

CATEGORICAL PRETREATMENT STANDARDS

***32nd Annual Pretreatment
Workshop***

Pretreatment Toolbox

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Categorical Pretreatment Standards

(for YOU? Just "Categoricals")

- **Technology-based, National & Uniform**
- **Required by CWA 307(b) and (c)**
- **CWA 304(m) "Plan" (EPA is required to publish this "plan" once/two years in FR)**

See <https://www.epa.gov/eg/effluent-guidelines-plan-2016> for current proposed "plan" (comment period closed 7/27/16)

See <https://www.regulations.gov/document?D=EPA-HQ-OW-2015-0665-0303> for '15 Metal Finishing Preliminary Study

Categories Targeted

- **1976 EPA/NRDC agreement (lawsuit)**
 - 21 identified in '76; modified to 34 in '79

- **58 Categories (Effluent Guidelines) to date**

- **Located in 40 CFR Parts 405-471 @**

<http://water.epa.gov/scitech/wastetech/guide/industry.cfm>

(includes the final Rule's FR preamble, its Development Document & guidance manual [where one was drafted])

Categories

- **Only 31 have numeric Pretreatment Standards (PSES and/or PSNS)**
- **6 also have narrative BMPs (TOMP, PMP and/or a PPA) in lieu of (some) numeric standards (CFRs 413, 430, 433, 442, 455 & 469)**

Technologies to meet Categorical Standards?

BPT

BCT

BAT

NSPS

PSES

PSNS

TECHNOLOGIES?

- **BPT - Best Practicable Control Technology Currently Available**
- **BCT - Best Conventional Pollutant Control Technology**
- **BAT - Best Available Technology Economically Achievable**
- **NSPS - New Source Performance Standards**

See <https://www.epa.gov/eg/learn-about-effluent-guidelines#levels> for discussion

TECHNOLOGIES?

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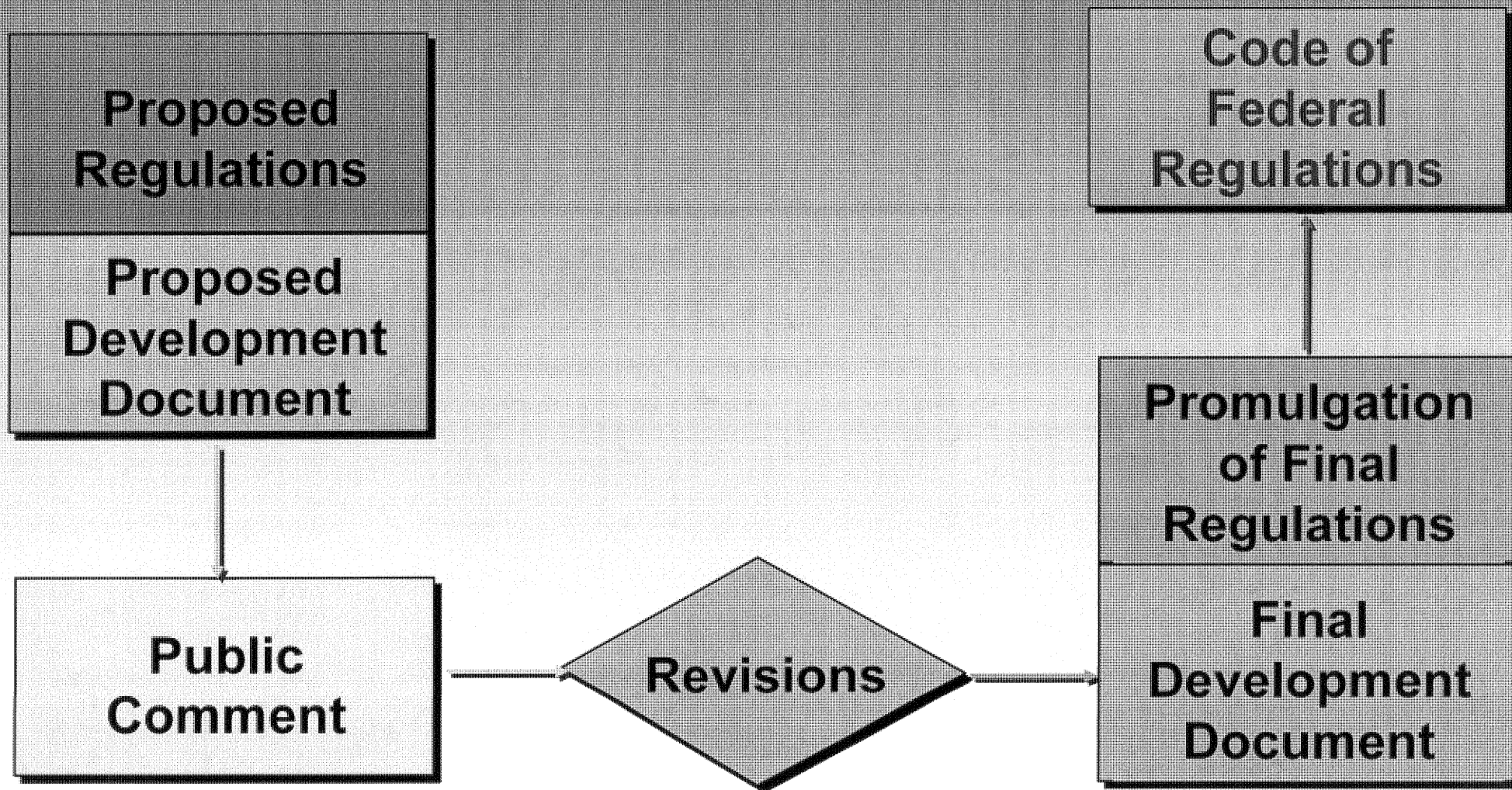
TECHNOLOGIES FOR YOUR CATEGORICALS

