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

OFFICE OF
WATER

AUG 11 1998

Mr. John C. Hall
Hall & Associates
Suite 203
1101 15th Street, NW
Washington, DC 20005-5007

Dear Mr. Hall:

Thank you for your letter of January 6, 1998, requesting clarification from Environmental Protection Agency (EPA) Headquarters on detection limits for total residual chlorine (TRC) and consideration of chlorine demand in evaluating permit limitations. Thank you also for your follow-up letters dated April 23, 1998 and June 25, 1998 providing additional information on this subject. Though it has taken some time to respond to your initial inquiries, primarily to research answers to your questions on detection limits for TRC, I trust that this letter will prove useful in future discussions with EPA regarding NPDES permitting in general and permit limits for chlorine in particular. In your original letter, you asked three specific questions. I have summarized each question and provided responses below.

Has EPA determined that chlorine may be reliably measured below 0.1 mg/l in municipal effluents?

As you are aware, EPA lists test methods for permit monitoring in 40 CFR §136. On a national level the lowest published detection limit provided for the methods specified in §136 is 0.01 mg/l. This detection limit is for Standard Methods 4500 Cl E and G. This level is based on testing under "ideal" conditions. EPA has not done a national study to establish method detection limits for these methods using municipal effluents. The method detection limit in any one wastewater matrix could differ from the published detection limit established under ideal conditions. EPA's regulations at 40 CFR §136, Appendix B specify the methodology for developing an effluent-specific detection level. In the absence of studies to establish effluent-specific detection limits, EPA normally relies on the published test method detection limit.

Also, the method detection limit must be distinguished from the minimum level. The detection limit is the minimum concentration that can be measured and reported with a 99 percent confidence level that the analyte concentration is greater than zero. The minimum level

is the lowest level at which the entire analytical system gives a recognizable signal and acceptable calibration point for the analyte. In other words, the minimum level is a quantitation level; it is generally higher than the method detection limit. The minimum level can be used to assess what, if any, response is appropriate when a discharge exceeds water quality-based effluent limits that are set below detection or quantitation.

EPA has not established a final national policy on setting quantitation levels from known detection limits. EPA's March 18, 1994 draft *National Guidance for Permitting, Monitoring, and Enforcement of Water Quality-based Effluent Limitations Set Below Analytical Detection/Quantitation Levels* recommended using a factor of 3.18 times the method detection limit to set an "interim" minimum level or level of quantitation until a final minimum level is promulgated. EPA's Engineering and Analysis Division (EAD) in the Office of Science and Technology is undertaking research that will further examine this issue. Until that research is complete, EAD continues to recommend setting an interim level of quantitation at 3.18 times the method detection limit. Therefore, an appropriate level of quantitation for Standard Methods 4500 Cl E and G **under ideal conditions** would be approximately 0.03 mg/l. For any given wastewater matrix, the level of quantitation may be higher. It is acceptable for a Region or state permitting authority to establish a default level of quantitation for a given method. The permitting authority may adjust the level of quantitation for an individual discharger based upon a demonstration by the discharger of a higher or lower method detection limit or level of quantitation for its effluent.

A sampling of States and Regions indicate a variety of approaches to setting a minimum level for TRC. Many establish a minimum level of 0.1 mg/l when TRC limits are set at or below 0.1 mg/l. Some Regions and States, however, have specified a lower minimum level. In 1986, Region 4's Environmental Services Division (ESD) recommended setting a minimum level of 0.1 mg/l for TRC. In a separate 1991 memorandum, Region 4's ESD indicated that, based upon their experience, detection limits of 0.010 to 0.030 mg/l could be expected for normal wastewater treatment plan operations using approved methods. This memorandum concludes by stating that it would be difficult to enforce permit limits at or just above the method detection limit and recommending that enforcement actions not be initiated on values below 0.05 mg/l. At least two states, South Carolina and Tennessee, have followed the recommendation of this second letter and specify minimum levels as low as 0.05 mg/l depending upon the permit limit. The memoranda from Region 4's ESD are attached.

