



The top is in sight, don't give up now!

ICRUpdate
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 Technical Support Center
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Second Chance to Resubmit!

ICR Update Issue Number 14 - This information sheet, the **ICR Update**, is the fourteenth one to be issued by the Technical Support Center (TSC) of the Office of Ground Water and Drinking Water (OGWDW). Future issues will be distributed as needed to maintain information flow related to the ICR.

Editor's Note: Because of some software bugs in the resubmission algorithms the data system (ICR Fed) will be cleared and the most recent utility diskettes on hand for July 1997 (and the July 1997 and August 1997 lab diskettes) will be uploaded to the data system. The validation process will be run again and reports will be sent to utilities and labs. This will be your last opportunity to review and correct your first month of ICR data. This is an important step in the validation process. If everything goes as planned this time, it should be much easier to run validation on the remaining data and the validation process can be accelerated. The projected availability date for fully validated July 1997 data is early in 1999.

Two rumors are circulating that I thought might be of interest to ICR folks. The first one sounds like **deja vu**(PS) all over again (remember the UPS strike a year ago); it has been reported that **Fed Ex** pilots are planning a meeting to decide whether to **strike** during the Christmas rush. If true this could have an impact on the shipment of samples during the last month of ICR sampling; which brings to mind the other rumor; that being the continuation of ICR sampling into 1999. This is **not true**, except in some isolated cases where it may be necessary to start sampling on the last day of the year and continue into the first couple of days in the New Year for the convenience of the lab(s). You see, the utility software will accept a sampling period **ending date** in the year 1999, but not a **starting date**. Now that I think about it, there may also be some confusion out there between ICR sampling (18 months) and the **ICR Supplemental Survey** which will be collecting samples until the end of 1999. Good luck.

ICR Update Index - An index to the ICR Update will soon be available on the OGWDW website at www.epa.gov/OGWDW/updtindx.html. This index will list the topic headings for each issue. You will then be able to select a topic of interest from the index and click on the applicable ICR Update issue to read.

Data Validation Details - Thanks to the ICR utilities and laboratories that reviewed their July 1997 data and provided EPA with resubmission diskettes by the September 9, 1998 deadline. Unfortunately, in mid-September, it became apparent that there were problems with the resubmission software and we would not be able to reliably upload resubmission diskettes and update information on the ICR Federal data system (ICR FED). The Technical Support Center (TSC) looked at the options and made a decision not to delay the validation process (anymore) because of the resubmission process. Therefore, all monthly data was deleted from the ICR FED system and the latest July 1997 diskettes from utilities plus the latest July and August 1997 diskettes from ICR laboratories were uploaded. At this time we also uploaded August 1997 utility diskettes and September 1997 laboratory diskettes to the ICR FED system to begin the validation of August 1997 data. Confused? It gets worse.

Validation reports from the upload of these data will be distributed to utilities and laboratories during November. As before, utilities and laboratories will submit corrections, if needed, to EPA. By that time, the resubmission problems should be resolved and (hopefully) we will be able to process data as designed. A second review of the validation reports will not be needed.

Chemistry PE Study Results - Laboratories that are approved to perform disinfection byproduct (DBP) and/or surrogate (TOC, UV, Br, and TOX) analyses for the ICR must successfully participate in six quarterly PE studies. **PE Study 8**, the fifth of the six "required" PE studies, was sent to 197 participating laboratories the week of July 27th. Many thanks to the 192 laboratories that reported their analytical results by the September 1st due date. Make-up samples (PE 8M) were shipped on September 15th to 56 laboratories for 84 failed analyte groups/methods. Forty-six of these laboratories reported their data to EPA by the September 30th due date. Unfortunately, 13 laboratories did not successfully report data for 18 analyte groups/methods and as a result they **lost** their approval for the failed parameters. Those disapprovals became effective October 6th. On the positive side, as a result of their performance in PE 8, five laboratories were able to **regain** six approvals that were lost due to PE Study 7 failures.

The last Chemistry PE study will begin next month. Laboratories have already been notified to expect the samples during the week of November 2nd. The results will be due back to EPA on December 7th. The study is timed to evaluate lab performance at the end of the 18-month monitoring period.