- ***PSNS - Pretreatment Standards for New Sources: national, uniform, technology-based standards that apply to dischargers to POTWs from specific industrial categories (indirect dischargers). They are designed to prevent the discharges of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of POTWs***
- ***Required to be in compliance on the effective date of the Rule's promulgation***

TECHNOLOGIES FOR YOUR CATEGORICALS

- ***PSES - Pretreatment Standards for Existing Sources: national, uniform, technology-based standards that apply to indirect dischargers. They are designed to prevent the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of POTWs.***
- ***Required to be in compliance within 3 yrs of effective date of Rule's promulgation***

From Proposal to Codification



Categorical Standards: *General Provisions*

- **Applicability** (processes covered or excluded, e.g.)
- **Definitions** (subparts, ops covered, units of production to use for calculating prod.-based discharge limits, TTOs, e.g.)
- **Monitoring and reporting requirements** (variance from periodic reporting for CN, e.g.)
- **Compliance date for PSES**
- **Other** (removal credits, certification statements, e.g.)

ONE TO PAY ATTENTION TO: THE METAL FINISHING CATEGORY IN CFR 433

433.10(b) of the applicability section states "In some cases...standards for the following categories may be effective and applicable to ww discharges from the metal finishing operations listed above. In such cases the CFR 433 limits shall **NOT** apply and the following regulations shall apply:

CFR 421-Nonferrous metal smelting and refining

CFR 464-Coil Coating

CFR 466-Porcelain enameling

CFR 461-Battery manufacturing

CFR 420-Iron and steel

CFR 464-Metal casting foundries

CFR 467-Aluminum forming

CFR 468-Copper forming

~~CFR 463-Plastic molding and forming (no PSES/PSNS)~~

CFR 471-Nonferrous forming

CFR 469-Electrical and electronic components

31 Categoricals & Possible SIC code Correlations

Category	40 CFR	Relevant SIC code(s) -'87 SIC Manual
Grain mills manufacturing (Corn Wet Milling Subcategory only)	406	2041, 2043, 2044, 2045, 2046, 2047
Electroplating	413	3471, 3672
Organic chems, plastics, synthetic fibers	414	2821, 2823, 2824, 2865, 2869
Inorganic chemicals	415	2812, 2813, 2816, 2819
Soaps and detergents manufacturing	417	2841
Fertilizer manufacturing	418	2873, 2874, 2875
Petroleum refining	419	2911

