

Memorandum

DATE: 5 February 1982

FROM: Ms. Betz, Quality Control Laboratory, Environmental Section, NREAB, BMaintDiv

TO: Mr. Sharpe, Supervisory Ecologist, Environmental Section, NREAB, BMaintDiv

SUBJ: Corrosivity And Sodium Monitoring of Drinking Water

ENCL: (1) Letter from LANTDIV of 28 January 1982
(2) Letter from State Laboratory of Public Health of 26 January 1982

1. I received Enclosure (1) today and it states that within 12 months of 27 February 1982 we will have to commence monitoring for corrosivity at all our water treatment plants. The information bulletin, contained in Enclosure (1), states that one sample per plant is required, however it does not state how often. Corrosivity monitoring includes measurements of parameters such as pH, alkalinity, total dissolved solids, hardness and calculation of the Langelier Index, using the before mentioned parameters. Enclosure (1) also states that this monitoring will be done by a certified laboratory.
2. Enclosure (2) is a letter I received last week. Enclosure (2) referenced Rules Governing Public Water Supplies 10NCAC 10D .1636 which is apparently the States version of 40CFR141 which is mentioned in Enclosure (1). Enclosure (1) makes no mention of sodium, nor does my copy of 10NCAC 10D which does not have paragraph .1636.
3. Enclosure (2) is an application for certification for Corrosivity and Sodium monitoring. Presently, we were not set up to be certified for the parameters required, with the exception of one, pH. We are certified by the Navy to run pH on wastewater. In the following paragraphs I will discuss the other parameters addressed in Enclosure (2).
4. Alkalinity. Presently we run two types of alkalinity on the drinking water weekly. Neither procedure is approved for alkalinity needed in corrosivity monitoring. The procedures we use were set up before my arrival and the results are used by the water plant. The accepted procedure is a little more involved and we have everything on hand to start running it. All we need is a little time to come accustomed to the procedure and to perfect our technique.
5. Calcium Hardness. Presently we use a different buffer than the one in the approved method. However, we have everything on hand to make the other buffer. And again all we need is a little time to adjust our procedures.
6. Temperature. On the minimum equipment requirement list contained in Enclosure (2), it states thermometers with 0.1°C divisions are required. We have some, however they are presently used in the incubators where they are required. We would need to order more. Which brings up a point that Mr. Beesley overlooked during our previous certification inspection, our NBS certified thermometer. It is only in 1.0°C divisions were our thermometers are in 0.5° or 0.1°C divisions. Good quality control would call for the NBS to have the same size divisions.
7. Total Filterable Residue. We do not have all the equipment required. This proce-

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procedure calls for a steam bath which we don't have. It also calls for a drying oven that can reach and hold 180°C. We have two drying ovens, but neither can reach 180°C. Plus the procedure calls for a vacuum pump. Ours are old and about gone now.

8. Sodium. The procedure for sodium calls for using our AA. However we need a recorder to use it for certification work.

9. That summarizes where we are concerning certification of corrosivity and sodium. We presently run a stability test which, in theory, is the same as the Langelier Index but it is not approved.

10. Returning to Enclosure (1), I would like to draw your attention to one more phase of the compliance of corrosivity monitoring. According to the 2nd to the last paragraph under Compliance Requirements in Enclosure (1) we are also to prepare a list of all the materials used in the distribution system.

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Supervisory Chemist

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