ATTACHMENT E

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NPDES Permit No. NH0100447 2024 Revised Draft Permit Comments

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February 3, 2025

Rob,

Below are my comments on the City of Manchester's 2024 Revised Draft Permit that was reissued on December 18, 2024, with comments due by February 3, 2025. EPA is soliciting comments at this time on any provision of the Draft Permit including the supporting material found in this Statement of Basis for the 2024 Revised Draft Permit as well as the 2024 Fact Sheet supporting the original 2024 Draft Permit. The original Draft Permit was noticed on April 10, 2024.[1]

PFAS and AOF REQUIREMENTS

In Part 1, Footnotes: there are 26 associated footnotes. Footnote 2 Reads*:*
In accordance with 40 CFR § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET).

[1] Underlines are used throughout these comments for emphasis.

The tests for PFAS and adsorbable organic fluorine have not, at the time of the issuance of this Draft Permit, completed the promulgation process. There has been no Final Action on the CWA Methods Update Rule for the Analysis of Contaminants in Effluent.[2] As stated, "Final Action" is "To Be Determined." Until promulgation is final, these two parameters should not be included in any of the footnote references.

In December of 2024, the EPA proposed Method 1633A for promulgation at 40 CFR Part **136.3** (docket number EPA-HQ-OW-2024-0328).[3] EPA states on its website, "[w]hile the method is not nationally required for CWA compliance monitoring until the EPA has promulgated it through rulemaking, the EPA recommends it now for use in individual permits."[4] In the above docket referenced, EPA states, "[o]nce final, the updates . . . [will] improv[e] the consistency of how regulated parameters are analyzed by requiring fully validated methods that have well documented accuracy and precision." Until then, the regulated community does not, and will not, have a methodology that has been fully validated to determine accuracy and precision.

Performing these expensive tests now would not meet the criteria for valid testing, as these methods are still going through review for accuracy and precision criteria. Until this step in the approval process has been completed, the request for PFAS and AOF sampling and analysis using these test methods does not comply with the conditions of the Draft Permit's footnote 2. These requirements should be removed from the Draft Permit.[5]

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[2] View Rule

[3] *Proposed Rule: Clean Water Act Methods Update Rule 22 for the Analysis of Pollutants in Effluent

[4] CWA Analytical Methods for Per- and Polyfluorinated Alkyl Substances (PFAS) | US EPA CWA Analytical Methods for Per- and Polyfluorinated Alkyl Substances (PFAS) | US EPA CWA Analytical Methods for Per- and Polyfluorinated Alkyl Substances (PFAS) | US EPA CWA Analytical Methods for Per- and Polyfluorinated Alkyl Substances (PFAS) | US EPA

[5] Footnotes 13 and 14 would be affected by the above comment. EPA also states in footnote 13: that "*[u]ntil there is an analytical method approved in 40 CFR Part 136 for PFAS, monitoring shall be conducted using Method 1633*." EPA is seeking approval for Method 1633A. Similar language appears in footnote 14:*"[u]ntil there is an analytical method approved in 40 CFR Part 136 for Adsorbable Organic Fluorine, monitoring shall be conducted using Method 1621."*

Additionally, the Adsorbable Organic Fluorine test (Method 1621) is a speculative test for finding sources of PFAS. Several non-PFAS compounds are detectable using the 1621 analysis.[6] According to the EPA:

> "The EPA's Office of Water has published Method 1621, 'Determination of Adsorbable Organic Fluorine (AOF) in Aqueous Matrices by Combustion Ion Chromatography (CIC),' a method to measure the aggregate concentration of organofluorines (molecules with a carbon-fluorine bond) in wastewater. The most common sources of organofluorines are PFAS and non-PFAS fluorinated compounds such as pesticides and pharmaceuticals."
>
> "AOF is a method-defined parameter, meaning that the results of the measurement are dependent on the manner in which the measurement is made . . . . The method tells the user that organofluorines are present but cannot identify which specific organofluorines are present. The strength of the method is that it can broadly screen for thousands of known PFAS compounds at the **part per billion level** in aqueous (water) samples."
>
> "The Office of Water encourages interested parties to review and use . . . [M]ethod [1621], with the understanding that it may undergo revision during a rulemaking process. Method 1621 is **not** nationally required for CWA compliance monitoring until the EPA has promulgated it through rulemaking**."** [7]

