PeCOD technology as a reliable tool for measuring and characterizing NOM in source water

The presence of natural organic matter (NOM) causes challenges in drinking water treatment processes, including biological growth in distribution systems, and disinfection by-product formation potential (DBP_{fp}). Routine NOM monitoring is typically conducted using surrogates such as total organic carbon (TOC), dissolved organic carbon (DOC), ultraviolet absorbance at 254 nm (UV_{254}) and specific ultraviolet absorbance at 254 nm (SUVA). These surrogates are most common, however may not provide adequate information on treatment performance and NOM removal in some cases. The PeCOD® analyzer for measuring NOM oxygen demand, is a new nanotechnology-based technique for rapidly determining dissolved organics in 10 minutes. The low detection limit of the PeCOD® can quantify the oxidizability of measured carbon, and the associated amount of O_2 required for its degradation. Thus, providing information on the reactivity of organic species, rather than total carbon. In addition, the results obtained from the PeCOD® analyzer can be used to estimate DBP_{fp} at each stage of the process to optimize treatment efficiency. Simple operation of the PeCOD® analyzer allows for online monitoring or direct grab sampling at the source by operators and engineers. This session will highlight the advantages of PeCOD® technology, and how it provides a better understanding of NOM removal and DBP formation, leading to enhanced treatment and environmental sustainability.

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