

**VIII. A. Penalty Calculations for POTW Failure to Implement
an Approved Pretreatment Program.**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 22 1988

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Guidance on Penalty Calculations for POTW Failure to Implement an Approved Pretreatment Program

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TO: Regional Water Management Division Directors
Regional Counsels

The attached Guidance is provided to assist you and your staff in applying the Clean Water Act (CWA) Civil Penalty Policy in cases where a POTW has failed to adequately implement its approved pretreatment program. The Guidance is based on the existing CWA Penalty Policy, as well as the August 28, 1987 amendment to the Civil Penalty Policy and the Guidance for Reporting and Evaluating POTW Noncompliance with Pretreatment Implementation Requirements. As a result, both administrative and judicial civil penalties for settlement should be calculated using this Guidance.

A draft version of this Guidance was provided to the Regions for comment on August 1, 1988. We wish to thank you for your timely and helpful comments and your overall support for this Guidance. The most significant comments on the previous draft were received on the "Ability to Pay" discussion which encouraged the recovery of penalties from industrial users. Based on comments received, that discussion has been revised, and the Guidance is now flexible as to the method which a municipality should use to pay penalties.

Several Regions requested additional guidance on estimating the economic benefit of failure to implement, especially for failure to enforce pretreatment standards. We have added Table 2 to the Guidance which provides resource estimates for enforcement responses to instances of noncompliance. The basic assumptions are drawn from earlier guidance and from resource estimates used by the Agency. At this time, we do not have additional data on program implementation costs to update Table 1. We do plan to develop such data during the coming year.

The major components of this Guidance will be incorporated into the Civil Penalty Policy later this fiscal year. However, this Guidance is effective immediately as a more detailed explanation of how to calculate penalties in pretreatment implementation cases.

If you have any further questions on the use of this Guidance, please feel free to contact one of us (Jim Elder at 475-8488 or John Lyon at 475-8180) or your staff may contact Ed Bender at 475-8331.

Attachment

**PENALTY CALCULATIONS FOR A POTW'S FAILURE TO IMPLEMENT
ITS APPROVED PRETREATMENT PROGRAM
GUIDANCE**

I. INTRODUCTION

The Clean Water Act Civil Penalty Policy (Feb. 11, 1986) establishes a systematic approach for obtaining appropriate settlement penalties for violations of the Act. The Policy and Methodology were amended August 28, 1987 to include a methodology for the calculation of administrative penalties. One of the changes in the amendment was the addition of a gravity factor to address the significance of non-effluent violations. This Guidance applies the Civil Penalty Policy with amendment to implementation cases.*

In September 1987, OWEP issued "Guidance for Reporting and Evaluating POTW Noncompliance with Pretreatment Implementation Requirements" (RNC Guidance). That document provides a definition of reportable noncompliance (RNC) that is used to evaluate POTW implementation violations of approved pretreatment programs. The definition consists of eight criteria for determining when violations of an approved pretreatment program, of related NPDES permit requirements, or of regulatory requirements for implementation are of sufficient magnitude and degree to require that a POTW be reported on the QNCR for failure to implement an approved pretreatment program. The criteria are as follows:

1. POTW failure to issue control mechanisms to Significant Industrial Users in a timely fashion.
2. POTW failure to inspect Significant Industrial Users.
3. POTW failure to establish and enforce industrial user self-monitoring where required by the approved program.
4. POTW failure to implement and enforce pretreatment standards (including local limits).
5. POTW failure to undertake effective enforcement against the industrial user for instances of interference and pass/through.

* This Guidance, should be applied to calculate settlement penalties for both administrative and judicial cases against POTWs that fail to implement approved pretreatment programs.

6. POTW failure to submit pretreatment reports.
7. POTW failure to complete pretreatment compliance schedule milestones on a timely basis.
8. POTW failure to comply with other pretreatment program requirements which are of substantial concern.

The purpose of this Guidance is to provide Regions with a methodology to apply the CWA Penalty Policy, as amended, to calculate administrative and civil judicial penalties for failure to implement cases, using the criteria outlined in the RNC Guidance.

