Virginia Division of Consolidated Laboratory Services (DCLS)
Environmental Laboratory Certification Program

Technical Assistance Document
(1VAC30-41, 1VAC30-45, 1VAC30-46)

Records of Temperature Monitoring

September 1, 2021

To ensure the consistent assessment of all laboratories and to promote clear and defensible data when temperature readings are critical to the integrity of samples being stored or tested, effective January 1, 2022 all temperature records evaluated by VELAP assessors will be evaluated to ensure that the original observed temperature is recorded in addition to the corrected temperature. If no thermometer-specific correction factor is needed, the record should indicate a correction is not applicable.

Tips and Reminders for Accurate Temperature Readings and Records:

- Observations and calculations to determine a thermometer's correction factor should be reviewed by a second person to ensure no mistakes were made in the determination.
- Thermometer correction factors should be clearly documented in a manner to ensure there is no confusion regarding the "direction" for the correction factor to be applied.
- Observed temperature data and the application of correction factors should be routinely reviewed, with documentation of the review.
- Thermometers should be replaced if correction factors exceed 1° as routine laboratory practice per the EPA Drinking Water Manual.
- Laboratories are encouraged to carefully evaluate the correction factor with regard to the criticality of the acceptable range of the temperature readout. For example, a laboratory may choose to replace a thermometer with a correction factor of -0.9° when the temperature must be within 35.0 ± 0.5°C since the error associated with the thermometer is significant when compared to the acceptable temperature range.
- Records for temperature readings should include the identification of the person making the observation.

References: EPA Drinking Water Manual, IV 8.1, IV 8.5, V 8.1; 1VAC30-45-640 A, C and F; TNI 2009 and TNI 2016 Standards V1M2 4.13.2.1.