31 Categoricals & Possible SIC code Correlations (cont.)

Iron and steel manufacturing	420	3312, 3315, 3316, 3317, 3479
Nonferrous metals manufacturing	421	2819, 3331, 3334, 3339, 3341
Steam electric power generation	423	4911
Leather tanning / finishing	425	3111
Glass manufacturing	426	3211, 3221, 3296
Rubber manufacturing	428	2822
Timber products processing	429	2491, 2493
Pulp, paper and paperboard	430	2611, 2621, 2631
Metal finishing	433	groups: 34, 35, 36, 37 and 38XX

31 Categoricals & Possible SIC code Correlations (cont.)

Centralized Waste Treatment	437	????
Pharmaceutical manufacturing	439	2833, 2834
Transportation equipment cleaning	442	4491, 4499, 4741, 7699
Paving and roofing materials (tars and asphalt)	443	2951, 2952, 3996
Waste combustors (commercial incinerators combusting hazardous waste)	444	4953, 2819, 2869, 3241, 1422, 1429, 1459, 9999
Pesticide chemicals manufacturing, formulation and packaging	455	2879
Carbon black manufacturing	458	2895
Battery manufacturing	461	3691, 3692

31 Categoricals & Possible SIC code Correlations (cont.)

Metal molding and casting (foundries)	464	3321, 3322, 3324, 3325, 3365, 3366, 3369
Coil coating	465	3479, 3492, 3411
Porcelain enameling	466	3431, 3631, 3632, 3633, 3639, 3469, 3479
Aluminum forming	467	3353, 3354, 3355, 3357, 3363
Copper forming	468	3351, 3357, 3463
Electrical and electronic components	469	3671, 3674, 3679
Nonferrous metals forming and metal powders	471	3356, 3357, 3363, 3497

***YOU MUST IDENTIFY APPLICABLE
PROCESSES, SUBPARTS /
SUBPROCESSES SUBJECT TO
CATEGORICAL STANDARDS
HOW????***

IDENTIFY:

Manufacturing processes employed;

Raw materials used including chems;

Types of items produced; and

Characteristics of typical wastes generated

EXAMPLE OF ONE CATEGORY'S:

Subparts (Subcategories) and/or Subprocesses

CFR 464 - METAL MOLDING & CASTING

Subpart A - Aluminum Casting Subcategory

Subpart B - Copper Casting Subcategory

Subpart C - Ferrous Casting Subcategory

Subpart D - Zinc Casting Subcategory

(a) Casting Quench Operations Standards

(b) Die Casting Operations Standards

(c) Melting Furnace Scrubber Ops Standards

(d) Mold Cooling Operations Standards

TYPICAL IU SURVEY QUESTION

- **“If your facility employs processes in any of the industrial categories or business sectors listed below and any of these processes generate wastewater or waste sludge, place a check beside the category of business activity”**

"CHECK THE BOXES OF ALL PROCESSES / ACTIVITIES THAT OCCUR AT THIS FACILITY"