As in the CWA Penalty Policy, this calculated penalty should represent a reasonable and defensible penalty which the Agency believes it can and should obtain in settlement. In general, the settlement penalty should recover a) full economic benefit (avoided costs--salaries, financing, operating costs, and capital expenditures), and b) some gravity related to the type and pattern of the violation(s), even after adjustments.

Note: This guidance discusses the additional considerations that should be used in the penalty calculation for failure to implement. Penalty amounts for effluent violations should be included and calculated according to the existing CWA Penalty Policy and Methodology. However, Section III of this document, "Example of Penalty Calculation", does include penalties for both effluent and pretreatment implementation violations.

II. PENALTY CALCULATION METHODOLOGY - Pretreatment Implementation

The basic methodology of the CWA Civil Penalty Policy should be used to calculate settlement penalties in POTW pretreatment implementation cases. The three components of a settlement penalty (Economic Benefit, Gravity, and adjustments) are discussed below.

A) Economic Benefit

The following steps summarize the process to calculate economic benefit for pretreatment program activities:

- o Obtain estimates of the costs to the POTW to implement its pretreatment program from the approved program submission.
- o Update that information based on more current data from a pretreatment compliance inspection, a pretreatment audit, an annual report, or a 308 letter, if available.
- o The economic benefit component of the civil penalty policy should be calculated using the EPA computer program "BEN".

- o For purposes of the "BEN" calculation, the value of delayed implementation includes delayed capital investment, delayed cost in developing or updating local limits, and annual pretreatment program operating and maintenance (O&M) costs that were avoided. Use separate BEN runs if changes in operating costs have occurred.

1) Estimating Avoided or Delayed Costs for Implementation

The approved pretreatment program will probably include a budget for program implementation. There may also be discussion of implementation activities and costs in the approved program elements covering the compliance monitoring and administrative procedures. Such data in the approved program submission provides a basis for developing the economic benefit derived by a POTW by not implementing its approved program. In particular, where a POTW has not complied with that budget, economic benefit may be represented in part by the amount of the budget the POTW has failed to expend. The Region should use data developed through audits, inspections, annual reports or 308 letters to develop these cost estimates.

In many cases, the POTW will have complied with the resource commitments in the approved program but still fail to adequately implement the required program. This may be the result of unrealistic estimates initially, the failure to update resource needs changes in pretreatment program requirements or a failure to carry out required activities with existing resources. In such cases, economic benefit may be developed by estimating the specific costs that were avoided for required implementation activities.

Where specific costs estimates for non-implementation are not available, the costs avoided by the POTW for failure to implement can be expressed as a percent of the total implementation cost or as an estimated cost for each required activity that was not implemented. Pretreatment implementation costs for POTWs were evaluated as part of an earlier study (JRB Associates, 1982 "Funding Manual for Local Pretreatment Programs" EPA Contract No. 68-01-5052). This assumes that the POTW budget includes all costs associated with implementation. Based on a review of several programs, a table (Table 1) was developed for small, medium, and large programs to show the percent of total costs which each implementation activity represented. The small POTW pretreatment programs were all under 5 MGD flow and covered ten or fewer significant industrial users (SIU) with a total implementation cost ranging from \$10,000-\$50,000.00 annually. The medium sized POTW pretreatment programs had total flows from 5-15 MGD and up to 50 SIUs with an annual cost from \$25,000-\$200,000.00. The large POTW programs had flows over 15 MGD with 20 or more SIUs with annual implementation costs ranging from \$100,000 to more than \$350,000.00.

Table 1. Typical Program Costs for Implementation Activities by Program Size (as % of Total Cost)

<u>Activity</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
1. Sampling and Industrial Review (*Criteria B, C,)	22%	19%	18%
2. Laboratory Analysis (*Criteria B, C, D)	34%	34%	39%
3. Technical Assistance (*Criteria A, D and E)	17%	26%	20%
4. Legal Assistance (*Criteria A, D, E)	13%	10%	13%
5. Program Administration (*all Criteria)	14	11	10
	<u>100%</u>	<u>100%</u>	<u>100%</u>

