

**Permitting For Storm Water  
Discharges From Industrial Facilities**

**By**

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## **Permitting For Storm Water Discharges From Industrial Facilities**

### **Background**

The National Urban Runoff Program (NURP) has shown that there are substantial water quality problems in the United States. The NURP has found that part of the problem is due to the contaminants in storm water runoff from industrial facilities. As a result, the Environmental Protection Agency, through amendments to the Clean Water Act (primarily in 40 CFR 122), is now requiring NPDES permits for "storm water discharges associated with industrial activity." This means that facilities that discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas are now required to apply for a NPDES discharging permit.

Affected industries include the following:

- Manufacturing facilities.
- Mining and Oil & Gas Operations.
- Hazardous waste treatment, storage, or disposal facilities.
- Landfills, land application sites, and open dumps that receive industrial wastes.
- Recycling facilities.
- Steam electric generating facilities.
- Transportation facilities.
- Sewage treatment plants.
- Construction activities.

### **Scope**

This paper will attempt to clarify the permitting options available for industrial facilities concerning their

discharging of storm water. The purpose of this paper is not to provide an in depth discussion of the regulations but to give an overview of the regulations with an emphasis on the major requirements.

Due to the infancy of the regulations, no real hard data exists to verify the advantages or disadvantages of each permitting option. However, this paper will attempt to give a preliminary assessment of the advantages and disadvantages of each option.

Lastly, information will be given that will aid industries submitting an individual application. Specifically, help will be given for the application form 2F.

It should be noted that the information in this paper is based upon the storm water permitting efforts of a medium sized Oklahoma industrial facility. Therefore, this paper is written to emphasize important regulatory requirements and address difficulties of the permitting process in a "real world" situation.

#### **Required Applicants**

The following is a summary of the facilities that are classified as "dischargers of storm water associated with industrial activity," and must apply for a NPDES storm water discharging permit. 40 CFR 122.26(b)(14)(i)-(xi) should be referenced for further details.

- Facilities subject to National effluent guideline limitations for storm water.
- Manufacturing facilities classified as Standard

Industrial Classification (SIC) Codes 24, 26, 28, 29, 311, 32, 33, 3441 and 373. Exceptions are SIC codes 2434, 265, 267, 283, and 323.

- Mining and Gas & Oil operations, SIC 10 - 14.
- Hazardous waste storage, disposal, or treatment facilities.
- Landfills, open dumps, or land application sites that receive industrial wastes.
- Recycling facilities, SIC codes 5015 - 5093.
- Steam electric power generating facilities.
- Transportation facilities, SIC codes 40, 41, 42, 43, 44, 45, and 5171. Exceptions are SIC 4221 - 4225.
- Sewage treatment plants with a design flow of at least 1.0 mgd. Farm lands, domestic gardens, or lands used for the reuse of sludge are not included.
- Construction activities greater than 5 acres.
- SIC codes 20, 21, 22, 23 2434, 25, 265, 27, 283, 285, 30, 31, 323, 34, 35, 36, 37, 38, 39, and 4221 - 4225 must apply if materials are **exposed** to storm water. Exceptions are SIC codes 311, 3441, 373.

### **Summary Of Application Options**

At this time, the individual permit is the only option available for industrial facilities, but these individual permits may be issued in "groups" as will be explained later. The individual permit is a facility specific permit that will be issued by the EPA or state with an authorized NPDES program. Table 1 shows the states with NPDES permitting authority. In the future, a general permit will be available that will establish storm water discharging requirements that can be used by all states and EPA regions for numerous facilities in specified geographical regions. States with general permitting authority may develop requirements more

stringent than the EPA's. The EPA will administer the permits in states with no permitting authority.

**Table 1. States With NPDES and General Permitting Authority.**

Washington	Oregon	California	Nevada*
Montana	Wyoming*	Utah	Colorado
North Dakota	Nebraska	Kansas*	Arkansas
Missouri	Iowa*	Minnesota	Wisconsin
Illinois	Kentucky	Tennessee*	Mississippi*
Alabama*	Georgia*	South Carolina*	Virginia*
North Carolina*	Ohio*	West Virginia	Indiana*
Michigan*	New York*	Pennsylvania*	Vermont*
Rhode Island	Connecticut*	New Jersey	Delaware*
Maryland*	Hawaii*		

\* State has NPDES authority only

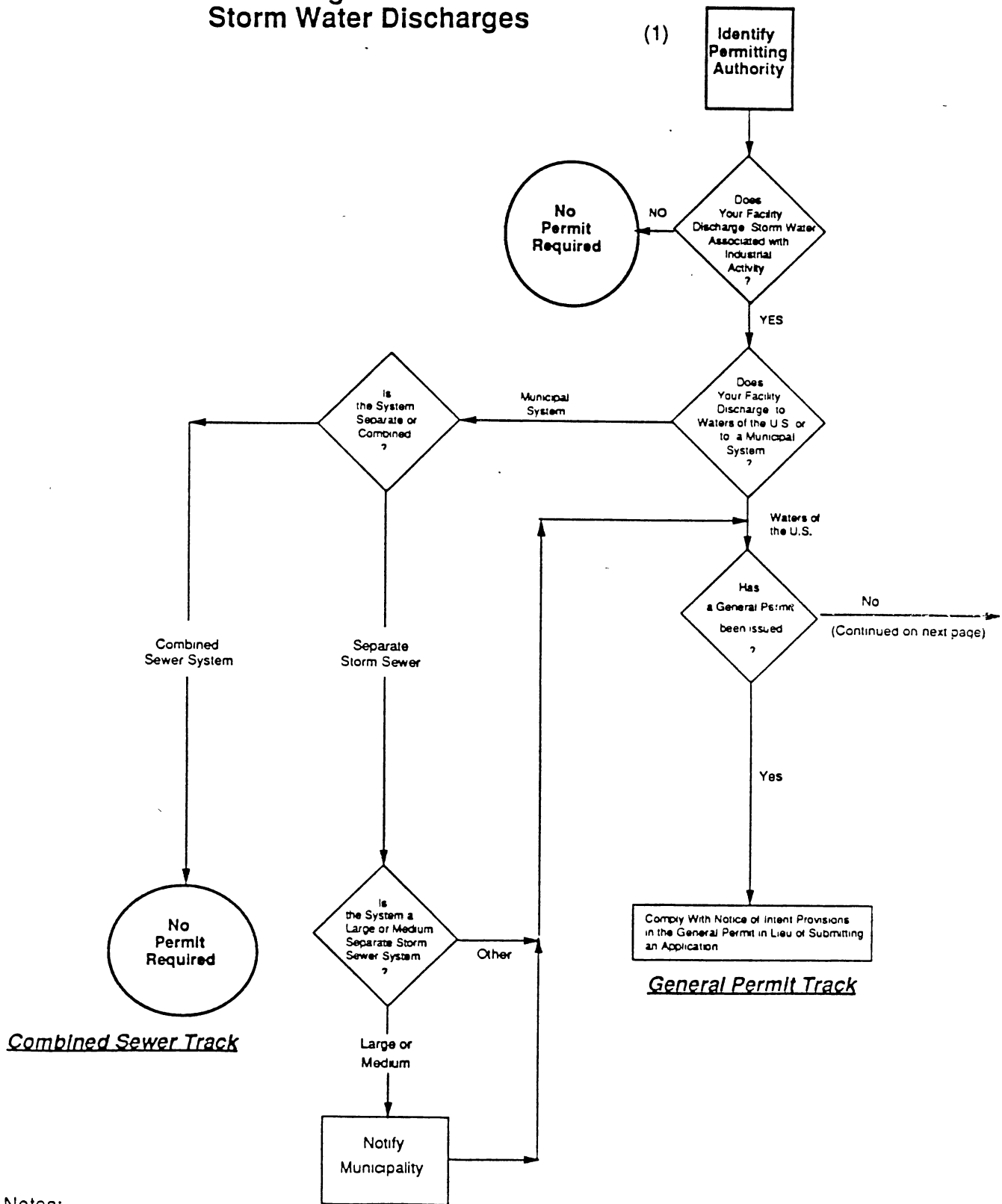
Currently, there are two ways in which a facility can obtain a permit. A facility can submit an individual permit application or submit a group application. The individual application is relatively involved process requiring sampling and testing of storm water and will lead to a site specific permit for the applying facility. The group application allows several facilities to submit one application and thus share the cost of the sampling and testing requirements. From the information obtained by the group application, the EPA or authorized state agency will develop a permit for each

member in the group. It is important to recognize that although the application is submitted as a group, each facility will be permitted separately.

As was noted earlier, a general permit will eventually be available for industrial facilities. The general permit will simplify the requirements of the application process for each facility. A facility seeking coverage under the general permit will be required to submit a Notice Of Intent (NOI). The NOI requires basic information about the facility. The regulating agency will use this information as a basis of determining whether or not the facility can be covered under the general permit. If the regulating agency decides that a general permit is not appropriate, the facility will be required to acquire an individual permit.

In summary, at this time the only permit available is an individual permit. A facility can seek coverage under this permit by submitting an individual application or a group application. The deadlines associated with the individual and group applications are November 18, 1991 and September 30, 1991 respectively. These dates were set with the assumption the general permit would be available. Since the general permit has been delayed, there is a strong indication that the deadline for the individual application will be moved to May 18, 1992. Figure 1 shows the basic process for the different application options.

Figure 1. Flowchart for NPDES Permitting of Industrial Storm Water Discharges



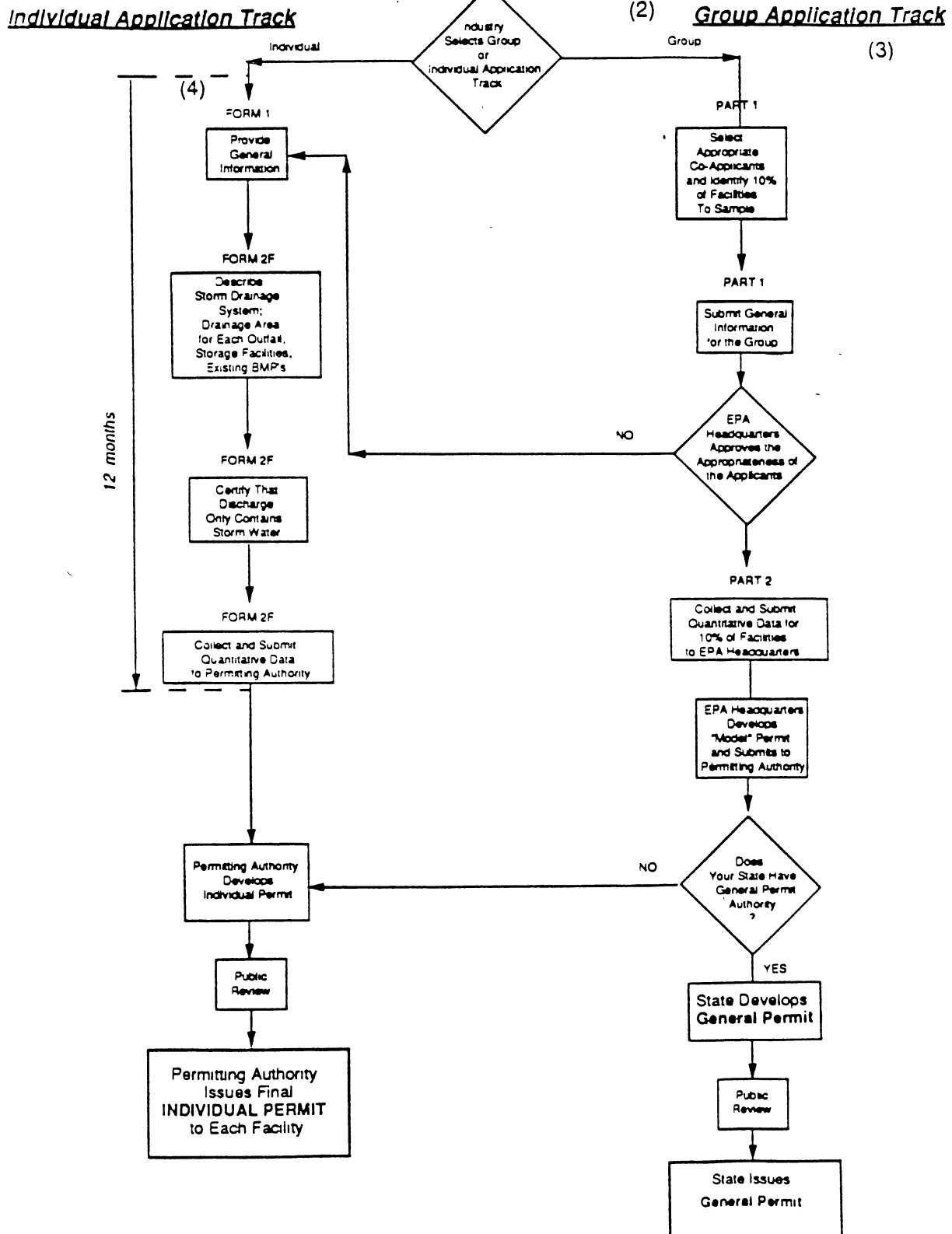
Notes:

- (1) Permitting Authority: States which have NPDES permit authority, otherwise EPA regional offices
- (2) States with NPDES permit authority can disallow participation in a group application
- (3) Time line begins at the date of publication of the final rule
- (4) Other forms may be required in addition to Forms 1 and 2F

Reference: Environmental Protection Agency, "Guidance Manual For The Preparation Of NPDES Permit Applications For Storm Water Discharges Associated With Industrial Activity," April 1991.



(Continued from previous page)



### **Individual Application Process**

Most facilities that choose or are required to submit an individual application will be responsible for providing the information required in Forms 1 and 2F. If a facility discharges storm water and non-storm water, Form 2C will also be required (Refer to Appendix A). There are other special requirements for oil and gas, construction, and mining operations. The requirements of the individual application are relatively extensive as compared to the group application and the future application requirements of the general permit. The EPA uses the information from the individual application to develop a permit for the facility.

### **Group Application Process**

The EPA is allowing facilities to apply for permits in groups. The group application process consists of two parts. The first part requires the submission of basic information about the group to the EPA. The following is a summary of what is required:

1. Identify the participants in the group. There must be at least 4 members.
2. Describe each of the facilities and give the rationale as to why the members are sufficiently similar to be considered a group.
3. List significant materials that are exposed to precipitation and the management practices incorporated by the members to reduce storm water runoff problems.
4. Identify the participants who will submit quantitative

data (sampling and analysis of storm water runoff) in part two of the application. The following is required for groups submitting storm water analysis data:

<u>Number of members.</u>	<u>Members that must submit test data.</u>
4 - 10	50% of members
11 - 1000	10% of members, with a minimum of 10 submitting data
> 1000	No more than 100 members.

Also, an explanation must be given as to why the selected members who will submit quantitative data are considered to be representative of the group.

After part 1 is submitted the EPA will review the group application. Upon approval of part 1 the group has 1 year to submit part 2 of the group application.