Further, this method measures PFAS in micrograms per liter (ug/l), whereas footnote 14 requires measurement in nanograms per liter (ng/l). Therefore, Method 1621 is not compatible with the requirements of the Draft Permit.

[6] Method 1621 Determination of Adsorbable Organic Fluorine (AOF) in Aqueous Matrices by Combustion Ion Chromatography (CIC)

[7] CWA Analytical Methods for Per- and Polyfluorinated Alkyl Substances (PFAS) | US EPA

ADAPTATION PLANNING

Section C.1., Adaptation Planning covers three pages of the Draft Permit with 13 footnotes. In the first Draft Permit Fact Sheet, the EPA outlines its claimed authority to include Adaptation Planning requirements. *See* Appendix C, Item C., Legal Authority.

EPA references a Federal Register document, Vol. 45, No. 98 published on Monday, May 19, 1980. Nowhere does that Register Notice, discuss the prevention of future flooding or include any language to indicate Adaptation Plan requirements. Item 7 on page 33303 of the Federal Register cited here, describes Proper Operation and Maintenance, as requiring a permittee to: "maintain in good working order and operate efficiently all facilities and systems of treatment of control which are installed or used by the permittee to achieve compliance with the terms and conditions of the permit" and includes "effective performance based on designed facility removal, adequate funding, effective management, adequate operator training, staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures." Per this description of O&M, flooding and natural disaster prevention are not a part of Proper Operation and Maintenance.

EPA also cites several EAB cases that have nothing to do with adaptation planning for climate change. First, in the case *In re Avon Custom Mixing Services, Inc*., 17 E.A.D. 700, 709 (EAB 2002),[8] EPA attempts to extend this EAB decision recognizing the Agency's authority to include monitoring requirements in NPDES permits, to provide authority to EPA to also require adaptation planning. But this case does not concern adaptation planning and EPA misunderstands its scope. This same situation is evident in the cited *City of Moscow*[9] EAB decision. Again, there is no reference in this case to adaptation planning. The EPA uses these references to demonstrate an inherent connection where none exists.

[8] E:\apps\pager\work\subs\v10-4c.txt
[9] Final Permit, City of Moscow in Idaho #ID0021491

In footnote 30, EPA argues Congress intended to include adaptation measures in the scope of the CWA under section 223, added via the Infrastructure Investment and Jobs Act. Section 223 creates a grant program to support POTWs *"at risk of being significantly impaired or damaged by a natural hazard."* Plainly, section 223 is a grant program, and does not extend to authority to require adaptation planning in NPDES permits. NPDES permits issued since the inception of the CWA in 1972 made clear that operation and maintenance are for the plant and all processes under its control for the effective treatment of wastewater. There was never an expectation previously, as in the new Draft Permit, that a WWTP would mitigate and offset the impacts of natural disasters, hurricanes, and floods.

The Supreme Court in the case of Loper Bright Enterprises vs. Raimondo overturned the longstanding Chevron USA vs. the Natural Resources Defense Council, under which regulatory agencies were given deference when determining the meaning of a statute when the wording was unclear, ambiguous, or nonexistent. CWA Section 223 only creates a grant program and does not authorize any NPDES requirements. The *Chevron* decision was overturned to prevent this exact type of overreach by EPA arguing this program now applies lawfully to every NPDES Permit holder.

Furthermore, implementation of the Adaptation Plan is infeasible. There are several models, monitoring stations, and planning that need to be completed by the USGS, USACE, and the NHDES Dam Control Bureau before the implementation of the adaptation plans produces reliable and cost-effective impacts on flood control. Additionally, before any adaptation plan can be accepted and implemented a look back at the historic flooding in NH should be performed by EPA.

