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U.S. Environmental Protection Agency
Office of Water, Office of Wastewater Management (4203M)
1200 Pennsylvania Avenue NW, Washington, DC 20460
Docket # EPA-HQ-OW-2019-0372

Via https://www.regulations.gov/

This comment letter is submitted in response to the United States Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System Proposed Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity. The comment letter is submitted on behalf of the Center for Biological Diversity, Center for Progressive Reform, Chesapeake Bay Foundation, Chesapeake Legal Alliance, Conservation Law Foundation, Environmental Integrity Project, San Francisco Baykeeper, Waterkeeper Alliance, and 95 additional public interest organizations and individuals.

Commenters recognize that the EPA's proposed renewal permit includes reforms that will result in improved protections for water quality, wildlife, and human health. However, there are proposals in the draft permit, which are not supported by the law or science, that will undo or significantly weaken public safeguards. In some instances, EPA rejects the recommendations of the National Academies of Sciences, Engineering, and Medicine without providing sufficient technical and legal justification. Lastly, there are a number of omissions or other areas where EPA has failed to adopt or modify aspects of the permit that are necessary to address ongoing harm to waterways, the environment, and human health.

1. *EPA Should Adopt its Proposal to Expand the Eligibility Criterion for Applicants that Discharge Stormwater to CERCLA Sites to All EPA Regions, with Certain Revisions.*

EPA rightfully acknowledges that by expanding the eligibility criterion for dischargers to CERCLA sites, the 2020 MSGP will be significantly more protective of water quality, of the efforts to remediate CERCLA sites, and of environmental quality and human health nationwide. In its Fact Sheet, EPA clearly illustrates the need for and benefit of expanding the eligibility criterion to all EPA Regions.[1] For example, EPA states that 12 facilities in Region 10 are currently subject to the CERCLA eligibility criterion under the 2015 permit, and the Agency estimates that there may be 103 total facilities subject to the eligibility criterion, should it be expanded to all EPA Regions as proposed. EPA also cites known examples of discharges of industrial stormwater that have contributed to downstream recontamination of CERCLA sites and water quality.

Run-on from industrial stormwater dischargers to CERCLA sites has the potential to cause downstream impairments and is particularly concerning given the type of hazardous substances regulated under CERCLA that have the potential for serious harm to the environment and human health.[2] The eligibility criterion also fairly serves the interests of CERCLA responsible parties and other stakeholders. This includes taxpayers who support CERCLA remediation and members of the public, especially those populations and communities that live or work near affected CERCLA sites or use impacted aquatic resources.

As proposed by EPA, the operators of facilities that discharge to CERCLA sites should be required to provide advanced notice to the Agency of a minimum of 30 days before submission of NOI applications for permit coverage.[3] EPA should also provide public notice and comment on advanced notifications by prospective applicants during this time period. Advanced notice to EPA and public notice and comment will serve the interests of all parties - permit applicants, EPA, and the public. Advanced notice will allow EPA to undertake an investigation and evaluation of the impact of the discharger on downstream CERCLA sites and provide a determination for the controls that must be implemented before permit coverage will be granted. This will potentially shorten the time between when an application is submitted and coverage is granted.

Comments from the public and other stakeholders such as local governments, especially those with, local and/or specialized knowledge about CERCLA sites, stormwater, and downstream water quality and public use, for example, will also support the Agency's evaluation and determination on eligibility. The advanced notice requirement also provides an incentive to operators who know or suspect the possibility

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[1] U.S. Envtl. Prot. Agency. United States Environmental Protection Agency National Pollutant Discharge Elimination System Proposed Multi-Sector General Permit Fact Sheet for Stormwater Discharges Associated with Industrial Activity (2020) at 17-20 (hereinafter "Fact Sheet").
[2] *Id.* at 19.
[3] U.S. Envtl. Prot. Agency. United States Environmental Protection Agency National Pollutant Discharge Elimination System Proposed Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (2020) at 4, Part 1.1.7 (hereinafter "Draft Permit").

of downstream impacts to CERCLA sites to evaluate the necessary controls and measures and then determine whether general permit or individual permit coverage is appropriate given their particular circumstances, well in advance of developing a permit application.

EPA rightly acknowledges that stormwater general permits, as designed, may not be sufficient instruments for regulating the potential impact of discharges on downstream sediment recontamination at CERCLA sites.[4] EPA and applicants should absolutely have the flexibility to select individual NPDES permits where the design of the general permit cannot ensure downstream recontamination of CERCLA sites and compliance with applicable water quality standards.[5]

EPA should also revise Part 1.1.7 of the Draft Permit to require prospective applicants to collect and submit data on the magnitude of stormwater discharged from facilities and the concentration of sediment in discharges as a component of the proposed advanced notice to the Agency before an NOI application for coverage is submitted. EPA should also exercise its discretion to request additional data from applicants during the pre-application phase for other contaminants specific to the CERCLA site and those associated with dischargers' applicable sector(s). This data will support the Agency's evaluation and determination of whether the discharge has the potential to contribute to mobilization of contaminated sediments in CERCLA sites (i.e. the magnitude of stormwater discharged) and whether the discharged sediment have the potential to contribute to additional mobilization and transport of CERCLA site contaminants as well.

Lastly, EPA should require all applicants that do not provide advanced notice for the CERCLA eligibility criterion to include both an affirmative statement that their discharges comply with the eligibility criterion and the information and analysis they relied upon to make that determination in their NOI applications for permit coverage. The information and analysis relied upon by applicants will allow EPA to identify any potential gaps in the applicants' self-evaluation, including relevant data and analysis, and to address those gaps before permit coverage is granted. The certification requirement will also incentivize applicants to conduct thorough and rigorous reviews of the potential downstream impacts of their discharges on CERCLA sites before developing an application for permit coverage.

[4] Fact Sheet at 18.
[5] *Id.* at 19.

2. *EPA Should Adopt its Proposal to Include an Eligibility Criterion Related to Application of Coal-tar Sealcoats to Paved Areas Where Industrial Activities are Located.*

Commenters strongly support EPA's proposal to include an eligibility criterion related to the application of coal-tar sealcoat to paved areas where industrial activities are located. EPA's fact sheet supporting the draft permit clearly summarizes the toxicological information on Polycyclic Aromatic Hydrocarbons (hereinafter "PAH"), lab-based research on the biological impacts of PAH contaminated sediment on aquatic organisms, and field research and modeling that show that coal tar sealcoat is a significant source of PAHs into the nearby environment, and that stormwater runoff is a pathway through which organisms and habitats are exposed to PAH contamination from coal tar sealcoat. All of EPA's conclusions about coal tar sealcoat are well supported in the scientific literature.

In addition to the many studies cited by EPA in its references section, additional support for EPA's conclusion that coal tar sealcoat is a significant contributor of PAHs to waterbodies in the United States is found in the two studies attached to this comment letter, one based on sampling conducted in Minnesota and one based on sampling conducted in Springfield, Missouri.[6]

EPA has also requested comment about alternative control measures that would allow continued application of coal tar sealcoat instead of an eligibility restriction. Commenters believe that alternative controls are unlikely to be feasible. Commenters agree with EPA's conclusion that data from studies conducted in Austin, Texas and other locations show that substituting similarly priced, low-PAH alternatives in place of coal tar sealcoats is effective at reducing PAH loadings from paved surfaces.

Substitution away from coal tar sealant is both simple and extremely cost-effective because there are widely available and similarly priced substitute sealants that contain orders of magnitude fewer PAHs. Also, as EPA notes, there are alternative paving methods that don't require a sealant at all. In light of the effectiveness, simplicity, and low cost of just not using coal tar-based products, Commenters believe EPA is unlikely to find alternative stormwater control measures it can include under the MSGP that are equally attractive – i.e., equally effective, simple for permittees to implement, and cost-beneficial.

Commenters also reiterate that EPA's suggestion to restrict use of coal tar sealants is cost-beneficial and economically sensible because the costs of restricting use of coal tar sealants is marginal to society. Although some companies and organizations in the

[6] Pavlowsky RT, Baseline Study of PAH Sources and Concentrations in Pond and Stream Sediments, Springfield, Missouri (Oct. 30, 2012), The Ozarks Environmental and Water Resources Institute (OEWRI) Missouri State University (MSU) (attached); Crane JL, Grosenheider K, and CB Wilson, Contamination of Stormwater Pond Sediments by Polycyclic Aromatic Hydrocarbons (PAHs) in Minnesota: The Role of Coal Tar-based Sealcoat Products as a Source of PAHs (March, 2010), Minnesota Pollution Control Agency (attached).

sealant industry protest all restrictions on coal tar sealants, experience with bans in different parts of the country has shown that restrictions on coal tar sealant use are practical and not economically harmful to paving companies. For example, after Minnesota banned coal tar sealants in 2015, dozens of companies in Minnesota abandoned use of these sealants with relatively little expense. Paving and sealing contractors have no capital costs associated with the change - their existing equipment works as well with asphalt based or other kinds of sealants as it does with coal tar. Suppliers/wholesalers typically stock both coal tar sealants and alternatives - switching from one to the other is not a problem, just a matter of running down inventory and not reordering. Almost all pavement sealant manufacturers make both coal tar sealants and alternatives - companies such as SealMaster, JetBlack, Neyra, GemSeal, Vance, Brewer, STAR and other smaller manufacturers of sealants all make both coal tar and asphalt-based product lines. In short, the costs side of the cost-benefit balancing is very small. A ban on coal tar sealants does not deprive the economy of pavement sealants and does not impose high costs (or almost any costs) on the sealant industry.

