the pilot plant. Thus, the Agency believes that the use of pilot plant data along with full scale data is entirely proper.

The effluent limitations are based upon both activated sludge systems (AS) and aerated stabilization basins (ASS) and are based upon the assumption that these systems are capable of achieving the effluent limitations and exclusion of activated sludge systems would therefore be inappropriate. Commentators contend that activated sludge systems can achieve better effluent qualities on an annual basis than aerated stabilization basins with standard designs. However, the commenters have also stated that the effluent limitations are no higher than effluent variabilities than aerated stabilization basins. The statistical reliability section of the regulations provides for minimum 30-day background and maximum 30 consecutive days and maximum day effluent limitations have been established for each system and have been included for each system. Furthermore, examination of treatment systems in use in mills in other subcategories which have extensive experience with biological treatment performance shows that in many cases aerated stabilization basins are achieving better quality effluents than activated sludge systems. The commenter that activated sludge systems cost more than aerated stabilization basins was considered in the economic impact analysis. In gen-
eral, it was determined that mills can install activated sludge treatment systems and maintain a competitive profitability level.

The Agency has carefully reexamined the approach of proposing to require one half time the pollutants discharged over the long term daily average. The Agency expressed concern that the proper treatment system would be more consistent with the goals set forth by Congress and based upon the best practicable control technology currently available.

8. One commenter was concerned that clarifier unsteady operations in the treatment of raw intake water was not considered in the development of the effluent limitations. This source of wastewater was not specifically addressed in the evaluation of data from the mills considered in determining the effluent limitations. However, a number of mills that discharge the raw wastewater sludge to the process wastewater treatment facilities were included in the data analyses that determined the effluent limitations. The Agency believes that clarifier unsteady operations in the treatment of raw wastewater should be treated prior to discharge and may be addressed in the NPDES permit.

11. Several commenters felt that the Agency should either justify the assumption that the operating costs of internal controls are canceled by the operating benefits or include these costs in the Development Document and in the economic impact analysis.

The Agency has carefully reexamined the operating costs and benefits of internal controls and in every case except one has determined that the operating costs of internal controls are more than offset by the operating benefits. In fact, in one case a number of internal controls were earning positive returns on investment that were sufficient to meet the manufacturing process and pollution control. For these reasons, the capital costs for these controls were deleted from the economic impact analyses that are presented in the Development Document, Section VIII.

It should be pointed out that based upon further information and data the list of internal controls applicable to RPTCA has been revised to include additional internal controls. Operating and mainte-
rance costs were again determined to be
more than offset by the operating benefits of
the controls, and thus operating costs were
not included in the annual costs. One ex-
ception, as mentioned above, is the internal
costs of maintaining the controls and evalu-
ingar which was determined to have no operat-
ing costs associated with it. These costs are
included in the Development Document for the
subcategories and have been revised to show
the appropriate levels of recovery in the
TSS levels used in the interim final regula-
tions. From information available, it is esti-
mated that the TSS levels used in the final
regulation will be at least 80 percent recovery.

Several commenters were concerned
that the calculations did not account for
the technical problems of dewatering
reported in the Development Document and
stated that the technical problems described in
the development phase of the Agency's
development were not correctly represented in
the final regulations. The Agency noted that the
government location and land availability factors
were examined and correct economic impact
analysis for sulfite mills. Since sulfite mills
which are limited in their raw waste load
collection and disposal systems were included in
the development Document and the eco-
nomic impact analysis, the Agency deter-
mined that further subcategorization during
or the land availability would not be neces-
sary.

10. Several commenters objected to the
methodology used to determine the effluent
limitations for the sulfite subcategories stat-
ing that the Agency should base the limita-
tions on concentrations actually obtained by
multiple mills and not exclusively by a single
milling mill. The Agency carefully evaluated
the methodologies presented by the comments
in the development phase of the Agency's
draft Document and the comments were used
to determine achievable concentrations through
use of biological treatment. (See Comment No. 3).

11. Several commenters stated that the
energy estimates in the development Document
were too low and suggested that the Agency re-
examine the basis for the estimates.

The basis for the energy estimates have
been determined and the development Document
has been revised to show the appropri-
tate changes.

12. A number of commenters stated
that the Agency's evaluation of the factors af-
fecting flow and raw waste load from mills in
the groundwater, bloomed Kraft, soft, and
drum grades sulfite mills was inadequate. One
of the factors with which the commenters were
concerned was the raw waste load. Since the
Agency is the Environmental Protection Agency,
its determination of raw waste load from mills
was not considered necessary.