This Table can be used to assist in developing costs for a specific program activity where costs are unavailable or determined to be inadequate. For example, if a medium-sized POTW had costs for implementation of \$100,000, but this POTW had failed to perform any compliance inspections of its IUs, the percentage from Table 1, activity 1 for a medium-sized program could be applied to total costs. The inspection costs in this case could be estimated to be \$19,000.00. The costs of "avoided implementation" may differ from year to year depending on whether the activities are one-time or periodic (such as permit issuance or updating local limits) or continuing tasks (such as inspections). The costs of issuing permits may be 20% of an annual implementation budget of \$120,000 or \$24,000 for a particular year. If this POTW failed to issue four of the eight required permits, \$12,000.00 in expenses would be avoided for that year.

Another approach to development of avoided costs is to estimate the labor and overhead costs for particular activities. This approach may also be used in combination with Table 1, where the budget does not cover costs for specific implementation requirements (e.g., IU permitting or enforcement). For example, if each permit required one month of engineering labor and analysis at \$36,000.00/year, each permit would cost \$3,000.00. The total avoided cost of four permits would also be \$12,000.00. The cost of permit re-issuance could be lower than the initial issuance cost. This value would be entered under the variable for annual operating and maintenance expenses for

* Criteria from RNC Guidance that are likely to be associated with listed activity.

a particular year. If the permits were issued late, as opposed to not issued at all, avoided costs (economic benefit) could be calculated for the period of delay.

If a POTW has failed to enforce against IUs or delayed enforcement against IUs, the POTW has received economic benefit by avoiding or delaying that action. Even when specific program costs for enforcement can be identified, it may be difficult to quantify the avoided or delayed costs. Where necessary, one approach to calculating the avoided costs by the POTW for inadequate enforcement is to assume that each IU violation would require a POTW enforcement response (see discussion in Pretreatment Compliance Monitoring and Enforcement Guidance (PCME), September 1986). The expected response against the IU would escalate with the duration and magnitude of the violation, either based on the POTW's own enforcement procedures or the Enforcement Response Guide in the PCME. As a guide for the cost to the POTW of each type of enforcement response and the delay that may have occurred, you may wish to use the table below. It is based on EPA's pricing factors and the enforcement response timeframes discussed in the RNC guidance.

Table 2. Resource Cost and Response Time for POTW Enforcement Actions

<u>Initial Response to Violations</u>	<u>POTW Time to Respond*</u>	<u>Cost of Act. in Workdays</u>
Telephone calls	5 days	0.05-0.2
Warning Letters	10 days	0.2
Meeting	30 days	0.5
Demand Inspections	30 days	0.5-2.0
<u>Follow-up for Continued Noncompliance</u>		
On-site evaluation	15 days	0.5-2.0
Meeting	30 days	0.5
Formal Enforcement		
Administrative	60 days	10-50
Judicial	60 days	30-100
Penalty assessment and Collection	60 days	2-50

* Response time reflects EPA's expectation as to the amount of time in which the POTW should take enforcement action after notification of an IU violation. For example, the POTW initial response to notification noncompliance should occur within 5 days when it is a telephone call and within 30 days when it is a Demand Inspection.

The time required to complete a specific enforcement response should be evaluated based on the enforcement procedures developed by the POTW and the size and complexity of the IU. SIUs with significant noncompliance would be expected to require more POTW effort to resolve the noncompliance. The level of response should be escalated in relation to the magnitude and duration of noncompliance. The avoided enforcement costs would increase based on the number of IUs that were in noncompliance and not addressed by POTW enforcement. The actual cost can be estimated from salaries. EPA assumes each work year consists of 220 workdays after leave and holidays are subtracted. Typical EPA annual salaries and benefits (assuming 15% of salary) are as follows: inspectors \$32,000, permit engineers \$40,000, staff attorneys and chemists \$37,000. However, it would be appropriate to use the salary scale of the affected POTW, if available.

The next three sections discuss the calculation of economic benefit, gravity, and adjustment to the penalty for pretreatment implementation violations. In some cases you may have effluent violations as well as implementation problems and additional penalty calculations will be required for these violations.