Part 2 requires the submission of the storm water test data from the facilities that were identified in part 1. This data is used by the EPA to develop individual permits for the facilities in the group.

#### **General Permit Application Process**

Facilities who intend to be covered under the pending general permit will be required to submit a Notice of Intent (NOI) to the EPA. The NOI will include the following information:

1. Name, mailing address, and location of the facility for which the notification is submitted.

2. The facilities SIC code.
3. The operator's name, address, telephone number, ownership status and status as Federal, State, private, public or other entity.
4. The latitude and longitude of the approximate center of the facility.
5. The name of the receiving waters or municipal separate storm sewer for the storm water discharge.
6. Existing quantitative data for pollutants in the storm water discharges.

From the information on the NOI, the EPA will determine if the general permit will be sufficient for the facility. It is possible that the EPA will reject the NOI and require the facility to apply for the individual permit. Again, details about the general permit cannot be given until it is made public.

#### **General Observations Concerning The New Permitting Requirements.**

This remainder of this paper is based on the permitting efforts of a small Oklahoma manufacturing facility. It will attempt to highlight the major factors managers must consider when faced with these new regulations. It must be understood that the following are general conclusions drawn from the experiences of the manufacturing plant described below. Therefore, although many of these conclusions will apply to a broad range of similar facilities, they may not apply to all

affected industrial facilities.

### **Facility Background**

The facility alluded to in this paper is a relatively small Oklahoma pipe manufacturer. There are no process outfalls at the facility and subsequently no existing NPDES permits. Also there are no air permits required at this time. Management has improved processes, implemented environmental programs, and installed physical structures that have greatly reduced the risk of environmental problems.

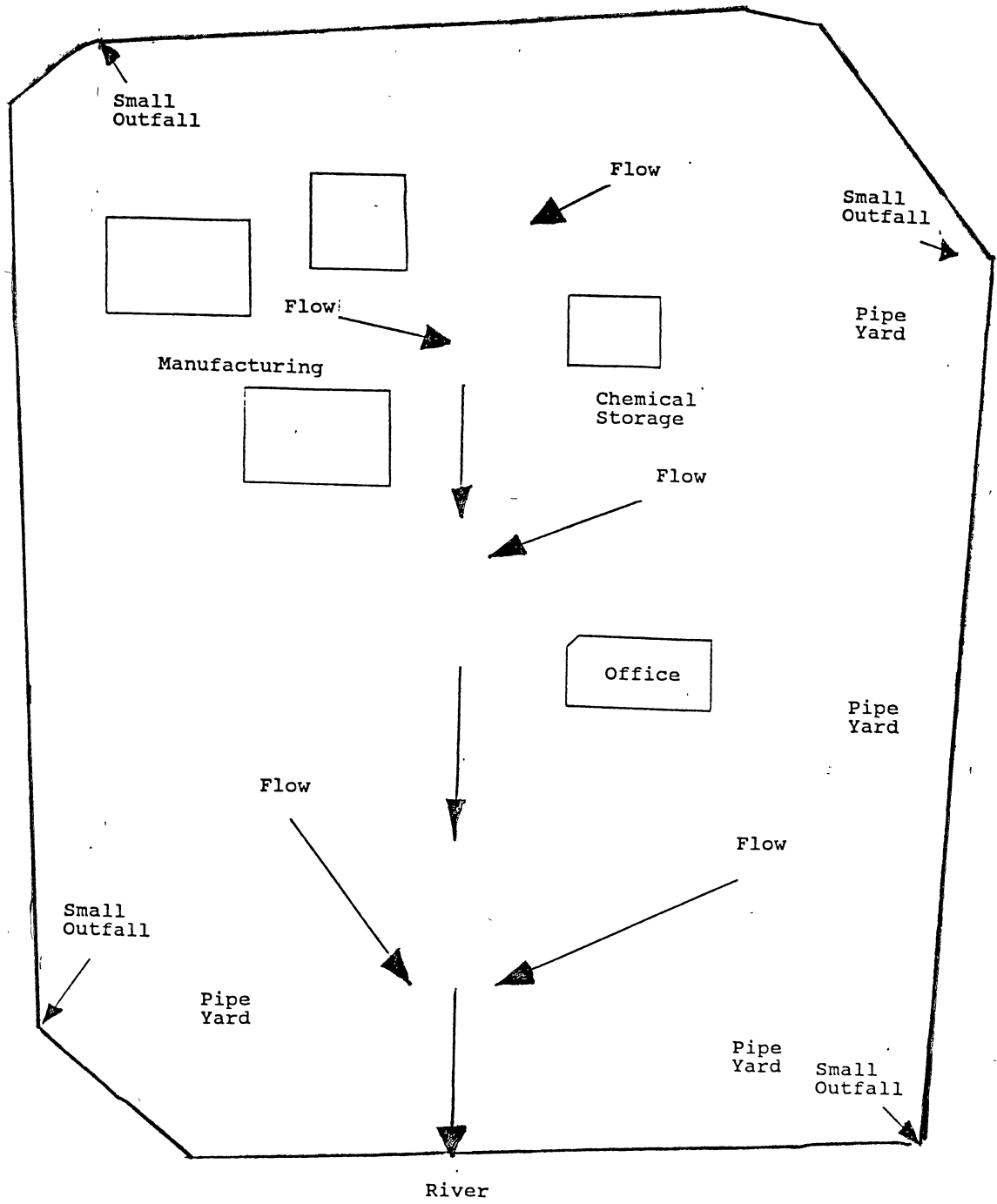
The facility is not connected to any city storm sewer system. The facility has one large drainage outfall that empties into a major waterway. This outfall drains storm water from the manufacturing and pipe yard areas. There are several other small outfalls that drain the remainder of the pipe yard areas. Figure 2 shows a sketch of the facility.

\* \* \* \* \*

The permitting process has been complicated by the delay of the general permit. It is assumed that most facilities will be able to be covered by the general permit. This option will be most attractive to managers because of the less complicated application and monitoring requirements. The delay, however, is forcing managers to prepare for the permit by submitting an individual or group application.

The EPA is advocating the group application. There are two major reasons the EPA is encouraging industrial

Figure 2. Facility Sketch



facilities to apply for the permits in groups:

1. Group applications will allow the EPA to structure similar individual permits for each member of the group. This will decrease the administrative burden of forming permits based on hundreds of thousands of different individual applications.
2. Group applications are the EPA's attempt to decrease the cost and burden of the application process for the affected industrial facilities.

Initially the group application may seem attractive to managers for the following reasons:

1. The initial information requirements are significantly less than the individual application requirements.
2. The cost of any sampling or testing of storm water are shared by the group.
3. The application deadline for part 2 of the group application is over a year away and thus will allow a facility to "stall" and wait for the general permit to become available.
4. The regulations have been rather lenient in what constitutes a "group." For example, facilities only have to be "similar" in industrial activity and materials. The EPA has purposely left "similar" undefined to allow flexibility in the way they structure the individual permits. Also, there is no

geographical limitation placed on the participants in the group.

The facility alluded to in this paper considered the group application. Management had concerns and foresaw several difficulties with applying for a permit through the group application.

The first problem is that of forming a group. The burden of forming groups is the responsibility of the individual facilities. The EPA, to this point, has not been able to provide much help for industries wanting to form groups. It is a difficult task for many facilities to find at least three other facilities to form a group. Not only must management locate facilities that have similar activities, processes, pollutants, management practices, etc., they must also find companies with whom they feel they could have a working relationship. The members of the proposed group must submit part 1 of the group application in order to officially be approved by the EPA as a group. The basic information requirements of this part are small compared to that of the individual application. However, the group must identify those members who will submit the quantitative data, representative of the entire group, required in part 2 of the application. Recall, that this data will be the basis for forming each member's permit.

Management raised concerns about this aspect of the group application. First, there is the burden of deciding



who will submit the data, and submit data that truly represents the group. Management was concerned that a "dirtier" facility might submit data that unnecessarily requires a more strict permit for their facility. Conversely, "dirtier" facilities may be able to obtain less strict permits because their permit is based on the data submitted by a "cleaner" facility. This will defeat the true intent of the regulations, which is to improve water quality.

After reviewing the application forms for the individual permit, management realized that the process would not be as complicated or costly as first expected. The following characteristics made Form 2F of the individual application significantly less complicated:

- The facility does not use a city storm sewer system.
- The facility's outfalls can be considered similar in the effluents that they will discharge. This allows fewer outfalls to be sampled.
- There are no non-storm water discharges. Therefore, testing of no non-storm water discharges is not required.
- The facility does not have effluent guideline limitations. This will reduce the amount of required testing.
- Management is environmentally conscious and has implemented structures and procedures to reduce the risk of environmental problems. There have been no

past environmental problems (leaks, spills, etc.)

Many similar "clean" facilities will find that, if they have to file the individual application, the cost may not be as high as they expected. Therefore, the savings that can be incurred as a result of the group application may not be worth the added burden associated with administering and organizing the group application.

The previous statements do not apply to all facilities. For example, larger corporations, with facilities in different locations may be able to take advantage of the group application. These facilities should qualify as a group. Also, larger companies that will require large amounts of sampling and testing may find that the group application is more appropriate.

Concerning the time constraints of the application deadlines. It is true that the time between part 1 and 2 of the group application will allow facilities to wait and hope that the general permit becomes available. But since there is a strong indication that the individual application deadline will be moved back, the group application no longer really offers this advantage.

In summary the group application will benefit the EPA significantly reducing the amount of permits they have to structure. Although the EPA will benefit from the group application, there is some doubt to the overall benefits for participating facilities, especially when the facilities are smaller in nature and pose no real threat to the environment.

## **Monitoring Requirements**

There is some question about the monitoring requirements resulting from the different application alternatives. Theoretically, it should not matter. However, EPA authorities have suggested that, because the EPA will have a closer look at the facility as a result of the individual application, one could expect more strict monitoring requirements. "More strict" in the sense that more pollutants would be required to be tested more frequently. This is one of the main reasons a facility should seek coverage under a general permit when possible.

## **Cost**

There have been preliminary estimates that it will take an average of 20 to 30 hours to complete the individual application. This will be directly related to the size of the facility, the number of outfalls, etc. One problem will be the time it takes to get the required samples. A rain event of at least 0.10 inch is required. Because samples are required from the first 30 minutes of the rain fall, there is a good chance that time will be wasted sampling an inappropriate storm.

There are electronic sampling units now available on the market. These units automatically take the storm water samples and measure flow rate as required when there is an appropriate rain event. The advantage of these type of units is that they eliminate the need for people actually going into the field for the samples. Automatic samplers will also

eliminate false starts when there is inadequate rain falls. The disadvantage of these units is that they are quite expensive. The less expensive units cost about \$8,000. These units may be cost effective for larger facilities or for group applicants. Smaller facilities, with fewer outfalls, may have a harder time justifying the use of these units and probably should manually collect the samples.

The other cost associated with the individual application is the cost of testing for pollutants. Obviously this cost will be in direct proportion to the amount of pollutants that need testing. However, Form 2F requires the testing of certain pollutants by all applicants. The pollutants that must be tested for are:

- Biological oxygen demand (BOD<sub>5</sub>)
- Chemical oxygen demand (COD)
- Total suspended solids (TSS)
- Total Kjeldahl Nitrogen (TKN)
- Nitrate plus Nitrite Nitrogen
- Total Phosphorus

In addition, the pH of the sample must be analyzed.

The cost of testing these pollutants through commercial labs averages around \$250. Other pollutants listed in Tables 2F-2, 2F-3, and 2F-4 might also need testing.

At the present time there is no cost for the storm water permit itself. Although no detail is available, there is some indication that this might change in the future.

## **Recommendations For Completing The Individual Application**

First, all managers must determine if they are covered by the new regulations. 40 CFR 122.26(b)(14)(i)-(xi) identifies facilities that need to apply for a storm water discharging permit. The list is very inclusive, but, it should be noted that facilities identified in subparagraph (xi) may be excluded if possible pollutant sources are not exposed to storm water. For instance, it may be possible for some facilities to avoid the permitting process by covering storage areas. Also, facilities using a city's separate storm sewer are not exempt from applying for a permit. These facilities must notify the city as required in 40 CFR 122.26(a)(4).

If a permit is required, at the least Form 1 and Form 2F must be completed. Form 2C is required if the facility also discharges waste water. (Refer to Appendix A)

40 CFR 122.26(c)(i)(E)(1)-(6) specifies the requirements of the sampling and testing required per Form 2F. Special care should be taken to make sure that effluents that a facility is subject to in the guidelines listed in 40 CFR parts 400 to 471 (Subchapter N) are tested. The contents of this part are shown in Table 2.

Section III requires a site drainage map that identifies various features of the facility's property. Topographical maps can usually be obtained through the city engineering office. These maps should have longitude and latitude

**Table 2 CONTENTS OF 40 CFR PARTS 400 TO 471 (SUBCHAPTER N)**

Part	Subchapter N - Effluent Guidelines and Standards
400	[Reserved]
401	General Provisions
402	[Reserved]
403	General pretreatment regulations for existing and new sources of pollution
405	Dairy products processing point source category
406	Grain mills point source category
407	Canned and preserved fruits and vegetables processing point source category
408	Canned and preserved seafood processing point source category
409	Sugar processing point source category
410	Textile mills point source category
411	Cement manufacturing point source category
412	Feedlots point source category
413	Electroplating point source category
414	Organic chemicals, plastics, and synthetic fibers
415	Inorganic chemicals manufacturing point source category
416	[Reserved]
417	Soap and detergent manufacturing point source category
418	Fertilizer manufacturing point source category
419	Petroleum refining point source category
420	Iron and steel manufacturing point source category
421	Nonferrous metals manufacturing point source category
422	Phosphate manufacturing point source category
423	Steam electric power generating point source category
424	Ferroalloy manufacturing point source category
425	Leather tanning and finishing point source category
426	Glass manufacturing point source category
427	Asbestos manufacturing point source category
428	Rubber manufacturing point source category
429	Timber products processing point source category
430	Pulp, paper, and paperboard point source category
431	The builders' paper and board mills point source category
432	Meat products point source category
433	Metal finishing point source category
434	Coal mining point source category; BPT, BAT, BCT limitations and new source performance standards
435	Oil and gas extraction point source category
436	Mineral mining and processing point source category
439	Pharmaceutical manufacturing point source category
440	Ore mining and dressing point source category
443	Effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources for the paving and roofing materials (tars and asphalt) point source category
446	Paint formulating point source category
447	Ink formulating point source category
454	Gum and wood chemicals manufacturing point source category
455	Pesticide chemicals
457	Explosives manufacturing point source category
458	Carbon black manufacturing point source category

Reference: Environmental Protection Agency, "Guidance Manual For The Preparation Of NPDES Permit Applications For Storm Water Discharges Associated With Industrial Activity," April 1991.