As you are aware, EPA Region 1 has established guidance for setting a minimum level or level of quantitation of 0.05 mg/l for TRC based upon using the method detection limits for Standard Methods 4500 Cl E and G and a factor of 5, which is greater than EAD's recommended factor of 3.18 for establishing a minimum level. The Region has indicated to me that this guidance sets a default minimum level for TRC and that they would adjust the minimum level for an individual discharger based upon a demonstration by the discharger of an ability to detect and quantify TRC at higher or lower levels in its effluent. I strongly suggest that you work with the Region to develop sufficient information to demonstrate whether a different method detection

limit and level of quantitation are warranted for a given wastewater discharge using the approved test methods identified above and optimum analytical procedures.

Finally, I would like to reiterate the earlier response from Gregory Currey, Acting Chief of the Water Quality and Industrial Permits Branch, to your follow-up letter, dated April 23, 1998. In this letter you reference a *draft* memorandum on chlorine significant noncompliance (SNC) authored by Water Enforcement Division staff. It is important to note that this memorandum was never approved by EPA management and never produced in final form; it does not reflect EPA national guidance or policy regarding detection or quantitation of TRC.

The draft memorandum you provided indicates that dischargers may not be able to reliably quantify levels of chlorine below 0.1 mg/l in their effluent. The sentence following the statement you quoted says, "The Region V States selected the .1 level as the most reasonable level of reliable quantitation based on limited studies and general experience in each State." Other Regions and their States, notably in Regions 1 and 4, have made other judgements based upon their experience. The draft memorandum clearly states that the 0.1 mg/l quantitation level was being considered only for purposes of flagging permittees in SNC and emphasizes that "all violations below the .1 level should be evaluated for an enforcement response."

The final memorandum on chlorine SNC was signed by Brian Maas, Director of the Water Enforcement Division, on August 20, 1996. It does not recommend a quantitation level for TRC. The final memorandum acknowledges that chlorine limits often are expressed as instantaneous limits and recommends that, where appropriate in individual situations, the Regions should manually remove the SNC flag.

Do pretreatment program regulations require municipalities to investigate sources of test interference and eliminate matrix interference to improve effluent test results?

Municipalities are not specifically required by the pretreatment regulations to investigate and eliminate matrix interference to improve effluent test results. Municipalities are required by the standard conditions at 40 CFR §122.41(j) and in their POTW permits, however, to provide monitoring results that are representative of the monitored activity. If a municipality believes that its effluent testing results are not representative because of matrix interference, the municipality may find it necessary to isolate and eliminate the cause of matrix interference in order to achieve accurate and representative results for inclusion in their DMRs.

Does Federal permitting guidance allow for consideration of chlorine demand in establishing appropriate water quality-based limits? If so, please identify the relevant guidance.

EPA's criteria methodology is designed to assess the acceptable concentration of pollutants that should not result in unacceptable effects on aquatic life and their uses or on human health. If justified, this concentration is made a function of a water quality characteristic such as

pH, salinity, or hardness. There is no direct consideration of chlorine demand specified in the methodology for calculating chlorine criteria. In addition, EPA guidance does not specifically address consideration of chlorine demand in establishing appropriate water quality-based limits from these criteria. The *Technical Support Document for Water Quality-based Toxics Control* or TSD (EPA 505/2/90-001, March 1991) does, however, generally recognize that exposure and wasteload allocation calculations can be dependent upon instream pollutant reactions. Chlorine is known to volatilize in the environment and react with instream compounds. Thus, the concept of considering chlorine demand, with respect to both chlorine decay and formation of chlorinated compounds that may be harmful in the environment, is consistent with the TSD approach to establishing appropriate wasteload allocations and water quality-based effluent limits. When contemplating whether to account for chlorine demand in developing wasteload allocations and effluent limits, permitting authorities should consider the potential uncertainties and any practical difficulties in measuring or modeling instream chlorine demand and in accounting for chlorine demand when developing permit conditions.