2) Using BEN

The BEN User's Manual provides basic instructions for entering variables and discusses the effect of changes in economic data and compliance dates on the estimate of economic benefit. The Manual describes the variables that are typically associated with construction and operation of wastewater treatment systems; however, there are a few special considerations for developing pretreatment implementation costs. If effluent violations are involved, a separate BEN run should be made to calculate the economic benefit of inadequate treatment, avoided operations and maintenance costs for the treatment system, or any other cause not related to implementation of a pretreatment program. The BEN estimates should be combined to develop the settlement penalty.

The capital investment for pretreatment is usually related to sampling and safety equipment, vehicles for inspections, and perhaps laboratory facilities. These typically have a shorter useful life (3 to 7 years)* than that which is assumed for pollution control equipment (15 years is the standard BEN value for tankage and pumps). The useful life is an optional input variable.

* United States Tax Guide No. 17 categorizes real property, vehicles, and equipment according to its useful life for purposes of depreciation.

* Annual operating and maintenance costs related to pretreatment implementation include the costs to the POTW of: (a) IU permitting; (b) POTW monitoring, inspections, and analysis of IU compliance; (c) legal and technical assistance, (d) cost of taking enforcement actions, (e) updating local limits; and (f) program administration. The costs identified for operation and maintenance should include all salaries, supplies, maintenance, and support necessary to the operation of the pretreatment program. Most of the avoided costs of implementation will be the O&M expenses (see previous discussion). Since annual operating and maintenance costs and the level of implementation may vary each year, separate BEN runs may be needed to determine these costs, depending on the specific period of noncompliance.*

The Ben variable "one time, non-depreciable expenditures" is not likely to be appropriate for inclusion in the BEN penalty calculation for POTW implementation cases. All expenditures for pretreatment implementation are likely to be recurring at some frequency, so they are not truly one-time as, for example, the purchase of land. Even the development of local limits and the survey of industrial users are likely to require periodic updating. Most "set-up costs" were incurred as part of program development. In addition, a POTW does not pay income tax, so depreciation does not affect the POTW's economic benefit.

Economic benefit should be calculated from the initial date of noncompliance up to the time where the POTW was or is realistically expected to be in compliance.

B) Gravity Component

The gravity component of the existing Penalty Policy quantifies the penalty based primarily on the characteristics and consequences of effluent violations, although the amendment to the Penalty Policy adds a Factor E for non-effluent violations. The gravity of pretreatment implementation violations is evaluated primarily on the degree and pattern of failure to implement a required activity and the potential and actual impact of non-implementation. Thus, some modification or amplification of the gravity factors in the CWA Civil Penalty Policy is needed to reflect the characteristics of implementation violations.

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- * BEN will adjust cost estimates to current year dollars.
 - POTWs are considered "not for profit" entities.

Pursuant to the amended CWA Civil Penalty Policy, five factors (A-E) are used to evaluate gravity. This Guidance presents the relationship of each factor to pretreatment implementation. The methodology for calculation of the gravity component is the same as in the CWA Penalty Policy -- that is each factor is calculated on a monthly basis with each violation presumed to continue until corrected. The gravity amount equals the sum of factors A through E plus 1, multiplied by \$1,000.00 for each month of violation.

Note: Where effluent violations also exist, they should be considered in the appropriate monthly gravity component. Effluent violations are considered specifically under factor A, and they may also increase the levels for factors B, C, and D. All non-effluent violations would be evaluated under factor E. The penalty for effluent violations should be added to penalties for pretreatment implementation violations.

The basis for evaluation of performance on implementation is identified in the RNC Guidance. The RNC criteria identify the basis for evaluating implementation activities to determine the number of and most significant implementation violations. Of course, where actual approved program requirements vary from the RNC criteria, the program requirements should be the basis for evaluating performance.

The "Guidance on Bringing Enforcement Action Against POTWs for Failure to Implement Pretreatment Programs", August 4, 1988, discusses guidelines for evaluating the severity of pretreatment implementation violations (see Table 3 and discussion in that guidance).

The gravity factors as they are to be applied for pretreatment implementation cases are listed below:

Gravity Factor A. Significance of the Effluent Violation

This factor should be applied without change from current CWA Penalty Policy methodology to effluent violations where they occur. This factor is not applicable to failure to implement violations.