Table 2 CONTENTS OF 40 CFR PARTS 400 TO 471 (SUBCHAPTER N) (continued)

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Part	Subchapter N - Effluent Guidelines and Standards
459	Photographic point source category
460	Hospital point source category
461	Battery manufacturing point source category
463	Plastics molding and forming point source category
464	Metal molding and casting point source category
465	Coil coating point source category
466	Porcelain enameling point source category
467	Aluminum forming point source category
468	Copper forming point source category
469	Electrical and electronic components point source category
471	Nonferrous metals forming and metal powders point source category

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locations needed to identify the outfalls as required in section I. Form 2F requires quantitative data from all outfalls. However, the regulations state that the regional Director may allow applicants who have two or more outfalls, with substantially identical effluents, to submit only data from one of the outfalls (Refer to 40 CFR 122.21(g)(7)). There is some question as to how a facility obtains the director's approval and whether this approval must be obtained before the application is submitted. The regulations seem to indicate that permission should be obtained before the submission of the application. However, EPA authorities have suggested that submitting a written justification with the application should be adequate. If this is not adequate, the director may require additional sampling and testing from other outfalls.

Section VIII requires Biological Toxicity Testing Data to be submitted if available. Some facilities are required to do this testing with existing NPDES permits.

The other parts of section VII require testing for other pollutants. The amount of testing required is dependent upon the facility. For instance, additional testing will be necessary if there is currently a process wastewater NPDES, or pollutants limited by an effluent guideline. Also, the discharger has to list and test for certain pollutants that are known or expected to be present in a storm water discharge. Refer to tables 2F-2 thru 4 for instructions. An example of a completed Form 2F is shown in Appendix B.



### **Conclusion**

The new storm water permitting regulations are going to affect many industrial facilities. Until the simplified general permit becomes available, managers will be faced with the decision of obtaining a permit through either the individual or group application. The Environmental Protection Agency is advocating the group application. To be sure, the group application will lessen the work load of the EPA, but the benefits to the individual facilities is somewhat in question. While large facilities may benefit from the group application, many small to medium sized facilities will find that the individual application is the most effective way to apply for the permit. This is so because many facilities have a low risk of polluting through storm water runoff. These situations should significantly reduce the requirements and costs associated with the individual application forms.

## References

Baine, Albert, T., Mummert, Mark, C., "NPDES Permits for Storm Water Discharge," Pollution Engineering, April 1991.

Bergeson, Lynn., "Summary of Final Storm Water Rule," Pollution Engineering, January 1991.

Jeter, Charles., Duff, Paul., "New Storm Water Discharge Regulations Will Have Profound Effects On Industry," Environmental Waste Management Magazine, October 1990.

Tarbert, Richard, E., "The Downpour Of Stormwater Regs," Environmental Protection, June 1991.

Federal Register, Parts 122 - 124.

**Appendix A**  
**Forms 1, 2F and 2C**

FORM <b>1</b>		U.S. ENVIRONMENTAL PROTECTION AGENCY <b>GENERAL INFORMATION</b> Consolidated Permits Program (Read the "General Instructions" before starting.)	I. EPA I.D. NUMBER <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%; text-align: center;">F</td> <td style="width:10%; text-align: center;">G</td> <td style="width:10%; text-align: center;">H</td> <td style="width:10%; text-align: center;">I</td> <td style="width:10%; text-align: center;">J</td> <td style="width:10%; text-align: center;">K</td> <td style="width:10%; text-align: center;">L</td> <td style="width:10%; text-align: center;">M</td> <td style="width:10%; text-align: center;">N</td> <td style="width:10%; text-align: center;">O</td> <td style="width:10%; text-align: center;">P</td> <td style="width:10%; text-align: center;">Q</td> <td style="width:10%; text-align: center;">R</td> <td style="width:10%; text-align: center;">S</td> <td style="width:10%; text-align: center;">T</td> <td style="width:10%; text-align: center;">U</td> <td style="width:10%; text-align: center;">V</td> <td style="width:10%; text-align: center;">W</td> <td style="width:10%; text-align: center;">X</td> <td style="width:10%; text-align: center;">Y</td> <td style="width:10%; text-align: center;">Z</td> </tr> </table>	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z				
LABEL ITEMS I. EPA I.D. NUMBER III. FACILITY NAME V. FACILITY MAILING ADDRESS VI. FACILITY LOCATION		PLEASE PLACE LABEL IN THIS SPACE	GENERAL INSTRUCTIONS If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.																					

**II. POLLUTANT CHARACTERISTICS**

**INSTRUCTIONS:** Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X'			SPECIFIC QUESTIONS	MARK 'X'		
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)				B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)			
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)				D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)			
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)				F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)			
Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)				H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)			
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)				J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)			

**III. NAME OF FACILITY**

1 SKIP

**IV. FACILITY CONTACT**

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
--	----------------------------

**V. FACILITY MAILING ADDRESS**

A. STREET OR P.O. BOX			
B. CITY OR TOWN		C. STATE	D. ZIP CODE

**VI. FACILITY LOCATION**

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER					
B. COUNTY NAME		C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)

**VII. SIC CODES (4-digit, in order of priority)**

A. FIRST				B. SECOND			
7				7			
C. THIRD				D. FOURTH			
7				7			

**VIII. OPERATOR INFORMATION**

A. NAME: 8 \_\_\_\_\_

B. Is the name listed in Item VIII-A also the owner?  
 YES  NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box: If "Other", specify.)  
 F = FEDERAL    M = PUBLIC (other than federal or state)  
 S = STATE      O = OTHER (specify) \_\_\_\_\_

D. PHONE (area code & no.)  
 A \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

E. STREET OR P.O. BOX \_\_\_\_\_

F. CITY OR TOWN \_\_\_\_\_

G. STATE \_\_\_\_\_ H. ZIP CODE \_\_\_\_\_

IX. INDIAN LAND  
 Is the facility located on Indian lands?  
 YES  NO

**X. EXISTING ENVIRONMENTAL PERMITS**

A. NPDES (Discharges to Surface Water)				D. PSD (Air Emissions from Proposed Sources)			
9	N			9	P		
B. UIC (Underground Injection of Fluids)				E. OTHER (specify)			
9	U			9			
C. RCRA (Hazardous Wastes)				E. OTHER (specify)			
9	R			9			

**XI. MAP**

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

**XII. NATURE OF BUSINESS (provide a brief description)**

\_\_\_\_\_

**XIII. CERTIFICATION (see instructions)**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
_____	_____	_____

**COMMENTS FOR OFFICIAL USE ONLY**

C \_\_\_\_\_



<b>IV. Narrative Description of Pollutant Sources</b>					
A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.					
Outfall Number	Area of Impervious Surface <i>(provide units)</i>	Total Area Drained <i>(provide units)</i>	Outfall Number	Area of Impervious Surface <i>(provide units)</i>	Total Area Drained <i>(provide units)</i>
B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed, in the last three years, to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.					
C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.					
Outfall Number	Treatment	List Codes from Table 2F.1			
<b>V. Nonstormwater Discharges</b>					
A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharges from these outfall(s) are identified in either an accompanying Form 2C or Form 2E application for the outfall.					
Name and Official Title <i>(type or print)</i>		Signature		Date Signed	
B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test					
<b>VI. Significant Leaks or Spills</b>					
Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.					

Continued from Page 2

**VII. Discharge Information**

A, B, C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2.

E: Potential discharges not covered by analysis - Is any pollutant listed in Table 2F-2 a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

Yes (list all such pollutants below)

No (go to Section IX)

**VIII. Biological Toxicity Testing Data**

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

Yes (list all such pollutants below)

No (go to Section IX)

**IX. Contract Analysis Information**

Were any of the analyses reported in item V performed by a contract laboratory or consulting firm?

Yes (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)

No (go to Section X)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed

**X. Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title (type or print)

B. Area Code and Phone No.

C. Signature

D. Date Signed





# Instructions - Form 2F

## Application for Permit to Discharge Storm Water Associated with Industrial Activity

### Who Must File Form 2F

Form 2F must be completed by operators of facilities which discharge storm water associated with industrial activity or by operators of storm water discharges that EPA is evaluating for designation as a significant contributor of pollutants to waters of the United States, or as contributing to a violation of a water quality standard.

Operators of discharges which are composed entirely of storm water must complete Form 2F (EPA Form 3510-2F) in conjunction with Form 1 (EPA Form 3510-1).

Operators of discharges of storm water which are combined with process wastewater (process wastewater is water that comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, waste product, or wastewater) must complete and submit Form 2F, Form 1, and Form 2C (EPA Form 3510-2C).

Operators of discharges of storm water which are combined with nonprocess wastewater (nonprocess wastewater includes noncontact cooling water and sanitary wastes which are not regulated by effluent guidelines or a new source performance standard, except discharges by educational, medical, or commercial chemical laboratories) must complete Form 1, Form 2F, and Form 2E (EPA Form 3510-2E).

Operators of new sources or new discharges of storm water associated with industrial activity which will be combined with other nonstormwater new sources or new discharges must submit Form 1, Form 2F, and Form 2D (EPA Form 3510-2D).

### Where to File Applications

The application forms should be sent to the EPA Regional Office which covers the State in which the facility is located. Form 2F must be used only when applying for permits in States where the NPDES permits program is administered by EPA. For facilities located in States which are approved to administer the NPDES permits program, the State environmental agency should be contacted for proper permit application forms and instructions.

Information on whether a particular program is administered by EPA or by a State agency can be obtained from your EPA Regional Office. Form 1, Table 1 of the "General Instructions" lists the addresses of EPA Regional Offices and the States within the jurisdiction of each Office.

### Completeness

Your application will not be considered complete unless you answer every question on this form and on Form 1. If an item does not apply to you, enter "NA" (for not applicable) to show that you considered the question.

### Public Availability of Submitted Information

You may not claim as confidential any information required by this form or Form 1, whether the information is reported on the forms or in an attachment. Section 402(j) of the Clean Water Act requires that all permit applications will be available to the public. This information will be made available to the public upon request.

Any information you submit to EPA which goes beyond that required by this form, Form 1, or Form 2C you may claim as confidential, but claims for information which are effluent data will be denied.

If you do not assert a claim of confidentiality at the time of submitting the information, EPA may make the information public without further notice to you. Claims of confidentiality will be handled in accordance with EPA's business confidentiality regulations at 40 CFR Part 2.

### Definitions

All significant terms used in these instructions and in the form are defined in the glossary found in the General Instructions which accompany Form 1.

### EPA ID Number

Fill in your EPA Identification Number at the top of each odd-numbered page of Form 2F. You may copy this number directly from item I of Form 1.

#### **Item I**

You may use the map you provided for item XI of Form 1 to determine the latitude and longitude of each of your outfalls and the name of the receiving water.

#### **Item II-A**

If you check "yes" to this question, complete all parts of the chart, or attach a copy of any previous submission you have made to EPA containing the same information.

#### **Item II-B**

You are not required to submit a description of future pollution control projects if you do not wish to or if none is planned.

#### **Item III**

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including:

each of its drainage and discharge structures;

the drainage area of each storm water outfall;

paved areas and building within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied;

each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste for less than 90 days under 40 CFR 262.34);

each well where fluids from the facility are injected underground; and

springs, and other surface water bodies which receive storm water discharges from the facility.

#### **Item IV-A**

For each outfall, provide an estimate of the area drained by the outfall which is covered by impervious surfaces. For the purpose of this application, impervious surfaces are surfaces where storm water runs off at rates that are significantly higher than background rates (e.g., predevelopment levels) and include paved areas, building roofs, parking lots, and roadways. Include an estimate of the total area (including all impervious and pervious areas) drained by each outfall. The site map required under item III can be used to estimate the total area drained by each outfall.

#### **Item IV-B**

Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored, or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of these materials; past and present materials management practices employed, in the last three years, to minimize contact by these materials with storm water runoff; materials loading and access areas, and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied. Significant materials should be identified by chemical name, form (e.g., powder, liquid, etc.), and type of container or treatment unit. Indicate any materials treated, stored, or disposed of together. "Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production, hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

#### **Item IV-C**

For each outfall, structural controls include structures which enclose material handling or storage areas covering materials, berms, dikes, or diversion ditches around manufacturing, production, storage or treatment units, retention ponds, etc. Nonstructural controls include practices such as spill prevention plans employee training, visual inspections, preventive maintenance, and housekeeping measures that are used to prevent or minimize the potential for releases of pollutants.

#### Item V

Provide a certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested or evaluated for the presence of non-storm water discharges which are not covered by an NPDES permit. Tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. Part B must include a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test. All non-storm water discharges must be identified in a Form 2C or Form 2E which must accompany this application (see beginning of instructions under section titled "Who Must File Form 2F" for a description of when Form 2C and Form 2E must be submitted).

#### Item VI

Provide a description of existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years.

#### Item VII-A, B, and C

These items require you to collect and report data on the pollutants discharged for each of your outfalls. Each part of this item addresses a different set of pollutants and must be completed in accordance with the specific instructions for that part. The following general instructions apply to the entire item.

#### General Instructions

Part A requires you to report at least one analysis for each pollutant listed. Parts B and C require you to report analytical data in two ways. For some pollutants addressed in Parts B and C, if you know or have reason to know that the pollutant is present in your discharge, you may be required to list the pollutant and test (sample and analyze) and report the levels of the pollutants in your discharge. For all other pollutants addressed in Parts B and C, you must list the pollutant if you know or have reason to know that the pollutant is present in the discharge, and either report quantitative data for the pollutant or briefly describe the reasons the pollutant is expected to be discharged. (See specific instructions on the form and below for Parts A through C) Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, material management practices, maintenance chemicals, history of spills and releases, intermediate and final products and byproducts, and any previous analyses known to you of your effluent or similar effluent.

- A. Sampling:** The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater or storm water discharges. You may contact EPA or your State permitting authority for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate samples, etc. The time when you sample should be representative, to the extent feasible, of your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit, or at any site adequate for the collection of a representative sample.

For pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, and fecal coliform, grab samples taken during the first 30 minutes (or as soon thereafter as practicable) of the discharge must be used (you are **not** required to analyze a flow-weighted composite for these parameters). For all other pollutants both a grab sample collected during the first 30 minutes (or as soon thereafter as practicable) of the discharge and a flow-weighted composite sample must be analyzed. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period of greater than 24 hours.

All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area.

A grab sample shall be taken during the first thirty minutes of the discharge (or as soon thereafter as practicable), and a flow-weighted composite shall be taken for the entire event or for the first three hours of the event.

Grab and composite samples are defined as follows:

**Grab sample:** An individual sample of at least 100 milliliters collected during the first thirty minutes (or as soon thereafter as practicable) of the discharge. This sample is to be analyzed separately from the composite sample.

**Flow-Weighted Composite sample:** A flow-weighted composite sample may be taken with a continuous sampler that proportions the amount of sample collected with the flow rate or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire event or for the first three hours of the event, with each aliquot being at least 100 milliliters and collected with a minimum period of fifteen minutes between aliquot collections. The composite must be flow proportional, either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. Where GC/MS Volatile Organic Analysis (VOA) is required, aliquots must be combined in the laboratory immediately before analysis. Only one analysis for the composite sample is required.

Data from samples taken in the past may be used, provided that:

All data requirements are met;

Sampling was done no more than three years before submission; and

All data are representative of the present discharge.

