Attachment D

Effluent Monitoring and Ambient Water Quality Monitoring

Applicable licensing criteria

06-096 Chapter 525, *Effluent Guidelines and Standards* states in part:

> SUMMARY: "This rule establishes procedures and criteria for setting technology-based effluent limitations in waste discharge licenses. Included are general provisions regarding establishing effluent limits, test procedures, units of measurement, and categories of pollutants."

If the technology-based limitations in Chapter 525 are not stringent enough to meet the classification standards assigned to the waterbody, more stringent limitations referred to as water quality based limitations are required.

Maine law 38 M.R.S. §414-A. *Conditions of licenses,* states in part:

"1. Generally. The Department shall issue a license for the discharge of pollutants only if it finds that:

> A. The discharge either by itself or in combination with other dischargers will not lower the classified body of water below such classification."

Department Staff Discussion of Effluent Monitoring

With the exception of testing requirements for whole effluent toxicity testing (WET), analytical chemistry and priority pollutants, specified in 06-096 CMR, Chapter 530, *Surface Waters Toxics Control Program*, there currently are no statutes or rules that dictate the monitoring frequencies for parameters that are specifically regulated in a MEPDES permit. Monitoring frequencies are determined based on use of best professional judgment, considering effluent characteristics, ambient water quality conditions, whether the permit limitations are technology or water quality based, and if there is a reasonable potential for the discharge to exceed applicable water quality standards. The monitoring frequencies can range from 1/Day to 1/Year.

In general, each permitted facility is assigned a Department compliance inspector that is responsible for oversight of permitted facilities. Compliance inspectors conduct a minimum of one comprehensive facility compliance inspection annually. MEPDES permits establish numeric limitations and or routine monitoring requirements for pollutants of concern and parameters that are required to be limited by state or federal laws and rules/regulations. Permittees are required to electronically submit the results of the monitoring required by the permit to the Department

compliance inspector at a frequency of 1/Month. The monthly reports are referred to as Discharge Monitoring Reports (DMRs). The Department's compliance staff review the DMRs for accuracy, completeness and compliance with the terms and conditions of the discharge permit. All DMR data are entered into United States Environmental Protection Agency (USEPA) compliance tracking system referred to as the Integrated Compliance Information System (ICIS) which is accessible by the public. Reported non-compliance for all permittees is discussed each month by a committee of Department personnel including permitting, compliance and enforcement staff, to determine the most appropriate course of action to bring the facility back into compliance with the permit. Chronic or significant non-compliance may result in a formal enforcement action by the Department.

Though the state of Maine has been authorized to administer the delegated MEPDES program in Maine since January 12, 2001, the USEPA has oversight of the MEPDES program and may take action on issues relating to permitting, compliance or enforcement actions if it disagrees with the state's action or lack thereof, to administer the requirements of the Clean Water Act.

Department Staff Discussion of Ambient Water Quality Monitoring

Ambient water quality monitoring is sometimes required in MEPDES permits to verify the assumptions made in modelling decisions or to obtain a more robust data set of ambient water quality conditions. Nordic hired a contractor to conduct ambient water quality sampling at four sampling sites on two days in August 2018 and one day in September of 2018. Samples were collected from two proposed intake stations on August 23-24, 2018, and from two proposed discharge stations on September 7, 2018, along with an additional water sample collected on September 7, 2018, from a location on the Little River below the reservoir dam. In-situ water column profile measurements with a data sonde were collected for temperature, turbidity, pH, depth, dissolved oxygen (mg/L and % saturation) salinity and specific conductance. Water samples were collected and sent to a certified laboratory and were analyzed for total suspended solids (TSS), ammonia as nitrogen, nitrate/nitrite nitrogen, total nitrogen, TKN nitrogen, total phosphorus, chemical oxygen demand (COD) and biochemical oxygen demand (BOD). It is noted the sampling events were conducted shortly after rainfall events resulting in the total nitrogen data being influenced by storm water runoff.

With the exception of the Little River Reservoir sampling station, the four sampling stations are within approximately 0.3 miles apart from one another. See the attached aerial photograph entitled *Figure 1. Sampling stations map*, by Normandeau Associates Inc. and attached to this document.

The Department conducted four sampling events (approximately every three weeks) between June and September 2019 (on alternating ebb and flood tides) at six sampling locations in Belfast Bay and Penobscot Bay ranging from 1.2 miles to 4.3 miles apart to get a larger view of ambient water quality conditions of the bays. The Department collected data via sondes and water quality samples for all the same parameters as Normandeau Associates did in 2018. See the location of the Department's sampling sites in the attached aerial photograph entitled, *Fig 1: Belfast Bay and Penobscot Bay*.

For the Nordic facility proposal, there was no objection from any party at the Board of Environmental Protection (BEP) hearings held from February 11–14, 2020, as to the idea of gathering additional ambient water quality data prior to any discharge from the proposed facility given the limited data sets collected to date. Ambient water quality monitoring before and after a proposed new discharge goes on-line is common in the issuance of MEPDES permits. If a permit were to be granted, ongoing monitoring would enable the Department, permittee and interested parties to better understand the dynamics of the receiving water and verify (or refute) assumptions made in modeling efforts and verify that the proposed discharge will not cause or contribute to a violation of the standards assigned to its classification.