Commenters make two suggestions that we believe would enhance the MSGP's handling of PAHs from sealed surfaces:

1. Expand the eligibility criterion to apply to all high-PAH sealcoats, in recognition of the recent emergence of a new class of high-PAH sealcoats made with substances such as ethylene cracker residue or "ECR" (also referred to as steam-cracked asphalt).

2. Provide a definition of the affected sealcoats that enables permittees to more easily identify products that cannot be used during the permit term.

First, Commenters suggest that EPA transition from focusing exclusively on coal tar sealcoats to cover all high PAH sealcoats. Information to support this transition is readily obtainable from Washington D.C.'s Department of Energy and Environment (the comparison is relevant since EPA's MSGP is issued in and applies to dischargers located within D.C.). The District banned the use of coal tar sealcoat in 2009. In 2018, in light of new information, chiefly the results of field tests that showed parking lots coated with an ECR-based sealcoat product contained high levels of PAHs, the District extended its ban to all high PAH sealcoats, including those made with ethylene cracker residue. Washington D.C. revised its rules to set a content restriction – only sealants containing less than 0.1% PAHs by weight can be used. A presentation prepared by Washington DOEE staff on this topic is attached, and further information is available from DOEE and from sources listed in that presentation.[7]

The District of Columbia has provided convenient definitions of banned sealcoat products. See, e.g. https://doee.dc.gov/coaltar. A copy of DEC's 2019 amendments to

[7] Lillian Power and Zachary Rybarczyk, Challenges and Proposed Solutions to the District's Coal Tar Pavement Sealant Ban, Department of Energy and Environment, Washington, District of Columbia (attached).

its coal tar regulation are attached to this Comment.[8] Under that city's laws, the term "high PAH sealant product" means a material that:

(1) Contains:
   A. Coal tar;
   B. Coal tar pitch, coal tar pitch volatiles, RT-12, refined tar, or a variation of those substances assigned the chemical abstracts services ("CAS") number 65996-92-1, 65996-89-6, or 8007-45-2;
   C. A surface-applied product containing steam-cracked petroleum residues, steam-cracked asphalt, pyrolysis fuel oil, heavy fuel oil, ethylene tar, ethylene cracker residue, or a variation of those substances assigned the CAS number 64742-90-1 or 69013-21-4; or
   D. Substances containing more than 0.1% (1000ppm) polycyclic aromatic hydrocarbons, by weight; and

(2) Is used, or is intended for use, on an impermeable surface, including bricks, block, metal, roofing material, asphalt, or concrete.

The definitions used by D.C. could enhance EPA's permit, providing more clarity to permittees.

[8] Limitations on Products Containing Polycyclic Aromatic Hydrocarbons Amendment Act of 2018, D.C. Act 22-628, Council of the District of Columbia (2019) (attached).

3. EPA Must Strengthen and Revise Eligibility Criteria Related to Endangered Species Act Reviews.

EPA's proposed Appendix E – Procedures Relating to Endangered Species Protection – is insufficient to protect threatened and endangered species and their proposed or designated critical habitat from industrial stormwater pollution. Too much is left to the discharger's discretion. Criterion C in particular delegates duties of the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (NMFS) (the "Services") under the Endangered Species Act to the discharger with no guaranteed oversight or accountability to ensure that eligibility is appropriately determined or that required controls and other measures to reduce impacts support a "not likely to adversely affect" determination. EPA received approximately twice as many Form Cs as expected according to the Biological Opinion issued by NMFS on the 2015 MSGP, which highlights the need to confirm that these determinations are correct and eligibility is warranted and maintained through the life of the MSGP.[9]

We request the following changes to ensure eligibility is based on the best available science and accurately determined:

1. The Service(s) must affirmatively review and confirm eligibility under the selected eligibility criterion in all cases.

2. The NOIs and confirmations issued by the Service(s) must be made publicly available on EPA and the Service(s) websites with notice of availability published in the Federal Register.

3. EPA and the Services should jointly commit to auditing some proportion of Form A-C facilities to verify the correctness of eligibility determinations and the implementation of measures that formed the basis for eligibility for coverage under the MSGP. The results of the joint compliance study must be made publicly available with notice of availability published in the Federal Register.

[9] "Based on data from the 2008 MSGP, out of the approximate 2,365 facilities expected to seek coverage under the new MSGP, only approximately 400 of those facilities are expected to fall under the Part 1.1.4.5 eligibility criterion C in the new proposed permit." National Marine Fisheries Service. Biological Opinion on EPA Multi-Sector General Permit for Industrial Stormwater Discharges Pursuant to the National Pollution Elimination System, (2015) at 190. Office of Protected Resources, National Marine Fisheries Service, National Oceanic and Atmospheric Administration. U.S. Department of Commerce, FPR-2014-9094, https://doi.org/10.7289/V5D798G7.

4. Biological Opinions Pursuant to Section 7 of the Endangered Species Act Must Also Address the Issues Raised Above in Section 3 of this Comment.

The concerns raised in this letter must also be addressed in the U.S. Fish and Wildlife Service and the National Marine Fisheries Service's forthcoming Biological Opinions pursuant to Section 7 of the Endangered Species Act.

5. EPA Should Adopt its Proposal to Establish a 60-Day Authorization Wait Period for Operators Not Previously Covered by the MSGP and are the Subject of a Pending Enforcement Action Related to Stormwater.

EPA should adopt the proposal to establish a discharge authorization wait period of 60 days for operators that have not previously obtained coverage under the MSGP and are the subject of a pending enforcement action, because the extended authorization wait period will protect water quality while serving the interests of other permittees, EPA and the public. The lengthened wait period before authorization will contribute to efforts that prevent dischargers from obtaining coverage as a shield from enforcement of prior and/or continuing Clean Water Act violations. EPA will benefit from the 60-day authorization period because the comparatively longer period will support the Agency's efforts to conduct a sufficient evaluation of the application for permit coverage while also investigating and resolving violations of the Clean Water Act, and coordinating, as appropriate, between these two activities. Eliminating the opportunity for what amounts to, in part, an unfair business advantage will also benefit the far greater proportion of dischargers who seek to obtain coverage on a timely basis and comply with the requirements of the MSGP and Clean Water Act. Lastly, the extended 60-day period will provide other agencies and citizens with sufficient time to review and comment on the NOI submitted under the circumstances.

6. *EPA Must Either Adopt Revisions to the MSGP or Separately Undertake a Regulatory Action to Address Discharges from Nonindustrial Facilities with Activities Similar to Those Currently Covered by the MSGP, in Accordance with the Recommendations of the National Academies of Sciences.*

The NAS recommended that EPA extend MSGP classification to "nonindustrial facilities with activities similar to those currently covered."[10] EPA does not disagree with the substance of the NAS recommendation. Indeed, "EPA recognizes the benefits of the recommendation."[11] Instead, EPA's main reason for declining to adopt the NAS recommendation is that doing so would require a separate regulatory action.[12] If this is true, then EPA should initiate a formal rulemaking to modify the definition of industrial stormwater.

EPA also refers to Sector AD of the MSGP, implying that sector AD is adequate to deal with the issues raised by the NAS. Sector AD – "Stormwater Discharges Designated by the Director as Requiring Permits" – plays an important role in the industrial stormwater permitting scheme, and indeed EPA has previously determined that there is a huge universe of facilities and activities that fall outside of the regular MSGP sectors, many of which could be subject Sector AD.[13]

However, the examples cited by the NAS – "school bus transportation facilities and fuel storage and fueling facilities" – are not necessarily the kinds of facilities to which section 122.26(a)(9)(i) applies. Section 122.26(a)(9)(i) applies to small MS4s, small construction activity, dischargers subject to a TMDL, dischargers that are known to be contributing to water quality standard violations, or otherwise "significant" dischargers.[14] It is not hard to imagine a school bus depot that fits none of those descriptions, and would therefore not fall within Sector AD. Yet, as the NAS points out, some states do include these activities in their general permits, precisely because they do warrant coverage.[15]

In 1999, when EPA identified over 1,000,000 facilities that should be regulated under the MSGP, the Agency claimed that it lacked sufficient data to designate any new sources.[16] That was 20 years ago. The NAS report therefore raises a concern that the EPA has shared for decades. Over the past 20 years, EPA should have been collecting

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[10] National Academies of Sciences, Engineering, and Medicine 2019. Improving the EPA Multi-Sector General Permit for Industrial Stormwater Discharges at 3, 42 (2019) (hereinafter "NAS") (attached). Washington, DC: The National Academies Press. https://doi.org/10.17226/25355. 31-34.
[11] Fact Sheet at 5.
[12] *Id.* at 5.
[13] *See, e.g.*, U.S. EPA, National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges (Dec. 8, 1999), 63 Fed. Reg. 68722, 68779 (describing roughly 100,000 facilities that are "very similar, or identical, to regulated stormwater discharges associated with industrial activity," but are omitted from the regular MSGP sectors due to EPA's use of SIC codes in defining the universe of regulated activity, and another roughly 1,000,000 facilities that have the "potential for discharging pollutants to waters of the United States through storm water point sources").
[14] 40 C.F.R. § 122.26(a)(9)(i).
[15] NAS at 3, 42.
[16] *Id.*

sufficient data to designate new sources. The inability to identify new sources now is a problem that falls squarely on EPA's shoulders.