Gravity Factor B. Impact of the Violation

Failure to implement may result in POTW permit effluent limit violations, interference with the treatment works, pass through of pollutants from inadequately regulated IUs, and/or sludge contamination which may cause or contribute to harm to the environment or in extreme cases, a human health problem. Both effluent violation and all RNC criteria that are met by the POTW should be evaluated in selecting the value. The violation that gives the highest factor value should be used for each month. The value chosen should increase where the potential impact or evidence of an actual impact effects

more than one of the listed categories. Also, where a POTW is Federally funded and is potentially damaged, a higher value should be assigned:

- (i) Impact on Human Health; or Range: 10-Stat Max
- (ii) Impact on Aquatic Environment; or Range: 1-10
- (iii) Potential Impact of Inadequately Controlled IU Discharges on POTW Range: 0-10

Gravity Factor C. Number of Violations Range: 0-5

Each RNC criterion that is met is counted as a violation for the month. The more criteria that are met the higher the value chosen should be. In addition, this "number of violations" factor may be weighted more heavily to account for serious violations other than the most significant violation which was accounted for in factor "A" or "E". Effluent violations should also be included under this factor as part of normal Penalty Policy calculations.

Gravity Factor D. Duration of Noncompliance Range: 0-5

This factor allows consideration of continuing long-term violations of a permit (including effluent limits, schedules, and reporting requirements) and should include evaluation of all RNC criteria. The value should be increased if the same criterion is met for 3 or more months. When the violation is corrected for that criterion, a value of 0 is appropriate for the monthly gravity component in the months following the correction.

Gravity Factor E. Significance of Non-effluent Violations

The significance of a violation of an implementation requirement is evaluated based on the percent of a requirement that the POTW has failed to implement. All of the criteria identified in the RNC Guidance should be evaluated to identify the required activity for that month in which performance has been most inadequate. That activity will be deemed the most significant pretreatment implementation violation, and gravity factor E should be determined for that violation. Higher values within the range could be used for violations by large POTW programs and for programs with high rates of IU noncompliance. Higher values may be appropriate in such cases because the failure to implement may result in a higher discharge of toxic compounds to the environment. Factor E can also be used to address other permit violations such as reporting or schedule milestone violations.

% of a Requirement that
The POTW Failed to
Implement

Value Range

80-100%	3-10
41-79	2-7
20-40	1-4
0-19	0-3

C) Adjustments

- 1) Recalcitrance (to increase penalty) Range: 0-150% of the preliminary penalty amount.

In addition to the discussion in the CWA Penalty Policy, recalcitrance includes consideration of whether the POTW continued its noncompliance after notification of the violations. The existence of audits or PCIs and follow up letters identifying these violations to which the POTW has failed to respond, generally indicate that recalcitrance should be increased. If the POTW has failed to comply with an administratively-imposed compliance schedule, the recalcitrance adjustment should be increased. Recalcitrance is indicated because the POTW was reminded of the requirements and notified of its violation, and yet failed to remedy the situation.

- 2) Ability to Pay (to decrease penalty).

The ability to pay adjustment becomes an issue when the municipality is incapable of raising sufficient funds to pay the proposed penalty. Ability of the municipality (or sewerage authority) to pay should rarely be a factor in pretreatment implementation cases since few involve large capitalization projects. Thus, the economic impact on the community from a penalty will be relatively small compared to the capital and O&M costs associated with the wastewater treatment system.

Funds to pay a penalty can come from a variety of sources within the municipality including unrestricted reserves, contingency funds, and any annual budget surpluses. The municipality could also make a one time assessment to the violating IUs or to all users of the system to cover the penalty amount. Where there is insufficient cash on hand to pay the entire penalty immediately, a payment plan can be developed which raises the needed funds over a specific time period (e.g., 6 - 12 months). This spreads the impact of the penalty over a longer period. Where a POTW chooses to assess all users to cover a penalty, the impact is likely to be small. Even a small municipality with 3,500 connections (service population about 10,000) with an

existing sewer charge of \$10/month could raise rates by 10% (\$1) for 12 months and generate sufficient cash to pay a penalty of almost \$50,000, which equates to about \$.35/capita/month.