\$Going out of business sales - Prior to the start of the ICR, EPA estimated the number of **calibration solution ampules** that would be needed by the laboratories. We estimated on the high side to be sure that the supply would last until the end of the 18-month monitoring period. As a result, we are going to have some ampules left at the end of December. If your laboratory is performing analyses of samples for ICR treatment studies, we encourage you to contact us for a supply of these "excess" ampules. Contact Ed Glick (phone: 513-569-7939; fax: 513-569-7191; or email: glick.ed@epa.gov) and let him know how many ampules you want. Please be sure to provide him with your ICR Lab ID number. Your requests will be honored as long as the supply lasts.

SDS Testing for the Treatment Studies ... Again? Articles discussing the Simulated Distribution System (SDS) test conducted during the ICR treatment studies have appeared in previous issues of the ICR Update. These articles have described the parameters that define the SDS test, provided guidance on conducting these tests and discussed the overall importance of properly conducting the SDS test. The purpose of the current article is to clarify issues related to selecting a proper chlorine dose for the SDS test.

The SDS chlorine dose must be selected to achieve the "**target**" **free chlorine residual** at the end of SDS incubation. If free chlorine is used in the distribution system, then this target residual should equal the free chlorine residual at a point representative of the average residence time in the distribution system. If chloramines are normally used in the distribution system, then a **free chlorine residual** of 0.5 to 1.0 mg/L should be used as the target. Here are some pointers that will help you to select a proper SDS dose.

- The same target residual at the end of SDS incubation is applicable to both the influent and effluent samples. However, the higher TOC concentrations in the influent sample will require a significantly **higher dose** relative to the effluent sample to achieve the same free chlorine residual at the end of incubation.
- A constant SDS dose **cannot** be used in the SDS test unless the water quality remains constant. The dose required to achieve the target residual must be varied to meet the changing chlorine demand of the water. For example, in a GAC study, the TOC concentration in the effluent will **increase** with time, resulting in an increased chlorine demand that will require a higher dose to achieve the target residual.
- Many waters will have a significant chlorine demand due to inorganic compounds in the water, such as ammonia, hydrogen sulfide, iron and manganese. This inorganic demand must be completely satisfied in order to achieve a free chlorine residual and conduct a proper SDS test. If your plant has high ammonia levels and normally uses a chloramine residual in the distribution system, you may have to use **significantly higher chlorine doses** than are used in practice to achieve a free chlorine residual in the SDS test.

TIP: The chlorine demand due to ammonia is approximately equal to $7.6 \times$ the ammonia concentration in mg/L - N (e.g., a dose of 7.6 mg/L of free chlorine is required to meet the demand of 1.0 mg/L - N of ammonia).

- In order to determine the chlorine demand of a water, a demand test can be conducted under the SDS test conditions of pH, temperature and incubation time while varying chlorine doses. The resulting relationship between chlorine dose and free chlorine residual can be used to select the dose that will meet the target residual at the end of incubation.

Preliminary Review of ICR T S Results - In a previous **ICR Update**, we described a voluntary review process for utilities participating in the ICR treatment studies. The purpose of this review is to provide feedback to utilities during the testing period so that potential problems can be identified and corrected **before** the end of the study. This will provide better information to both utilities and EPA.

The **good news** is that EPA has been able to provide **detailed feedback** to utilities that have submitted their data for a preliminary review, and increased everyone's confidence in these studies. The **bad news** is that only a handful of utilities have submitted their data for review so far.

We encourage everyone conducting studies to take advantage of this **voluntary program**. To participate in this review, please submit both a hard-copy and electronic copy of the *Data Collection Spreadsheets* containing the data you have collected to date. EPA will review these data and provide you with **comments and suggestions** as necessary. Please note that these data will only be used by EPA staff to conduct this preliminary review. If you would like EPA to conduct a preliminary review of your data, please send the *ICR Data Collection Spreadsheets* to:

USEPA
Technical Support Center (MS 140)
26 West Martin Luther King Drive
Cincinnati, OH 45268
Attn: ICR Treatment Study Coordinator

Early Submission of Treatment Study Data - The results from the ICR treatment studies are due by July 14, 1999; however, EPA would like to get some data earlier if possible. Specifically, EPA is interested in receiving **early final submissions** of the *ICR Treatment Study Data Collection Spreadsheets*.