EPA has no reasoned basis for continuing to ignore "nonindustrial facilities with activities similar to those currently covered."[17] Regardless of how EPA chooses to go about addressing the concerns raised by the NAS, the Agency must somehow address those concerns, if not in the MSGP itself, then through a separate regulatory action.

[17] NAS at 3, 42.

7. EPA Should Require Operators to Post Public Signage of Permit Coverage to Promote Public Transparency and Compliance.

Commenters support EPA's decision to require that operators post signage of permit coverage at a safe, publicly accessible location in close proximity to the facility.[18] Commenters also agree with the Agency that operators should be required to include information on how to contact EPA if a member of the public observes stormwater pollution.[19] To facilitate public reporting of stormwater pollution, the signage should include the name of the operator and facility as listed on the permittee's NOI. Moreover, as further discussed below, Commenters believe the signage should include one straightforward URL to an EPA website where members of the public can (1) report observations of stormwater pollution, and (2) access permit compliance materials such as NOIs, annual inspection reports, and updated SWPPPs. This will allow the public to gain a better understanding of a specific facility's compliance with the MSGP. In turn, the public will be able to provide a more informed report of stormwater pollution to EPA.

a. In order to further promote public transparency, EPA should maintain a publicly available website where the public can access MSGP permit documents (NOIs, annual reports, and SWPPPs) as well as report any observations of stormwater pollution.

Commenters acknowledge that EPA already provides public access to NOIs submitted for the 2015 MSGP (through ECHO for NOIs submitted prior to April 1, 2018, and through https://e-enterprise.gov/eenterprise-new for NOIs submitted on or after April 1, 2018). We urge EPA to also make annual reports (pursuant to section 7.5 of the proposed MSGP) and updated SWPPPs available on a central, publicly available website, where the public can also report any observations of stormwater pollution. Commenters recognize that the 2020 MSGP encourages operators to publish updated SWPPPs on publicly accessible URLs. However, this is not a requirement. If an operator does not follow this suggestion, the Proposed 2020 MSGP merely states, "EPA may provide access to portions of your SWPPP to a member of the public upon request…."[20] Proposed 2020 MSGP § 6.4.1. This language is insufficient to allow the public timely access to these records. Not only is it unclear what steps the public must take to request a facility's updated SWPPP, but also there are no mandatory timeframes by which EPA (and subsequently, the operator) must respond to such requests.[21]

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[18] *See* Draft Permit at 10, Part 1.3.6.
[19] *Id*.
[20] *Id*. at section 6.4.1.
[21] Compare Draft Permit with Washington State Industrial Stormwater General Permit at 42 (effective Jan. 1, 2020), *available at https://fortress.wa.gov/ecy/ezshare/wq/permits/ISGP_PermitFINAL.pdf* (which requires a permittee to provide a copy or to provide access to the SWPPP within 14 days of receiving a written request from the public); and New York State, SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, Permit No. GP-0-17-004, at 26 (effective Mar. 1, 2018) *available at* https://www.dec.ny.gov/docs/water_pdf/msgppermit.pdf (which requires permittees to make a copy of the SWPPP available to the public within 14 days of a request).

i. EPA already has both a foundation and experience to make these documents available to the public.

Given that EPA already established an online system to electronically submit NOIs and annual inspection reports through EPA's Central Data Exchange,[22] the Agency already has a foundation to create a platform for the public to view these compliance documents.

Further, EPA has had prior experience with – and is fully capable of – establishing or requiring electronic databases for the public to access and review compliance documents. For example, under EPA's solid waste regulations for coal ash disposal facilities, owners and operators are required to maintain publicly accessible websites where most of the documentation required by the regulations, including dozens of individual documents, must be posted.[23]

ii. States with equivalent permits have set up similar databases.

Other states have established public databases for equivalent general permits and require operators to post compliance documents. For example, California's General Permit for Storm Water Discharges Associated with Industrial Activities requires permittees to upload NOIs, SWPPPs, and annual inspection reports to its Stormwater Multiple Application and Report Tracking System (SMARTS) database.[24] These updated SWPPPs must be posted to the publicly accessible SMARTS database within 30 days of significant revisions to the SWPPP.[25] In addition, Rhode Island similarly requires permittees to upload Stormwater Management Plans (Rhode Island's version of the SWPPP) to its online NeT system once per year or else publish current plans on a publicly assessable URL.[26]

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[22] https://npdes-ereporting.epa.gov/msgp
[23] 40 C.F.R. §257.107 ("Publicly accessible internet site requirements").
[24] California, *General Permit for Storm Water Discharges Associated with Industrial Activities,* at 3, 59 (effective July 1, 2015) *available at* https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/industrial/2014indgenpermit/wqo2014_0057_dwq_revmar2015.pdf.
[25] *Id.* at 24.
[26] Rhode Island, *Multi-Sector General Permit: Rhode Island Pollutant Discharge Elimination System: Storm Water Discharge Associated with Industrial Activity*, at 32 (effective May 3, 2019), *available at* http://www.dem.ri.gov/programs/benviron/water/pn/ripdes/msgp.pdf.

8. EPA Should Adopt Universal Benchmark Monitoring, with Certain Revisions.

The NAS made a number of recommendations about universal benchmark monitoring, the frequency of benchmark monitoring, and how benchmark monitoring should be conducted. EPA adopts some NAS recommendations, declines to adopt others, and raises additional issues in requests for comment. We respond to each issue in detail below.

In short, EPA must require quarterly benchmark monitoring throughout the permit term for all benchmark parameters, including both universal and sector-specific parameters.

a. Industry-wide (universal) benchmark monitoring

The NAS recommended "industry-wide" benchmark monitoring for pH, TSS and COD, noting that these parameters "can serve as broad indicators of poor site management, insufficient SCM [source control measures], or SCM failure, which can lead to high concentrations of these and other pollutants."[27] EPA adopted this recommendation by requiring "universal" benchmark monitoring for pH, TSS and COD in section 4.2.1.1 of the permit.[28]

i. Industry-wide benchmark monitoring for pH, TSS and COD

We strongly support EPA's decision to require universal benchmark monitoring for pH, TSS and COD. The NAS report confirms our experience with industrial stormwater monitoring – permittees do not collect nearly enough monitoring data to provide useful information. As the NAS observed, "[i]t is widely recognized that the monitoring program suffers from a paucity of useful data," and this in turn leads to "poor accountability."[29] Indeed, "[m]any industrial sectors have never collected and reported data for any of the conventional and nonconventional pollutants, toxic pollutants, and hazardous substances listed in Appendix B."[30]

ii. Industry-wide benchmark monitoring for other parameters

EPA requests comment on whether there are any other parameters that should be required.[31] The answer is yes. There is no way to assess pollution loads without flow rates. EPA must also require some measure of flow-rate and discharge, ideally continuous flow monitoring, but at the very least synoptic flow rate measurements coincident with benchmark monitoring sample collection events.

The NAS report states that a "pollutant concentration measured at a single time during a stormwater event cannot be considered to be representative of the [event mean

[27] NAS at 3, 27-29, 42.
[28] Draft Permit at 29, Part 4.2.1.1.
[29] NAS at 18 (internal citations omitted).
[30] *Id*. at 21.
[31] Draft Permit at 29, Request for Comment 10.

concentration]," which is necessary for determining pollutant loads and therefore downstream water quality impacts and impairments.[32] It is clear that EPA also recognizes the necessity of flow-rate data for determining whether industrial stormwater discharges cause or contribute to downstream violations of water quality standards by, for example, requiring operators to measure and report flow-rates of their discharges as a component of the proposed Additional Implementation Measures.[33]

There are a number of time-tested, low- to medium-cost monitoring technologies and methodologies for measuring flow-rates for a variety of discharges from, for example, culverts and piped outfalls.[34] Requiring low-cost flow monitoring of all permittees has the potential to provide a substantial and diverse (E.g. by geography, industrial sector, suite of SCMs) data-set for pollutant loading by industrial stormwater dischargers, which could contribute significantly to future development of numeric effluent limitations.[35]

EPA cannot meet its Clean Water Act mandates – to eliminate pollution to the maximum extent possible and to protect water quality – without information about the quality *and* quantity of industrial wastewater discharges, and information about the extent to which SCMs are reducing pollutant loads. Furthermore, as the NAS noted, the development of numeric effluent limits may be necessary, but can only happen after EPA collects more data.[36]

b. Benchmark monitoring schedule

The NAS recommended that EPA require benchmark monitoring for four quarters at the beginning of a permit term (as is currently required), and then annually for the duration of each permit term.[37] As the NAS explains, "four quarterly samples are insufficient to assess the adequacy of stormwater management at a facility over the course of a permit term of 5 years."[38] This is in large part a matter of statistical power: "Collection of more samples increases the confidence that a site is complying with the requirements by reducing the acceptable error."[39] But the NAS also provides a second, eminently reasonable basis for recommending annual monitoring – conditions at a site may change over time. Routine monitoring is the only way to ensure that permittees "continue to implement and maintain SCMs," and the only way to provide a "consistent representation of stormwater discharge as operations and personnel change over the duration of a permit term."[40]

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[32] NAS at 46.
[33] Draft Permit at 45, Part 5.3.3.2.b.2.
[34] Burton, G. A., and R. E. Pitt. 2002. Pp. 357–377 in Stormwater effects handbook: A toolbox for watershed managers, scientists, and engineers, G. A. Burton and R. E. Pitt, eds. Boca Raton, FL: Lewis Publishers.
[35] Fact Sheet at 6.
[36] NAS at 41.
[37] *Id.* at 5, 49-51.
[38] *Id*. at 50.
[39] *Id*.
[40] *Id*.

