

**SUBCHAPTER B: RECYCLING, REUSE, AND MATERIALS RECOVERY**  
**§§328.6 - 328.9**  
**Effective September 12, 2002**

**§328.6. Purpose and Scope.**

(a) Purpose. The purpose of this subchapter is to establish reporting requirements through which progress toward achieving the established recycling goals can be measured. It is the state's goal to achieve the recycling of at least 40% of the state's total municipal solid waste stream.

(b) Scope. These sections shall be used to determine local, regional, and statewide recycling rates. These sections also provide guidance for determining waste stream reduction and per capita waste generation rates.

Adopted August 11, 1999

Effective September 5, 1999

**§328.7. Definitions of Terms and Abbreviations.**

The following words and terms, when used in this subchapter shall have the following meanings, unless the context clearly indicates otherwise.

(1) **Base year** - The year 1990 used as a reference for recycling credit limits and for determining the amount of waste reduced at the source.

(2) **Municipal sludge** - Any solid, semisolid, or liquid waste generated from a municipal wastewater treatment plant, water supply treatment plant, or any other such waste having similar characteristics and effect, exclusive of the treated effluent from a wastewater treatment plant.

(3) **Net tons of waste exported** - The difference between that portion of the municipal waste stream generated within specific geographic boundaries and exported for disposal and that portion which is generated outside the boundaries and imported for disposal during a specified time period.

(4) **Recycled product** - A product which conforms to the minimum content of recycled material as specified in the Comprehensive Procurement Guidelines (CPG) and the Recovered Materials Advisory Notice (RMAN) published by the Environmental Protection Agency (EPA). The following is a list of the EPA guidelines:

(A) CPG I, as amended through May 1, 1995, at 60 Federal Register (FR)

21370;

- (B) RMAN I, as amended through May 1, 1995, at 60 FR 21386;
- (C) RMAN (update), as amended through May 29, 1996, at 61 FR 26985;
- (D) CPG II, as amended through November 13, 1997, at 62 FR 60962;
- (E) RMAN II, as amended through November 13, 1997, at 62 FR 60975;
- (F) RMAN (update), as amended through June 8, 1998, at 63 FR 31214;
- (G) CPG III, as amended through January 19, 2000, at 65 FR 3069;

(H) RMAN III, as amended through January 19, 2000, 65 FR 3082. For products for which no EPA guidelines exist, states may use guidelines from the Federal Trade Commission (FTC), or the American Society for Testing Materials (ASTM) for those products for which FTC or ASTM guidelines exist. The FTC guideline is found in Code of Federal Regulations, Title 16, Volume 1, Parts 0 to 999, Revised January 1, 1999. The ASTM guideline can be found in the 1999 Annual Book of ASTM Standards, Volumes 1-15.

(5) **Recycling rate** - That percentage of the municipal solid waste stream which is recovered or diverted for recycling.

(6) **Source-reduced waste** - A material or product, previously or typically entering the municipal solid waste stream, which has been prevented from entering that stream through source reduction.

(7) **Source reduction** - Any action that averts the discarding of products or materials by reducing material use or waste at the source, including redesigning products or packaging so that less material is used, voluntary or imposed behavioral changes in the use and reuse on site of materials or products, or increasing durability or reusability of materials or products.

(8) **Total municipal solid waste stream** - The sum of the state's total municipal solid waste that is disposed of as solid waste, measured in tons, and the total number of tons of recyclable material that has been diverted or recovered from the total municipal solid waste and recycled.

(9) **Waste stream reduction rate** - That percentage of the municipal solid waste stream which is source-reduced or recovered or diverted for recycling.

**§328.8. Measurement of Recycling Rates.**

(a) Annual rates. Annually, the executive director shall determine the statewide recycling rate and, when possible, the waste stream reduction and per capita waste generation rates. Also, when possible, the executive director shall determine the rates for specific materials and for particular geographic areas of the state.

(b) Recordkeeping. Processors, handlers, and collectors of recyclable materials are encouraged to report and keep appropriate records to facilitate measuring recycling rates. The executive director shall protect confidential information received from these businesses to the extent authorized by law.

(c) Multiple counting. Diligence shall be practiced in collecting and reporting information to prevent multiple counting of any materials. Usually, materials will be counted as they are transferred to a recyclable material end-user or consumer in the state or as they are transferred out of state. The quantities of materials rejected and disposed of by the end-user shall be deducted from the quantities counted for recycling.

(d) Required minimum information for reporting. The following information at a minimum shall accompany the reporting of recycling rates for clarification:

- (1) report area or geographic area covered by the report;
- (2) reporting period - the year or portion of a year covered by the report;
- (3) tons of each material, categorized per subsection (e) of this section, recovered or diverted for recycling from the total municipal solid waste stream generated within the report area during the report period;
- (4) tons of municipal solid waste generated within the report area during the report period;
- (5) tons of municipal solid waste generated during the report period within the report area but disposed of outside the report area;
- (6) tons of municipal solid waste generated outside the report area but disposed of inside the report area during the report period;
- (7) average populations within the report area during the report period and the base year, 1990; and
- (8) the calculated recycling, waste stream reduction, and per capita waste generation rates using the formulas contained in §328.9 of this title (relating to Recycling, Waste Stream Reduction, and Per Capita Waste Generation Rates).