Among the factors which would cause the data to be unrepresentative are significant changes in production level, changes in raw materials, processes, or final products, and changes in storm water treatment. When the Agency promulgates new analytical methods in 40 CFR Part 136, EPA will provide information as to when you should use the new methods to generate data on your discharges. Of course, the Director may request additional information, including current quantitative data, if they determine it to be necessary to assess your discharges. The Director may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rainfall), protocols for collecting samples under 40 CFR Part 136, and additional time for submitting data on a case-by-case basis.

- B. Reporting:** All levels must be reported as concentration and as total mass. You may report some or all of the required data by attaching separate sheets of paper instead of filling out pages VII-1 and VII-2 if the separate sheets contain all the required information in a format which is consistent with pages VII-1 and VII-2 in spacing and in identification of pollutants and columns. Use the following abbreviations in the columns headed "Units."

Concentration		Mass	
ppm	parts per million	lbs	pounds
mg/l	milligrams per liter	ton	tons (English tons)
ppb	parts per billion	mg	milligrams
ug/l	micrograms per liter	g	grams
kg	kilograms	T	tonnes (metric tons)

All reporting of values for metals must be in terms of "total recoverable metal," unless:

(1) An applicable, promulgated effluent limitation or standard specifies the limitation for the metal in dissolved, valent, or total form; or

(2) All approved analytical methods for the metal inherently measure only its dissolved form (e.g. hexavalent chromium); or

(3) The permitting authority has determined that in establishing case-by-case limitations it is necessary to express the limitations on the metal in dissolved, valent, or total form to carry out the provisions of the CWA. If you measure only one grab sample and one flow-weighted composite sample for a given outfall, complete only the "Maximum Values" columns and insert "1" into the "Number of Storm Events Sampled" column. The permitting authority may require you to conduct additional analyses to further characterize your discharges.

If you measure more than one value for a grab sample or a flow-weighted composite sample for a given outfall and those values are representative of your discharge, you must report them. You must describe your method of testing and data analysis. You also must determine the average of all values within the last year and report the concentration mass under the "Average Values" columns, and the total number of storm events sampled under the "Number of Storm Events Sampled" columns.

- C. **Analysis:** You must use test methods promulgated in 40 CFR Part 136; however, if none has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding time, preservation techniques, and the quality control measures which you used. If you have two or more substantially identical outfalls, you may request permission from your permitting authority to sample and analyze only one outfall and submit the results of the analysis for other substantially identical outfalls. If your request is granted by the permitting authority, on a separate sheet attached to the application form, identify which outfall you did test, and describe why the outfalls which you did not test are substantially identical to the outfall which you did test.

#### **Part VII-A**

Part VII-A must be completed by all applicants for all outfalls who must complete Form 2F.

Analyze a grab sample collected during the first thirty minutes (or as soon thereafter as practicable) of the discharge and flow-weighted composite samples for all pollutants in this Part, and report the results except use only grab samples for pH and oil and grease. See discussion in General Instructions to Item VII for definitions of grab sample collected during the first thirty minutes of discharge and flow-weighted composite sample. The "Average Values" column is not compulsory but should be filled out if data are available.

#### **Part VII-B**

List all pollutants that are limited in an effluent guideline which the facility is subject to (see 40 CFR Subchapter N to determine which pollutants are limited in effluent guidelines) or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See discussion in General instructions to item VII for definitions of grab sample collected during the first thirty minutes (or as soon thereafter as practicable) of discharge and flow-weighted composite sample. The "Average Values" column is not compulsory but should be filled out if data are available.

Analyze a grab sample collected during the first thirty minutes of the discharge and flow-weighted composite samples for all pollutants in this Part, and report the results, except as provided in the General Instructions.

#### **Part VII-C**

Part VII-C must be completed by all applicants for all outfalls which discharge storm water associated with industrial activity, or that EPA is evaluating for designation as a significant contributor of pollutants to waters of the United States, or as contributing to a violation of a water quality standard. Use both a grab sample and a composite sample for all pollutants you analyze for in this part except use grab samples for residual chlorine and fecal coliform. The "Average Values" column is not compulsory but should be filled out if data are available. Part C requires you to address the pollutants in Table 2F-2, 2F-3, and 2F-4 for each outfall. Pollutants in each of these Tables are addressed differently.

**Table 2F-2:** For each outfall, list all pollutants in Table 2F-2 that you know or have reason to believe are discharged (except pollutants previously listed in Part VII-B). If a pollutant is limited in an effluent guideline limitation which the facility is subject to (e.g., use of TSS as an indicator to control the discharge of iron and aluminum), the pollutant should be listed in Part VII-B. If a pollutant in table 2F-2 is indirectly limited by an effluent guideline limitation through an indicator, you must analyze for it and report data in Part VII-C. For other pollutants listed in Table 2F-2 (those not limited directly or indirectly by an effluent limitation guideline), that you know or have reason to believe are discharges, you must either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

**Table 2F-3:** For each outfall, list all pollutants in Table 2F-3 that you know or have reason to believe are discharged. For every pollutant in Table 2F-3 expected to be discharged in concentrations of 10 ppb or greater, you must submit quantitative data. For acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4,6 dinitrophenol, you must submit quantitative data if any of these four pollutants is expected to be discharged.

in concentrations of 100 ppb or greater. For every pollutant expected to be discharged in concentrations less than 10 ppb (or 100 ppb for the four pollutants listed above), then you must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

**Small Business Exemption** - If you are a "small business," you are exempt from the reporting requirements for the organic toxic pollutants listed in Table 2F-3. There are two ways in which you can qualify as a "small business". If your facility is a coal mine, and if your probable total annual production is less than 100,000 tons per year, you may submit past production data or estimated future production (such as a schedule of estimated total production under 30 CFR 795.14(c)) instead of conducting analyses for the organic toxic pollutants. If your facility is not a coal mine, and if your gross total annual sales for the most recent three years average less than \$100,000 per year (in second quarter 1980 dollars), you may submit sales data for those years instead of conducting analyses for the organic toxic pollutants. The production or sales data must be for the facility which is the source of the discharge. The data should not be limited to production or sales for the process or processes which contribute to the discharge, unless those are the only processes at your facility. For sales data, in situations involving intracorporate transfer of goods and services, the transfer price per unit should approximate market prices for those goods and services as closely as possible. Sales figures for years after 1980 should be indexed to the second quarter of 1980 by using the gross national product price deflator (second quarter of 1980 = 100). This index is available in National Income and Product Accounts of the United States (Department of Commerce, Bureau of Economic Analysis).

**Table 2F-4:** For each outfall, list any pollutant in Table 2F-4 that you know or believe to be present in the discharge and explain why you believe it to be present. No analysis is required, but if you have analytical data, you must report them. **Note:** Under 40 CFR 117.12(a)(2), certain discharges of hazardous substances (listed at 40 CFR 177.21 or 40 CFR 302.4) may be exempted from the requirements of section 311 of CWA, which establishes reporting requirements, civil penalties, and liability for cleanup costs for spills of oil and hazardous substances. A discharge of a particular substance may be exempted if the origin, source, and amount of the discharged substances are identified in the NPDES permit application or in the permit, if the permit contains a requirement for treatment of the discharge, and if the treatment is in place. To apply for an exclusion of the discharge of any hazardous substance from the requirements of section 311, attach additional sheets of paper to your form, setting forth the following information:

1. The substance and the amount of each substance which may be discharged.
2. The origin and source of the discharge of the substance.
3. The treatment which is to be provided for the discharge by:
  - a. An onsite treatment system separate from any treatment system treating your normal discharge;
  - b. A treatment system designed to treat your normal discharge and which is additionally capable of treating the amount of the substance identified under paragraph 1 above; or
  - c. Any combination of the above.

See 40 CFR 117.12(a)(2) and (c), published on August 29, 1979, in 44 FR 50766, or contact your Regional Office (Table 1 on Form 1, Instructions), for further information on exclusions from section 311.

#### **Part VII-D**

If sampling is conducted during more than one storm event, you only need to report the information requested in Part VII-D for the storm event(s) which resulted in any maximum pollutant concentration reported in Part VII-A, VII-B, or VII-C.

Provide flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, the method of flow measurement, or estimation. Provide the data and duration of the storm event(s) sampled, rainfall measurements, or estimates of the storm event which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event.

#### **Part VII-E**

List any toxic pollutant listed in Tables 2F-2, 2F-3, or 2F-4 which you currently use or manufacture as an intermediate or final product or byproduct. In addition, if you know or have reason to believe that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) is discharged or if you use or manufacture 2,4,5-trichlorophenoxy acetic

acid (2,4,5,-T); 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5,-TP); 2-(2,4,5-trichlorophenoxy) ethyl, 2,2-dichloropropionate (Erbon); O,O-dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophene (HCP); then list TCDD. The Director may waive or modify the requirement if you demonstrate that it would be unduly burdensome to identify each toxic pollutant and the Director has adequate information to issue your permit. You may not claim this information as confidential; however, you do not have to distinguish between use or production of the pollutants or list the amounts.

#### **Item VIII**

Self explanatory. The permitting authority may ask you to provide additional details after your application is received.

#### **Item X**

The Clean Water Act provides for severe penalties for submitting false information on this application form.

Section 309(c)(4) of the Clean Water Act provides that "Any person who knowingly makes any false material statement, representation, or certification in any application, . . . shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than 2 years, or by both. If a conviction of such person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or by both." 40 CFR Part 122.22 requires the certification to be signed as follows:

**(A) For a corporation:** by a responsible corporate official. For purposes of this section, a responsible corporate official means (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25,000,000 (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

**Note:** EPA does not require specific assignments or delegation of authority to responsible corporate officers identified in 122.22(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate position under 122.22(a)(1)(ii) rather than to specific individuals.

**(B) For a partnership or sole proprietorship:** by a general partner or the proprietor, respectively; or

**(C) For a municipality, State, Federal, or other public agency:** by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).



**Table 2F-1  
Codes for Treatment Units**

<b>Physical Treatment Processes</b>			
1-A	Ammonia Stripping	1-M	Grit Removal
1-B	Dialysis	1-N	Microstraining
1-C	Diatomaceous Earth Filtration	1-O	Mixing
1-D	Distillation	1-P	Moving Bed Filters
1-E	Electrodialysis	1-Q	Multimedia Filtration
1-F	Evaporation	1-R	Rapid Sand Filtration
1-G	Flocculation	1-S	Reverse Osmosis (Hyperfiltration)
1-H	Flotation	1-T	Screening
1-I	Foam Fractionation	1-U	Sedimentation (Setting)
1-J	Freezing	1-V	Slow Sand Filtration
1-K	Gas-Phase Separation	1-W	Solvent Extraction
1-L	Grinding (Comminutors)	1-X	Sorption
<b>Chemical Treatment Processes</b>			
2-A	Carbon Adsorption	2-G	Disinfection (Ozone)
2-B	Chemical Oxidation	2-H	Disinfection (Other)
2-C	Chemical Precipitation	2-I	Electrochemical Treatment
2-D	Coagulation	2-J	Ion Exchange
2-E	Dechlorination	2-K	Neutralization
2-F	Disinfection (Chlorine)	2-L	Reduction
<b>Biological Treatment Processes</b>			
3-A	Activated Sludge	3-E	Pre-Aeration
3-B	Aerated Lagoons	3-F	Spray Irrigation/Land Application
3-C	Anaerobic Treatment	3-G	Stabilization Ponds
3-D	Nitrification-Denitrification	3-H	Trickling Filtration
<b>Other Processes</b>			
4-A	Discharge to Surface Water	4-C	Reuse/Recycle of Treated Effluent
4-B	Ocean Discharge Through Outfall	4-D	Underground Injection
<b>Sludge Treatment and Disposal Processes</b>			
5-A	Aerobic Digestion	5-M	Heat Drying
5-B	Anaerobic Digestion	5-N	Heat Treatment
5-C	Belt Filtration	5-O	Incineration
5-D	Centrifugation	5-P	Land Application
5-E	Chemical Conditioning	5-Q	Landfill
5-F	Chlorine Treatment	5-R	Pressure Filtration
5-G	Composting	5-S	Pyrolysis
5-H	Drying Beds	5-T	Sludge Lagoons
5-I	Elutriation	5-U	Vacuum Filtration
5-J	Flotation Thickening	5-V	Vibration
5-K	Freezing	5-W	Wet Oxidation
5-L	Gravity Thickening		

**Table 2F-2**  
**Conventional and Nonconventional Pollutants Required To Be Tested by Existing Discharger if**  
**Expected To Be Present**

Bromide  
Chlorine, Total Residual  
Color  
Fecal Coliform  
Fluoride  
Nitrate-Nitrite  
Nitrogen, Total Kjeldahl  
Oil and Grease  
Phosphorus, Total Radioactivity  
Sulfate  
Sulfide  
Sulfite  
Surfactants  
Aluminum, Total  
Barium, Total  
Boron, Total  
Cobalt, Total  
Iron, Total  
Magnesium, Total  
Molybdenum, Total  
Magnesium, Total  
Tin, Total  
Titanium, Total

**Table 2F-3**  
**Toxic pollutants required to be**  
**identified by applicant if expected to be present**

<b>Toxic Pollutants and Total Phenol</b>		
Antimony, Total	Copper, Total	Silver, Total
Arsenic, Total	Lead, Total	Thallium, Total
Beryllium, Total	Mercury, Total	Zinc, Total
Cadmium, Total	Nickel, Total	Cyanide, Total
Chromium, Total	Selenium, Total	Phenols, Total
<b>GC/MS Fraction Volatiles Compounds</b>		
Acrolein	Dichlorobromomethane	1,1,2,2-Tetrachloroethane
Acrylonitrile	1,1-Dichloroethane	Tetrachloroethylene
Benzene	1,2-Dichloroethane	Toluene
Bromoform	1,1-Dichloroethylene	1,2-Trans-Dichloroethylene
Carbon Tetrachloride	1,2-Dichloropropane	1,1,1-Trichloroethane
Chlorobenzene	1,3-Dichloropropylene	1,1,2-Trichloroethane
Chlorodibromomethane	Ethylbenzene	Trichloroethylene
Chloroethane	Methyl Bromide	Vinyl Chloride
2-Chloroethylvinyl Ether	Methyl Chloride	
Chloroform	Methylene Chloride	
<b>Acid Compounds</b>		
2-Chlorophenol	2,4-Dinitrophenol	Pentachlorophenol
2,4-Dichlorophenol	2-Nitrophenol	Phenol
2,4-Dimethylphenol	4-Nitrophenol	2,4,6-Trichlorophenol
4,6-Dinitro-O-Cresol	p-Chloro-M-Cresol	
<b>Base/Neutral</b>		
Acenaphthene	2-Chloronaphthalene	Fluoranthene
Acenaphthylene	4-Chlorophenyl Phenyl Ether	Fluorene
Anthracene	Chrysene	Hexachlorobenzene
Benzidine	Dibenzo(a,h)anthracene	Hexachlorobutadiene
Benzo(a)anthracene	1,2-Dichlorobenzene	Hexachloroethane
Benzo(a)pyrene	1,3-Dichlorobenzene	Indeno(1,2,3-cd)pyrene
3,4-Benzofluoranthene	1,4-Dichlorobenzene	Isophorone
Benzo(ghi)perylene	3,3'-Dichlorobenzidine	Naphthalene
Benzo(k)fluoranthene	Diethyl Phthalate	Nitrobenzene
Bis(2-chloroethoxy)methane	Dimethyl Phthalate	N-Nitrosodimethylamine
Bis(2-chloroethyl)ether	Di-N-Butyl Phthalate	N-Nitrosodi-N-Propylamine
Bis(2-chloroisopropyl)ether	2,4-Dinitrotoluene	N-Nitrosodiphenylamine
Bis(2-ethylhexyl)phthalate	2,6-Dinitrotoluene	Phenanthrene
4-Bromophenyl Phenyl Ether	Di-N-Octylphthalate	Pyrene
Butylbenzyl Phthalate	1,2-Diphenylhydrazine (as Azobenzene)	1,2,4-Trichlorobenzene
<b>Pesticides</b>		
Aldrin	Dieldrin	PCB-1254
Alpha-BHC	Alpha-Endosulfan	PCB-1221
Beta-BHC	Beta-Endosulfan	PCB-1232
Gamma-BHC	Endosulfan Sulfate	PCB-1248
Delta-BHC	Endrin	PCB-1260
Chlordane	Endrin Aldehyde	PCB-1016
4,4'-DDT	Heptachlor	Toxaphene
4,4'-DDE	Heptachlor Epoxide	
4,4'-DDD	PCB-1242	