In determining whether ability to pay will become an issue, the standard Financial Capability Guidebook procedures can be used. While a specific municipality's debt situation could become an issue, the procedures primarily look at the increase in user fees which would be needed to generate the penalty amount compared to the median household income (MHI) of the community. Where the total wastewater treatment burden divided by the MHI is less than the standard indicators (between 1.00 - 1.75% of the MHI is considered an affordable sewer rate), ability to pay is not usually considered to be a problem.

3. Litigation Considerations (to decrease penalty)

The legal basis and clarity of the implementation requirements of an approved program and an NPDES permit are important factors in assessing the strength of the case. Where requirements are ambiguous, the likelihood of proving a violation is reduced, and this may be a basis for adjusting the penalty amount.* Otherwise, assessment of this factor will depend largely upon the facts of the individual case.

III. EXAMPLE OF PENALTY CALCULATION

The RNC Guidance (See pages 12 and 13) includes two examples of POTWs that failed to implement their approved pretreatment programs. The "Hometown" example will be used as a basis for computing a penalty to illustrate this Guidance. As noted previously, this example does include a penalty calculation for effluent violations.

A) Revised Scenario:

Hometown's pretreatment program was approved in June 1985. The annual implementation costs identified in the approved program were \$100,000.00, plus the cost for issuing each SIU permit. The NPDES permit required an annual report fifteen days after the end of the year, beginning January 15, 1986. The approved program required that all 15 permits be issued by June 30, 1986. An August, 1986, audit of the program revealed that the POTW had failed to issue ten required permits and had not inspected its IUs as of that date. In addition, the POTW failed to submit its 1986 annual report on time. The State issued an administrative order on March 31, 1987 that required submission of an annual report by April 30, 1987 and permit issuance by June 30, 1987 and sampling inspections of all SIUs by August 30, 1987. The annual report was submitted September 30, 1987.

* See OECH/OWEP "Guidance on Bringing Enforcement Actions Against POTWs for Failure to Implement Pretreatment Programs". August 4, 1988, for further discussion on assessing the strength of a case.

but as of January 31, 1988 only eight permits were issued and half of the IUs were not inspected. This facility was on the Exceptions List for failure to implement its approved pretreatment program and for effluent violations. Thus, judicial action is appropriate. Full compliance was expected by April, 1988. Instances of noncompliance are tabulated below for both effluent violations and pretreatment implementation violations.

1. Effluent Violations

Monthly Average Effluent Limit Violations

Permit Limits: TSS 30mg/l; BOD 30mg/l;
Cyanide 0.01mg/l; Copper 0.200 mg/l

<u>Date</u>	<u>Value</u> (all mg/l)
July, 1986	TSS 45 Cyanide 0.015 Copper 0.25
August, 1986	TSS 37 Cyanide 0.012 Copper 0.3
November, 1986	TSS 41 Cyanide 0.018 Copper 0.28 BOD 47
March, 1987	TSS 38 Cyanide 0.016 Copper 0.3 BOD 43
April, 1987	TSS 40 Cyanide 0.021 Copper 0.4
June, 1987	TSS 44 Cyanide 0.014 Copper 0.3
August, 1987	TSS 41 Cyanide 0.03 Copper 0.4
October, 1987	TSS 37 Cyanide 0.016 Copper 0.3
December, 1987	TSS 39

2. Pretreatment Implementation Violations

<u>Description of Violation</u> <u>Violations</u>	<u>Initial Date</u> <u>of Noncompliance*</u>	<u>Compliance</u> <u>Date</u>
Failed to Issue permits (RNC criterion A)	6/30/86	60% Issued (1/31/88)
Failed to Inspect IUs (RNC criterion B)	8/30/86	50% Inspected (1/31/88)
Failed to Submit Annual Report (RNC criterion F)	1/15/87	(9/30/87)

* Under the same circumstances, this could be the date of program approval.