<input type="checkbox"/> Asbestos Manufacturing	<input type="checkbox"/> Medical Procedures / Surgeries
<input type="checkbox"/> Auto Body Shop, Vehicle Repair	<input type="checkbox"/> Metal Finishing (plating, anodizing, coating etching)
<input type="checkbox"/> Auto / Truck Wash	<input type="checkbox"/> Metal Products Manufacturing
<input type="checkbox"/> Battery Manufacturing	<input type="checkbox"/> Metals Molding, Casting, Forming
<input type="checkbox"/> Cement Manufacturing	<input type="checkbox"/> Machining-Sheet Metal Shop
<input type="checkbox"/> Copper / Aluminum Forming	<input type="checkbox"/> Painting / Finishing
<input type="checkbox"/> Coil Coating / Can Making	<input type="checkbox"/> Paint / Ink Formulation
<input type="checkbox"/> Chemical Manufacturing	<input type="checkbox"/> Petroleum Refining
<input type="checkbox"/> Dairy Products	<input type="checkbox"/> Pharmaceutical Manufacturing
<input type="checkbox"/> Dentistry	<input type="checkbox"/> Photo Processing
<input type="checkbox"/> Dry Cleaning / Laundries	<input type="checkbox"/> Plastics Manufacturing / Molding
<input type="checkbox"/> Electrical / Electronic Component Manufacturing	<input type="checkbox"/> Porcelain Coating
<input type="checkbox"/> Electroplating	<input type="checkbox"/> Printed Circuit Board Manufacturing
<input type="checkbox"/> Feedlot	<input type="checkbox"/> Pulp, Paper, Paperboard Manufacturing
<input type="checkbox"/> Fertilizer Manufacturing	<input type="checkbox"/> Rubber Manufacturing / Processing
<input type="checkbox"/> Flammables / Explosive Use	<input type="checkbox"/> Radioactive Materials Use
<input type="checkbox"/> Fuel Oil Dealer	<input type="checkbox"/> Smelting
<input type="checkbox"/> Funeral Services	<input type="checkbox"/> Soap / Detergent Manufacturing
<input type="checkbox"/> Glass Manufacturing	<input type="checkbox"/> Steam / Power Generation
<input type="checkbox"/> Grain Mill	<input type="checkbox"/> Sugar Processing
<input type="checkbox"/> Iron / Steel Manufacturing	<input type="checkbox"/> Textile Manufacturing
<input type="checkbox"/> Laboratory	<input type="checkbox"/> Timber Products
<input type="checkbox"/> Leather / Tanning / Refinishing	<input type="checkbox"/> Woodworking Shop

TIPS FOR DETERMINING IF AN IU IS A CATEGORICAL

- 1) MUST REQUIRE COMPREHENSIVE IU SURVEYS AND PERMIT APPLICATIONS**
 - A) NEED COMPREHENSIVE PROCESS NARRATIVE**
 - B) NEED COMPREHENSIVE WW FLOW SCHEMATIC**
- 2) SURVEYS & APPLICATIONS SHOULD INCLUDE QUESTIONS PERTINENT TO THE IU'S OPERATIONS FROM RAW MTRL IN TO FINISHED PRODUCT OUT**
- 3) IF IU IS ANY TYPE OF FOOD RELATED PRODUCER/PROCESSOR, IT IS MORE THAN LIKELY NOT A CATEGORICAL WITH PSES OR PSNS => NOT A CATEGORICAL UNDER THE NATIONAL PRET PROGRAM**

TIPS FOR DETERMINING IF IU IS A CATEGORICAL WITH PSES/PSNS

SOME QUESTIONS TO BE ASKED ON AN IU SURVEY OR PERMIT APPLICATION

- SIC CODES ARE NOT THE DETERMINING FACTOR IN ALL CASES, JUST A “FLAG” TO MAYBE LOOK CLOSER (site visit?)**
 - CFR 414 “Organic Chems, Plastics & Synthetic Fibers” is an exception**
- RAW MTRL: NOT JUST METAL (or other) substrate, BUT VIRGIN CHEMS (NOT TRADE NAMES) USED IN PROCESSING**
- ASK ABOUT PROCESSES THAT INCLUDE ANY TYPE OF ACIDS, CAUSTICS, DEFOAMERS, SURFACTANTS. WHAT’S THEIR PURPOSE?**

SOME QUESTIONS ON AN IU SURVEY OR PERMIT APPLICATION (cont.)

- Does the IU conduct: rolling, drawing, extruding, forging, heat treatment, casting, or surface treatment?
 - Do any of the surface treatments include powder coat painting, pickling, passivating, electro-cleaning, electroplating, electroless plating, polishing, burnishing, vibratory tumbling, anodizing (“alodining”), coating (chromating, phosphating or coloring), galvanizing, chemical etching or milling?
- Is there any hex-chrome reduction or cyanide destruction?
- Are there any chemical reactions, polymerization, catalysts, extractions or synthesis in use?