13. Several commenters stated that the
draft development Document did not con-
avert any of the factors affecting the raw waste
load in the sulfite industry. The Agency has
carefully explained that the basis for the
draft development Document was the appro-
priate level of recovery in the final
regulation.

14. Several commenters were concerned
that the calculations did not account for
the technical problems of dewatering
reported in the Development Document and
stated that the technical problems described in
the development phase of the Agency's
development were not correctly represented in
the final regulations. The Agency noted that the
government location and land availability factors
were examined and correct economic impact
analysis for sulfite mills. Since sulfite mills
which are limited in their raw waste load
collection and disposal systems were included in
the development Document and the eco-
nomic impact analysis, the Agency deter-
mined that further subcategorization during
or the land availability would not be neces-
sary.
In determining the present subcategory- placement of systems within several of the subcategories, the Agency thoroughly evaluated all of the appropriate factors included above. The comments received were carefully reviewed and because of the length of the arguments presented here, emphasis has been placed on the Development Document. Thus, Section IV, has been expanded to describe more thoroughly the factors which have been taken into account in developing the subcategorization.

19. One commenter was concerned that the Agency did not thoroughly review the differences in raw waste loads between mills and that a range of effluent limitations would be established depending upon the species of data, respectively, included in the data. The Agency believes that it is not necessary to account into any differences in raw waste loads between mills. Mills 106, 127, and 510 were cited as examples for the reported raw waste loads within the same subcategory. Another commenter contended that the differences between mills 106 and 510 were due to the use of hardwood at mill 510 which resulted in higher raw waste loads. The commenter felt that the Agency should take into account the higher raw waste loads due to the use of hardwoods.

The Agency has carefully examined the internal control technologies available to groundwood mills for reduction in raw waste flow volume. See Sections V and VII of the Development Document. The TSS limitations are based upon actual operating data for mills using systems representative of BPCTCA. The value of 600 gallons per square foot per day was identified as a parameter commonly used in designing secondary clarifiers (see treatment plant schematic drawings in Section VII of the Development Document) and was used in determining the costs presented in the Development Document.

21. Several comments were received that were concerned with the yardwood allowance. The comments stated that some allowance for chip thawing or washing should be included and that the limitations should be based upon the yardwood achieved by mills within the same subcategory. One commenter proposed that the systems be directly measured in terms of cords per ton for the groundwood, bleached kraft, and dissolving pulp subcategories. The commenter contended that the Agency has included chip washing and thawing operations, and was received to reflect the different yields achieved by mills in the different pulp processing subgroups. Additional comments have been submitted to the Agency by some commenters that all of the data was used based upon twelve or more months since mills 127 and 510 have been established depending upon the species of woodyard operation; these include: (1)

barking, (2) log transport and defreezing times and materials, (3) log and chip washing and delathing.

23. Several comments were received that stated the Agency estimates were low and that the Agency estimates were based upon annual average performance whereas the regulations are based upon 30 day and daily maximums.

The effluent limitations (30 day and daily maximum) were determined from actual operating data for mills which discharge through to the environment. The limitations were determined upon commonly used design considerations. For example, a number of mills have set as effluent limitations for TSS with detention times ranging from 30 days to 90 days. In this case, costs were presented by mill 309.

The Agency has thoroughly reviewed the Agency estimates in the Development Document and has determined that the costs are up-to-date and accurate.

Four comments were submitted that the Agency should recognize in developing the limitations for biologically treated waste waters with short term storage systems a viable alternative to other mill costs. The Agency stated these systems are reasonably successful in treating waste waters and are in the process of being installed at a number of mills throughout the country. The Agency has identified the internal limitations for these types of systems based upon the maximum 90 consecutive days limitations.

26. One commenter stated that the Agency has identified the internal limitations for these types of systems based upon the maximum 90 consecutive days limitations.

The Agency recognizes that well designed and operated treatment systems may experience variability in effluent quality at plants located in Northern climates as well as mills which are subject to extreme temperature changes. In this regard, the effluent limitations were developed to account for such variability factors based upon annual average and maximum day values that are achieved at plants using systems representative of BPCTCA. The Agency feels that these variability factors are not adequate to provide for effluent variability and it appears that the data provided by the commenter supports the Agency's position. The variability to which the commenter referred is directly related to 2.1 to 3.1 (ratio of maximum 30 day or maximum day values at mills) and 30 consecutive days to annual average and ratio of maximum day to annual average, respectively, which may indicate that the Agency has not taken the comments into account.
The Agency has more than adequately taken his concerns into account.