The NAS also recommends that EPA require more frequent monitoring for sectors with unacceptably high coefficients of variation (COVs).[41]

EPA's response to the NAS recommendations on benchmark monitoring frequency is inadequate. EPA must require quarterly monitoring throughout the permit term for all benchmark monitoring parameters, including both the universal and the sector-specific benchmark monitoring parameters, and must also require more frequent monitoring for sectors with unacceptably high coefficients of variation.

i. Benchmark monitoring schedule for universal benchmark monitoring parameters

The draft permit does require consistent monitoring of the three "universal" parameters – pH, TSS and COD – on a quarterly basis for the entire permit term.[42] EPA requests comment on whether this is appropriate.

Yes, it is entirely appropriate and reasonable for EPA to require consistent quarterly monitoring of the universal benchmark monitoring parameters, for at least three reasons.

1. As EPA notes in its request for comment, quarterly monitoring helps to "ensure facilities have current indicators of the effectiveness of their stormwater control measures throughout the permit term."

2. From a statistical perspective, quarterly monitoring is still not good enough. As the NAS observed, assuming a COV of 1, "for a TSS benchmark of 100 mg/L, any quarterly average concentration from 0 to 225 mg/L is statistically indistinguishable from the benchmark." Achieving a "scientifically preferred" error rate would require 150 samples per year.[43] Quarterly monitoring is not sufficient, but it is an important step in the right direction.

3. As NAS correctly notes, the burden of quarterly sampling for permittees is trivial. "Considering that all permittees must collect quarterly storm event samples for visual monitoring, the additional cost burden [of analyzing pH, TSS and COD] is expected to be small."[44] The NAS estimates that analyzing all three parameters would cost less than $100.[45]

For all of these reasons, we support EPA's decision to require ongoing quarterly monitoring of the universal benchmark monitoring parameters.

ii. Benchmark monitoring schedule for sector-specific benchmarks

[41] *Id*. at 5, 51, 65.
[42] Draft Permit at 30, Part 4.2.1.2(a).
[43] NAS at 50.
[44] *Id*. at 28; *see also,* Fact Sheet at 63.
[45] NAS at 28.

EPA inexplicably and arbitrarily ignores the NAS recommendation with respect to sector-specific benchmarks and fails to require any monitoring beyond the initial four quarters that are currently required.[46] EPA did not even solicit comment on this issue. This is an egregious oversight on EPA's part, and one that the Agency must correct.

There was nothing in the NAS report to suggest that its recommendations for more frequent monitoring were limited to the universal benchmarks. The two-part rationale for recommending ongoing annual monitoring – statistical confidence and accounting for changing conditions – apply equally to sector-specific benchmark monitoring parameters. EPA failed to provide any justification for ignoring the NAS recommendation, so we are forced to speculate. Perhaps EPA believes that quarterly monitoring of the universal benchmark monitoring parameters will provide adequate assurances of site performance. This would be unreasonable. Only the sector-specific benchmarks provide information about "total" metals, for example, including metals in dissolved form. The NAS notes that TSS is not a reliable indicator of dissolved pollutants, and not even the best indicator of particulate matter.[47] According to the NAS, "attaining the benchmark for TSS at industrial sites is not a sufficient surrogate for meeting the metals benchmark[s]."[48] It would be arbitrary and unwise for EPA to forego annual monitoring for total metals because the dissolved fraction is "more biologically available than particulate-bound metals" and "more important in assessing pollutant risk."[49] According to the NAS, "[i]n a number of stormwater studies, a significant fraction (approximately 30 to 70 percent) of copper, cadmium, and zinc was found in dissolved form."[50]

Again, the NAS strongly recommended at least ongoing annual monitoring for <u>all</u> benchmarks, not just the universal benchmarks. Given that permittees are already required to collect quarterly storm event samples and would be required by the draft MSGP to analyze for universal benchmarks, there would be very little additional burden on permittees to analyze sector-specific benchmarks on a quarterly basis.

EPA must require ongoing, quarterly monitoring of sector-specific benchmarks throughout the permit term.

c. More frequent benchmark monitoring for sectors with high coefficients of variation

The NAS urged EPA to require more monitoring from sectors with unacceptably high coefficients of variation (COVs).[51] A high COV shows that the existing monitoring data for a sector are too variable and/or uncertain to provide a meaningful characterization of that sector's discharges.

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[46] Draft Permit at 30, Part 4.2.1.2(b).
[47] NAS at 28.
[48] *Id*. at 40.
[49] *Id*. at 61.
[50] *Id*.
[51] *Id.* at 5, 51, 65.

One important reason for requiring more data is so that EPA can evaluate the need for numeric effluent limitations and develop such limitations where necessary. The only reason that the NAS did not recommend the development of new limitations at present is that EPA lacks the necessary data:

> Based on the paucity of industrial SCM performance data available at this time, no specific sectors are recommended for development of new numeric effluent limitations *solely based* on existing data, data gaps, and the current likelihood of filling them."[52]

Numeric effluent limitations may in fact be necessary, and the only thing standing between EPA and the developmental of new limitations is a lack of data. This includes targeted SCM performance data (discussed elsewhere in this comment letter), but more frequent benchmark monitoring data would also be useful for this purpose.

As EPA notes in the Fact Sheet, in order to derive numeric effluent limitations, "[m]any samples are needed because of the high variability (i.e., coefficients of variation) for industrial stormwater (which is much greater than for drinking water and wastewater). The benchmark monitoring data that is currently collected in the MSGP is not suitable or sufficient for determining [numeric effluent limitations]."[53] Here we see that EPA acknowledges the problem with high coefficients of variation, but the Agency fails to respond to the NAS recommendations aimed at ameliorating this problem.

It is worth pointing out that the NAS suggested specific monitoring frequencies that might be appropriate for the sectors with high coefficients of variation: 2-4 samples per year.[54] In other words, if EPA were to adopt uniform, quarterly monitoring for all benchmark monitoring parameters, including sector-specific parameters, it would automatically address the data gaps flagged by the NAS.

d. Monitoring based on Effluent Limitation Guidelines (ELGs)[55] (and where discharges are to impaired waters)

Where stormwater discharges are subject to specific ELGs (or occur in impaired waters), quarterly monitoring should be used at each discharge point containing the pollutant discharges identified in Table 6-1 and for the pollutants listed as adversely affecting water quality standards. The draft language in these two sections would otherwise allow such discharges to persist as long as a year before potential discovery and remediation, which is too long for the pollutants with ELGs or those specifically listed as limiting water quality. Some of these pollutants, discharged in locations where water bodies are already stressed for a particular pollutant or its major component(s), pose specific threats to water quality. For example, urea used as a deicer at airports

[52] *Id*. at 41 (emphasis added).
[53] Fact Sheet at 6.
[54] NAS at 51.
[55] Draft Permit at 32 and 33, Parts 4.2.2.1 and 4.2.4.1, respectively.

contains a very high nitrogen content, which could add significant nutrients to a waterbody already threatened by or undergoing eutrophication. More frequent – i.e. quarterly -- monitoring and, as necessary, possible corrective action, is required in these two circumstances.

e. Benchmark monitoring summary

Broadly speaking, the need for more industrial stormwater monitoring data is plain. If EPA were to simply require quarterly benchmark monitoring for all benchmark parameters, including sector-specific parameters, it would address all of the concerns raised by the NAS – it would produce more data overall, it would address the need for data over the course of the permit term, it would address the need for more data for sectors with high coefficients of variation, and it would begin to create the foundation for the development of numeric effluent limitations – all at a minimal additional cost to permittees. Uniform quarterly benchmark monitoring is EPA's only reasonable policy choice. Additionally, EPA should require quarterly benchmark monitoring where stormwater discharges are subject to specific ELGs or occur in impaired waters, the latter for particular pollutant stressors. EPA must require quarterly benchmark monitoring throughout the permit term for all benchmark parameters, including both universal and sector-specific parameters.