**Table 2F-4  
Hazardous substances required to be  
identified by applicant if expected to be present**

**Toxic Pollutant**

Asbestos

**Hazardous Substances**

Acetaldehyde	Dinitrobenzene	Napthenic acid
Allyl alcohol	Diquat	Nitrotoluene
Allyl chloride	Disulfoton	Parathion
Amyl acetate	Diuron	Phenolsulfonate
Aniline	Epichlorohydrin	Phosgene
Benzonitrile	Ethion	Propargite
Benzyl chloride	Ethylene diamine	Propylene oxide
Butyl acetate	Ethylene dibromide	Pyrethrins
Butylamine	Formaldehyde	Quinoline
Carbaryl	Furfural	Resorcinol
Carbofuran	Guthion	Stronthium
Carbon disulfide	Isoprene	Strychnine
Chlorpyrifos	Isopropanolamine	Styrene
Coumaphos	Kelthane	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)
Cresol	Kepone	TDE (Tetrachlorodiphenyl ethane)
Crotonaldehyde	Malathion	2,4,5-TP [2-(2,4,5-Trichlorophenoxy) propanoic acid]
Cyclohexane	Mercaptodimethur	Trichlorofan
2,4-D (2,4-Dichlorophenoxyacetic acid)	Methoxychlor	Triethylamine
Diazinon	Methyl mercaptan	Trimethylamine
Dicamba	Methyl methacrylate	Uranium
Dichlobenil	Methyl parathion	Vanadium
Dichlone	Mevinphos	Vinyl acetate
2,2-Dichloropropionic acid	Mexacarbate	Xylene
Dichlorvos	Monoethyl amine	Xylenol
Diethyl amine	Monomethyl amine	Zirconium
Dimethyl amine	Naled	

Permits Division



# Application Form 2C - Wastewater Discharge Information

## Consolidated Permits Program

This form must be completed by all persons applying for an EPA permit to discharge wastewater (*existing manufacturing, commercial, mining, and silvicultural operations*).



**INSTRUCTIONS — FORM 2c**  
**Application for Permit to Discharge Wastewater**  
**EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL OPERATIONS**

This form must be completed by all applicants who check "yes" to item II-C in Form 1.

**Public Availability of Submitted Information.**

Your application will not be considered complete unless you answer every question on this form and on Form 1. If an item does not apply to you, enter "NA" (for not applicable) to show that you considered the question.

You may not claim as confidential any information required by this form or Form 1, whether the information is reported on the forms or in an attachment. This information will be made available to the public upon request.

Any information you submit to EPA which goes beyond that required by this form or Form 1 you may claim as confidential, but claims for information which is effluent data will be denied. If you do not assert a claim of confidentiality at the time of submitting the information, EPA may make the information public without further notice to you. Claims of confidentiality will be handled in accordance with EPA's business confidentiality regulations at 40 CFR Part 2.

**Definitions**

All significant terms used in these instructions and in the form are defined in the glossary found in the General Instructions which accompany Form 1.

**EPA ID Number**

Fill in your EPA Identification Number at the top of each page of Form 2c. You may copy this number directly from item I of Form 1.

**Item I**

You may use the map you provided for item XI of Form 1 to determine the latitude and longitude of each of your outfalls and the name of the receiving water.

**Item II-A**

The line drawing should show generally the route taken by water in your facility from intake to discharge. Show all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and stormwater runoff. You may group similar operations into a single unit, labeled to correspond to the more detailed listing in item II-B. The water balance should show average flows. Show all significant losses of water to products, atmosphere, and discharge. You should use actual measurements whenever available, otherwise use your best estimate. An example of an acceptable line drawing appears in Figure 2c-1 to these instructions.

**Item II-B**

List all sources of wastewater to each outfall. Operations may be described in general terms (for example, "dye-making reactor" or "distillation tower"). You may estimate the flow contributed by each source if no data are available. For stormwater discharges you may estimate the average flow, but you must indicate the rainfall event upon which the estimate is based and the method of estimation. For each treatment unit, indicate its size, flow rate, and retention time, and describe the ultimate disposal of any solid or liquid wastes not discharged. Treatment units should be listed in order and you should select the proper code from Table 2c-1 to fill in column 3-b for each treatment unit. Insert "XX" into column 3-b if no code corresponds to a treatment unit you list. If you are applying for a permit for a privately owned treatment works, you must also identify all of your contributors in an attached listing.

**Item II-C**

A discharge is intermittent unless it occurs without interruption during the operating hours of the facility, except for infrequent shut-downs for maintenance, process changes, or other similar activities. A discharge is seasonal if it occurs only during certain parts of the year. Fill in every applicable column in this item for each source of intermittent or seasonal discharges. Base your answers on actual data whenever available, otherwise, provide your best estimate. Report the highest daily value for flow rate and total volume in the

"Maximum Daily" columns (columns 4-a-2 and 4-b-2) Report the average of all daily values measured during days when discharge occurred within the last year in the "Long Term Average" columns (columns 4-a-1 and 4-b-1).

**Item III-A**

All effluent guidelines promulgated by EPA appear in the Federal Register and are published annually in 40 CFR Subchapter N. A guideline applies to you if you have any operations contributing process wastewater in any subcategory covered by a BPT, BCT, or BAT guideline. If you are unsure whether you are covered by a promulgated effluent guideline, check with your EPA Regional office (Table 1 in the Form 1 instructions). You must check "yes" if an applicable effluent guideline has been promulgated, even if the guideline limitations are being contested in court. If you believe that a promulgated effluent guideline has been remanded for reconsideration by a court and does not apply to your operations, you may check "no."

**Item III-B**

An effluent guideline is expressed in terms of production (or other measure of operation) if the limitation is expressed as mass of pollutant per operational parameter, for example, "pounds of BOD per cubic foot of logs from which bark is removed," or "pounds of TSS per megawatt hour of electrical energy consumed by smelting furnace." An example of a guideline not expressed in terms of a measure of operation is one which limits the concentration of pollutants.

**Item III-C**

This item must be completed only if you checked "yes" to item III-B. The production information requested here is necessary to apply effluent guidelines to your facility and you cannot claim it as confidential. However, you do not have to indicate how the reported information was calculated. Report quantities in the units of measurement used in the applicable effluent guideline. The production figures provided must be based on actual daily production and not on design capacity or on predictions of future operations. To obtain alternate limits under 40 CFR 122.45(b)(2)(ii), you must define your maximum production capability and demonstrate to the Director that your actual production is substantially below maximum production capability and that there is a reasonable potential for an increase above actual production during the duration of the permit.

**Item IV-A**

If you check "yes" to this question, complete all parts of the chart or attach a copy of any previous submission you have made to EPA containing same information.

**Item IV-B**

You are not required to submit a description of future pollution control projects if you do not wish to or if none is planned.

**Item V-A, B, C, and D**

The items require you to collect and report data on the pollutants discharged for each of your outfalls. Each part of this item addresses a different set of pollutants and must be completed in accordance with the specific instructions for that part. The following general instructions apply to the entire item.

**General Instructions**

Part A requires you to report at least one analysis for each pollutant listed. Parts B and C require you to report analytical data in two ways. For some pollutants, you may be required to mark 'X' in the "Testing Required" column (column 2-a, Part C), and test (sample and analyze) and report the levels of the pollutants in your discharge whether or not you expect them to be present in your discharge. For all others you must mark 'X' in either the "Believe Present" column or the "Believe Absent" column (columns 2-a or 2-b, Part B and columns 2-b or 2-c, Part C) based on your best estimate, and test for those which you believe to be present. (See specific instructions on the form and below for Parts A through D.) Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, maintenance chemicals, etc.

**FORM 2C — INSTRUCTIONS (continued)**

**ITEM V — A, B, C, and D (continued)**

mediate and final products and byproducts, and any previous analyses known to you of your effluent or similar effluent. (For example, if you manufacture pesticides, you should expect those pesticides to be present in contaminated stormwater runoff.) If you would expect a pollutant to be present solely as a result of its presence in your intake water, you must mark "Believe Present" but you are not required to analyze for that pollutant. Instead, mark an "X" in the "Intake" column.

**A. Reporting.** All levels must be reported as concentration and as total mass. You may report some or all of the required data by attaching separate sheets of paper instead of filling out pages V-1 to V-9 if the separate sheets contain all the required information in a format which is consistent with pages V-1 to V-9 in spacing and in identification of pollutants and columns. (For example, the data system used in your GC/MS analysis may be able to print data in the proper format.) Use the following abbreviations in the columns headed "Units" (column 3, Part A, and column 4, Parts B and C).

Concentration	Mass
ppm ..... parts per million	lbs ..... pounds
mg/l .... milligrams per liter	ton ..... tons (English tons)
ppb ..... parts per billion	mg ..... milligrams
ug/l .... micrograms per liter	g ..... grams
	kg ..... kilograms
	T ..... tonnes (metric tons)

All reporting of values for metals must be in terms of "total recoverable metal," unless:

- (1) An applicable, promulgated effluent limitation or standard specifies the limitation for the metal in dissolved, valent, or total form; or
- (2) All approved analytical methods for the metal inherently measure only its dissolved form (e.g., hexavalent chromium); or
- (3) The permitting authority has determined that in establishing case-by-case limitations it is necessary to express the limitations on the metal in dissolved, valent, or total form to carry out the provisions of the CWA.

If you measure only one daily value, complete only the "Maximum Daily Values" columns and insert "1" into the "Number of Analyses" column (columns 2-a and 2-d, Part A, and column 3-a, 3-d, Parts B and C). The permitting authority may require you to conduct additional analyses to further characterize your discharges. For composite samples, the daily value is the total mass or average concentration found in a composite sample taken over the operating hours of the facility during a 24-hour period; for grab samples, the daily value is the arithmetic or flow-weighted total mass or average concentration found in a series of at least four grab samples taken over the operating hours of the facility during a 24-hour period.

If you measure more than one daily value for a pollutant and those values are representative of your wastestream, you must report them. You must describe your method of testing and data analysis. You also must determine the average of all values within the last year and report the concentration and mass under the "Long Term Average Values" columns (column 2-c, Part A, and column 3-c, Parts B and C), and the total number of daily values under the "Number of Analyses" columns (column 2-d, Part A, and columns 3-d, Parts B and C). Also, determine the average of all daily values taken during each calendar month, and report the highest average under the "Maximum 30-day Values" columns (column 2-c, Part A, and column 3-b, Parts B and C).

**B. Sampling:** The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater. You may contact your EPA or State permitting authority for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation,

holding times, the collection of duplicate samples, etc. The time when you sample should be representative of your normal operation, to the extent feasible, with all processes which contribute wastewater in normal operation, and with your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit, or at any site adequate for the collection of a representative sample.

For pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, and fecal coliform, grab samples must be used. For all other pollutants 24-hour composite samples must be used. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period of greater than 24 hours. For stormwater discharges a minimum of one to four grab samples may be taken, depending on the duration of the discharge. One grab must be taken in the first hour (or less) of discharge, with one additional grab (up to a minimum of four) taken in each succeeding hour of discharge for discharges lasting four or more hours. The Director may waive composite sampling for any outfall for which you demonstrate that use of an automatic sampler is infeasible and that a minimum of four grab samples will be representative of your discharge.

Grab and composite samples are defined as follows:

**Grab sample:** An individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

**Composite sample:** A combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24 hour period. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. For GC/MS Volatile Organic Analysis (VOA), aliquots must be combined in the laboratory immediately before analysis. Four (4) (rather than eight) aliquots or grab samples should be collected for VOA. These four samples should be collected during actual hours of discharge over a 24 hour period and need not be flow proportioned. Only one analysis is required.

The Agency is currently reviewing sampling requirements in light of recent research on testing methods. Upon completion of its review, the Agency plans to propose changes to the sampling requirements.

Data from samples taken in the past may be used, provided that:

All data requirements are met;

Sampling was done no more than three years before submission; and

All data are representative of the present discharge.

Among the factors which would cause the data to be unrepresentative are significant changes in production level, changes in raw materials, processes, or final products, and changes in wastewater treatment. When the Agency promulgates new analytical methods in 40 CFR Part 136, EPA will provide information as to when you should use the new methods to generate data on your discharges. Of course, the Director may request additional information, including current quantitative data, if she or he determines it to be necessary to assess your discharges.

**C. Analysis:** You must use test methods promulgated in 40 CFR Part 136; however, if none has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding time, preservation techniques, and the quality control measures which you used. If you have two or more substantially identical outfalls, you may request permission from your permitting authority to sample and analyze only one outfall and submit the results of the analysis

## FORM 2C — INSTRUCTIONS (continued)

### TEM V — A, B, C, and D (continued)

for other substantially identical outfalls. If your request is granted by the permitting authority, on a separate sheet attached to the application form, identify which outfall you did test, and describe why the outfalls which you did not test are substantially identical to the outfall which you did test.

**D. Reporting of Intake Data:** You are not required to report data under the "Intake" columns unless you wish to demonstrate your eligibility for a "net" effluent limitation for one or more pollutants, that is, an effluent limitation adjusted by subtracting the average level of the pollutant(s) present in your intake water. NPDES regulations allow net limitations only in certain circumstances. To demonstrate your eligibility, under the "Intake" columns report the average of the results of analyses on your intake water (if your water is treated before use, test the water after it is treated), and discuss the requirements for a net limitation with your permitting authority.