If you have any additional questions regarding Federal permitting regulations and guidance or if you would like to discuss any specific permitting procedures, please call me at (202) 260-9545.

Sincerely,

James F. Pendergast
Acting Director, Permits Division

Attachments

cc: Roger Jansen, EPA Region 1
William Beckwith, EPA Region 1
Maria Gomez-Taylor, OST/EAD
Kathryn Greenwald, ORE/WED

DATE: July 3, 1986

TO: NPDES Permit Compliance Limits For Residual Chlorine

FROM: Michael H. Birch

TO: Jim Patrick, Chief
Permit Section

FROM: Wade Knight, Chief
Laboratory Evaluation & QA Section

The Laboratory Evaluation and Quality Assurance Group has received several calls from individuals seeking analytical methodology for residual chlorine that will measure chlorine concentrations at proposed compliance limits of 0.01 mg/L (freshwater) and 0.04 mg/L (sea water). Current, available methodology approved for NPDES monitoring in the October 26, 1984, Federal Register will not accurately measure residual chlorine at the 0.01 mg/L level.

Two Performance Evaluation Studies (WP015 and WP016) were conducted between April 21, 1985, and April 14, 1986. The participants were highly qualified EPA, State and other laboratories located nationwide. Performance by the laboratories indicate poor precision for an unknown chlorine standard (Sample 1, WP015) at the 0.02 mg/L level. Of the 221 laboratories participating, 140 (63 percent) reported usable data, and only 133 (60 percent) reported a positive value within three (3) standard deviations of the mean value. This indicates that 37 percent of the laboratories were unable to measure (detect) the residual chlorine at the 0.02 mg/L level using EPA approved methodology in a distilled water matrix. The range of values reported was from none detected to greater than 0.234 mg/L. Seven of the 140 labs reporting usable data had values greater than 0.234 mg/L. Thus, 40 percent of the labs had unacceptable performance. The remaining 133 responses gave a median value of 0.043 mg/L and a standard deviation of 0.056 mg/L. The median value indicates a positive bias of 0.023 mg/L from the true value.

Data for performance standard WP015 2, (0.55 mg/L) shows 11.1 percent of the 225 labs had unacceptable values greater than three (3) standard deviations from the mean value reported. One standard deviation at 0.55 mg/L level was + 0.076 mg/L. Data from WP016 for performance standards at the 1.14 mg/L and 2.58 mg/L levels showed 11.7 and 10.5 percent of the labs with unacceptable data.

Data from a known water supply study (WP017) for a performance standard at the 0.1 mg/L gave a standard deviation of + 0.03 mg/L. Where the performance standard is set in between 0.1 and 0.11 mg/L, some of the responses will be reported as 0 mg/L, and the relative standard deviation will be 35 percent.

The maximum allowable concentration of chlorine compounds (MCL) set for an 0.05 mg/L for the spectrometric and DPD colorimetric procedures. These MCLs are for waters free of any organic material and manganese ions in the higher oxidation states. Manganous ions cause a severe positive bias and are commonly found in sewage.

The setting of compliance limits at the MDL is very unrealistic based on the type of wastewaters being analyzed. Secondly, the poor performance by highly qualified laboratories on a PE standard at 0.02 mg/L supports this idea. A more realistic approach would be to set the limit at the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. This level is normally called the Practical Quantitation Limit (PQL). The PQL thus represents the lowest level achievable by good laboratories within specified limits during routine laboratory operating conditions. The PQL is normally determined through interlaboratory studies, such as the PE studies mentioned earlier. The MDL is always obtained under ideal conditions (no interferences, qualified analyst and properly operating equipment). The MDL represents the lowest achievable level, whereas the PQL represents the lowest achievable level under practical and routine laboratory conditions. Usually the PQL will be 5 to 10 times higher than the MDL and the confidence level will be 95 percent or higher.

