

2016-02-08 Fluoride Investigation by Jonson

1. On 1/20, I discussed the response from Mr. Porter to my December 10 question to Mr. Horne on fluoridation with a local dentist, Dr. Johnny Johnson, with the following results:
  - a. Dr. Johnson is a graduate of the Center for Disease Control's Water Fluoridation Training program.
  - b. He observed that the Clearwater 2014 Annual Water Quality Report for the Reporting Year of 2014 reports system fluoride at 0.42 "level detected", and 0.27-0.42 "range of results". This is substantially different than two of the grab samples reported by Mr. Porter of 0.09 and 0.16.
  - c. He reported that the Pinellas County Dentists are unaware that Clearwater water is not at similar fluoride levels with Pinellas County.
  - d. He reported that Dunedin produces water using RO and adds fluoride
  - e. He reported that patients using water at the levels of 0.09 and 0.16 should be supplementing fluoride for optimal dental health. However it would be difficult for dentists to prescribe with the varying levels as reported in the Clearwater grab samples for different parts of the City.
  - f. He reported that adults need fluoride to protect tooth root surfaces as gums recede.
  - g. I observe that on 5/6/2004 a group of citizens came before the City of Clearwater Council speaking against fluoridating the County's drinking water. The Council took no action to forward these concerns to the County.
  - h. Dr. Johnson reported that typical fluoride injection technologies are capable of adjusting levels as needed for changing water sources.
  - i. He didn't understand why Clearwater did not design water treatment plants with fluoride injection capabilities which he understands is standard practice for RO Plant design.
2. Log of inquiry of City Staff – extract from the following pages.
  - a. In response to a June 11, 2013 question, Ms. Mercer responded that "Public Utilities would prefer to do city-wide fluoridation with the commissioning of RO2."
  - b. In response to an October 21 2013 priority I received the response "Consideration of the addition of fluoride is scheduled **after** completion of RO #2, scheduled for **January 2015.**"
  - c. In response to a November 18, 2015 question, Mr. Porter responded in part; "We anticipate that the additional water sources will be coming on-line within the next 6 to 12 months and we will be able to conduct the necessary analysis and be in a position to make recommendations on the fluoride addition question."
  - d. In response to a December 10 question, Mr. Porter responded in part: "None of the values were at the currently recognized therapeutic level of 0.7 mg/l."

Jonson – Bill Horne Weekly One on One

June 11, 2013 Extract

1. Questions

- a. I recall you saying that the Council would be having to approve the expenditure for the installation of Fluoridation in the City's Countryside well field area. I thought that was going to be done in May, but I may not recall this correctly. What is our fluoride level in Countryside? (Mercer) – The level of fluoride leaving the Countryside Water Plant entering the distribution system is in the range of 0.4 to 0.6 ppm. Public Utilities would prefer to do city-wide fluoridation with the commissioning of RO2. If you would like more frequent sampling data for fluoride, please let me know.

Jonson – Bill Horne Weekly One on One

October 21, 2013 **Extract**

1.

2. Schedule Items of Importance:

- a. Fluoride authorization for Clearwater produced water. - Consideration of the addition of fluoride is scheduled **after** completion of RO #2, scheduled for **January 2015**. Once the new facility is on line we can determine the level of fluoride occurring from our wells and through blending throughout the system to gauge needed addition, if any.

Jonson – Bill Horne Weekly One on One

November 05, 2013 **Extract**

1. Questions

- a. I note that the fluoride decision will not be made until after the new plants are in operation. Do we have results of sampling fluoride levels in various parts of the city that were done recently? I wonder how these vary from the target optimal ranges. (Mercer) - Public Utilities takes samples from the water treatment plants, as the water leaves the plant, at the required times to perform our water regulatory compliance sampling, per FDEP regulations. We do not routinely monitor fluoride levels in the distribution system as we currently do not inject any fluoride at the plants. Naturally occurring fluoride is found at levels of 0.3-0.6 mg/l in the water samples we have taken in the past. The optimum level has now been established at 0.7 mg/l by regulatory agencies.

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Jonson – Bill Horne Weekly One on One

June 2, 2015 **Extract**

3. Schedule Items of Importance: Action (Silverboard) Provide dates of estimated completions as we establish and review them – NOTE: These dates are subject to change based upon the underlying assumptions and conditions noted. Staff can always update, as needed.
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(Mercer 6/1/2015) - The estimated January 2015 completion date for RO2 slipped to the end of April 2015 due to construction and startup optimization delays. At this time, we are fine-tuning the operation of the new facility. Once the operational optimization work has been completed, we will undertake the Fluoride concentration evaluation we previously envisioned.

Jonson – Bill Horne Weekly One on One

November 18, 2015 **Update 12/7/2015**

1. Questions:
  - a. Update on Fluoride in the Clearwater distribution system. (Porter)- Ms. Mercer’s previous comments to the Mayor and Council on this issue indicated that until the influence of the new RO2 water plant (and the appurtenant reduction in the flow of Pinellas County water into our water system) had on the concentration of fluoride found in our water we would not be able to determine with any accuracy what the estimated costs to retrofit our water plants, or what the annual operating costs would be, to supplement the background fluoride concentration to bring it to the recommended therapeutic levels.

We put the new RO2 plant on-line approximately 7 months ago. It is operating well but at reduced capacity. Until the supply of raw water is increased by the completion of construction of a new pipeline that will carry raw water from two wells that are not currently connected to the system and a concentrate line from RO1 to RO2 becomes operational RO2 will continue to operate a reduced capacity. Therefore, we have not been able to conduct the necessary analyses needed to assess the viability of implementing fluoridation at our facilities as of yet.

We anticipate that the additional water sources will be coming on-line within the next 6 to 12 months and we will be able to conduct the necessary analyses and be in a position to make recommendations on the fluoride addition question..

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**From:** Horne, William  
**Sent:** Tuesday, January 19, 2016 5:00 PM  
**To:** Jonson, Bill  
**Subject:** RE: Clearwater Water Fluoride Levels

Cm Jonson,

The information below is what David Porter recommends in response to your email:

Water plants 1, 2, and 3 have been in existence for many years as have system interconnects with Pinellas County. Over the last ten years a number of water system upgrades and expansions have been completed.

Plant 1 was converted to R/O approximately 10 years ago. Plant 1 is located in west Clearwater between Drew and Sunset Point Road near Keene.

Last Year (2015), Plant 2 was also converted to R/O and designed to utilize brackish water as its source water. Plant 2 is located between Gulf to Bay and Drew Street on the US 19 service road.

Plant 3, which is located in the Countryside area on SR 580, is operating in essentially its original configuration and is now the only water plant that still blends Pinellas County water directly at a plant. This facility is scheduled for upgrade over the next few years.

All three water treatment plants discharge into an interconnected distribution system. Depending on water demands and operational configuration of the valves throughout the system, water being served to a particular part of the City can come from a mixture of any or all of our three plants.

Blending of Pinellas County water sources with City sources only occurs at one water plant directly as described earlier (at Plant 3). However, we have several inter-connect points with Pinellas County Utilities within the distribution system itself. These interconnects provide a backup source of water pressure and supply and are manually placed into operation by opening valves when needed. The interconnects also supply water to the southern end of Sand Key on a routine basis due to that area's location.

None of Clearwater plants provide for supplemental fluoride at this time.