The comment was received that provided a substantial amount of raw waste and final effluent data for mill 606. The data were used to demonstrate that the proposed limitation for raw waste load presented in the Development Document and used in determining the effluent limitations for mill 506 resulted in higher raw waste loads.

The data on mill 401 have been examined and are included in determining the raw waste load on which the effluent limitations were based for the dissolving sulfite pulp subcategory. The limel data from mill 401 showed significant differences in raw waste load when using either hardwoods or softwoods.

Since mill 401 is the only dissolving sulfite mill using woodpulp, the subcategory raw waste loads have been based upon production of pulp from hardwoods. In other words, the Agency has not included the woodpulp from softwoods.

The comment that the Agency reexamine the availability of the Development Document but only the flow and waste load data and the data provided by the commenter. Therefore, a result, a number of comments have been received that the levels that can be achieved by the application of BCTCA. New data are presented in the Development Document along with a discussion of the methodology and rationale for the determination of the effluent limitations. The Agency believes that the effluent limitations are responsive to the intent of Congress and reflect the goals intended by Congress. In addition, the Agency has attempted to involve all the commenters and to include them in determining the final effluent standards.

The Agency has more than adequately taken these comments into account. The Agency believes that the effluent limitations are responsive to the intent of Congress and reflect the goals intended by Congress.
Since there are presently no mills producing newspaper from 100% thermo-mechanical pulping, it is considered more appropriate at this time to use the subcategory data base on woodmill effluent limitations based on wood BOD which has a higher raw waste load than the predicted performance of 151.6.

35. One comment was received that suggested that the Agency reassess the relationships between raw waste loads and bleaching in Kraft subcategories. The commenter felt that there are numerous factors which are not adequately addressed by the subcategory data base on wood BOD load. Therefore, the commenter did not notice that the correlation may be masked by some extent by other variables. The Agency has reviewed all available data with regard to waste loads generated within the bleach plant at bleached Kraft mills. As the comment implied, the incremental impacts of differences in bleaching are generally masked by other significant variables within the mills. Most of the 20 that are used for calculating the effluent limitations. The Agency believes that the comment accurately reflects the consequences of the calculation methodology employed by the Agency. Therefore, the Agency believes that defining production as the annual average is entirely appropriate since the effluent limitations are based upon annual average production and raw waste loads, these impacts are included in the data base and any impacts are more taken into account in the calculation of the effluent limitations for the bleach plant at bleached Kraft mills. Therefore, raw waste TSS is not as critical a factor as wood BOD and wood TSS.

40. One commenter felt that chemical addition in secondary clarifiers in order to improve suspended solids removal should be included as a necessary component of BPC THCA. BPC THCA has been identified by the Agency to include commonly practiced internal controls, primary treatment, and biological treatment. The biological treatment portion of BPC THCA is necessary to provide biological processes for suspended solids removal. The effluent limitations are based upon wood BOD and chemical addition in secondary clarifiers is a necessary component of the biological treatment portion of BPC THCA. The zinc effluent limitations were revised to be more consistent with the data base. The Agency believes that defining production as the annual average is entirely appropriate since the effluent limitations are based upon annual average production and raw waste loads, these impacts are included in the data base and any impacts are more taken into account in the calculation of the effluent limitations for the bleach plant at bleached Kraft mills. Therefore, raw waste TSS is not as critical a factor as wood BOD and wood TSS.

41. One commenter stated that the effluent limitations for the non-integrated tissue subcategory appear to be achievable with the Agency's existing data and that the explanation of how the actual limitations for this subcategory were determined was somewhat confusing. The commenter requested that the referenced methodology employed by the Agency be clarified.

The explanation of the method used in determining the effluent limitations for the non-integrated tissue subcategory has been included in the Development Document. The explanation of how the effluent limitations for this subcategory were determined is included in the Development Document.
several commenters stated that subcategories should be established for mills discharging to marine waters or into large bodies of water. The commenters suggested that BPCTGA for these mills would be primary treatment only, and make no mention of the context of accepted economic theory. Firms can raise funds in capital markets and do not have to rely on price increases to recover a significant portion of the cost of pollution control. According to economic principles, pollution control should induce price increases and thereby the overall cost to the pulp and paper industry. The estimate of long-term price impacts was computed in this manner.