Using the amperometric titrator to measure residual and free chlorine on river water used as once through non-contact cooling water, I have observed a MDL of 0.03-0.04 mg/L. The measurements were made under ideal conditions and a minimum amount of organic material was present in the samples.

Considering the potential users of the analytical methodology, the PE data and past experience, I would recommend setting a value of 0.1 mg/L for the residual chlorine compliance limit. Ninety (90) percent of the laboratories should provide reliable data at 0.1 mg/L compliance level.

Residual chlorine data from LMR-VA Study 6 will be available within the next month. These responses will be from the regulated permittees and should provide statistical data to help set the compliance limit. I would expect the performance to be less than the performance for WP015, WP016, and the WS017 studies.

If you have any questions, feel free to contact me at FTS 250-3391.

Michael H. Smith

cc: John Walker
Bill Walker

- d. TRC: The laboratory used a Hach DPD method with a colorimeter which had preprinted calibration scales to measure the concentration of the analyte.

Regulatory Requirement: The Hach reagents and a colorimeter or spectrophotometer are EPA-acceptable for NPDES monitoring if used in accordance with approved procedures. The preprinted calibration scales provided by the manufacturer, based upon factors developed under ideal conditions, are only acceptable if verified. If the spectrophotometric method is used, one of the standards should be at a concentration near, but above, the method detection limit (MDL) and the other concentrations should correspond to the expected range of concentrations found in the samples or should define the linear working range of the detector. Each day of use the calibration scale or curve must be verified with a blank and a least one high and one low standard representative of the linear working range. These standard checks must agree within $\pm 10\%$ of the original scale or a new curve must be prepared. Verification data should be recorded and maintained on file. See Standard Methods³ 408E, and EPA Methods⁴ 330.5.

TRC METHODS/LIMITATIONS

METHOD	MQL'S	RSD'S	COMMENTS
AMPEROMETRIC	0.05-0.02 MG/L	10-110% HAS BEST RSD AT OR NEAR MQL OF ALL THE METHODS	<ul style="list-style-type: none"> • MOST SENSITIVE • INSTRUMENT/ANALYST DEPENDENT • MQL DEPENDENT ON SIZE OF TITRANT DROPLET • RECOMMENDED FOR TEXTILE OR COLORED WASTES
ION SELECTIVE ELECTRODE	0.1-0.02 MG/L	10-100%	<ul style="list-style-type: none"> • RECOMMENDED FOR TEXTILE OR COLORED WASTES
DPD-COLORIMETRIC	0.01-0.03 MG/L	10-100%	<ul style="list-style-type: none"> • MQL EFFECTED BY COLOR AND TURBIDITY • NOT RECOMMENDED FOR TEXTILE OR COLORED WASTES
DPD-TITRIMETRIC	0.01-0.03 MG/L	10-100%	<ul style="list-style-type: none"> • MQL DEPENDENT ON SIZE OF TITRANT DROPLET • MQL EFFECTED BY COLOR AND TURBIDITY • NOT RECOMMENDED FOR TEXTILE OR OTHER COLORED WASTES
TITRIMETRIC	1.0 MG/L		

NOTE: NONE OF THE METHODS PROVIDE ADEQUATE SENSITIVITY OR RESOLUTION AT THE LOWER PERMIT LIMITS BELOW 0.05 MG/L.
 RSD'S FOR ALL METHODS CAN APPROACH 110% NEAR THE MQL.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

ENVIRONMENTAL SERVICES DIVISION
ATHENS, GEORGIA 30613

MEMORANDUM

DATE: February 22, 1991

SUBJECT: Response to Request for Input on Enforcement Activities Relative to Analysis of Total Residual Chlorine-Memo: Michael Hom, 2/8/91