Section 402 of the Clean Water Act (b)(1)(B) also requires the issuance of permits that *"are for fixed terms not exceeding five years;"* This requirement is outlined in the State designated programs also as indicated in Section 402 (a)(1)(B)(3). "*EPA shall be subject to the same terms, conditions, and requirements as apply to a State permit program and permits issued thereunder under subsection (b) of this section."* The administrative attempt in this Draft Permit is to set conditions that go well beyond the five-year permit period.

Due to the above reasons, the City of Manchester respectfully requests the adaptation planning requirements be removed.

BENTHIC SURVEY

Footnote 23 of the limitations table states the following:

> *During the third calendar quarter (i.e., July through September) that begins at least 12 months after the effective date of the permit, a benthic survey shall be conducted once per permit term to assess impacts from the discharge on aquatic life in the benthic environment. See Part I.G.5 for more details.*

The EPA, Region 1, produced a document titled, 'Merrimack River, Watershed Protection Initiative in November of 1987.[10] The document was produced with the input of NHDES and MassDEP. The introduction described that the Merrimack River was once one of the 10 most polluted rivers in the nation. *"In 1965, rafts of decomposing material floated along the Contoocook River (a major tributary); very little benthic fauna and no pollution-sensitive species were found along portions of the river near Concord."* Page 8. The report goes on to say that the Merrimack's pollution was caused by sewage, tannery and textile wastes, industrial wastes, and tannery sludges. However, *"[t]oday, two decades and a half of billion dollars in federal and state expenditures later, the Merrimack provides drinking water to well over a quarter of a million people and serves as an unparallelled resource for the region." "One of the nation's 10 most polluted in the 1960s, the river now fully or partially meets fishable/swimmable standards in 94.3% in its New Hampshire miles."* The report further states, *"[t]he river has exhibited marked improvements in physical appearance as well as biological and chemical makeup. For example, these significant reductions in the input of pollutants have resulted in the reduction of sewage-laden sediments by re-established benthic fauna."*

Table I-1 on page 32 lists 24 major industries that contribute flow to the Merrimack or tributaries to the Merrimack River. The list of pollutants follows and includes BOD, chromium, ethylene dibromide, fluorides, ammonia, oil and grease, phosphorus, perchloroethylene,

[10] Document Display | NEPIS | US EPA

trichloroethylene, settleable solids, total suspended solids, total toxic organics, and a metal listing of cadmium, nickel, aluminum, lead, iron, tin, zinc, silver, copper, and cyanide. This is quite a list of likely legacy pollution with the likelihood that these pollutants are still retained in the upper sediment layers of the riverbed.

Page 40 begins a narrative on the 'Present Situation' at the time of the writing of the document. There is a listing of all the ways the Merrimack can continue to be contaminated, spills, urban runoff, transport accidents of tankers that are near or cross the river, contaminated groundwater, agriculture (farms), underground storage tanks, industrial landfills, hazardous waste sites, and road salts, all of which are unassociated with wastewater treatment facility operations.

Manchester believes that should the EPA demonstrate that the WWTP, through its NPDES Permit, has violated its permit in such a way that could cause adverse impacts on the benthic environment before requiring a benthic survey. Otherwise, there is no reason to believe the benthic environment in the Merrimack River has worsened in the 38 years since the writing of the 1987 report.

The City of Manchester respectfully requests to have the Benthic Survey requirements removed from the permit.

Section G, Special Conditions

In Section 4. Toxicity Violation Procedures, a. Accelerated Testing Procedures, there is a requirement for a WET retest at 14 days and at 28 days of a WET test failure, death of fish or shellfish in the vicinity of the outfall, or an oily sheen noted on the surface of the water in the vicinity of the outfall.

