

## **CHAPTER ONE – RULES AND REGULATIONS**

- 1 Where can you find federal pretreatment regulations?
- 2 What are the objectives of the pretreatment program?
- 3 Where can you find North Carolina pretreatment regulations?
- 4 Who must have an approved pretreatment program?
- 5 Understand what initial and on-going documentation is required for an approved pretreatment program
- 6 Who is a signatory official?
- 7 What period of time does the SIU have to resample and report to the POTW after a self-monitoring violation?
- 8 How often must the POTW sample SIUs in NC?
- 9 When is the PAR due?
- 10 How long must pretreatment records be maintained?
- 11 How often are local limits required to be reviewed or revised?
- 12 Be able to convert mg/l to ug/l and know equivalent units for each.
- 13 Mass based limits are expressed as what?
- 14 Understand what information is considered to be public information.
- 15 What period of time does the POTW have before issuing or denying a permit?

- 16 Where does the POTW's legal authority come from to enforce the pretreatment program?
- 17 Who has the final word concerning discharge limits, program management and any part of the pretreatment program?
- 18 Define Control Authority & Approval Authority, generally and specifically for NC.
- 19 Be able to define bypass.
- 20 What document does the State use to require a specific pretreatment program?
- 21 How often is an IWS required?
- 22 What is an A to C and when is one needed?

## **CHAPTER TWO – INDUSTRIAL WASTE SURVEY**

- 1 What is an industrial waste survey?
- 2 Why must we conduct an industrial waste survey?
- 3 Know and understand the conditions which require a POTW to assign SIU status to an IU.
- 4 What is the purpose of an IWS?
- 5 Know the steps involved in conducting a survey.
- 6 What are the sources that can be used to conduct the industrial waste survey?
- 7 What one source must be used to conduct the industrial waste survey?

- 8 How often must an industrial survey be conducted?
- 9 What businesses can be eliminated from the IWS due to no significant pollutants?
- 10 What information is needed from the industry to conduct a survey?
- 11 What IWS information must be sent to the State?
- 12 What should be conducted on an ongoing basis to ensure that you are aware of any new Significant Industrial User?

### **CHAPTER THREE – INDUSTRIAL PRETREATMENT PROCESSES**

- 1 What are the three types of treatment processes and what do they remove?
- 2 Be able to categorize a specific process as one of the three general types of pretreatment.
- 3 Know which processes are appropriate for pretreatment of different, specific types of waste discussed in manual.
- 4 Be familiar with how each process removes pollutants.
- 5 Be aware of the considerations that must be made in disposal of by-products.
- 6 Why is flow equalization used?
- 7 Settling tanks or clarifiers are rated on what?
- 8 What are some typical problems encountered with clarifiers?
- 9 How are filters cleaned?

- 10 What are the limitations to reverse osmosis?
- 11 What is adsorption?
- 12 What does pH measure?
- 13 What are the two pollutants that must be separated from the normal metal wastestream?
- 14 How does RCRA affect sludge handling?
- 15 What are some of the methods for volume reduction of sludges generated?

#### **CHAPTER FOUR – INSPECTION PROCEDURES**

- 1 Why are inspections important?
- 2 What is the minimum frequency for inspecting each kind of SIU?
- 3 What is a neutral inspection plan?
- 4 Name the 5 categories of inspections and when they are conducted?
- 5 Why should gifts, favors, or lunches not be accepted by an inspector?
- 6 What are some of the knowledge and skills required for pretreatment inspectors?
- 7 What should be included in a field notebook?
- 8 What should not be included in a field notebook?

- 9 Where does the legal authority to enter a facility come from?
- 10 What is needed if entry to a facility is denied?
- 11 Under what two circumstances is a warrant not necessary?
- 12 Know what logs/sheets may be signed by inspectors upon entry to a facility.
- 13 Know the access requirements to a Federal Facility with security clearances.
- 14 Understand how to obtain consent when arriving for an inspection.
- 15 Know how to proceed when an inspector is denied consent to enter.
- 16 Know how to proceed when an inspector is denied access to certain areas.
- 17 Know how to proceed when an inspector is denied permission to use a camera.
- 18 Know the physical plant review requirements.
- 19 Know how often to evaluate an SIU for the need for a Slug Control Plan.
- 20 What are the five objectives of the self-monitoring review?
- 21 How long must pretreatment records be maintained?
- 22 Understand the confidentiality process.