9. EPA Should Not Adopt an "Inspection-Only" Tier for Certain Facilities.

Commenters agree with EPA's decision not to create an "inspection-only" category that exempts certain facilities from benchmark monitoring. The NAS suggested that EPA consider providing an "inspection-only" option in lieu of monitoring *if* it "can reduce the burden on small, low-risk facilities."[56] However, as EPA has acknowledged, the "inspection-only" option "may not be a viable alternative and [] benchmark monitoring may be more cost effective for operators."[57] Therefore, this option would not actually reduce the burden on small, low-risk facilities. Commenters also point out that this "inspection-only" option would be even more expensive than estimated by EPA's Cost Impact Analysis. This is because EPA's own analysis does not take into account the additional costs an "inspection-only" option would put on the Agency. For example, the additional tasks of reviewing inspection reports and following up with inspectors would be extremely resource- and time-intensive for Agency staff.

Also, the Proposed 2020 MSGP includes no clear provisions or guidelines for operators, inspectors, and EPA staff on the factors that would trigger additional inspections, corrective actions, or benchmark monitoring. This would burden permittees and the rest of the public with unnecessary uncertainty regarding compliance with and enforceability of the MSGP for these exempt facilities. Further, EPA's Cost Impact Analysis does not take into account the costs of any follow-up inspections that would be borne by the facility.

As EPA acknowledges, "categorizing low-risk facilities that would be eligible for an inspection-only option is somewhat challenging."[58] If EPA were to adopt an "inspection-only" option, the Agency would also have to adopt the recommendations laid out in the NAS study to define this category.[59] Among other things, EPA would have to require:

1. Publicly accessible,[60] facility-level determinations verified by certified inspectors;[61]

2. A demonstration that each facility has a low likelihood of discharging toxic substances in toxic amounts using specific criteria such as those suggested by the NAS;[62]

3. A demonstration that the facility has a "small area" of exposed industrial activity, where "small area" would be formally defined as roughly equivalent to "less than 0.5 to 1 acre";[63]

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[56] NAS at 54-55.
[57] U.S. Envtl. Prot. Agency. Cost Impact Analysis for the Proposed 2020 Multi-Sector General Permit (2020) at 50.
[58] Fact Sheet at 58-62, Part 4.2.1.1.
[59] NAS at 54-58.
[60] *Id*. at 56.
[61] *Id*. at 55-58.
[62] *See id*. at 57, Table 3-3.
[63] *Id*. at 55.

4. A demonstration that the facility is well-managed.

Further, if this option is adopted, the final 2020 MSGP permit would have to spell out the factors that would trigger follow-up inspections, benchmark monitoring, and/or corrective actions, along with enforceable timetables.

10. EPA Must Ensure Compliance with Water Quality Standards and Ensure Consistency with Waste Load Allocations.

The Clean Water Act, 33 U.S.C. § 1251 et seq., ("CWA") unambiguously requires all NPDES permits to ensure compliance with Water Quality Standards (WQS). See CWA § 301(b)(l)(C) and 402(p)(3)(A); 40 CFR § 122.44(d). The permitting authority, whether EPA or a delegated state, may issue an NPDES permit only when the permit meets all applicable CWA requirements. See, e.g., 33 U.S.C. §§ 1311(a), 1342(a); see also, 40 C.F.R. § 122.4 ("No permit may be issued: (a) When the conditions of the permit do not provide for compliance with the applicable requirements of CWA, or regulations promulgated under CWA ...."). In addition, "[n]o permit may be issued ... when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States." 40 C.F.R. § 122.4(d).

The CWA also requires EPA to set effluent limitations for point sources that can reasonably be expected to contribute to the attainment or maintenance of water quality in a specific portion of navigable waters. 33 U.S.C. § 1312(a). Permit "limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standards, including State narrative criteria for water quality." 40 C.F.R. § 122.44(d)(1)(i). "Permit writers must consider the impact of every proposed surface water discharge on the receiving water" to determine the need for water-quality based effluent limits. EPA, NPDES Permit Writers' Manual, at 87 (1996).1 This is critically important because Section 402(k) of the CWA creates a "permit shield" limiting a discharger's obligations to those enumerated in the permit. 33 U.S.C. § 1342(k).

Unfortunately, however, the proposed permit again falls far short of ensuring compliance with WQS. Because the proposed MSGP regulates all industrial dischargers, including many who are violating water quality standards, the permit's actual terms and conditions must ensure that all discharges will comply with water quality standards.

a. Industrial Stormwater Discharges Must Comply Strictly with Water Quality Standards

Congress has required industrial storm water discharges and industrial storm water discharge permits to achieve strict compliance with WQS due to the potential for industrial pollutants to impair the Nation's waters. When the stormwater program was expressly added to the CWA in 1987, language was added to the statute specifically requiring that industrial stormwater permits must require compliance with water quality standards: “Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 1311 of this title.” 33 U.S.C. § 1342(p)(3)(A). In Defenders of Wildlife v. Browner, (1999) 191 F.3d 1159, the U.S. Court of Appeals for the 9th Circuit held that Congress has expressly required industrial

storm water dischargers to comply with the requirements of 33 U.S.C. Section 1311 and, therefore, such dischargers shall achieve any more stringent effluent limitation, including those necessary to meet water quality standards established pursuant to any federal or state law or regulation. "In other words, industrial discharges must comply strictly with state water quality standards." Defenders, 191 F.3d at 1165 (emphasis added). Although EPA does not dispute that the permit is required to ensure that the discharges it authorizes will comply with WQS, the proposed permit utterly fails to do so. As laid out in more detail below, the proposed permit fails to determine whether the discharges have the reasonable potential to cause or contribute to water quality standards violations; it fails to set water-quality based effluent limitations for pollutants that are identified as having the reasonable potential to cause or contribute to water quality standards violations; it fails to comply with the prohibition on new or expanded discharges into impaired waterbodies; it fails to ensure compliance with applicable TMDLs; and it lacks any method even to determine whether (much less set conditions to ensure that) discharges authorized by the permit are in compliance with WQS.

A general permit cannot ensure compliance with any of those standards unless it contains provisions to evaluate the impact of proposed discharges on a particular water body and to develop water-quality based effluent limitations for all discharges that have the reasonable potential to cause or contribute to a violation of those standards. As the Ninth Circuit noted in Defenders, "Section 301 further mandates that NPDES permits include requirements that receiving waters meet water quality-based standards." 191 F.3d at 1165 (internal citation omitted) Many if not most of the states' impaired waters are impaired by pollutants associated with industrial activities. For example, 11,388 miles of assessed rivers and streams are listed as impaired by industrial sources. https://ofmpub.epa.gov/waters10/attains_nation_cy.control.

Many industrial pollutants are toxic, or "priority," pollutants for which numeric water quality criteria have been established by EPA, and which are included in the NTR. In addition, industrial facilities have the potential to discharge other non-priority pollutants, such as oil and grease, pesticides from irrigation and other pollutants that may violate WQS. The discharge of an impairing pollutant above WQS by an industrial facility to waters already impaired by that pollutant by definition causes or contributes to impairment of water quality and constitutes a WQS violation. Further, the discharge of any bioaccumulative or persistent pollutants by an industrial facility to a water body impaired by that pollutant causes or contributes to impairment, and therefore constitutes a WQS violation. Under the CWA, any Permit ultimately issued by EPA must contain requirements to ensure the elimination of this contribution.

b. The CWA Requires Reasonable Potential Analyses (RPAs) for Each NPDES Permit. EPA's Failure to conduct RPAs in Conjunction with the Proposed MSGP is Unlawful.

In order to ensure WQS are achieved, the Clean Water Act, and its implementing regulations, require Reasonable Potential Analyses ("RPAs") for all NPDES permits when the discharges they permit may cause, or have reasonable potential to cause,

violations of water quality standards: Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard . . .40 C.F.R. § 122.44(d)(l)(i).

At a minimum, the RPA must consider the following four factors in projecting potential exceedances of water quality standards: "existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and, where appropriate, the dilution of the effluent in the receiving water." 40 CFR § 122.44(d)(l)(ii).

EPA has developed guidance documents to assist permit writers in undertaking the RPA analysis. The EPA Permit Writer's Handbook (1996) sets out the threshold requirement for RPAs:

> Reasonable Potential and Numeric Criteria
>
> When conducting an effluent characterization to determine if WQBELs are needed based on chemical-specific numeric in the water quality standards, the permit writer projects the receiving waters concentration of pollutants contained in the effluent once that effluent enters the receiving water. If the projected concentration exceeds the applicable numeric water quality criteria for a specific pollutant, there is reasonable potential that the discharge may cause or contribute to an excursion above the applicable water quality standards and the permit writer must develop a WQBEL. Permit Writer's Handbook, p. 100.

The Handbook goes on to explain the data to be evaluated:

> Determining Reasonable Potential With Effluent Monitoring Data
>
> When characterizing an effluent for the need for a WQBEL, the permit writer should use any available effluent monitoring data as well as other information relating to the discharge ...as the basis for a decision...EPA recommends monitoring data be generated prior to permit limit development for the following reasons: (1) the presence or absence of a pollutant can be more clearly established or refuted; and (2) effluent variability can be more clearly defined. Permit Writer's Handbook, p. 101 (emphasis added).

Once the RPA is complete, EPA must, through an NPDES Permit, implement limitations that control all pollutants or pollutant parameters which the EPA determines "are or may be discharged at a level which will cause, have the reasonable potential to cause, or

contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." 40 C.F.R. § 122.44(d)(l)(i).