A WET test failure may indicate toxicity in the influent of the wastewater treatment plant, or it very well may result from upstream operational impacts of the Hooksett, Concord, and Franklin treatment plants, or some other source. The presumption that the failure is being caused by

the City's WWTP effluent is unsupported. If there was an observable violation around the outfall, an operator could inspect the effluent by taking a sample from the effluent tap at the main building. The operator could test the effluent for pH, D.O., and Cl_2 residual and even do a microscopic evaluation of the effluent discharge and MLSS blanket in the secondary clarifiers. If there is sufficient microbiological life, then there is no indication that the plant process is toxic. This with a test for residual chlorine in the effluent and the dissolved oxygen going to the outfall would be all that is needed to determine if it was any type of causal plant toxicity that killed the fish. These three measures would be more than logical to prove effluent toxicity without the need to spend $3,600 on another WET test and possibly another $3,600 after that. Manchester requests that the second bullet be stricken from the final permit and language to review effluent micro-life, and check effluent residual chlorine, pH and D.O. is more expedient and of no actual cost to the WWTP with results within an hour of the event rather than a month later.

The third bullet calls for a toxicity test if there is an oily sheen on the surface of the water in the vicinity of the outfall. Again, an examination of the plant effluent would easily determine if the cause of the oily sheen is coming from the WWTP. These actions are immediate and visually verifiable rather than the long waiting period between costly toxicity testing. The proposed action is a poor allocation of $3,600 from plant resources. Additionally, if the WWTP investigation demonstrates oily sheen in the effluent then the NHDES oil spill bureau would be immediately called for their assistance. For this reason, Manchester also requests that the third bullet also be stricken from the final permit.

ALUMINUM

In Appendix B, Reasonable Potential and Limits Calculations the EPA calculated the 95th percentile and the background concentration from WET test data taken between December of 2018 and September of 2023. The resultant calculation relied upon the following data for aluminum:

TABLE 1 – EPA NPDES Al Data Used for Reasonable Potential Calculation

Date	Effluent	Ambient
Dec-18	43	160
Mar-19	68	120
Jun-19	42	210
Sep-19	44	300
Dec-19	42	0
Mar-20	26	61
Jun-20	28	96
Sep-20	69	34
Dec-20	52	270
Mar-21	53	62
Jun-21	45	120
Sep-21	59	300
Dec-21	30	63
Mar-22	59	240
Jun-22	42	110
Sep-22	77	31
Dec-22	36	370
Mar-23	240	150
Jun-23	260	370
Sep-23	54	140

The upstream 7Q10 is 436 MGD in the table. The upstream median concentration is 130 ug/l. The plant design flow is 34 MGD. The acute and chronic values for the plant effluent were listed as 132.5 ug/l. Combined Q_d was 470 MGD. The calculated C_d was 130.2 for both acute and chronic criteria.

The allowable acute concentration with the 10% NH safety factor is 912.2 ug/l. The chronic concentration with the 10% safety factor is 105.8 ug/l. Cd does not exceed the acute value but

does exceed the chronic value of 105.8 by 24.4 ug/l, hence the proposed NPDES permit limit of 118 ug/l.

A clean sampling program was performed for Manchester, Hooksett (upstream), and Derry (downstream) over the course of the summer of 2024. The ambient river results are listed in the table below.

TABLE 2 – Manchester, Hooksett, Derry 'Clean Sample' Al concentrations

DATE	River Flow	Manchester	Hooksett	Derry
6/25/2024	5,070	47	45	51
6/27/2024	2,670	56	49	43
7/2/2024	2,720	93	61	51
7/18/2024	1,590	26	27	24
8/21/2024	2,450	93	86	84
8/23/2024	2,780	71	63	70
9/6/2024	1,530	46	40	37
c9/11/2024	1,150	26	30	27
10/4/2024	620	22	74	25
10/11/2024	970	24	32	28
Median		**46.5**	**47**	**40**

The cells are shaded lowest concentration (peach), middle concentration (straw), and highest concentration (powder blue) to determine trends. Hooksett samples were immediately upstream from their outfall (about 11 miles upstream from Manchester's 001 outfall). Manchester samples were taken at the Fisher Cat Stadium boat ramp (about 1.5 miles upstream of Manchester's 001 outfall), and the Derry samples were taken from a small beach area (about four miles downstream of Manchester's 001 outfall) about ½ mile below the Roger Wizorek bridge (new airport cutoff bridge).