**CHAPTER FIVE– CATEGORICAL REGULATIONS/STANDARDS**

- 1 What are Federal Categorical Pretreatment Standards?
- 2 The first categorical regulations promulgated in the mid 1970's focused on what type of pollutants?
- 3 Define non-significant CIU
- 4 What are the differences between a CIU and a middle-tier CIU?
- 5 What is the relationship of local limits to categorical standards?
- 6 Federal categorical standards are self-implementing. What does that mean?
- 7 Define PSNS and PSES.
- 8 When is an SIU not considered to be a CIU when it is covered by a regulation?
- 9 Why are 40 CFR Part 405 (Dairy Products Processing) and Part 410 (Textile Mills) not CIU's?
- 10 The date the final rule is published in the Federal Register is known as what?
- 11 Where can you find the compliance date in the regulations?
- 12 What is the process of determining if a facility is under Categorical regulations?
- 13 Understand waiver for pollutants not present, including the type of data a waiver would be based on.
- 14 Know the difference between concentration-based standards, mass based standards and production based standards.
- 15 When are pollutant certifications allowed by EPA?
- 16 Be able to discuss the different certifications and alternative monitoring requirements.

- 17 What may be substituted for concentration based standards under the Transportation Equipment Cleaning (Part 442)?
- 18 Why does EPA allow alternative pollutant monitoring in some categorical regulations?
- 19 How does EPA define “monthly average” as it relates to categorical standards?
- 20 Define TTO.
- 21 Where can you find the list of TTO’s that apply to each categorical standard?
- 22 How many industrial categories have TTO limits?
- 23 Be able to identify industrial categories that have a TTO limit.
- 24 Define existing source
- 25 Define new source
- 26 How does the sale of a company or company name change alter the classification from existing source to new source?
- 27 What is the significance of the definition of new source?
- 28 When does construction commence according to the new source definition?
- 29 What is the difference between new sources and existing sources as related to categorical discharge limits?
- 30 When must an existing facility submit a report on compliance with a new categorical regulation?
- 31 When must a new source submit a report on compliance?
- 32 What determines the compliance date for a CIU?

- 33 Who is required to submit a BMR and when must they submit the report?
- 34 When are existing sources required to achieve compliance with limitations?
- 35 When are new sources required to achieve compliance with limitations?
- 36 When should a compliance schedule be issued for a new categorical facility?
- 37 What is a BMR?
- 38 What is a 90-Day Compliance Report?
- 39 When is a 90-Day Compliance Report required for existing sources?
- 40 When is a 90-Day Compliance Report required for new sources?
- 41 Understand when a facility is in SNC for a new categorical regulation.
- 42 What is the purpose of removal credits and what parameters does it apply to?
- 43 What is fundamentally different factors variance?
- 44 When must an industry apply for a variance for a fundamentally different factor?
- 45 What does net/gross adjustment allow for?
- 46 When should a net/gross adjustment not be allowed?
- 47 Where are categorical pretreatment regulations applied?
- 48 Categorical pretreatment standards apply only to what type of flow?

- 49 Define regulated process flow.
- 50 Define unregulated wastestreams.
- 51 Define dilute wastestreams.
- 52 When is a categorical pretreatment standard the same as the end-of-pipe standard?
- 53 Define CWF.
- 54 What determines if the CWF should be used?
- 55 Be able to recognize the six core processes regulated in 413 and 433
- 56 What defines a job shop electroplater?
- 57 Know the factors determining when a facility should be classified as an electroplater (413) & when it should be classified as a metal finisher (433).
- 58 Understand how production based categorical pretreatment standards are converted to equivalent mass or concentration limits.
- 59 Understand how to review production data to create a production based standard.
- 60 Describe how Research and Development facilities are regulated under the Categorical Standards.

## **CHAPTER SIX – THE PERMITTING PROCESS**

- 1 What gives the POTW the legal authority for issuing IU permits?
- 2 What is a Significant Industrial User Permit?

- 3 What are some of the basic policy decisions that the POTW must make prior to permit issuance?
- 4 Who needs a permit?
- 5 Who should sign the permit application?
- 6 What is the maximum duration of a permit?
- 7 When is an inspection conducted at the facility?
- 8 What are some of the common permitting errors and omissions?
- 9 What are the restrictions that reduce permit writing flexibility?
- 10 Be familiar with the major components of the 5 permit elements covered
- 11 Which pollutants require regulation in a permit?
- 12 Where are local limits applied?
- 13 What is a tiered permit?
- 14 When should tiered permits be considered?
- 15 What information is available on an allocation table?
- 16 How do you select the sampling location?
- 17 What are the specific requirements for monitoring, reporting in a permit?
- 18 What factors should be considered when establishing monitoring frequencies?

