The State of New Hampshire
Department of Environmental Services

Robert R. Scott Commissioner

April 12, 2021

Steven Winnett, Regional Coordinator
EPA New England, Region 1
5 Post Office Square - Suite 100
Boston, MA 02109-3912

Re: Request for consideration on the submittal of a combined 2020/2022 Integrated Report.

Dear Mr. Winnett:

On January 25, 2021, EPA issued a memo and milestone template to states to facilitate timely submission of the 2022 Section 303(d) and 305(b) integrated report by April 1, 2022. Meeting the April 1st deadline will provide EPA with the required 30-day review period, and facilitate nationwide reporting of water quality data, successes, and challenges to the public for the Clean Water Act (CWA) 50th anniversary. The intent of the template was to lay out milestone targets and challenges that might emerge for on-time submittal of the Integrated Report, which includes the 303(d) List. Where a milestone was projected to be particularly challenging or potentially unachievable to support submission by April 1, 2022, states were asked to identify potential actions to address the challenges, which included the option of submitting a combined cycle.

After careful review of our assessment process and key milestones, NHDES has concluded that the only way to guarantee submittal of our integrated report by April 1, 2022 would be to submit a combine 2020/2022 Section 303(d) and 305(b) Integrated Report. NHDES now respectfully requests approval to proceed with submission of the aforementioned combined cycle (see below for specific rational that led to NHDES' decision).

The reasons for this request include the following:

<u>Challenges to meeting the April 1, 2022 deadline:</u>

1. In reviewing material to set milestones for meeting the reporting deadline it was discovered that it typically takes NHDES approximately 12-months from the time the assessments are started to submit the draft 303(d) List to EPA. NHDES is still in the process of working on the 2020 assessments, but if the 2022 assessments were started now (concurrently), NHDES' timeline would be compressed to approximately 9-months. The achievability of this timeframe is dependent on having adequate staff time (i.e. no other major work tasks), the databases to work seamlessly, and no additional modifications needed to the SADB. Past experience has shown that the network resources required to process the volume of data housed in the EMD is enormous and physical resource problems are the norm and not the exception.

2. New Hampshire's Environmental Monitoring Database (EMD) was recently converted from Oracle Forms to Windows Presentation Foundation (WPF) using Entity Framework in Visual Studio.net. This conversion has resulted in several bugs that are hindering the upload of datalogger data. The timeframe for correcting these bugs is not yet known. The assessment process hinges on the ability to have data

uploaded into the EMD by April 2021, and it is currently unknown if that will be achievable. If the EMD is not corrected within the next few weeks, the delay may result in NHDES' inability to meet the deadline.

3. The Supplemental Assessment Database (SADB) that NHDES uses to process its nearly five-million data points currently runs on Oracle 10g and is due to be upgraded to Oracle 12/19c in July 2021, which may impact the assessment process to an unknown extent. Although it is the hope of NHDES that this will not impact the performance of the database, a post-conversion testing period is needed. A previous upgrade/testing period revealed issues resulting in a delay of nearly a month as staff investigated why a particular function was not resulting in correct answers. At a minimum, additional testing time is needed and if issues arise, reconciliation will eat into an already overly tight assessment period.

4. Upgrades to the EMD included some changes to the underlying table structure. Thus far, a test load and build of the SADB from the EMD has not been conducted on this revised table structure. Such a test is required prior to the start of the 2022 assessment cycle, and conducting such a test adds addition time to an already unachievable timeline hindering NHDES' ability to meet the deadline. Full SABD loads and builds typically take a week or more. Given all the aforementioned changes to the basic EMD structure and versions, it is highly likely that more than one test and rebuild cycle will be needed.

5. The Watershed Management Bureau has a single dedicated software developer. While Watershed is able to focus much of his time (all of which is being used right now for the EMD and Pools DB conversion) there are often priorities set by the NHDES in whole for larger enterprise projects which consume some of that developers' time. In addition, our developer is dependent on others in DoIT staff for certain actions. Making the decision to move forward on a new 2022 Assessment will require other DoIT shared resource to accomplish. Also, it was anticipated that for the 2022 Cycle we would archive some of the older data or process the new cycle in a non-production environment to enable the data packages to run more efficiently. These needed steps will require additional developer time above and beyond the normal assessment window.

6. In order for EPA to complete their national reporting for the 50th anniversary of the Clean Water Act, they need all state submittals to go into their online ATTAINS platform. NHDES is currently working with EPA to address issues regarding the upload of data from NHDES' SADB into ATTAINS. The timeframe for getting NHDES' data to be ATTAINS compatible is unknown at this time. Requiring staff to divert attention from this project to the 2022 assessments would hinder data uploads.

<u>Benefits to submitting a combined 2020/2022 assessment:</u>

1. If NHDES were to work on a stand-alone 2022 assessment to meet the deadline, only one additional year of data (2019) would be included from what was evaluated as part of the 2020 assessments for tidal waters. For freshwaters, the only new data would be from 2020 and it is worth noting that, because of COVID issues, we have about 30-70% (lakes–rivers) fewer data points in 2020 than in previous years which limits its value. By doing a combined 2020/2022 cycle, when NHDES reevaluates the data for the 2024 assessments there would be at least 4 years of data (2019-2022/23) to evaluate. This would be much more meaningful in determining changes to water quality in waterbodies.

2. As noted above, a new 2022 assessment would only include one additional year of data from the Great Bay Estuary. Combining the assessment and running a new assessment in 2024 will afford an excellent opportunity for a first look at the success of the Nitrogen General Permit.

3. NHDES currently keeps a running list of necessary changes to make the SADB and overall assessment process run more efficiently. Because of the timing of assessment cycles NHDES is always balancing needs and wants, with respect to what DoIT has the staff time to implement. By submitting a combined 2020/2022 cycle, NHDES and DoIT will have the necessary time needed to fully implement all the changes needed to make that SADB run efficiently prior to starting the 2024 assessments.

4. As discussed previously, the EMD recently underwent a conversion and the SADB will be upgraded to a back end of Oracle 12/19c. By submitting a combined 2020/2022 cycle, NHDES will have the necessary time needed to fully correct any bugs that arise from these upgrades. NHDES will also have adequate time to fully test these databases prior to running the next assessment cycle, which might not be possible if NHDES had to start the 2022 assessments immediately.

5. As discussed earlier, NHDES is working with EPA to import the data from the SADB that can and should be electronically reported to EPA through ATTAINS. By submitting a combined 2020/2022 cycle, NHDES will have the necessary time to fully work through this process and get caught up by uploading NHDES' 2014, 2016 and 2018 assessment data and the 2020/2022 assessment data once finalized and approved by EPA. This would also bring NH's data up to date in EPA's public reporting, How's My Waterway tool, which pulls data from ATTAINS, and is currently shows NH's 2012 assessment data. It's worth noting that the use of the How's My Waterway site is likely to be central to EPA's outreach on water quality for the 50th anniversary.

6. By submitting a combined 2020/2022 cycle, NHDES will have the necessary time needed to complete a 2020/2022 305(b) report, which otherwise may not get done in a timely manner if NHDES had to shift its focus to building a stand-alone 2022 assessment.

Thank you for your consideration of this request. Should you have any questions, please do not hesitate to contact me at (603) 271-3289 or ted.diers@des.nh.gov.

Sincerely,

Ted Diers, Administrator
Watershed Management Bureau

cc (electronically distributed):
EPA -- Ken Moraff, Mel Cote
NHDES – Thomas O'Donovan, Matt Wood, Ken Edwardson