Nevertheless, the economic analysis explicitly studied whether effluent limitations would lead to short-term-induced price increases by comparing future supply and demand and the effect of pollution control on supply. Supply was estimated by adding a sufficient capacity the announced capacity expansions as reported by the American Paper Institute and the associated cost of pollution control. According to economic principles, pollution control should induce price increases and thereby the overall cost to the pulp and paper industry. The estimate of long-term price impacts was computed in this manner.

53. Several commenters suggested that economic impacts were underestimated because the costs of SSL recovery were excluded. The capital cost of SSL recovery was excluded from the industry-wide cost of compliance estimates because operating savings from such an investment could justify the investment on economic grounds alone. Since the capital costs and operating and maintenance costs are nearly covered by the operating benefits (chemical and heat recovery) provides an incentive for investing in pollution control equipment. In terms of the economic impact analysis, the following procedure for plant closures paid particular attention to whether a mill would be forced to close. Therefore, SSL recovery was explicitly considered in the analysis.

54. Several commenters stated that the economic impact may have been underestimated because the costs in the Development Document and not included. These costs were those associated with evaluation of the possibilities of streamlining existing capacity. In addition, costs were revised reflecting such things as revisions in the costs of sludge disposal and the extent of adjustment in the primary mills. In particular, the commenters noted that the costs of SSL recovery were excluded. The Agency finding that the SSL recovery was not included. In a number of cases, the costs were revised reflecting such things as revisions in the costs of sludge disposal. In the case of streamlining existing capacity, the costs included in the analysis were those associated with evaluation of the possibilities of streamlining existing capacity. In addition, costs were revised reflecting such things as revisions in the costs of sludge disposal and the extent of adjustment in the primary mills. In particular, the commenters noted that the costs of SSL recovery were excluded. The Agency finding that the SSL recovery was not included. In a number of cases, the costs were revised reflecting such things as revisions in the costs of sludge disposal.

55. Some commenters noted that the economic impact may have been underestimated because the costs in the Development Document and not included. These costs were those associated with evaluation of the possibilities of streamlining existing capacity. In addition, costs were revised reflecting such things as revisions in the costs of sludge disposal and the extent of adjustment in the primary mills. In particular, the commenters noted that the costs of SSL recovery were excluded. The Agency finding that the SSL recovery was not included. In a number of cases, the costs were revised reflecting such things as revisions in the costs of sludge disposal.

56. Several commenters noted that the macroeconomic forecast included a recession in
1978 and may have therefore underestimated capacity shortages by underestimating demand.

The economic impact study used a forecast of national economic activity prepared by Chase Econometric Associates, Inc., which included the assumption of a recession in 1978. The analysis also utilized more optimistic forecasts of national economic activity. On the basis of further studies using these optimistic forecasts and thus assuming high demand for product, it was determined that (even after subtracting loss in capacity from mill closures) no significant capacity shortages could be identified.

One commenter was concerned that the BPCTCA TSS effluent limitations were abnormally high, especially in the dissolving sulfate subcategory. The commenter stated that at least one mill may be able to achieve the TSS effluent limitations while improperly operating the mill's treatment facilities by operations such as the following: (1) solids are not removed in the final clarifier to design levels (i.e., improper operation of the clarifier allowing the solids to be discharged over the weir rather than being settled and removed with the sludge) or (2) solids are removed in the clarifier and then are reintroduced back into the final effluent. The commenter felt that allowing pollutants to be discharged by such types of improper treatment facility operations was contrary to the concept of best practicable control technology currently available. The commenter suggested that either the TSS limitations should be made more stringent or that a settleable solids limitation of 1.0 milliliter per liter be established in addition to the TSS limitations.

The Agency has determined the effluent limitations based upon all available data from mills properly operating treatment facilities representative of the best practicable control technology currently available. It is emphasized that the determined effluent limitations are minimum levels of control and more stringent limitations can be established in NPDES permits.

The Agency concurs with the commenter in that improper treatment facility operations are contrary to the intent of Congress in establishing the best practicable control technology currently available. Certainly, treatment facilities should be operated such that pollutants are removed to the maximum efficiency and that pollutants, once removed, should not be allowed to be reintroduced into the final effluent. It should be pointed out that most NPDES permits contain requirements that waste water treatment facilities are to be operated at maximum efficiency at all times.

While establishment of settleable solids effluent limitations in the regulations is not appropriate at this time, the Agency feels that requirements for settleable solids limitations of 1.0 milliliter per liter in NPDES permits would be proper in such cases.