#### Part V-A

Part V-A must be completed by all applicants for all outfalls, including outfalls containing only noncontact cooling water or storm runoff. However, at your request, the Director may waive the requirement to test for one or more of these pollutants, upon a determination that available information is adequate to support issuance of the permit with less stringent reporting requirements for these pollutants. You also may request a waiver for one or more of these pollutants for your category or subcategory from the Director, Office of Water Enforcement and Permits. See discussion in General Instructions to item V for definitions of the columns in Part A. The "Long Term Average Values" column (column 2-c) and "Maximum 30-day Values" column (column 2-b) are not compulsory but should be filled out if data are available.

Use composite samples for all pollutants in this Part, except use grab samples for pH and temperature. See discussion in General Instructions to item V for definitions of the columns in Part A. The "Long Term Average Values" column (column 2-c) and "Maximum 30-Day Values" column (column 2-b) are not compulsory but should be filled out if data are available.

#### Part V-B

Part V-B must be completed by all applicants for all outfalls, including outfalls containing only noncontact cooling water or storm runoff. You must report quantitative data if the pollutant(s) in question is limited in an effluent limitations guideline either directly, or indirectly but expressly through limitation on an indicator (e.g., use of TSS as an indicator to control the discharge of iron and aluminum). For other discharged pollutants you must provide quantitative data or explain their presence in your discharge. EPA will consider requests to the Director of the Office of Water Enforcement and Permits to eliminate the requirement to test for pollutants for an industrial category or subcategory. Your request must be supported by data representative of the industrial category or subcategory in question. The data must demonstrate that individual testing for each applicant is unnecessary, because the facilities in the category or subcategory discharge substantially identical levels of the pollutant or discharge the pollutant uniformly at sufficiently low levels. Use composite samples for all pollutants you analyze for in this part, except use grab samples for residual chlorine, oil and grease, and fecal coliform. The "Long Term Average Values" column (column 3-c) and "Maximum 30-day Values" column (column 3-b) are not compulsory but should be filled out if data are available.

#### Part V-C

Table 2c-2 lists the 34 "primary" industry categories in the left-hand column. For each outfall, if any of your processes which contribute wastewater falls into one of those categories, you must mark "X" in "Testing Required" column (column 2-a) and test for (1) all of the toxic metals, cyanide, and total phenols, and (2) the organic toxic pollutants contained in Table 2c-2 as applicable to your category, unless you qualify as a small business (see below). The organic toxic pollutants are listed by GC/MS frac-

tions on pages V-4 to V-9 in Part V-C. For example, the Organic Chemicals Industry has an asterisk in all four fractions, therefore, applicants in this category must test for all organic toxic pollutants in Part V-C. The inclusion of total phenols in Part V-C is not intended to classify total phenols as a toxic pollutant. If you are applying for a permit for a privately owned treatment works, determine your testing requirements on the basis of the industry categories of your contributors. When you determine which industry category you are in to find your testing requirements, you are not determining your category for any other purpose and you are not giving up your right to challenge your inclusion in that category (for example, for deciding whether an effluent guideline is applicable) before your permit is issued. For all other cases (secondary industries, nonprocess wastewater outfalls, and non-required GC/MS fractions), you must mark "X" in either the "Believed Present" column (column 2-b) or the "Believed Absent" column (column 2-c) for each pollutant. For every pollutant you know or have reason to believe is present in your discharge in concentrations of 10 ppb or greater, you must report quantitative data. For acrolein, acrylonitrile, 2, 4 dinitrophenol, and 2-methyl-4, 6 dinitrophenol, where you expect these four pollutants to be discharged in concentrations of 100 ppb or greater, you must report quantitative data. For every pollutant expected to be discharged in concentrations less than the thresholds specified above, you must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged. At your request the Director, Office of Water Enforcement and Permits, may waive the requirement to test for pollutants for an industrial category or subcategory. Your request must be supported by data representatives of the industrial category or subcategory in question. The data must demonstrate that individual testing for each applicant is unnecessary, because the facilities in question discharge substantially identical levels of the pollutant, or discharge the pollutant uniformly at sufficiently low levels. If you qualify as a small business (see below) you are exempt from testing for the organic toxic pollutants, listed on pages V-4 to V-9 in Part C. For pollutants in intake water, see discussion in General Instructions to this item. The "Long Term Average Values" column (column 3-c) and "Maximum 30-day Values" column (column 3-b) are not compulsory but should be filled out if data are available. You are required to mark "Testing Required" for dioxin if you use or manufacture one of the following compounds.

- (a) 2,4,5-trichlorophenoxy acetic acid, (2,4,5-T);
- (b) 2-(2,4,5-trichlorophenoxy) propanoic acid, (Silvex, 2,4,5-TP);
- (c) 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate, (Erbon);
- (d) O,O-dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate, (Ronnel);
- (e) 2,4,5-trichlorophenol, (TCP), or
- (f) hexachlorophene, (HCP).

If you mark "Testing Required" or "Believed Present," you must perform a screening analysis for dioxins, using gas chromatography with an electron capture detector. A TCDD standard for quantitation is not required. Describe the results of this analysis in the space provided, for example, "no measurable baseline deflection at the retention time of TCDD" or "a measurable peak within the tolerances of the retention time of TCDD." The permitting authority may require you to perform a quantitative analysis if you report a positive result. The Effluent Guidelines Division of EPA has collected and analyzed samples from some plants for the pollutants listed in Part C in the course of its BAT guidelines development program. If your effluents are sampled and analyzed as part of this program in the last three years, you may use these data to answer Part C provided that the permitting authority approves, and provided that no process change or change in raw materials or operating practices has occurred since the samples were taken that would make the analyses unrepresentative of your current discharge.



FORM 2C — INSTRUCTIONS (continued)

ITEM V — A, B, C, and D (continued)

**Small Business Exemption:** If you qualify as a "small business," you are exempt from the reporting requirements for the organic toxic pollutants, listed on pages V-4 to V-9 in Part C. There are two ways in which you can qualify as a "small business." If your facility is a coal mine, and if your probable total annual production is less than 100,000 tons per year, you may submit past production data or estimated future production (such as a schedule of estimated total production under 30 CFR § 795.14(c)) instead of conducting analyses for the organic toxic pollutants. If your facility is not a coal mine, and if your gross total annual sales for the most recent three years average less than \$100,000 per year (in second quarter 1980 dollars), you may submit sales data for those years instead of conducting analyses for the organic toxic pollutants. The production or sales data must be for the facility which is the source of the discharge. The data should not be limited to production or sales for the process or process which contribute to the discharge, unless those are the only processes at your facility. For sales data, in situations involving intracorporate transfer of goods and services, the transfer price per unit should approximate market prices for those goods and services as closely as possible. Sales figures for years after 1980 should be indexed to the second quarter of 1980 by using the gross national product price deflator (second quarter of 1980 = 100). This index is available in *National Income and Product Accounts of the United States (Department of Commerce, Bureau of Economic Analysis)*.

Part V-D

List any pollutants in Table 2c-3 that you believe to be present and explain why you believe them to be present. No analysis is required, but if you have analytical data, you must report it.

**Note:** Under 40 CFR 117.12(a)(2), certain discharges of hazardous substances (listed in Table 2c-4 of these instructions) may be exempted from the requirements of section 311 of CWA, which establishes reporting requirements, civil penalties and liability for cleanup costs for spills of oil and hazardous substances. A discharge of a particular substance may be exempted if the origin, source, and amount of the discharged substances are identified in the NDPEs permit application or in the permit, if the permit contains a requirement for treatment of the discharge, and if the treatment is in place. To apply for an exclusion of the discharge of any hazardous substance from the requirements of section 311, attach additional sheets of paper to your form, setting forth the following information:

1. The substance and the amount of each substance which may be discharged.
2. The origin and source of the discharge of the substance.
3. The treatment which is to be provided for the discharge by:
  - a. An onsite treatment system separate from any treatment system treating your normal discharge;
  - b. A treatment system designed to treat your normal discharge and which is additionally capable of treating the amount of the substance identified under paragraph 1 above; or
  - c. Any combination of the above.

See 40 CFR §117.12(a)(2) and (c), published on August 29, 1979, in 44 FR 50766, or contact your Regional Office (Table 1 on Form 1, Instructions), for further information on exclusions from section 311.

Item VI

This requirement applies to current use or manufacture of a toxic pollutant as an intermediate or final product or byproduct. The Director may waive or modify the requirement if you demonstrate that it would be unduly burdensome to identify each toxic pollutant and the Director has adequate information to issue your permit. You may not claim this information as confidential; however, you do not have to distinguish between use or production of the pollutants or list the amounts.

Item VII

Self explanatory. The permitting authority may ask you to provide additional details after your application is received.

Item IX

The Clean Water Act provides for severe penalties for submitting false information on this application form.

Section 309(c)(2) of the Clean Water Act provides that "Any person who knowingly makes any false statement, representation, or certification in any application, ... shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than six months, or by both."

40 CFR Part 122.22 requires the certification to be signed as follows:

(A) *For a corporation:* by a responsible corporate official. For purposes of this section, a responsible corporate official means (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25,000,000 (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

**Note:** EPA does not require specific assignments or delegation of authority to responsible corporate officers identified in §122.22(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate position under §122.22(a)(1)(ii) rather than to specific individuals.

(B) *For a partnership or sole proprietorship:* by a general partner or the proprietor, respectively; or

(C) *For a municipality, State, Federal, or other public agency:* by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal Agency includes (i) the chief executive officer of the Agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the Agency (e.g., *Regional Administrators of EPA*). Applications for Group II stormwater dischargers may be signed by a duly authorized representative (as defined in 40 CFR 122.22(b)) of the individuals identified above.

## CODES FOR TREATMENT UNITS

### PHYSICAL TREATMENT PROCESSES

1-A	Ammonia Stripping	1-M	Grit Removal
1-B	Dialysis	1-N	Microstraining
1-C	Diatomaceous Earth Filtration	1-O	Mixing
1-D	Distillation	1-P	Moving Bed Filters
1-E	Electrodialysis	1-Q	Multimedia Filtration
1-F	Evaporation	1-R	Rapid Sand Filtration
1-G	Flocculation	1-S	Reverse Osmosis ( <i>Hyperfiltration</i> )
1-H	Flotation	1-T	Screening
1-I	Foam Fractionation	1-U	Sedimentation ( <i>Settling</i> )
1-J	Freezing	1-V	Slow Sand Filtration
1-K	Gas-Phase Separation	1-W	Solvent Extraction
1-L	Grinding ( <i>Comminutors</i> )	1-X	Sorption

### CHEMICAL TREATMENT PROCESSES

2-A	Carbon Adsorption	2-G	Disinfection ( <i>Ozone</i> )
2-B	Chemical Oxidation	2-H	Disinfection ( <i>Other</i> )
2-C	Chemical Precipitation	2-I	Electrochemical Treatment
2-D	Coagulation	2-J	Ion Exchange
2-E	Dechlorination	2-K	Neutralization
2-F	Disinfection ( <i>Chlorine</i> )	2-L	Reduction

### BIOLOGICAL TREATMENT PROCESSES

3-A	Activated Sludge	3-E	Pre-Aeration
3-B	Aerated Lagoons	3-F	Spray Irrigation/Land Application
3-C	Anaerobic Treatment	3-G	Stabilization Ponds
3-D	Nitrification-Denitrification	3-H	Trickling Filtration

### OTHER PROCESSES

4-A	Discharge to Surface Water	4-C	Reuse/Recycle of Treated Effluent
4-B	Ocean Discharge Through Outfall	4-D	Underground Injection

### SLUDGE TREATMENT AND DISPOSAL PROCESSES

5-A	Aerobic Digestion	5-M	Heat Drying
5-B	Anaerobic Digestion	5-N	Heat Treatment
5-C	Belt Filtration	5-O	Incineration
5-D	Centrifugation	5-P	Land Application
5-E	Chemical Conditioning	5-Q	Landfill
5-F	Chlorine Treatment	5-R	Pressure Filtration
5-G	Composting	5-S	Pyrolysis
5-H	Drying Beds	5-T	Sludge Lagoons
5-I	Elutriation	5-U	Vacuum Filtration
5-J	Flotation Thickening	5-V	Vibration
5-K	Freezing	5-W	Wet Oxidation
5-L	Gravity Thickening		

**TESTING REQUIREMENTS FOR ORGANIC TOXIC POLLUTANTS INDUSTRY CATEGORY\***

INDUSTRY CATEGORY	GC/MS FRACTION <sup>1</sup>			
	Volatile	Acid	Base/Neutral	Pesticide
Adhesives and sealants . . . . .	X	X	X	-
Aluminum forming . . . . .	X	X	X	-
Auto and other laundries . . . . .	X	X	X	X
Battery manufacturing . . . . .	X	-	X	-
Coal mining . . . . .	X	X	X	X
Coil coating . . . . .	X	X	X	-
Copper forming . . . . .	X	X	X	-
Electric and electronic compounds . . . . .	X	X	X	X
Electroplating . . . . .	X	X	X	-
Explosives manufacturing . . . . .	-	X	X	-
Foundries . . . . .	X	X	X	-
Gum and wood chemicals . . . . .	X	X	X	X
Inorganic chemicals manufacturing . . . . .	X	X	X	-
Iron and steel manufacturing . . . . .	X	X	X	-
Leather tanning and finishing . . . . .	X	X	X	X
Mechanical products manufacturing . . . . .	X	X	X	-
Nonferrous metals manufacturing . . . . .	X	X	X	X
Ore mining . . . . .	X	X	X	X
Organic chemicals manufacturing . . . . .	X	X	X	X
Paint and ink formulation . . . . .	X	X	X	X
Pesticides . . . . .	X	X	X	X
Petroleum refining . . . . .	X	X	X	X
Pharmaceutical preparations . . . . .	X	X	X	-
Photographic equipment and supplies . . . . .	X	X	X	X
Plastic and synthetic materials manufacturing . . . . .	X	X	X	X
Plastic processing . . . . .	X	-	-	-
Porcelain enameling . . . . .	X	-	X	X
Printing and publishing . . . . .	X	X	X	X
Pulp and paperboard mills . . . . .	X	X	X	X
Rubber processing . . . . .	X	X	X	-
Soap and detergent manufacturing . . . . .	X	X	X	-
Steam electric power plants . . . . .	X	X	X	-
Textile mills . . . . .	X	X	X	X
Timber products processing . . . . .	X	X	X	X

\*See note at conclusion of 40 CFR Part 122, Appendix D (1983) for explanation of effect of suspensions on testing requirements for primary industry categories

<sup>1</sup>The pollutants in each fraction are listed in Item V—C

X = Testing required

- = Testing not required

**TOXIC POLLUTANTS AND HAZARDOUS SUBSTANCES REQUIRED TO  
BE IDENTIFIED BY APPLICANTS IF EXPECTED TO BE PRESENT**

---

**TOXIC POLLUTANT**

Asbestos

**HAZARDOUS SUBSTANCES**

Acetaldehyde  
 Allyl alcohol  
 Allyl chloride  
 Amyl acetate  
 Aniline  
 Benzotrile  
 Benzyl chloride  
 Butyl acetate  
 Butylamine  
 Captan  
 Carbaryl  
 Carbofuran  
 Carbon disulfide  
 Chlorpyrifos  
 Coumaphos  
 Cresol  
 Crotonaldehyde  
 Cyclohexane  
 2,4-D (2,4-Dichlorophenoxyacetic acid)  
 Diazinon  
 Dicamba  
 Dichlobenil  
 Dichlone  
 2,2-Dichloropropionic acid