The samples were all very close to each other except for the 7/2 sample (Manchester was a 1/3 higher than the other two samples and the 10/4 sample where Hooksett was three times higher than the other two samples). Employees were trained during most of the sampling events, which could explain the variations. However, when the measurements are below 100 ug/l multiple factors could contribute to contamination of the sample collected. The duplicates indicated that the samples were all collected uniformly.

The highest flow was on 6/25 at 5,070 cfs and the lowest flow was on 10/4 at 620 cfs. As all flows were below 7,000 cfs it is not believed that scouring of the riverbed contributed to any of the measured contamination in all samples. The table including EPA's WET test data and the latest Manchester Ambient data would be as follows.

TABLE 3 – Aluminum 'Clean Sample' Summer of 2024 Concentrations

Date	Ambient WET ug/l
Dec-18	160
Mar-19	120
Jun-19	210
Sep-19	300
Dec-19	0
Mar-20	61
Jun-20	96
Sep-20	34
Dec-20	270
Mar-21	62
Jun-21	120
Sep-21	300
Dec-21	63
Mar-22	240
Jun-22	110
Sep-22	31
Dec-22	370
Mar-23	150
Jun-23	370
Sep-23	140
6/25/2024	47
6/27/2024	56
7/2/2024	93
7/18/2024	26
8/21/2024	93
8/23/2024	71
9/6/2024	46
9/11/2024	26
10/4/2024	22
10/11/2024	24
Median	**93**

The median upstream value is 93 ug/l when the 'Clean Sample' ambient test data is included with the EPA data. According to the Dilution Factor the available dilution in the Merrimack

River is 674.5 cfs (436 mgd). The WWTP design flow is 34 mgd. The formula for calculating reasonable potential is (Cs X Qs) + (Ce X Qe) / Qd.

132.5 ug/l	Ce = Effluent Concentration 95th Percentile
34 MGD	Qe = Avg Design Q for Chronic: Peak Q Acute
93 ug/l	Cs = Median Concentration in Merrimack River upstream
436 MGD	Qs = 7Q10 Stream flow Merrimack River
95.9 ug/l	Cd = downstream concentration
470 MGD.	Qd = Downstream flow (Qs + Qe)

(93 X 436) + (132.5 X 34) / 470 = 40,548 + 4,505 / 470 = 45,053 / 470 = **95.9 ug/l** is the final downstream concentration including Manchester's effluent value of 132.5 ug/l. This value is below the 105.8 ug/l chronic criteria and would not trigger a 'Reasonable Potential' value.

Effluent aluminum samples had not been collected via 'Clean Methods' during most of the WET tests conducted between December of 2018 and September of 2023. The same sampling criteria were used for standard plant sampling. The sampling hose was not changed out, the strainer had a metal stainless weight at the end, algae was allowed to collect on the strainer, the pump hosing was not changed out and the 5-gallon carboy was used time and again without a consistent interior cleaning. During the summer sampling event, the staff was instructed in the proper way to set up the sample collection apparatus for the cleanest samples possible.

Clean sampling for effluent discharge can be accomplished in four easy steps. These include a clean bag insert in the composite carboy to avoid the addition of sloughings and organic matter that clings to the side of the carboy from previous composite samples. Use a new or ultra-clean sampling hose to take samples from the effluent channel and ensure the strainer is free of algae. Clean the thicker pumping tubing to pump the from the effluent channel into the bagged carboy. Use a metal-free strainer to avoid particulate pieces of stainless steel being drawn up into the sampling tube from the strainer rubbing against the concrete tankage.