FROM: Michael H. Birch, Chemist *MHB*
Laboratory Evaluation and Quality Assurance Section
Analytical Support Branch

TO: Michael Hom, Chief
KY/NC/FL Unit
Facilities Performance Branch
Water Management Division

We hope the following information will assist in related enforcement activities and decisions. Unfortunately, the permit limit(s) (PL) and the sensitivity required of the approved methods for total residual chlorine (TRC) at these levels do not lend themselves to clear-cut decisions. Many of the PLs for TRC are written at or just above the method(s) detection limit (MDL) and the sensitivity or resolution doesn't allow the analyst to differentiate between the two in most cases. The relative standard deviation for all the methods below a concentration of 0.1 mg/L TRC or total oxidants goes from 10 to 110 percent as the concentration approaches the MDL of the method. We have seen permits with PLs of 0.005 (factor of two below the best reported MDL) to 0.030 mg/L in Region IV for wastewater treatment plants that are required to dechlorinate and PLs in the range of 0.1 to 0.3 mg/L without the TRC destruction. This disparity should be corrected by the permit writers and a standard PL set for all permits in Region IV requiring dechlorination to protect aquatic life in the receiving stream.

The following response is given to help clarify some of the questions resulting from discussions surrounding the TRC analysis.

1. How can I find out what equipment has been approved by EPA?

Approved equipment is listed in the approved methods. In all methods where the equipment and reagents are specified, all kits and/or equipment must meet the specifications listed in the approved methods. The reagents must be packaged to give the same chemistry and provide adequate sensitivity. Each Chemical Company and LaMotte Chemical Products Company sell kits and/or equipment and packaged reagents.

that meet the conditions of the approved method(s) with some additional requirements. **NOTE: No color comparator wheels are approved for the NPDES self-monitoring program.** If a colorimeter or spectrometer is included in the kit, the calibration chart or readout must be verified each day of operation with standards as required in Method 408 B DPD Colorimetric Method. The preprinted calibration scales or absorbance/concentration readings provided by the manufacturer, based upon factors developed under ideal conditions, are only acceptable if verified. If the spectrophotometric method is used, the calibration scale must be initially verified using a series of standards and a blank covering the range from 0.05 to 4.0 mg/L as stated in Standard Methods 408 E and EPA Methods 330.5. Each day of use, the calibration scale or curve must be verified with a blank and at least one high (preferably at mid-range) and one low standard (near or just above the MDL) representative of the linear working range. These standard checks must agree within $\pm 10\%$ of the original scale or a new calibration curve must be prepared. Verification data must be recorded and maintained on file for later inspection. Table I (Attachment 1) contains information for some of the kits that are approved, provided the above-mentioned conditions are met.

2. Do these approvals include any procedural modifications (calibrations, etc.)?

Yes, see answer to No 1.

3. Is pH monitoring/adjustment critical for the DPD colorimetric method (DR-100 or similar kits)? Would this be essential for monitoring both contract operators (and labs) and EPA enforcement officers relative to Florida domestic minors (package plants, etc)?

The pH range of the color development step for Method 408 E is 6.2-6.5. Values outside of this range will cause a bias in the TRC data. If highly alkaline (>250 mg/L) or acidic (pH <5.0) wastewaters are encountered, the pH should be adjusted to near 6.0 prior to adding the buffer reagent. Most of the interferences are positive, therefore the facility will report higher values and tend to violate permit conditions sooner if the pH of the color development step is not within the proper range. We recommend conducting a pH check on waste discharge water DMIs to see if pH might be a problem. When conducting pH adjustment when there is a problem or reason to believe a pH adjustment is necessary.

4. If pH monitoring is required, would the electrode method, as opposed to the color wheel, etc., be required in conjunction with each TRC analysis?