(e) Materials recovered or diverted for recycling. To the extent possible, materials recovered or diverted for recycling shall be reported according to the following categories, using the major categories when finer detail is not possible:

- (1) food waste;
- (2) glass:
  - (A) glass containers;
  - (B) plate glass; and
  - (C) other glass;
- (3) leather and hides;
- (4) metal:
  - (A) aluminum:
    - (i) cans and containers; and
    - (ii) other aluminum;
  - (B) ferrous metal:
    - (i) steel cans and containers; and
    - (ii) other ferrous metal;
  - (C) other nonferrous metal;
- (5) paper and paperboard:
  - (A) computer printout;
  - (B) white ledger;
  - (C) colored ledger;
  - (D) old corrugated cartons/kraft;
  - (E) old newspaper;

- (F) printers' waste;
  - (G) old magazines;
  - (H) mixed paper; and
  - (I) other paper and paperboard;
- (6) plastic:
- (A) plastic containers:
    - (i) polyethylene terephthalate (PET, or Code 1 plastic);
    - (ii) high density polyethylene (HDPE, or Code 2 plastic);
    - (iii) polyvinyl chloride (PVC, or Code 3 plastic);
    - (iv) low density polyethylene (LDPE, or Code 4 plastic);
    - (v) polypropylene (PP, or Code 5 plastic);
    - (vi) polystyrene (PS, or Code 6 plastic); and
    - (vii) other plastic containers (Code 7 plastic);
  - (B) mixed plastic; and
  - (C) other plastic;
- (7) rubber;
- (8) textiles and apparel;
- (9) wood;
- (10) yard debris; and
- (11) other materials, not included elsewhere:
- (A) asphalt pavement;
  - (B) appliances;

- (C) batteries:
  - (i) household; and
  - (ii) lead-acid;
- (D) construction-demolition debris;
- (E) hazardous household materials;
- (F) municipal sludge;
- (G) tires;
- (H) used oil and oil filters;
- (I) other inorganic materials;
- (J) other organic materials; and
- (K) other municipal solid waste materials.

(f) Units. All materials shall be reported in dry tons. For those materials normally measured by volume, the report shall indicate the volumetric quantity and the multiplier used to convert to weight in dry tons.

(g) Recycling credit limits. Except for lead-acid batteries, only the amount recycled in addition to 1990 quantities can be credited toward the state recycling goal for materials with an individual recycling rate greater than 80% in the base year, 1990.

Adopted August 21, 2002

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**§328.9. Recycling, Waste Stream Reduction, and Per Capita Waste Generation Rates.**

(a) Recycling rate. The recycling rate is calculated by dividing the tons of material recovered or diverted for recycling by the tons of total municipal solid waste generated, where the total municipal solid waste generated is the sum of the tons recycled, the tons disposed of, and tons of waste exported minus the tons of waste imported. The formula for the recycling rate can be expressed as follows:

Recycling Rate

$$RR = \left[ \frac{R}{R + D + E} \right] \times 100$$

where

RR is the recycling rate (in percent);

R is the tons of material recovered or diverted for recycling from the total municipal solid waste stream of the report area during the report period;

D is the tons of total municipal solid waste incinerated, landfilled, or otherwise disposed of in the report area during the report period; and

E is the net tons of total municipal solid waste exported during the report period; that is, the tons exported from the report area minus the tons imported into the report area.

(b) Waste stream reduction rate. The waste stream reduction rate is calculated by dividing the sum of the tons recycled and tons source-reduced by the sum of the tons recycled, tons source-reduced, tons disposed of, and net tons of waste exported. The formula for the diversion rate can be expressed as follows:

Waste Stream Reduction Rate

$$WR = \left[ \frac{R + SR}{R + SR + E} \right] \times 100$$

where

WR is the waste stream reduction rate (in percent); and

SR is the tons of total municipal solid waste source-reduced during the report year as determined by the following formula:

$$SR = \left[ (R90 + D90 + E90) \left( \frac{POP}{POP90} \right) \right] - (R + D + E)$$

where

R90 is the tons of material recovered or diverted for recycling from the total municipal solid waste stream of the report area during the base year, 1990;

D90 is the tons of total municipal solid waste incinerated, landfilled, or otherwise disposed of in the report area during the base year, 1990;

E90 is the net tons of total municipal solid waste exported during the base year, 1990; that is, the tons exported from the report area minus the tons imported into the report area;

POP is the average population of the report area during the report year; and

POP90 is the average population of the report area during the base year, 1990.

(c) Per capita waste generation rates.

(1) Per capita annual waste generation rate. The per capita annual waste generation rate is calculated by dividing the annual tons of municipal solid waste generated by the population of the area. The formula for this term can be expressed as follows:

Per Capita Annual Waste Generation Rate

$$AG = \frac{R + D + E}{POP}$$

where

AG is the per capita annual waste generation rate.

(2) Per capita daily waste generation rate. The per capita daily waste generation rate is calculated by dividing the annual rate, in paragraph (1) of this subsection, by 365 days as follows:

Per Capita Daily Waste Generation Rate

$$DG = \frac{AG}{365}$$

where

DG is the per capita daily waste generation rate.

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