The minimum civil penalty for settlement can be determined as follows:

3. Estimates of Avoided Costs for Implementation Violations

The effluent violations are indicative of interference and pass through caused by IU inputs of cyanide and metals that should be controlled by implementing pretreatment. The POTW has operated and maintained secondary treatment. Thus, the economic benefit is only calculated for pretreatment implementation violations. Since the approved program provided no information on the cost of issuing IU permits, an estimated cost has to be developed. The implementation costs are considered operation and maintenance costs (limited to certain time periods) for the BEN calculation of economic benefit. The BEN inputs and rationale are presented below for each violation.

1) Issue permits @ \$3,000.00/permit

7/86 - 9/87, 10 unissued permits avoided cost-\$30,000.00

10/87 - 1/88, 7 unissued permits avoided cost-\$21,000.00

EPA uses a pricing factor of 40 days for issuing major, non-municipal, technology-based NPDES permits. SIU permits should be issued more quickly because there is less public notice. While the IU control mechanisms are likely to require similar types of evaluation and technical review as the comparable industries with NPDES permits, they are also likely to be smaller in size. Site and sampling data should already be available to the POTW, and there is no need for State certification as there is for EPA issued permits. Balancing the above facts with the limited POTW experience in issuing permits, thirty days was selected as an average time to issue a permit at a cost of \$100.00 per day.

2) Inspection costs

7/86 - 12/86, no inspections avoided cost-\$19,000.00/yr
 1/87 - 9/87, 60% uninspected avoided cost-\$11,000.00/yr
 10/87 - 1/88, 50% uninspected avoided cost-\$ 9,500.00/yr

From Table 1, use the sampling and industrial review percentage (19% for a medium-size program), multiplied by the total annual program implementation costs (\$100,000). Therefore, inspections are estimated to cost \$19,000.00/year. The POTW began conducting inspections after the audit--40% of the SIUs were inspected by January, 1987, and 50% were inspected by October, 1987.

3) Annual report - \$5,000.00

Annual report costs are presumed to be part of program administration. This portion was estimated to be 5% of the total program costs (See Table 1).

B. Economic Benefit Component

BEN Inputs for each variable each are shown below:

1. Case Name=Hometown
2. Initial Capital Investment= 0
3. One-time non-depreciable expenditures= 0

Four separate BEN runs were made for avoided costs from permitting, inspection, and reporting violations. The avoided cost changed as permits were issued and inspections were completed. The time periods correspond to information obtained from the POTW in the scenario.

	<u>BEN Run</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
4. Annual O&M costs (all 1985 dollars)				
a) permits (\$3,000 each)	30000 (10 unissued)	30000 (10)	30000 (10)	21000 (7)
b) inspections (% inspected)		19000 (0%)	11000 (40%)	9500 (50%)
c) annual report			5000	
5. Initial Date Noncompliance	7/86	8/86	1/87	10/87

6. Compliance Date	7/86	12/86	9/87	4/88
7. Penalty paid	4/88	4/88	4/88	4/88

(Remaining variables use standard values)

Results from BEN

Run 1	3,150
Run 2	20,018
Run 3	36,659
Run 4	15,803

Total \$75,630

- Economic Benefit

3. Gravity Component

In developing the gravity amount, both effluent and pretreatment implementation violations should be included. A table showing the gravity calculation is provided below, along with a general description of the rationale for selection of values.

The values chosen for June-August 1986 reflect both the July and August effluent violations and the ten unissued permits which were to have been issued by June 30. The failure to issue permits was identified in the August audit and treated as the most significant violation and given a "3" under Factor E beginning in the month of July. (This factor could have been higher if the SIUs were major sources of toxics). September, 1986 represented the third month that the pretreatment implementation violation had continued, so Factor C was assessed at "1". Both effluent and implementation violations were counted under Factor D. The value assessed for Factor B, was related to the presumed IU impacts on NPDES permit violations. There was no evidence of any impact to the aquatic environment or human health from the effluent violations. For January, 1987, Factors C and D were increased to reflect the continuing effluent and implementation violations and the additional violations of the AO schedule. Factors were reduced in September, 1987 to reflect submission of the annual report, the issuance of some permits and the progress with inspections.