Each method (iodometric, amperometric, colorimetric or specific ion electrode) has a critical pH range for the measurement of TRC and free chlorine. Interferences with the color indicators in certain matrices common to many wastewaters are a known problem; therefore, color indicators or wheels are not approved, and all pH determinations must be made by the electrode method when applicable.

5. Do samples have to be collected in the actual containers or can they be transferred?

The sample can be transferred, but aeration of the sample will cause volatilization and loss of the chlorine. Therefore, transfers and/or agitation should be kept to an absolute minimum.

6. What is the maximum (practical) holding time for TRC?

The maximum holding time is 15 minutes whether practical or not.

7. What are the detection limits for the approved kits?

The MDL will be approximately 0.010 to 0.030 mg/L depending on the method, sample matrix and interferences. Normally, a 0.020 to 0.025 mg/L blank is observed just from the reagents when added to distilled water. Matrix interferences such as dyes will cause false positive readings, and the amperometric titration would be the method of choice. The detection limit will vary from one kit (of the same type) to another and is reagent and matrix dependant. Day-in and day-out, the sensitivity will change and a concrete detection limit is hard to predict. Based on experience, a 0.020 to 0.030 mg/L detection limit would be expected for normal WWTP operations for the DPD kits. Amperometric MDL would be 0.010 to 0.020 mg/L provided the instrument was operating properly and the analyst was familiar with low level measurements (knows when he/she is in trouble and has a quality control program in place to help document problems). A detection limit of 10 µg/L is the lowest detection limit we have observed. Recently, EPA EMSL-CI suggested using a low-level amperometric titration method, but the method has not been approved to our knowledge. All the methods, except with a non-approved modification of the Orion electrode, can only measure to the nearest 0.010 mg/L or higher. The resolution of the water indicator on the DR-100 is approximately 0.010 mg/L increment. The size of the droplet added in the amperometric method determines the detection limit and the resolution. In the low-level method it was reported that 0.005 mL increments (equivalent to 0.005 mg/L) can be achieved, but this would be questionable at a WWTP.

8. Do the detection limits or any other factor warrant the difference in price between a Hach DR-100 (\$200) and an amperometric titrator (\$1500)?

Yes, when there is a matrix interference in the colorimetric method that creates a false positive bias as in the case of a POTW receiving dye wastes from an industry.

9. Does the convenience and/or accuracy warrant the increase in price (\$200 to \$1500) between the DR-100 and the DR-700 or DR-2000?

The resolution and sensitivity will not be improved to the extent to justify purchasing the more expensive instrument. The ability to conduct other tests with the DR-700 (colorimeter) and DR-2000 (spectrometer) would be the justification for purchasing the more expensive equipment. A colorimeter passes a wide band of light (20 angstroms) through the measuring cell while the spectrometer uses a grating or prism, a much more expensive process, to select a much narrow band of light (2-5 angstroms). The smaller the band of light passing through the measuring cell, the less likely an interference from some other light absorbing species in the sample. The DR-100 is a colorimeter, but does not have interchangeable filters. The more expensive equipment would have better electronics which would equate to somewhat better resolution and stability. The DPD chemistry is one of the major limiting factors. Some way of concentrating the sample without loss of chlorine is needed to improve the detection limit and sensitivity.

10. Also can you recommend brand names of portable pH and specific conductivity meters?

There are numerous meters on the market that will do an adequate job. The most important factors one should consider are given in the methods. A pH meter must have a way to accept a two buffer calibration (separate calibrate and slope adjustments), meet the 0.1 pH unit sensitivity and should have temperature compensating circuitry. Temperature compensation circuitry is necessary for the conductivity meters or temperature must be determined before a calculation adjustment can be made for the conductivity. EPA cannot endorse a particular meter, unless specified in the method, due to liability.

Based on the current methodology available, equipment, precision and accuracy, it would be very difficult to enforce permit limits that are the same as the MDL or just barely above the MDL. See attached memo to Jim Patrick, July 8, 1986. The Laboratory

Evaluation and Quality Assurance Section would not recommend initiating enforcement actions on values below 0.05 mg/L.