Figure 1 Bag insert

Figure 2 Dirty vs Clean hose

Figure 3 Clean pump tubing

Figure 4 non-metallic strainer

The NHDES proposed a change to the aluminum criteria in the State's adopted CALM. The initial proposal was to use regression curves from DOC, pH, Hardness, and river/stream discharge cfs at the time of sampling. Comments were made and the NHDES again asked for comments removing the DOC, pH, and Hardness values from the calculation while only keeping the river/stream discharge values. The premise was to collect 24 samples, including analysis for DOC, pH, and Total Hardness, and run these values through the aluminum calculator. The below table has the clean sample data from the summer sampling event for Manchester as run through the aluminum calculator.

TABLE 3 – Aluminum Calculator with 5th percentile, 10th percentile and 50th percentile values

Tot Al ug/l	Date	DOC (mg/L)	Total Hardness (mg/L as $CaCO_3$)	pH		FAV	CMC	CCC
47	6/25/2024	3	16	7.3	7542.874	2,517	**1,300**	**550**
56	6/27/2024	3.1	16	7.4	7542.874	2,831	**1,400**	**620**
93	7/2/2024	4.3	15	7.42	7542.874	3,242	**1,600**	**670**
26	7/18/2024	3.7	15	7.48	7542.874	3,243	**1,600**	**700**
93	8/21/2024	5.5	14	7	7542.874	2,278	**1,100**	**470**
71	8/23/2024	5.2	14	7.68	7542.874	4,366	**2,200**	**910**
46	9/6/2024	3.6	15	7.1	7542.874	2,148	**1,100**	**460**
26	9/11/2024	3.3	17	7.3	7542.874	2,662	**1,300**	**570**
22	10/4/2024	2.8	19	7.3	7542.874	2,559	**1,300**	**550**
24	10/11/2024	3.1	19	7.4	7542.874	2,952	**1,500**	**630**
							5th	**464.5**
							10th	**469**
							50th	**595**

The NHDES has proposed a 50th percentile of the flow and the calculated CCC in instances where there is a significant relationship ($p<0.05$) with the data sets. A 10th percentile if there is not a significant relationship and a 5th percentile if there are endangered species around the discharge outfall. Taking the lowest 5th percentile from Table 3 above, the value is 464.5 ug/l. This is much higher than the current value of 118 ug/l.

Due to this new information, Manchester would respectfully request that the limit of 118 ug/l be removed from the final permit. The final permit value can be determined once the NHDES approves their version of the Aluminum Calculator in their proposed CALM.

Ammonia

In the table of permit limitations, EPA has indicated an Ammonia limit of 10.4 mg/l from May 1st through October 31st. The 'Reasonable Potential' calculation has a 95th percentile limit of 0.17 mg/l for the plant effluent and an upstream concentration of 21.8 mg/l. The final acute and chronic values downstream would be 1.74 mg/l. The water quality value of 0.91 mg/l (10% NHDES safety applied) means there is reasonable potential. The permit value was calculated at 10.4 mg/l from the concentration values.

The amount of ammonia that must be removed is 11.4 mg/l from the stated value of 21.8 mg/l. The design capacity of the WWTP is 34 mgd. The daily removal of ammonia required is 11.4 x 34 x 8.34 or 3,233 pounds of ammonia/day. Multiply this by 184 days of required compliance from May 1st through October 31st and you have 594,872 lbs. of ammonia.