**HAZARDOUS SUBSTANCES**

Dichlorvos  
 Diethyl amine  
 Dimethyl amine  
 Dinitrobenzene  
 Diquat  
 Disulfoton  
 Diuron  
 Epichlorohydrin  
 Ethion  
 Ethylene diamine  
 Ethylene dibromide  
 Formaldehyde  
 Furfural  
 Guthion  
 Isoprene  
 Isopropanolamine  
 Kelthane  
 Kepone  
 Malathion  
 Mercaptodimethur  
 Methoxychlor  
 Methyl mercaptan  
 Methyl methacrylate  
 Methyl parathion  
 Mevinphos  
 Mexacarbate  
 Monoethyl amine  
 Monomethyl amine

**HAZARDOUS SUBSTANCES**

Naled  
 Napthenic acid  
 Nitrotoluene  
 Parathion  
 Phenolsulfonate  
 Phosgene  
 Propargite  
 Propylene oxide  
 Pyrethrins  
 Quinoline  
 Resorcinol  
 Strontium  
 Strychnine  
 Styrene  
 2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)  
 TDE (Tetrachlorodiphenyl ethane)  
 2,4,5-TP [2-(2,4,5-Trichlorophenoxy)  
 propanoic acid]  
 Trichlorofon  
 Triethanolamine  
 Triethylamine  
 Trimethylamine  
 Uranium  
 Vanadium  
 Vinyl acetate  
 Xylene  
 Xylenol  
 Zirconium

HAZARDOUS SUBSTANCES (continued)

204. Parathion	238. Sodium dodecylbenzenesulfonate	266. Trichloroethylene
205. Pentachlorophenol	239. Sodium fluoride	267. Trichlorophenol
206. Phenol	240. Sodium hydrosulfide	268. Triethanolamine
207. Phosgene	241. Sodium hydroxide	dodecylbenzenesulfonate
208. Phosphoric acid	242. Sodium hypochlorite	269. Triethylamine
209. Phosphorus	243. Sodium methylate	270. Trimethylamine
210. Phosphorus oxychloride	244. Sodium nitrite	271. Uranyl acetate
211. Phosphorus pentasulfide	245. Sodium phosphate (dibasic)	272. Uranyl nitrate
212. Phosphorus trichloride	246. Sodium phosphate (tribasic)	273. Vanadium pentoxide
213. Polychlorinated biphenyls (PCB)	247. Sodium selenite	274. Vanadyl sulfate
214. Potassium arsenate	248. Strontium chromate	275. Vinyl acetate
215. Potassium arsenite	249. Strychnine	276. Vinylidene chloride
216. Potassium bichromate	250. Styrene	277. Xylene
217. Potassium chromate	251. Sulfuric acid	278. Xylenol
218. Potassium cyanide	252. Sulfur monochloride	279. Zinc acetate
219. Potassium hydroxide	253. 2,4,5-T acid (2,4,5- Trichlorophenoxyacetic acid)	280. Zinc ammonium chloride
220. Potassium permanganate	254. 2,4,5-T amines (2,4,5-Trichlorophenoxy acetic acid amines)	281. Zinc borate
221. Propargite	255. 2,4,5-T esters (2,4,5-Trichlorophenoxy acetic acid esters)	282. Zinc bromide
222. Propionic acid	256. 2,4,5-T salts (2,4,5-Trichlorophenoxy acetic acid salts)	283. Zinc carbonate
223. Propionic anhydride	257. 2,4,5-TP acid (2,4,5-Trichlorophenoxy propanoic acid)	284. Zinc chloride
224. Propylene oxide	258. 2,4,5-TP acid esters (2,4,5- Trichlorophenoxy propanoic acid esters)	285. Zinc cyanide
225. Pyrethrins	259. TDE (Tetrachlorodiphenyl ethane)	286. Zinc fluoride
226. Quinoline	260. Tetraethyl lead	287. Zinc formate
227. Resorcinol	261. Tetraethyl pyrophosphate	288. Zinc hydrosulfite
228. Selenium oxide	262. Thallium sulfate	289. Zinc nitrate
229. Silver nitrate	263. Toluene	290. Zinc phenolsulfonate
230. Sodium	264. Toxaphene	291. Zinc phosphide
231. Sodium arsenate	265. Trichlorofon	292. Zinc silicofluoride
232. Sodium arsenite		293. Zinc sulfate
233. Sodium bichromate		294. Zirconium nitrate
234. Sodium bifluoride		295. Zirconium potassium flouride
235. Sodium bisulfite		296. Zirconium sulfate
236. Sodium chromate		297. Zirconium tetrachloride
237. Sodium cyanide		

HAZARDOUS SUBSTANCES

1. Acetaldehyde	70. Calcium cyanide	136. Ferric ammonium citrate
2. Acetic acid	71. Calcium dodecylbenzenesulfonate	137. Ferric ammonium oxalate
3. Acetic anhydride	72. Calcium hypochlorite	138. Ferric chloride
4. Acetone cyanohydrin	73. Captan	139. Ferric fluoride
5. Acetyl bromide	74. Carbaryl	140. Ferric nitrate
6. Acetyl chloride	75. Carbofuran	141. Ferric sulfate
7. Acrolein	76. Carbon disulfide	142. Ferrous ammonium sulfate
8. Acrylonitrile	77. Carbon tetrachloride	143. Ferrous chloride
9. Adipic acid	78. Chlordane	144. Ferrous sulfate
10. Aldrin	79. Chlorine	145. Formaldehyde
11. Allyl alcohol	80. Chlorobenzene	146. Formic acid
12. Allyl chloride	81. Chloroform	147. Fumaric acid
13. Aluminum sulfate	82. Chloropyrifos	148. Furfural
14. Ammonia	83. Chlorosulfonic acid	149. Guthion
15. Ammonium acetate	84. Chromic acetate	150. Heptachlor
16. Ammonium benzoate	85. Chromic acid	151. Hexachlorocyclopentadiene
17. Ammonium bicarbonate	86. Chromic sulfate	152. Hydrochloric acid
18. Ammonium bichromate	87. Chromous chloride	153. Hydrofluoric acid
19. Ammonium bifluoride	88. Cobaltous bromide	154. Hydrogen cyanide
20. Ammonium bisulfite	89. Cobaltous formate	155. Hydrogen sulfide
21. Ammonium carbamate	90. Cobaltous sulfamate	156. Isoprene
22. Ammonium carbonate	91. Coumaphos	157. Isopropanolamine
23. Ammonium chloride	92. Cresol	dodecylbenzenesulfonate
24. Ammonium chromate	93. Crotonaldehyde	158. Kelthane
25. Ammonium citrate	94. Cupric acetate	159. Kepone
26. Ammonium fluoroborate	95. Cupric acetoarsenite	160. Lead acetate
27. Ammonium fluoride	96. Cupric chloride	161. Lead arsenate
28. Ammonium hydroxide	97. Cupric nitrate	162. Lead chloride
29. Ammonium oxalate	98. Cupric oxalate	163. Lead fluoborate
30. Ammonium silicofluoride	99. Cupric sulfate	164. Lead flourite
31. Ammonium sulfamate	100. Cupric sulfate ammoniated	165. Lead iodide
32. Ammonium sulfide	101. Cupric tartrate	166. Lead nitrate
33. Ammonium sulfite	102. Cyanogen chloride	167. Lead stearate
34. Ammonium tartrate	103. Cyclohexane	168. Lead sulfate
35. Ammonium thiocyanate	104. 2,4-D acid (2,4-Dichlorophenoxyacetic acid)	169. Lead sulfide
36. Ammonium thiosulfate	105. 2,4-D esters (2,4-Dichlorophenoxyacetic acid esters)	170. Lead thiocyanate
37. Amyl acetate	106. DDT	171. Lindane
38. Aniline	107. Diazinon	172. Lithium chromate
39. Antimony pentachloride	108. Dicamba	173. Malathion
40. Antimony potassium tartrate	109. Dichlobenil	174. Maleic acid
41. Antimony tribromide	110. Dichlone	175. Maleic anhydride
42. Antimony trichloride	111. Dichlorobenzene	176. Mercaptodimethur
43. Antimony trifluoride	112. Dichloropropane	177. Mercuric cyanide
44. Antimony trioxide	113. Dichloropropene	178. Mercuric nitrate
45. Arsenic disulfide	114. Dichloropropene-dichloropropene mix	179. Mercuric sulfate
46. Arsenic pentoxide	115. 2,2-Dichloropropionic acid	180. Mercuric thiocyanate
47. Arsenic trichloride	116. Dichlorvos	181. Mercurous nitrate
48. Arsenic trioxide	117. Dieldrin	182. Methoxychlor
49. Arsenic trisulfide	118. Diethylamine	183. Methyl mercaptan
50. Barium cyanide	119. Dimethylamine	184. Methyl methacrylate
51. Benzene	120. Dinitrobenzene	185. Methyl parathion
52. Benzoic acid	121. Dinitrophenol	186. Mevinphos
53. Benzointrile	122. Dinitrotoluene	187. Mexacarbata
54. Benzoyl chloride	123. Diquat	188. Monoethylamine
55. Benzyl chloride	124. Disulfoton	189. Monomethylamine
56. Beryllium chloride	125. Diuron	190. Naled
57. Beryllium fluoride	126. Dodecylbenzenesulfonic acid	191. Naphthalene
58. Beryllium nitrate	127. Endosulfan	192. Naphthenc acid
59. Butylacetate	128. Endrin	193. Nickel ammonium sulfate
60. n-Butylphthalate	129. Epichlorohydrin	194. Nickel chloride
61. Butylamine	130. Ethion	195. Nickel hydroxide
62. Butyric acid	131. Ethylbenzene	196. Nickel nitrate
63. Cadmium acetate	132. Ethylenediamine	197. Nickel sulfate
64. Cadmium bromide	133. Ethylene dibromide	198. Nitric acid
65. Cadmium chloride	134. Ethylene dichloride	199. Nitrobenzene
66. Calcium arsenate	135. Ethylene diaminetetracetic acid (EDTA)	200. Nitrogen dioxide
67. Calcium arsenite		201. Nitrophenol
68. Calcium carbide		202. Nitrotoluene
69. Calcium chromate		203. Paraformaldehyde

TABLE 2C-4

**HAZARDOUS SUBSTANCES (continued)**

---

204 Parathion	238. Sodium dodecylbenzenesulfonate	266. Trichloroethylene
205 Pentachlorophenol	239. Sodium fluoride	267. Trichlorophenol
206 Phenol	240. Sodium hydrosulfide	268. Triethanolamine
207 Phosgene	241. Sodium hydroxide	dodecylbenzenesulfonate
208. Phosphoric acid	242. Sodium hypochlorite	269. Triethylamine
209. Phosphorus	243. Sodium methylate	270. Trimethylamine
210. Phosphorus oxychloride	244. Sodium nitrite	271. Uranyl acetate
211. Phosphorus pentasulfide	245. Sodium phosphate (dibasic)	272. Uranyl nitrate
212. Phosphorus trichloride	246. Sodium phosphate (tribasic)	273. Vanadium pentoxide
213. Polychlorinated biphenyls (PCB)	247. Sodium selenite	274. Vanadyl sulfate
214. Potassium arsenate	248. Strontium chromate	275. Vinyl acetate
215. Potassium arsenite	249. Strychnine	276. Vinylidene chloride
216. Potassium bichromate	250. Styrene	277. Xylene
217. Potassium chromate	251. Sulfuric acid	278. Xylenol
218. Potassium cyanide	252. Sulfur monochloride	279. Zinc acetate
219. Potassium hydroxide	253. 2,4,5-T acid (2,4,5- Trichlorophenoxyacetic acid)	280. Zinc ammonium chloride
220. Potassium permanganate	254. 2,4,5-T amines (2,4,5-Trichlorophenoxy acetic acid amines)	281. Zinc borate
221. Propargite	255. 2,4,5-T esters (2,4,5-Trichlorophenoxy acetic acid esters)	282. Zinc bromide
222. Propionic acid	256. 2,4,5-T salts (2,4,5-Trichlorophenoxy acetic acid salts)	283. Zinc carbonate
223. Propionic anhydride	257. 2,4,5-TP acid (2,4,5-Trichlorophenoxy propanoic acid)	284. Zinc chloride
224. Propylene oxide	258. 2,4,5-TP acid esters (2,4,5- Trichlorophenoxy propanoic acid esters)	285. Zinc cyanide
225. Pyrethrins	259. TDE (Tetrachlorodiphenyl ethane)	286. Zinc fluoride
226. Quinoline	260. Tetraethyl lead	287. Zinc formate
227. Resorcinol	261. Tetraethyl pyrophosphate	288. Zinc hydrosulfite
228. Selenium oxide	262. Thallium sulfate	289. Zinc nitrate
229. Silver nitrate	263. Toluene	290. Zinc phenolsulfonate
230. Sodium	264. Toxaphene	291. Zinc phosphide
231. Sodium arsenate	265. Trichlorofon	292. Zinc silicofluoride
232. Sodium arsenite		293. Zinc sulfate
233. Sodium bichromate		294. Zirconium nitrate
234. Sodium bifluoride		295. Zirconium potassium flouride
235. Sodium bisulfite		296. Zirconium sulfate
236. Sodium chromate		297. Zirconium tetrachloride
237. Sodium cyanide		