For waters that are Section 303(d) listed as impaired, the RPA for discharges of impairing pollutants is simple: discharges above WQS have the reasonable potential to cause, or contribute, to excursions above State WQS. Similarly, developing the WQBEL to be included in the General Permit is simple: the WQBEL is the NTR or State WQS for that pollutant. For waters not impaired, and thus with some assimilative capacity, the RPA and the development of the WQBEL can be more complicated. Nonetheless, EPA is required to undertake this analysis in developing all NPDES permits, including the proposed MSGP.

While it admits that it has not conducted an RPA (or required dischargers to do so), EPA has provided no justification for this failure. EPA may not ignore the CWA's regulatory scheme for conducting RPAs and making determinations regarding the reasonable potential of industrial discharges to cause or contribute to excursions above WQS.

c. Water Quality Based Effluent Limitations Must Be Included in the Permit Where Permitted Discharges are Determined to Cause, or Have the Reasonable Potential to Cause Excursions Above Water Quality Standards.

Once RPAs are conducted, EPA is required to include Water Quality Based Effluent Limitations ("WQBELs") in any NPDES Permit for discharges of pollutants that the EPA determines causes, or has the reasonable potential to cause or contribute to, excursions above WQS. 40 C.F.R. § 122.44(d)(l). The proposed MSGP fails to require that any of these types of effluent limitations are set for every discharge that has the reasonable potential to cause or contribute to a violation of WQS.

Moreover, while the EPA may claim that it is infeasible to develop numeric WQBELs in this context, EPA has not demonstrated that it is infeasible, either from a technical or from a practical standpoint. Numeric WQBELS are both feasible and necessary.

d. Technology/BMP Based Effluent Limitations Expressed in the Proposed Permit Have Failed and Will Continue to Fail to Ensure Compliance with Water Quality Standard.

Industrial dischargers have been operating under a MSGP since 1995. This permit, in its various iterations, has relied, and continues to rely, on narrative technology based effluent limitations (BMPs to achieve BCT/BAT) in order to reduce or prevent the discharge of pollutants in storm water discharges from thousands of industrial facilities, and under the proposed reissuance of the Permit, to achieve WQS. The technology-based effluent limitations first contained in the 2000 MSGP, and now again in the proposed MSGP, have not and cannot ensure that all permitted industrial discharges comply strictly with WQS as required by the CWA. In fact, the Permit's BMP/technology based effluent limitations have resulted in widespread failure of industrial discharges to

comply with WQS, strictly or otherwise. (See subsection that follows immediately below).

In addition, subjectively deeming a discharger in compliance with WQS just because a permittee is implementing BMPs to meet technology-based standards is tantamount to providing a compliance schedule of indefinite duration. 33 U.S.C. section 1342(p)(4)(A) provides that permits must require compliance with WQS as expeditiously as practicable, but in no event later than 3 years after the issuance of the permit. By allowing dischargers to simply implement more BMPs in response to WQS violations, the Permit does not require compliance from permittees within 3 years as required by the CWA.

Given the failure of narrative BMP/technology-based effluent limitations to achieve strict compliance with WQS and the difficulties associated with applying narrative requirements to achieve strict compliance with WQS, EPA must adopt and include within the proposed permit numeric effluent limitations for all pollutants in industrial discharges which cause, or have the reasonable potential to cause or contribute to WQS violations. Numeric WQBELs are the most reliable vehicle by which to achieve strict compliance with WQS and are necessary given the variety and extent of industrial discharges and the variety and extent of impairing pollutants present in waters.

e. Available Monitoring Data Shows Widespread Noncompliance with Water Quality Standards Under Current General Permit.

EPA possesses a wealth of information and evidence relating to discharges from industrial stormwater dischargers, including most relevantly the sampling data collected by the dischargers themselves since 1995. However, the proposed MSGP fails to reflect any attempt by EPA to analyze this wealth of data and incorporate responsive requirements in a meaningful fashion. In the face of EPA's failure to conduct an analysis of industrial stormwater compliance data, the Commenters are compelled to undertake such an analysis, below.

i. Compliance Data Under California's General Industrial Stormwater Permit Demonstrate Massive Exceedances of WQS.

In 2005, Waterkeeper Alliance member programs in California conducted an analysis for industrial dischargers permitted under that state's General Industrial Storm Water Permit, which is similar to EPA's current MSGP. Industrial dischargers have been operating under the California statewide permit since 1992. As with the MSGP, the permit relies on narrative technology based effluent limitations (BMPs to achieve BCT/BAT) in order to reduce or prevent the discharge of pollutants in storm water discharges.

California dischargers have submitted over ten years of sampling data (representing thousands of samples) under the current General Permit. While the California State Water Quality Board staff apparently failed to consider any of this data in preparing the

state's own draft General Permit, between 1993 and 1995 the San Francisco Regional Board entered General Permit sampling data into a database, between 2001 and 2002 the Los Angeles Regional Board created a similar database, and between 1996 and 2001 the Orange County Regional Board created its own database. Waterkeeper Alliance's analysis of the available electronic data supports the following conclusions:

- For all industrial dischargers sampling for Cu, Pb, and Zn, concentrations of pollutants discharged have increased rather than decreased between 1993 and 2002.

- For dischargers in the Los Angeles Region sampling for Cu, Pb and Zn (chosen because all major receiving waters in the Los Angeles Region are impaired for those pollutants), 99.5% exceed WQS for Cu, 99.9% exceed WQS for Pb, and 92.4% exceed WQS for Zn.

As demonstrated by this limited analysis of monitoring data in the Los Angeles area, extensive evidence (i.e., monitoring data) shows that concentrations of pollutants discharged pursuant to the General Permit routinely cause or contribute to exceedances of the chemical specific numeric criteria inapplicable water quality standards.

ii. Compliance Data Under the Current EPA MSGP Also Demonstrates Numerous Exceedances of WQS.

Dischargers have submitted over five years of sampling data under the current General Permit. While EPA staff apparently failed to compare any of this data to the applicable Water Quality Standards in preparing the proposed MSGP, the docket includes data collected between 1999 and 2004 in Alaska, Arizona, Idaho, Maine, Massachusetts, New Hampshire, New Mexico and the District of Columbia. The Commenters analyzed this data in an effort to gain a better understanding of the effectiveness of the narrative and technology-based BMP standards in the current MSGP. This effort examined data from 1,642 total monitoring events for the priority pollutants arsenic, cadmium, copper, lead, mercury, nickel, selenium, silver, and zinc. A thorough analysis of this data was frustrated by its poor quality, incomplete nature, and variations within reporting methodologies between the states and permittees. These limitations aside, the information collected by the above states, and submitted to EPA presents a compelling portrait of the current MSGP's failure to adequately prevent WQS violations by industrial stormwater discharges.

On average, discharges of industrial stormwater covered under the 2000 MSGP violated each state's acute toxicity water quality standards for dissolved metals over 45% of the time. With the unexplained exception of Idaho, the highest "success rate" for the MSGP is found in Alaska, where only one in five discharges of industrial stormwater violate water quality standards. In Arizona, by contrast, violations occur in over 65% of discharges. (See Table 1, below)

Table 1: Percentage of Reported Stormwater Discharges Exceeding each State's Acute Toxicity WQS

State	Exceedances (percent)
Alaska	20.51
Arizona	65.52
Idaho	5.22
Maine	49.66
Massachusetts	50.71
New Hampshire	51.20
New Mexico	23.29
Total	46.63

Based upon even this limited review of stormwater sampling data collected and submitted by General Permittees, EPA cannot ensure that the BMP based approach continued in the draft General Permit will achieve compliance with the applicable WQS on an acceptable basis. Furthermore, EPA' s failure to account for the performance of its current MSGP in developing a successor program is arbitrary and capricious.

f. The Proposed MSGP Fails to Control Discharges to Impaired Waterways, Particularly of Pollutants Generally Responsible for These Impairments.

The CWA requires all discharges authorized by any NPDES permit, including the MSGP, the comply with the water quality standards of the receiving water, but there are additional requirements applicable to discharges to impaired waters, to waters that have a TMDL, and to waters of exceptional quality to ensure that discharges into those waters receive additional scrutiny in the permitting process. In addition to the substantive comments below, we also have a process suggestion for enhancing the ability of the public to assist the permitting authority in identifying discharges likely to violate these requirements. The NOI should identify not only the name of the receiving water into which the discharge will be made, but should also indicate whether the receiving water is classified as impaired, and if so, for what pollutants, whether TMDLs have been finalized for any of the pollutants causing that impairment, and, if so, for which pollutants, and whether it is classified as a Tier I, Tier II or Tier IHI water for purposes of anti-degradation analysis and if so, for which pollutants.

i. Impaired Waters with TMDLs Will Not Be Adequately Protected by the Proposed MSGP.