If you have any questions, please contact me at FTS 250-2447.

Attachments (2)

TABLE I
Chlorine Kits

A. LaMotte Chemical Products Company

<u>Code</u>	<u>Model</u>	<u>Test Factor</u>	<u>Range (mg/L)</u>
3176	DT-DR	DPD Free & TRC	0-10 ^b
3312	SL-MW ^a	Free & TRC	0.1-1.0
3308	SL-26 ^a	Free & TRC	0.2-3.0
3313	SL-SWS ^a	Free & TRC	1.0-6.0
3314	SL-16 ^a	Free & TRC	0.2-6.0
5317	LP-26 ^a	Free & TRC	0.2-3.0
6019	LP-MW ^a	Free & TRC	0.1-1.0
6938	LP-16 ^a	Free & TRC	0.1-6.0

B. Hach Chemical Company

<u>Model</u>	<u>Test Factor</u>	<u>Range (mg/L)</u>
DR-100	DPD Free & TRC	0-3.5 ^b
DR-700	DPD Free & TRC	0-3.5 ^b
DR-2000	DPD Free & TRC	0-3.5 ^b
DR-4000	DPD Free & TRC	0-3.5 ^b
DR/12	DPD Free & TRC	0-3.5 ^b

^a The kits employ a LaMotte Code-Slide Color Comparator and would only be acceptable when used with an accepted colorimeter.

^b The detection limit will not be zero, but will be a function of the sample aliquot, sample matrix, reagents and equipment (meter or spectrometer) and must be determined. Normally, a blank of 0.1-0.2 mg/L is observed just from the reagents when added to distilled water. Matrix interferences such as dyes and other colorants may give false positive readings and the amperometric method may be the method of choice.



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

AUG 20 1996

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

MEMORANDUM

SUBJECT: Significant Noncompliance for Chlorine
FROM: Brian J. Maas, Director
Water Enforcement Division
TO: Regional Water Enforcement Branch Chiefs

Over the past several months, we have examined how violations of chlorine effluent limits will fit into the new definition of Significant Noncompliance (SNC) in the NPDES program. There have been a number of different proposals from Regions and States aimed at changing the way the new definition addresses chlorine. These proposals were discussed at the June 26, 1996, Regional Enforcement Branch Chiefs' conference call and in subsequent communications with various Regions.

Based on these discussions, there appears to be no general consensus at this time on any proposal to modify the SNC definition for chlorine. Therefore, I believe it is in the best interest of the water program to allow the new definition to be fully implemented according to the schedule approved by Assistant Administrator Steven Herman on September 21, 1995. As we gain more experience in addressing chlorine violations under the new definition, we can determine whether there should be a different approach.

The central issue in these discussions on chlorine SNC is whether a special case can be made that this particular parameter is sufficiently different from other parameters that it should receive special treatment for the purpose of triggering SNC. Under the SNC timely and appropriate process there is a presumption that formal enforcement action will be considered when SNC criteria are met unless compliance is achieved. However, given the nature of many chlorine limits and monitoring requirements, i.e., limits are usually instantaneous and monitoring may be performed 24 or more times per day, a violation based on one of those measurements may not present either a significant environmental concern or be indicative of substantial

deficiencies in operation and maintenance. The issue for chlorine is whether these violations could be considered an isolated event where the appropriate response would not routinely rise to the level of a formal action. In the near term, I suggest that when this conclusion is reached for an individual situation, the Regions should manually remove the SNC flag in the automated tracking system.

I remain open to additional discussions on chlorine SNC and believe that your experience in implementing the new definition for chlorine SNC violations will be important for our subsequent discussions. If there are questions regarding the chlorine SNC issue, please call me at (202) 564-2240 or Richard Lawrence at (202) 564-3511.

cc: Fred Stiehl
Carol Galloway