- 19 When is an SIU not required to sample?
- 20 When must an SIU notify the POTW when a self-monitoring violation has occurred?
- 21 What factors should be considered when establishing when reports are due?
- 22 What are the signature requirements for reports?
- 23 Be familiar with the standard conditions in a permit.
- 24 What are some conditions that may be included in the Special Condition section?
- 25 Be familiar with streamlining changes pertaining to permit writing.
- 26 What is a fact sheet and what is its purpose?
- 27 Know which documents should be submitted to the SIU and State for a permit issuance.
- 28 How long does a permittee have to comment on or appeal the permit conditions?
- 29 How long does the State have to comment on the permit?
- 30 What is the first step in modifying a permit?
- 31 What table is checked to verify that pollutant loadings are available?
- 32 When should the cover page be signed and dated on a permit modification?
- 33 What is the maximum duration of a modified permit?
- 34 If a hauled hazardous waste is discharged into a POTW what must the POTW comply with?

- 35 What provides the legal authority for a POTW to implement a hauled waste program?
- 36 What are some ways to identify waste haulers that might discharge to a POTW?
- 37 What should be considered prior to acceptance of hauled waste to a POTW?
- 38 Who specifies the discharge point for hauled waste?
- 39 What SUO conditions may apply to a hauler of hauled waste?

## **CHAPTER SEVEN – DATA REVIEW, VERIFICATION and INTERPRETATION**

- 1 Why is it necessary to verify compliance?
- 2 Define LTMP and STMP.
- 3 Define MAHL.
- 4 What is required to be included on the DMR report?
- 5 Who must conduct the SIU LTM pollutant sampling and analysis?
- 6 Where does the uncontrollable load come from?
- 7 What is a laboratory bench sheet and why is it important?
- 8 Where would you find approved methods for the laboratory?
- 9 Where can you find the NC wastewater laboratory certification rules?

- 10 What information should be included on a COC?
- 11 Where is the proper location for sampling?
- 12 Determine the four ways to collect a composite sample.
- 13 What parameters must be collected as a grab sample?
- 14 Understand the way to collect VOA's.
- 15 What container should be used for collection of metals and why?
- 16 Understand the correct procedure to collect a cyanide sample.
- 17 When is a sample considered a sample?
- 18 When does the holding time start with a sample?
- 19 When should you use a lower detection level?
- 20 Define accuracy and know how to calculate %R.
- 21 Be able to calculate RPD.
- 22 Know how standard curves are used.
- 23 What is the minimum requirement of standards for a curve for a metal sample?
- 24 What should the curve correlation coefficient be?
- 25 What is the purpose of a second source standard?

- 26 How often should mid-range standards be run and what is its purpose?
- 27 What range should the percent recovery for the lower reporting level be?
- 28 How often does NC Lab Certification Group require duplicate analysis?
- 29 What is laboratory precision measured in and know how to calculate it?
- 30 What is the purpose of analyzing blanks?
- 31 Define the following types of **blanks**: reagent, method, digested, container, field, equipment, preservative and trip.
- 32 Understand the signs of trouble in the laboratory.
- 33 Understand types of interferences.
- 34 Be able to convert different units: mg/L, ug/L, ng/L, %, ppt, ppb, ppm
- 35 What is the pounds formula?
- 36 Define BOD, COD, and CBOD and know the difference between them.
- 37 Understand the quality control requirements for BOD/CBOD.
- 38 What are the quality control requirements for COD?
- 39 What procedure is required for TSS analysis?
- 40 How do you run a pH analysis?
- 41 What are the forms of nitrogen?

- 42 Define Total Nitrogen, TKN, Nitrate/Nitrite and Ammonia Nitrogen.
- 43 What are other points to remember about TKN?
- 44 What are the different forms of phosphorus?
- 45 What are the methods to run metals?
- 46 Know the difference between a 624 versus 625.
- 47 What are the reasons that phthalates or methylene chloride is detected in organic samples?
- 48 Per 40 CFR 503, results of analysis of biosolids are expressed in what units?
- 49 When interpreting data what is the first question that should be asked?
- 50 Define data exclusion.

## **CHAPTER EIGHT – COMPLIANCE JUDGMENT**

- 1 Define SNC
- 2 What is the compliance or reporting period in NC?
- 3 Name some of the documents that should be tracked under the pretreatment program.
- 4 When are reports considered to be submitted?
- 5 Know the ways reporting can lead to SNC.

- 6 Know what CJP's are and how to calculate them.
- 7 How do you judge compliance for split samples?
- 8 How do you judge compliance for two separate samples?
- 9 What are the ways you can judge compliance with BDL?
- 10 What are the ways you can average BDL data?
- 11 Know how to judge compliance with an average limit.
- 12 Define Chronic Violations and TRC Violations.
- 13 Know how to calculate SNC.
- 14 Know how to sample out of SNC.

**CHAPTER NINE - REFERENCE MATERIAL**