The proposed permit deletes language requiring that discharges must "be consistent with" a TMDL and instead includes new eligibility provisions for discharges into impaired waters with TMDLs and impaired waters for which a TMDL has not yet been completed. The proposed changes contravene the CWA's presumptive ban on new discharges into impaired waters unless there are specific remaining pollutant loads to allow for the

discharge. See 40 CFR § 122.4(i). Instead, the proposed MSGP operates on the opposite assumption, i.e., that storm water discharges from industrial sites are authorized unless the TMDL expressly states that the discharge is not permitted, either by "specifically articulat[ing] a wasteload allocation requiring more stringent controls than can be achieved with this permit" or by expressly "appl[ying] a wasteload allocation of zero to a discharge (either specifically or categorically)." (Fact Sheet p. 31). EPA itself acknowledges that "most TMDLs do not include these kinds of wasteload allocations of stormwater" and that as a result, "this provision is not likely to preclude authorization ... of very many industrial stormwater discharges." Id. Thus, as EPA itself admits, the proposed provisions fail to protect impaired waters with TMDLs from most polluted storm water discharges.

ii. The Proposed MSGP Fails to Protect Impaired Waters for which TMDLs Have Not Yet Been Established

The proposed permit's treatment of impaired waters for which TMDLs have not yet been established ("pre-TMDL waters") is just as problematic. Ignoring the presumptive ban of 40 CFR § 122.4(i) on new discharges into impaired waters absent a specific load allocation, the proposed MSGP authorizes new discharges into pre-TMDL impaired waters without requiring any demonstration that the impaired water can handle the additional pollutant load and still comply with water quality standards. This presumption that a new discharge will not cause or contribute to a violation of water quality standards is unlawful and completely divorced from reality, since new discharges will necessarily add to the pollution of impaired waters. Under 40 CFR 122.4(i), "there cannot be a new source or a new discharger if the waterbody is a [water quality limited segment] impaired waterway unless the state completes a TMDL beforehand." San Francisco Baykeeper, Inc. v. Browner, 147 F. Supp 2d 991, 995 (N.D. Cal. 2001) (emphasis added); Friends of Pinto Creek v. EPA, 504 F.3d 1007, 1012 (9th Cir. 2007).

11. EPA Must Reject its Proposal to Weaken Monitoring Requirements for Permittees that Discharge Pollution to Impaired Waterways without an EPA-Approved or Established TMDL.

EPA must also reject its own proposal to weaken monitoring requirements in the 2020 MSGP for permittees that discharge pollution to impaired waterways without an EPA-approved or established TMDL.[64] EPA proposes to roll back the requirement in the 2015 permit that permittees monitor for "all pollutant(s) causing the impairment or their surrogate(s)."[65] Instead, EPA proposes to "narrow[] the list of pollutants that operators must monitor for" by only requiring operators to only monitor for those pollutants or surrogate constituents that correspond to both the pollutant(s) or surrogate(s) for which the receiving waterway is impaired and the list of sector-specific benchmark pollutants applicable industrial activities or appear on the industrial pollutants listed on the operator's own self-reporting (Part 6.2.3.2).

EPA fails to assert a technical or legal justification for narrowing the scope of required monitoring and must not include this revision in the issuance of the final MSGP. This proposal is flawed, in part, because it will exclude operators from monitoring for pollutants that are present at their facilities and that contribute to waterway impairments only as a result of the operator failing to affirmatively include the constituent in its self-reporting or, while not associated with industrial activities as defined by EPA and assigned to operator's facility, the pollutant(s) is otherwise still present in detectable quantities.

For example, an operator may not be aware that a particular pollutant, which contributes to a receiving waterway impairment, is present at its facility in any quantity, and that pollutant is not otherwise included in the list of applicable sector-specific benchmark constituents. Under the requirements in the 2015 MSGP, the operator would be required to monitor for the pollutant pursuant to its inclusion in the impairment listing, thereby allowing the EPA and states to ascertain and subsequently address the contribution from the facility to the impairment and violation of water quality standards. Pursuant to the proposal in the draft 2020 MSGP, the facility's contribution to the ongoing waterway impairment and violation of a water quality standard would continue unknown to the operator and EPA, absent required monitoring, and unabated.

In the alternative, EPA should strengthen the provision from the 2015 MSGP by aligning required TMDL monitoring with benchmark monitoring requirements by requiring quarterly sampling coincident with benchmark monitoring. The additional data will improve EPA's effort to develop TMDLs and to ensure compliance with water quality standards and applicable waste load allocations.

Commenters do, however, urge EPA to adopt its proposal to impose an assumption that operators that discharge to impaired waters with an EPA-approved or established TMDL

[64] Draft Permit at 33-34, Part 4.2.4.1.a.
[65] Fact Sheet at 75.

must monitor for pollutants corresponding to the TMDL, rather than relying upon an affirmative order or notice by to EPA to conduct such required monitoring.[66]

[66] *See* Fact Sheet at 75; Draft Permit at 34, Part 4.2.4.1.b.

12. EPA Should Not Adopt Certain Proposals to Revise Benchmark Values and Adopt Other Proposals, with Certain Revisions.

The NAS recommended that EPA review benchmark levels for certain pollutants, namely aluminum, arsenic, cadmium, copper, iron, magnesium, selenium, and PAHs.[67] The fact sheet explains how EPA responded to the NAS recommendations,[68] and we provide comment on each decision below. As a general matter, we note that the Clean Water Act is designed to progressively ratchet pollution limits down over time. The "national goal" of the Clean Water Act is that "the discharge of pollutants into the navigable waters be eliminated." Short of that zero-discharge goal, the Clean Water Act allows for water-quality based limits, but it is important to remember that maintaining water quality is only an "interim goal" on the path to zero discharge.[69] EPA's role is to progressively tighten pollution limits. This is reflected in various provisions of the CWA and its implementing regulations, including "anti-backsliding" provisions that generally serve to prevent the weakening of pollution limits,[70] and technology-based limits that represent "a commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges."[71]

In light of EPA's mandate under the Clean Water Act, any relaxation of pollution limits should be rare or exceptional, and supported by a strong evidentiary record. We support some of EPA's decisions with respect to the derivation of benchmark levels, but we oppose others. In particular, we oppose the removal of the iron benchmark. And we are troubled by EPA's mischaracterization of the NAS report with respect to PAHs. The NAS strongly urged EPA to require PAH monitoring and did not support the idea that COD could be a useful surrogate for PAHs. EPA must require PAH monitoring.

Aluminum. The NAS recommended that EPA update the aluminum benchmark to reflect the most recent water quality criteria for aluminum.[72] The fact sheet explains that EPA is not changing the aluminum benchmark because the underlying criteria document is not yet final.[73] Although we support EPA's stated rationale – we agree that it would be inappropriate to relax a benchmark on the basis of a draft document – it appears that EPA did finalize the criteria document in 2018.[74] However, this should not change EPA's decision. As explained below, EPA would be justified in retaining the existing benchmark even after considering the 2018 criteria document. EPA would not be justified in setting a benchmark any higher than 980 µg/L.

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[67] NAS at 31-34.
[68] *See, e.g.*, Fact Sheet at 3. The Fact Sheet cites the NAS report as the "NRC Study," using the acronym for the National Research Council, once a subunit of the National Academies of Sciences, Engineering and Medicine.
[69] 33 USC §1252(a)(2).
[70] 33 USC §1342(o).
[71] *EPA v. Nat'l Crushed Stone Ass'n*, 449 U.S. 64, 74 (1980).
[72] NAS at 33.
[73] Fact Sheet at 64.
[74] U.S. Envtl. Prot. Agency, Final Aquatic Life Ambient Water Quality Criteria for Aluminum 2018, EPA-822-R-18-001 (Dec. 2018).

The 2018 aluminum criteria document does not provide single values for either the criteria maximum concentration (CMC) or the criterion continuous concentration (CCC). Instead, the new criteria document presents a calculator for deriving site-specific criteria based on pH, hardness, and dissolved organic carbon (DOC) conditions.[75] Both EPA and the NAS cite the 2017 draft criteria document as recommending an "acute criteri[on] of 1,400 µg/L based on a pH value of 7, hardness value of 100 mg/L, and DOC value of 1 mg/L."[76] This value now appears to be outdated, and EPA should not adopt this value.

In keeping with past practice, EPA should set the aluminum benchmark equal to the CMC. The NAS recommended adopting the draft aluminum criteria document approach.[77] If EPA did take this approach, using the same default pH, hardness and DOC values cited in the draft document – pH of 7, hardness of 100 mg/L, and DOC of 1 mg/L – then the criteria calculator would yield a CMC (and benchmark) of 980 ug/L.

However, if EPA is choosing to select a fixed benchmark that will protect all receiving streams, it would make more sense to select a lower bound value. The aluminum criteria calculator states that "EPA aluminum criteria recommend staying within specified limits for pH (5.0-10.5), total hardness (0.01-430 mg/L as $CaCO_3$) and DOC (0.08-12.0 mg/L) for generating criteria." Applying these parameter ranges yields aluminum CMC values as low as 0.0014 µg/L.[78] These conditions are of course very unlikely to occur in the real world, but this example serves to demonstrate that a static value would have to be significantly lower than 1,400 µg/L to be protective of all or even most receiving streams.

To take a much more realistic example, at a pH of 6.5, hardness of 45 mg/L, and DOC level of 3 mg/L, the CMC would be 750 µg/L – equal to the current benchmark. The same result can be achieved by adjusting the three parameters to various levels near the middle of their recommended ranges. This means that the current benchmark is appropriate for ordinary, real-world scenarios. The aluminum criteria document therefore supports EPA's decision to retain the existing benchmark. It should be noted, however, that neither the 750 µg/L benchmark nor a benchmark of 980 µg/L would be protective in all cases.

