



NR 240

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

L. P. Voigt
Secretary

BOX 450
MADISON, WISCONSIN 53701

IN REPLY REFER TO: _____

STATE OF WISCONSIN)
)
DEPARTMENT OF NATURAL RESOURCES) ss

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, L. P. Voigt, Secretary of the Department of Natural Resources and custodian of the official records, do hereby certify that the annexed copy of Natural Resources Board Order No. W-9-74 (E) has been compared by me with the original order on file in this office of the Department of Natural Resources, Madison, Wisconsin, and that the same is a true copy thereof, and of the whole of such original order; that said order was duly passed and published as set forth therein.

IN TESTIMONY WHEREOF, I have hereunto set my hand at the Pyare Square Building in the City of Madison, this 17th day of January, 1974.


L. P. Voigt, Secretary

(SEAL)

STATE OF WISCONSIN NATURAL RESOURCES BOARD

.....
IN THE MATTER of creating NR 240 .
of the Wisconsin Administrative .
Code .
.....

ORDER NUMBER W-9-74 (E)

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES

BOARD CREATING RULES

Pursuant to authority vested in the State of Wisconsin Natural Resources Board by sections 147.04(5) and 227.027, Wisconsin Statutes, the State of Wisconsin Natural Resources Board hereby creates rules as follows:

CHAPTER NR 240
Interim Effluent Limitations for the
Dairy Products Industry
Wisconsin Pollutant Discharge Elimination System

NR 240.01 Purpose. The purpose of this chapter is to establish interim effluent limitations for discharges from industrial point sources identified herein as authorized by section 147.04(5), Wisconsin Statutes.

240.02 Applicability. These limitations apply to Standard Industrial Classification Codes 202 and 5043 and the following subcategories; receiving stations, fluid milk processing, butter, natural cheese, ice cream, condensed milk, dry milk, whey condensing, whey drying, and cottage cheese.

240.03 Production Basis. The production basis used in calculating allowable daily discharges is the maximum amount of raw material received, in 1000 pounds of milk equivalent, for the highest production sustained for seven consecutive operating days of normal production. Milk equivalent is to be determined in accordance with NR 240.05.

240.04 Application of Interim Limitations. These limitations should be applied only to very large operations.

Except for cottage cheese manufacturing, there is little statistical difference between unit wastewater flows from single product plants and multi-produce plants. The unit loads for each product are additive and proportional to the milk equivalent used in each process. However, the level for receiving stations applies only to receiving stations and is not additive to product plants.

240.05 Determination of Milk Equivalent

- (1) Milk equivalent is the quantity (in pounds) of milk used to produce one pound of product. Milk is considered to include skim milk, whole milk, and other milk with a butterfat content of less than 3.5 percent. If the facility receives milk with more than 3.5 percent butterfat or cream as a raw material, an adjustment according to the butterfat ratio should be made.
 - (a) If the raw material is cream this ratio would be 48/3.5; and 1000 pounds of cream would have a milk equivalent of 13,700 pounds.
 - (b) If the raw material received is whey, the milk equivalent should be considered as the BOD ratio of whey to that of whole milk (0.4) and 1000 pounds of whey has a milk equivalent of 400 pounds.
- (2) If the pounds of final product are available but no raw material data are known, the following table can be used to convert the final product to its milk equivalent.

<u>Product</u>	<u>lb. Milk Equivalent/lb Product</u>
Butter	21.3
Natural Cheese	9.9
Cottage Chese	6.3
Ice Cream	2.7
Condensed Milk	2.4
Dry While Milk	7.4
Dry Skim Milk	11.0

240.06 Description of Abatement Model. The following generalized production process controls and treatment systems were used as a model in developing the effluent limitations for the dairy products industry: good management in controlling available product and raw material losses, recovery of whey and by-products, biological oxidation using trickling filter or various modifications of activated sludge, secondary clarification, and disinfection, if necessary.

240.07 Table of Interim Effluent Limitations (In lb/1000 lbs of milk Equivalent (2)(3))

<u>Subcategory (4)</u>	<u>BOD₅</u>	<u>Suspended Solids</u>
(1) Receiving Stations	0.032	0.032
(2) Fluid Milk Processing	0.03	0.03
(3) Butter	0.03	0.03
(4) Natural Cheses	0.03	0.03
(5) Ice Cream (1)	0.03	0.03
(6) Condensed Milk	0.03	0.03
(7) Dry Milk	0.03	0.03
(8) Whey Condensing	0.03	0.03
(9) Whey Drying	0.03	0.03
(10) Cottage Cheese	0.13	0.13

NOTES:

- (1) Novelty items (e.g., stick confections, popsicles) shall be considered on a case-by-case basis.
- (2) Settleable solids shall not exceed 0.1 milliliter per liter
- (3) In some instances limitations may be necessary for ammonia, nitrogen or phosphorus
- (4) Subcategories except receiving stations are unit processes and in an integrated plant limitations are additive.

The rules contained herein shall take effect upon publication on
February 1, 1974.

Dated at Madison, Wisconsin JAN 17 1974

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By 
L. P. Voigt, Secretary

(SEAL)



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

L. P. Voigt
Secretary

January 16, 1974

BOX 450
MADISON, WISCONSIN 53701

IN REPLY REFER TO: 1020


Mr. James J. Burke
Revisor of Statutes
411 West
C A P I T O L

Dear Mr. Burke:

Enclosed is State of Wisconsin Natural Resources Board Order No. W-9-74 (E) for filing as required by section 147.04(5), Wisconsin Statutes.

These are interim rules concerning Effluent Limitations for the Dairy Products Industry adopted pursuant to section 227.027, Wisconsin Statutes, and are effective the day of publication, in the official state paper, which is February 1, 1974.

Very truly yours,


L. P. Voigt
Secretary

Enc.