**TABLE 2C-4 (continued)**

LINE DRAWING

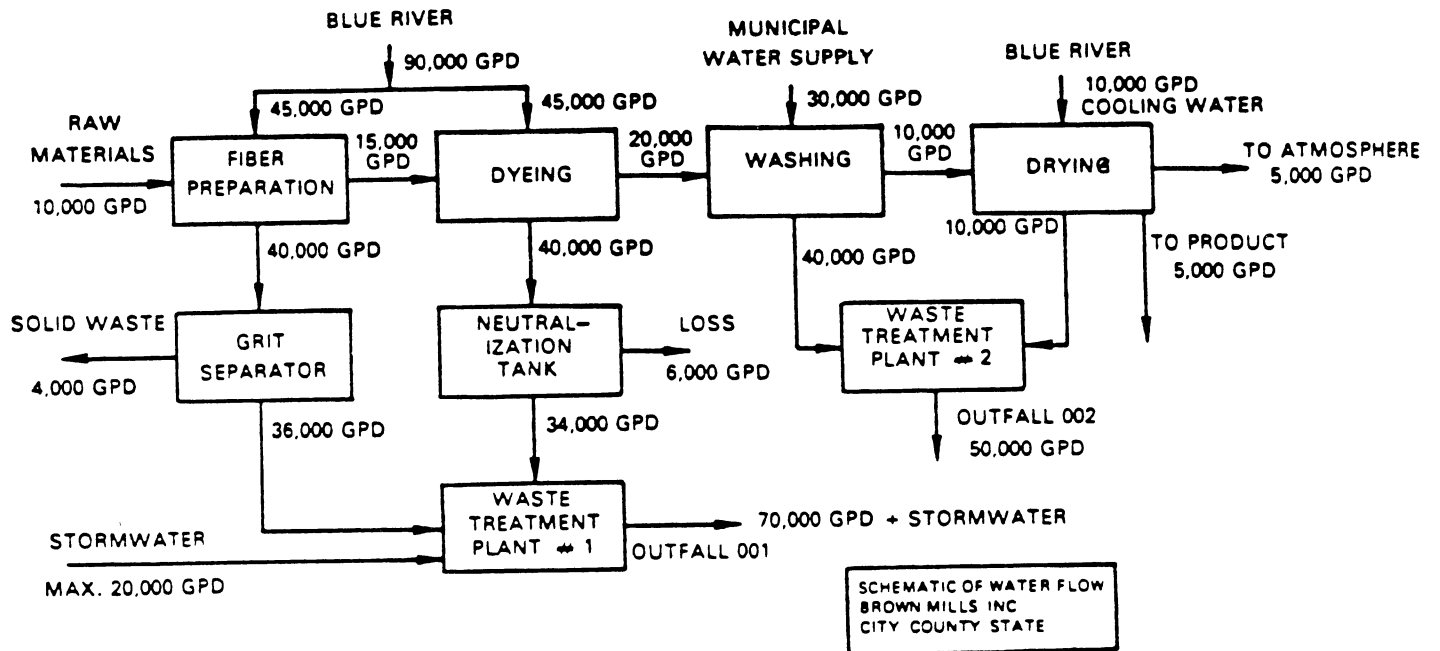


FIGURE 2C-1





CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?  
 YES (complete the following table)  NO (go to Section III)

1. OUTFALL NUMBER (list)	2. OPERATION(S) CONTRIBUTING FLOW (list)	3. FREQUENCY		4. FLOW				5. DURATION (in days)
		a. DAYS PER WEEK (specify average)	b. MONTHS PER YEAR (specify average)	6. FLOW RATE (in mgd)		7. TOTAL VOLUME (specify with units)		
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	

**III. PRODUCTION**

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?  
 YES (complete Item III-B)  NO (to Section IV)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measure of operation)?  
 YES (complete Item III-C)  NO (go to Section IV)

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. AFFECTED OUTFALLS (list outfall numbers)
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	

**IV. IMPROVEMENTS**

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.  
 YES (complete the following table)  NO (go to Item IV-B)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
	a. NO.	b. SOURCE OF DISCHARGE		a. REQUIRED	b. PROJECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.  MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

EPA I.D. NUMBER (copy from Item 1 of Form 1)

Form Approved  
OMB No 2040-0086  
Approval expires 7 31 88

CONTINUED FROM PAGE 2

**V. INTAKE AND EFFLUENT CHARACTERISTICS**

A, B, & C: See instructions before proceeding - Complete one set of tables for each outfall - Annotate the outfall number in the space provided.  
NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1 POLLUTANT	2 SOURCE	1 POLLUTANT	2 SOURCE

**VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS**

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

YES (list all such pollutants below)

NO (go to Item VI-B)

**VII. BIOLOGICAL TOXICITY TESTING DATA**

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

YES (Identify the test(s) and describe their purposes below)

NO (go to Section VIII)

Empty space for providing details of biological toxicity testing.

**VIII. CONTRACT ANALYSIS INFORMATION**

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

YES (List the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)

NO (go to Section IX)

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (List)

**IX. CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (type or print)	B. PHONE NO. (area code & no.)
C. SIGNATURE	D. DATE SIGNED

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. SEE INSTRUCTIONS

EPA I.D. NUMBER (copy from Item 1 of Form 1)

Form Approved  
OMB No. 2040-0086  
Approval expires 7-31-88

OUTFALL NO

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)  
PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2 EFFLUENT		3 UNITS (specify if blank)		4 INTAKE (optional)			
	a. MAXIMUM DAILY VALUE (i) CONCENTRATION (j) MASS	b. MAXIMUM 30 DAY VALUE (i) CONCENTRATION (j) MASS	c. LONG TERM AVERAGE VALUE (i) MASS	d. NO OF ANALYSES	e. CONCENTRATION	f. MASS	g. LONG TERM AVERAGE VALUE (i) CONCENTRATION (j) MASS	h. NO OF ANALYSES
a. Biochemical Oxygen Demand (BOD)								
b. Chemical Oxygen Demand (COD)								
c. Total Organic Carbon (TOC)								
d. Total Suspended Solids (TSS)								
e. Ammonia (as N)								
f. Flow	VALUE	VALUE	VALUE				VALUE	
g. Temperature (winter)	VALUE	VALUE	VALUE		°C		VALUE	
h. Temperature (summer)	VALUE	VALUE	VALUE		°C		VALUE	
i. pH	MINIMUM	MINIMUM	MINIMUM		STANDARD UNITS			

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2-a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2 MARK 'X'		3 EFFLUENT		4 UNITS		5 INTAKE (optional)	
	a. MAXIMUM DAILY VALUE (i) CONCENTRATION (j) MASS	b. MAXIMUM 30 DAY VALUE (i) CONCENTRATION (j) MASS	c. LONG TERM AVERAGE VALUE (i) MASS	d. NO OF ANALYSES	e. CONCENTRATION	f. MASS	g. LONG TERM AVERAGE VALUE (i) CONCENTRATION (j) MASS	h. NO OF ANALYSES
a. Bromide (24959-67-9)								
b. Chlorine, Total Residual								
c. Color								
d. Fecal Coliform								
e. Fluoride (16984-48-8)								
f. Nitrate-Nitrite (as N)								



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CONTINUED FROM PAGE 3 OF FORM 2-C

**PART C -** If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a, (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2c for acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4, 6-dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part, please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'		3. EFFLUENT		4. UNITS		5. INTAKE (optional)	
	TESTING REQUIRED (see instructions)	CONCENTRATION (1)	MAXIMUM DAILY VALUE (2)	MAXIMUM 30 DAY VALUE (3)	CONCENTRATION (1)	MASS (2)	CONCENTRATION (1)	LONG TERM AVERAGE VALUE (2)
1M. Antimony, Total (7440-36-0)								
2M. Arsenic, Total (7440-38-2)								
3M. Beryllium, Total (7440-41-7)								
4M. Cadmium, Total (7440-43-9)								
5M. Chromium, Total (7440-47-3)								
6M. Copper, Total (7440-50-8)								
7M. Lead, Total (7439-92-1)								
8M. Mercury, Total (7439-97-6)								
9M. Nickel, Total (7440-02-0)								
10M. Selenium, Total (7782-49-2)								
11M. Silver, Total (7440-22-4)								
12M. Thallium, Total (7440-28-0)								
13M. Zinc, Total (7440-66-6)								
14M. Cyanide, Total (57-12-5)								
15M. Phenols, Total								

**DIOXIN**

2.1.7 Chlor 6.403.63

DESCRIBE RESULTS

CONTINUED FROM THE FRONT

1. POLLUTANT AND GAS NUMBER (if available)	2 MARK 'X'		3. EFFLUENT		4 UNITS		5 INTAKE (optional)		6 NO. OF ANAL YSES	
	IN USE	CONC. IN EFFLUENT	D. MAXIMUM 30 DAY VALUE (if available)	(1) MASS CONCENTRATION	(2) MASS CONCENTRATION	(1) MASS CONCENTRATION	(2) MASS CONCENTRATION	(1) MASS CONCENTRATION		(2) MASS CONCENTRATION
<b>GC/MS FRACTION - VOLATILE COMPOUNDS</b>										
1V. Acrolein (107-02-8)										
2V. Acrylonitrile (107-13-1)										
3V. Benzene (71-43-2)										
4V. Bis (Chloromethyl) Ether (542-88-1)										
5V. Bromoform (75-26-2)										
6V. Carbon Tetrachloride (56-23-5)										
7V. Chlorobenzene (106-90-7)										
8V. Chlorodibromomethane (124-48-1)										
9V. Chloroethane (75-00-3)										
10V. 2 Chloroethylvinyl Ether (110-75-8)										
11V. Chloroform (67-66-3)										
12V. Dichlorobromomethane (75-27-4)										
13V. Dichlorodifluoromethane (75-71-8)										
14V. 1,1-Dichloroethene (75-34-3)										
15V. 1,2-Dichloroethene (107-06-2)										
16V. 1,1-Dichloroethylene (75-35-4)										
17V. 1,2-Dichloropropane (78-87-5)										
18V. 1,3-Dichloropropylene (542-75-6)										
19V. Ethylbenzene (100-41-4)										
20V. Methyl Bromide (74-83-9)										
21V. Methyl Chloride (74-87-3)										





CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' TESTS TO BE CONDUCTED (IN QUINTESS) (if available)		3. EFFLUENT D MAXIMUM 30 DAY VALUE (if available)		3. EFFLUENT D MAXIMUM 30 DAY VALUE (if available)		C LONG TERM AVERAGE VALUE (if available)		4. UNITS		5. INTAKE (if optional)	
	(i) CONCENTRATION	(ii) MASS	(i) CONCENTRATION	(ii) MASS	(i) CONCENTRATION	(ii) MASS	(i) CONCENTRATION	(ii) MASS	(i) CONCENTRATION	(ii) MASS	(i) CONCENTRATION	(ii) MASS
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS												
18. Acenaphthene (83-32-9)												
28. Acenaphthylene (208-96-8)												
38. Anthracene (120-12-7)												
48. Benzidine (92-87-5)												
58. Benzo (a) Anthracene (56-55-3)												
68. Benzo (a) Pyrene (50-32-8)												
78. 3,4-Benzofluoranthene (205-99-2)												
88. Benzo (ghi) Perylene (191-24-2)												
98. Benzo (k) Fluoranthene (207-08-9)												
108. Bis (2-Chloroethoxy) Methane (111-91-1)												
118. Bis (2-Chloroethyl) Ether (111-44-4)												
128. Bis (2-Chloropropyl) Ether (102-60-1)												
138. Bis (2-Ethylhexyl) Phthalate (117-81-7)												
148. 4-Bromophenyl Phenyl Ether (101-55-3)												
158. Butyl Benzyl Phthalate (86-68-7)												
168. 2-Chloronaphthalene (91-58-7)												
178. 4-Chlorophenyl Phenyl Ether (7005-72-3)												
188. Chrysene (218-01-9)												
198. Dibenzo (a,h) Anthracene (53-70-3)												
208. 1,2-Dichlorobenzene (95-50-1)												
218. 1,3-Dichlorobenzene (641-73-1)												

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1. POLLUTANT AND GAS NUMBER (if available)	2 MARK 'X'		3 EFFLUENT		4 UNITS		5 INTAKE (optional)	
	BASE CONCENTRATION PPM	CONC. PERCENT GMS	B. MAXIMUM DAILY VALUE (1) MASS CONCENTRATION	C. LONG TERM AVERAGE VALUE (if available) (1) MASS CONCENTRATION	D. CONCENTRATION	D. MASS	A. LONG TERM AVERAGE VALUE (1) CONCENTRATION	B. NO. OF ANALYSES
<b>GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)</b>								
22B. 1,4-Dichlorobenzene (108-46-7)								
23B. 3,3'-Dichlorobenzidine (91-94-1)								
24B. Diethyl Phthalate (84-66-2)								
25B. Dimethyl Phthalate (131-11-3)								
26B. Di-N-Butyl Phthalate (84-74-2)								
27B. 2,4-Dinitrotoluene (121-14-2)								
28B. 2,6-Dinitrotoluene (608-20-2)								
29B. Di-N-Octyl Phthalate (117-84-0)								
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)								
31B. Fluorene (206-44-0)								
32B. Fluorene (86-73-7)								
33B. Hexachlorobenzene (118-74-1)								
34B. Hexachlorobutadiene (87-68-3)								
35B. Hexachlorocyclopentadiene (77-47-4)								
36B. Hexachloroethane (87-72-1)								
37B. Indeno (1,2,3-cd) Pyrene (193-39-6)								
38B. Isophorone (78-59-1)								
39B. Naphthalene (91-20-3)								
40B. Nitrobenzene (98-96-3)								
41B. N Nitrodimethylamine (62-75-9)								
42B. N Nitrosodi-N-Propylamine (621-64-7)								

1. POL. ANT AND GAS NUMBER (if available)	2 MARK 'K'		3 EFFLUENT		4 UNITS		5 INT (optional)	
	STAY IN THE AIR	CONCENTRATION (1) MASS	MAXIMUM DAILY VALUE (1) MASS	MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	CONCENTRATION (1) MASS	CONCENTRATION (1) MASS	LONG TERM AVERAGE VALUE (1) MASS	LONG TERM AVERAGE VALUE (1) MASS
<b>GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)</b>								
43B. N Nitro-sodiphenylamine (86-30-6)								
44B. Phenanthrene (85-01-8)								
45B. Pyrene (129-00-0)								
46B. 1,2,4-Tri-chlorobenzene (120-82-1)								
<b>GC/MS FRACTION - PESTICIDES</b>								
1P. Aldrin (309-00-2)								
2P. $\alpha$ -BHC (319-84-6)								
3P. $\beta$ -BHC (319-86-7)								
4P. $\gamma$ -BHC (58-89-9)								
5P. $\delta$ -BHC (319-86-8)								
6P. Chlordane (57-74-9)								
7P. 4,4'-DDT (50-29-3)								
8P. 4,4'-DDE (72-56-9)								
9P. 4,4'-DDD (72-54-8)								
10P. Dieldrin (60-57-1)								
11P. $\alpha$ -Endosulfen (115-29-7)								
12P. $\beta$ -Endosulfen (116-29-7)								
13P. Endosulfen Sulfate (1031-07-8)								
14P. Endrin (72-20-8)								
15P. Endrin Allethyle (7421-91-4)								
16P. Heptachlor (74-44-8)								

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1. POLLUTANT AND CAS NUMBER (if available)	2 MARK 'X'		3 EFFLUENT		4 UNITS		5 INTAKE (optional)		
	INTAKE CONC. (mg/l)	CONCENTRATION (ppm)	B. MAXIMUM DAILY VALUE (1) CONCENTRATION (2) MASS	B. MAXIMUM 30 DAY AVERAGE VALUE (1) CONCENTRATION (2) MASS	C. LONG TERM (if available) (1) CONCENTRATION (2) MASS	B. CONCEN TRATION	B. MASS	B. LONG TERM AVERAGE VALUE (1) CONCEN TRATION (2) MASS	B. NO OF ANAL YSES
GC/MS FRACTION -- PESTICIDES (continued)									
17P. Heptachlor Epoxide (1024-57-3)									
18P. PCB-1242 (53469-21-9)									
19P. PCB-1264 (11097-69-1)									
20P. PCB-1221 (11104-28-2)									
21P. PCB-1232 (11141-16-5)									
22P. PCB-1248 (12672-29-6)									
23P. PCB-1260 (11098-82-5)									
24P. PCB-1016 (12674-11-2)									
25P. Toxaphene (8001-35-2)									