

# UPDATE

NEW INFORMATION ABOUT CRITICAL AUTHORITY ISSUES

## SUBJECT: **Disinfection conversion associated with receipt of surface water**

### BACKGROUND:

Since its creation in 2000, the North Harris County Regional Water Authority has been preparing to manage the conversion to surface water in compliance with Harris Galveston Subsidence District (HGSD) mandates. We successfully submitted and obtained approval of our Groundwater Reduction Plan by HGSD. We initiated an aggressive Capital Improvement Plan and have installed approximately 35 miles of water line since 2003. The Authority now expects to begin receiving surface water from the City of Houston by the fourth quarter of calendar year 2009.

Extensive research -- obtained through early Town Hall meetings and dialogue sessions; comprehensive analysis of past, present and future population patterns and projected growth; acquiring water consumption and demand data; and by identifying districts' water quality/quantity concerns -- enabled the Authority to designate conversion timetables. Districts within the 2010 service area -- which includes what is often referred to as the 1960 corridor -- will begin receiving surface water to achieve the mandated 30 percent reduction in reliance on groundwater.

Last year, we began meeting with the districts and their consultants (e.g., engineers and operators) within the 2010 service area to focus on the many construction and delivery details necessary to conversion. This information-gathering process is ongoing.

One of the many issues discussed was the need for districts in the 2010 service area to **convert to chloramine disinfection prior to receiving surface water**. The Authority offers this UPDATE to provide guidance on key implementation points concerning the chloramine disinfection issue.

### KEY POINTS IN THE DISINFECTION ISSUE:

- The surface water we will receive from the City will have been disinfected using chloramines.
- The use of chloramines for disinfection has several advantages, including a reduction in the formation of disinfection by-products and a longer lasting disinfection residual.
- The well owners in the 2010 service area currently use chlorine for disinfection of their groundwater.
- Mixing surface water that has been disinfected using chloramines and groundwater that has been disinfected with chlorine can potentially result in taste, odor and health issues.
- The conversion to chloramine disinfection *must be approved in advance* by the Texas Commission on Environmental Quality (TCEQ). A public water system must comply with TCEQ rules and regulations in order to be allowed to use chloramines for disinfection. Guidance concerning rules and regulations can be accessed on the agency's website at: [www.tceq.state.tx.us/permitting/water\\_supply/pdw/technical\\_guidance/staff\\_guidance/treatment/sg\\_49.html](http://www.tceq.state.tx.us/permitting/water_supply/pdw/technical_guidance/staff_guidance/treatment/sg_49.html).
- **Two key items addressed in the TCEQ guidelines require your attention:**
  1. Chloramines can cause problems to persons with some medical problems -- specifically for patients dependent on dialysis treatments -- if proper measures are not taken. Medical facilities should also determine if additional precautions are required for other medical equipment.
  2. Chloraminated water may be toxic to fish. Customers with aquariums should be sure that the chemicals and filters in the tank are designed for use in water treated with chloramines.
- Given the integral role of the TCEQ in the process of converting to chloramine disinfection, the Authority is discussing viable ways to facilitate the approval process with the TCEQ.

## Authority position on key implementation points concerning the disinfection issue

- Well owners in the 2010 service area will need to convert to chloramine disinfection to facilitate the delivery and use of surface water. ***This conversion must be completed no later than September 1, 2009.*** The Authority requests quarterly updates on progress in completing the conversion.
- Each well owner to receive surface water is responsible for complying with all TCEQ rules and regulations -- not only for the conversion to chloramine disinfection, but also in compliance on other related issues, such as interconnections.
- If an interconnection with another district exists, it is your District's responsibility to timely advise the other district of your plans to convert to chloramination, and to work with the district to complete the necessary appropriate measures.
- ***Each District is wholly responsible for the design, construction and operation of their chloramination system.*** The Authority does not plan to provide detailed criteria for the chloramination system. The Authority does suggest, however, that the chlorine and ammonia feed systems you install be *automatic proportional feed systems with residual analyzers*. The cost to design and construct your chloramination system shall be paid by the District. The Authority will include that cost in determining the Non-Depreciated Asset Credit provided for under the Authority's PRICING POLICY.

### ACTION REQUIRED:

1. If your District has not already done so, please authorize your engineer to initiate work on the conversion.
2. If a member of your Board, your engineer, attorney or operator has any questions concerning the conversion, please identify these issues and communicate with us as soon as possible.
3. To facilitate the process, the Authority's Program Manager will compile the questions and comments; discuss them with the Authority's General Manager; and provide a comprehensive response in a timely manner. Please direct those questions and/or comments to:  
Michael Baugher, P.E.  
TCB INC.  
(713) 267-2868 or by email at [mike.baugher@tcb.aecom.com](mailto:mike.baugher@tcb.aecom.com).
4. Inasmuch as we're all going through this process for the first time, we will conduct workshops on the subject if necessary, and announce the schedule on our website and/or in correspondence.

We appreciate your prompt attention to the actions requested. We look forward to working with your District as we prepare for the conversion to surface water.



Jimmie Schindewolf, P.E.  
General Manager

April 24, 2008