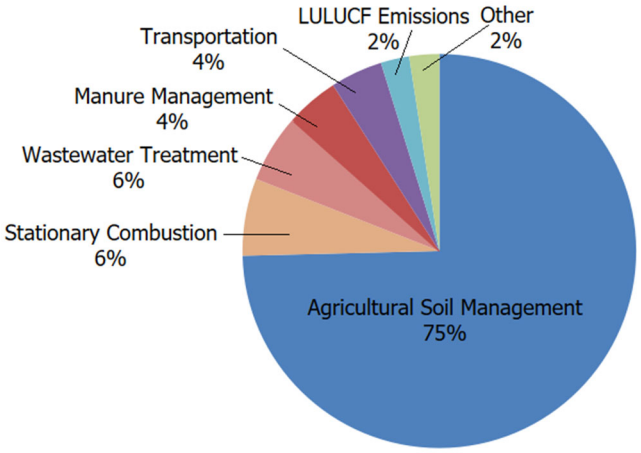

Figure 5 EPA Chart of LULUCF Emissions

The EPA website[11] states that 40% of nitrous oxide comes from human sources and that one pound of nitrous oxide (N_2O) is equivalent to 265 pounds of carbon dioxide (CO^2). In the chart, 6% comes from wastewater treatment. The Intergovernmental Panel on Climate Change (IPCC)[12] states that one pound of N_2O equates to 300 lbs of CO_2. Each agency indicates there is not a great method of estimating N_2O discharges from wastewater treatment. The IPCC does state the following, *"N_2O emission from wastewater handling is estimated to contribute 26% to the total greenhouse gas emission (CO_2, CH_4 , and N_2O) of the water chain, being the sum of drinking water production, water transport, wastewater, and sludge treatment and discharge." (Frijns et al., 2008).*

Ammonia is removed during the treatment process by first nitrification and then denitrification. During nitrification, ammonia is converted to nitrite or nitrate. These intermediate byproducts are converted to dinitrogen gas during denitrification. N2O can be produced in either the nitrification or denitrification stages and can be exacerbated by low D.O. or low COD/N ratios (Manchester has low COD in the influent due to I/I and at times there is not enough COD to produce the volatile fatty acids needed for permitted phosphorus removal).

[11] Nitrous Oxide Emissions | US EPA
[12] Nitrous oxide emission during wastewater treatment - ScienceDirect

Literature values indicate that a pound of ammonia can produce an estimated 0.08 pounds of N_2O. At this conversion value, there would be a total of 47,590 pounds of N2O per seasonal ammonia removal. That is 23.8 tons of N2O emitted into the atmosphere. At the EPA equivalent value of 265:1, that is 6,307 tons of CO_2 discharged annually due to ammonia treatment. By IPCC standards of 300:1 that would be 7,140 tons of equivalent CO_2 discharged annually.

Adaptation Planning is focused on climate change and its impacts. The USCAE/CDM study of the Merrimack River from 2005 through 2012 in three separate phases indicated there were no observable problems on the Merrimack River due to any locations of elevated nitrogen or phosphorus. Matter is neither created nor destroyed but only changes form. Ammonia is a great example as it converts to N_2O and CO_2 equivalence in the thousands of tons.

There needs to be a review of the damage contributed to the climate change conditions and the real benefits of removing 11.8 mg/l of ammonia from the wastewater discharge. It has been 13 years since the finalization of the USCAE/CDM report and the river has not shown any evidence of additional impacts from the continued discharge of ammonia. The EPA cites a mountain of evidence of climate change catastrophes in NH and VT in Appendix C, Rational for Adaptation Planning. This is the chance to find the balance between the pollution caused by different wastewater treatment activities rather than shift the pollution from the discharge of ammonia (which the plant will need to spend several million dollars to achieve) to the atmosphere in the form of thousands of tons of equivalent CO_2 greenhouse gas pollutants. The result is that 15 to 20 years down the road the EPA will be mandating the capture and treatment of methane from the phosphorus removal process and N_2O from the nitrification/denitrification process costing the plant several more million dollars when a balance is available today to seek the road of less environmental damage by true evaluation of the cause and effect of unnecessary wastewater treatment.

Manchester requests that the evaluation of ammonia removal impacts be weighed against the greenhouse gases impacts and present a reasonable synopsis to the City of Manchester of the

pros and cons of implementation and sound reasoning to go forth with ammonia treatment at the expense of climate change.

END OF COMMENTS