EPA is currently working on a system for managing and analyzing the results from the ICR treatment studies, and within a few months we will be ready to start analyzing data and loading the results up to the database. Early submission of the spreadsheets will give EPA

additional time to analyze the results of these studies and feed this important information into the "rule development process."

We are not requesting **early data submissions** at this time, but wanted to give you advance notice so that you might start preparing your spreadsheets if you are interested in submitting your data prior to the deadline. We will continue to update you on our progress and will make a **formal request** for early spreadsheet submissions **when** our data system is complete. If you do decide to submit your spreadsheets early, you can still wait until the July 14th (1999) deadline to submit your *Summary Report*. Thank you in advance for considering an early submission, and remember an early submission of even one or two months prior to the deadline will help!

Sampling GAC Columns - On September 1st a letter was mailed to all utilities conducting GAC studies under the ICR. The purpose of this letter was to clarify the requirements for sampling from GAC columns. The letter describes the required frequency for sampling, approaches for determining the sampling schedule, and the impact of certain run termination criteria on the sampling schedule. If you did not receive this letter but are interested in this information, go to the ICR homepage at www.epa.gov/OGWDW/icr/gacsmp.html.

Supplemental Surveys and Spiking Program- Large systems will soon find out if they have been selected for the Supplemental Survey. Recruitment letters on way to small systems. Utilities have collected first samples for spiking program. Method 1622 for *Crypto* ready for Supplemental Surveys. For details, read on.

ICR Supplemental Surveys - Recruitment for the Large and Medium System Surveys is nearly done. Large utilities can expect to hear if they were selected during the first week of October. EPA plans to call and check with medium systems that have not yet responded to the survey request during the last week of September. So far, the majority of systems have indicated an interest in participating in the surveys. EPA will be sending recruitment letters to small systems in early October. Ultimately, EPA needs the participation of 47 large, 40 medium, and 40 small plants. Those plants will collect source water samples twice a month for 12 months which will provide valuable data on *Cryptosporidium* (analyzed with Method 1622), bacteria, and DBP precursors. Large and medium systems are scheduled to begin in November 1998, and small systems should begin in December.

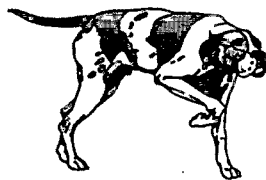
Lab Spiking Program - The Spiking Program continues to go well. As of mid-September, all utilities have collected the first of their two samples for spiking. The program will continue through December 1998. Preliminary data (only one month's worth!) suggest that average recoveries for *Crypto* and *Giardia* using the current ICR method are similar to those achieved in the 1995 Field Spiking Study.

Method 1622 - Great news!! The *Cryptosporidium* round-robin validation process for Method 1622 has been completed. The method is ready for use in the **ICR Supplemental Surveys**.

However, incorporation of *Giardia* into Method 1622 has been further delayed due to the need for additional testing on the immunomagnetic separation (IMS) procedure. Tests are currently being conducted on the IMS procedure to ensure that acceptable recovery efficiencies for both reagent and raw water can be achieved. Round-robin validation for *Giardia* will commence once these tests have been completed. Because of the delay in the validation schedule, EPA will begin the surveys analyzing only for Crypto; hopefully we can bring *Giardia* on line several months into the surveys.

If you have questions regarding the surveys or spiking program, please contact Heather Shank-Givens at 202-260-0063 or email to givens.heather@epa.gov. For questions concerning Method 1622, please contact Crystal Rodgers at 202-260-0676 or email to rodgers.crystal@epa.gov.

Guess What? We've Moved - Yes, that's right, the address for sending your diskettes to EPA has changed.. The folks that were receiving your diskettes in Room 1111 at the East Tower have moved down the hall to **Room 1115B**. They have assured us that if a package comes in addressed to Room 1111, someone in that office will carry it down the hall to Room 1115B. So, once again, the **full address for submitting diskettes** (lab and utility) is:



**USEPA (ICR4600)
ICR Data Center - Attn: Ed Cottrill
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