Categorical Standards:

Determine Existing vs New Source

- **Check PSES compliance date**
- **Check new source definition in CFR 403.3(m)**
 - ***Construction after PSES compliance date?***
 - ***Total replacement of processes or equipment?***
 - ***WW generating processes are substantially independent from previous ops?***
 - **Interpretations are “all over the board...” (call Region 6 Coordinator to help determine)**

CFR 433 Metal Finish Standards - PSES

("easy to apply")

(mg/ l)

Daily Max

Monthly Avg

Cadmium (T)	0.69	0.26
Chromium (T)	2.77	1.71
Copper (T)	3.38	2.07
Lead (T)	0.69	0.43
Nickel (T)	3.98	2.38
Silver (T)	0.43	0.24
Zinc (T)	2.61	1.48
Cyanide (T)	1.20	0.65
TTO	2.13	(or follow approved TOMP)

EXAMPLE PRODUCTION BASED INDUSTRY LIMITS

Subpart A - Aluminum Forming Subprocess (a) - Casting Cleaning Subcategory

**kg/1,000 kkg (pounds per million pounds) of metal
poured**

Daily Max

Avg Monthly

Copper (T)..... 0.0771..... 0.0421

Lead (T)..... 0.0791..... 0.039

Zinc (T)..... 0.114..... 0.0431

**See http://regionvipretreatmentassociation.org/index_files/Page1105.htm ;
Calculating Production Based Limits (2014) from RVIPA's website previous
presentations for example of a prod-based Category's equivalent
concentration limits calculations.**

Types/Duration of Limits (Standards)

- **Daily maximum**
- **Max for any monthly avg**
- **Max for any time**
- **Long term averages**
 - **4 consecutive monitoring days**
 - **Avg of daily values for 30 consecutive days**
 - **Monthly**
- **Values with no duration (Instantaneous?)**

***THE FOLLOWING 3 SLIDES ARE
JUST FYI! THEY ARE IU
"SECTORS" COVERED UNDER
AN EPA EFFLUENT GUIDELINE
THAT DO NOT HAVE PSES OR
PSNS AND HAVE NO
"STANDING" IN THE NATIONAL
PRETREATMENT PROGRAM***

14 EFFLUENT GUIDELINES WITHOUT PSES/PSNS (regs are "silent")

- **CFR 412 Concentrated Animal Feeding Operations**
- **CFR 432 Meat & Poultry Products**
- **CFR 434 Coal Mining**
- **CFR 422 Phosphate Mfg**
- **CFR 436 Mineral Mining & Processing**
- **CFR 438 Metal Products & Machinery**
- **CFR 440 Ore Mining & Dressing**
- **CFR 445 Landfills**
- **CFR 449 Airport Deicing**
- **CFR 451 Concentrated Aquatic Animal Production**
- **CFR 454 Gum & Wood Chemical Mfg**
- **CFR 457 Explosives Mfg**
- **CFR 459 Photographic Processing**
- **CFR 460 Hospitals**

EFFLUENT GUIDELINES THAT "MUST COMPLY WITH 40 CFR 403" (General & Specific Prohibitions)

- **CFR 405 Dairy Products**
- **CFR 407 Canned & Preserved Fruits**
- **CFR 408 Canned & Preserved Seafood**
- **CFR 409 Sugar Processing**
- **CFR 410 Textile Mills**
- **CFR 411 Cement Mfg**
- **CFR 424 Ferroalloy Mfg**
- **CFR 427 Asbestos Mfg**
- **CFR 463 Plastics Molding & Forming**

EFFLUENT GUIDELINES WITH "NO DISCHARGE OF PROCESS WASTEWATER"

- **CFR 435 Oil & Gas Extraction**
- **CFR 446 Paint Formulating**
- **CFR 447 Ink Formulating**

***QUESTIONS, COMMENTS OR
COURSES?***