To summarize, the current aluminum criteria document supports EPA's decision to retain the existing aluminum benchmark of 750 µg/L. If EPA does choose to revise the aluminum benchmark, it should adopt a value no greater than 980 µg/L.

Arsenic. The arsenic benchmarks are currently 150 and 69 µg/L for fresh and saltwater, respectively. The freshwater benchmark is based on a chronic freshwater criterion, supported by concerns about stormwater flowing into saline water, where arsenic is

[75] U.S. Envtl. Prot. Agency, Aluminum Criteria Calculator V2.0, https://www.epa.gov/sites/production/files/2018-12/aluminum-criteria-calculator-v20.xlsm (last accessed Apr. 7, 2020).
[76] Fact Sheet at 64; NAS at 33.
[77] NAS at 33.
[78] Where pH = 5, hardness = 0.01 mg/L, and DOC = 0.08 mg/L.

more toxic.[79] The NAS recommended that EPA adopt the current acute freshwater aquatic life criterion for arsenic (340 µg/L) as the freshwater benchmark.[80] EPA declined to change the arsenic benchmark, reasoning that "it prefers not to weaken a discharge requirement unless good scientific evidence exists that a pollutant is less toxic than previously believed."[81]

We strongly support EPA's decision and reasoning. As discussed above, the CWA is designed to achieve progressively tighter pollution limits, working toward a goal of eliminating pollution entirely. EPA should not relax benchmarks without a good reason for doing so.

Cadmium. The cadmium benchmarks are currently hardness-dependent for freshwater and 40 µg/L for saltwater. The effective default freshwater benchmark is 2.1 µg/L, corresponding to a hardness of 100 mg/L.[82] NAS recommended that EPA update these benchmarks to reflect 2016 EPA water quality criteria. EPA agreed and proposes to revise the benchmarks. The new freshwater benchmark would continue to be hardness-dependent; at a hardness of 100 mg/L the benchmark would be 1.8 µg/L.[83] The new saltwater benchmark would be 33 µg/L .[84]

We support EPA's decision with respect to cadmium.

- *We note that EPA appears to have made a typographical error on page 65 of the fact sheet: In "Request for Comment 16" EPA refers to the "acute chronic life criteria." We presume that this should read "acute aquatic life criteria."*

Copper. The current benchmarks for copper are hardness-dependent for freshwater and 4.8 µg/L for saltwater. The most recent EPA water quality criteria document for copper uses a "Biotic Ligand Model" that requires 10 input parameters to calculate site-specific freshwater criteria.[85] The NAS approved of EPA's prior decision to retain a simpler, hardness-dependent benchmark.[86] EPA now proposes to continue this approach, retaining the hardness-dependent freshwater benchmark and the static saltwater benchmark. We support this decision for the reasons articulated in the NAS report.

EPA is also requesting comment on whether the Agency "should allow facilities that repeatedly exceed the copper benchmark to use the latest recommended aquatic life criteria to evaluate water quality risk on a site-specific basis."[87] We do not support this

[79] NAS at 32; Fact Sheet at 65.
[80] NAS at 32.
[81] Fact Sheet at 65.
[82] *See, e.g.*, NAS at 33; Fact Sheet at 70.
[83] Fact Sheet at 65, 70.
[84] *Id*. at 70.
[85] Fact Sheet at 66; NAS at 33.
[86] NAS at 33 ("Given the extra sampling burden, the 2015 MSGP did not recommend using the biotic ligand model for copper benchmark monitoring, which is reasonable for a national permit").
[87] Fact Sheet at 66.

idea because it would introduce considerable complexity into the compliance framework, and EPA has not explained how it would work. The very brief request for comment fails to shed any light on numerous critical questions:

1. What does it mean to "repeatedly exceed" the benchmark?

2. Would the use of an alternative, site-specific benchmark be subject to prior EPA approval?

3. Would that EPA approval process include a public comment period?

4. What would happen if a permittee opted to use a site-specific benchmark, but failed to do it correctly?

5. Would EPA then require the permittee to return to the use of the default benchmark?

6. How often would a permittee be allowed (or required) to update the derivation of a site-specific benchmark?

EPA cannot finalize the site-specific alternative copper benchmark without a more substantial proposal that answers these and other critical questions. At this point in time, given the lack of clarity, we oppose the idea. EPA should retain the existing copper benchmarks and apply them consistently and uniformly to all permittees.

- *We note that EPA appears to have made a conversion error on page 70 of the fact sheet. The saltwater benchmark for copper should be 4.8 µg/L, not 48 µg/L.*

Iron. The current iron benchmark is 1 mg/L. The NAS recommended removing the iron benchmark based on a lack of evidence showing acute toxicity.[88] EPA is proposing to remove the iron benchmark for the same reason.[89] We oppose this part of the proposal, because the scientific literature does in fact show evidence of iron toxicity, including evidence of acute toxicity at concentrations well below the current benchmark.

One recent study observed that "[i]n neutral waters, [iron] has been found to increase turbidity, reduce primary production, and reduce interstitial space in the benthic zone, which smothers invertebrates, periphyton, and eggs. Iron precipitates also physically clog and damage gills causing respiratory impairment."[90] That same study evaluated iron toxicity in several species over a period of 30 days. The authors found that iron was lethal in boreal toad tadpoles, and also caused a variety of sublethal effects, including "reduced growth for boreal toad tadpoles and mountain whitefish, reduced development

[88] NAS at 32.
[89] Fact Sheet at 66.
[90] P. Cadmus et al., Chronic Toxicity of Ferric Iron for North American Aquatic Organisms: Derivation of a Chronic Water Quality Criterion Using Single Species and Mesocosm Data, 74 Arch. of Envtl. Contamination and Toxicology 605, 611 (2018) (attached).

for boreal toad tadpoles, and reduced reproduction for *Lumbriculus* [blackworm]."[91] Using the results of their study, combined with other chronic toxicity literature values, the authors derived a Final Chronic Value (FCV) of 499 µg/L. Although this result is not directly relevant to the question of acute iron toxicity, it does suggest that EPA's current chronic criterion for iron (1 mg/L) may be too high.

The same authors performed a separate, 10-day "mesocosm" experiment in which they exposed naturally colonized communities of benthic macroinvertebrates in experimental streams to various iron concentrations.[92] These experiments yielded EC_{20} values as low as 234 µg/L, and the authors derived a FCV of 251 µg/L, again suggesting that EPA's current water quality criterion for iron may be too high.

In a study focused on acute effects, Shuhaimi-Othman et al. describe a series of four-day toxicity tests on eight freshwater aquatic species.[93] For iron, species-specific LC_{50} values ranged from 0.12 to 8.49 mg/L. Following EPA guidance, the authors derived a Final Acute Value (FAV) of 74.5 µg/L, and a CMC of 37.2 µg/L. This is of course much lower than the current iron benchmark of 1 mg/L.

We are not suggesting that EPA should use these studies, by themselves, to derive a new benchmark. The derivation of a new iron benchmark would presumably take years of research and analysis. What we are suggesting is that it would be unreasonable to eliminate a benchmark where EPA has evidence of toxicity, including acute toxicity, at levels significantly lower than the current benchmark. To repeat EPA's reasoning with respect to arsenic, the Agency should choose "not to weaken a discharge requirement unless good scientific evidence exists that a pollutant is less toxic than previously believed."[94] This reasoning applies with added force to iron. Not only is there a lack of evidence that iron is less toxic than previously believed, there is in fact evidence that iron is more toxic than previously believed.

In sum, the predicate for NAS's recommendation and EPA's proposed decision with respect to iron – that there is no evidence of acute or subchronic toxicity – is false. We cite and attach two studies showing iron toxicity over periods of 4 and 10 days at levels well below the current benchmark. In light of this evidence, it would irresponsible and unreasonable for EPA to remove the iron benchmark. We support the idea that EPA should derive new water quality for iron, but in the meantime, EPA should continue to require iron monitoring using the current iron benchmark.

Magnesium. We are not aware of significant evidence of magnesium toxicity to aquatic life at levels found in industrial stormwater and defer to the NAS and EPA on whether a magnesium benchmark is useful or necessary.

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[91] *Id*.
[92] *Id*; see also C.J. Kotalik et al., Indirect Effects of Iron Oxide on Stream Benthic Communities: Capturing Ecological Complexity with Controlled Mesocosm Experiments, 53 Envtl. Sci. Technol. 11532 (2019).
[93] M. Shuhaimi-Othman et al., Deriving Freshwater Quality Criteria for Iron, Lead, Nickel, and Zinc for Protection of Aquatic Life in Malaysia, Scientific World Journal (2012) (attached).
[94] Fact Sheet at 65.

Selenium. The current benchmarks for selenium are 5 µg/L (freshwater) and 290 µg/L (saltwater), based on chronic water quality criteria and taking into consideration selenium's bioaccumulative properties. EPA revised the freshwater selenium criteria in 2016, and the new criteria are 1.5 µg/L (for still water) and 3.1 µg/L (for flowing water).[95] EPA did not derive acute criteria for selenium, but the criteria document does provide a method for translating the chronic criteria to acute or intermittent exposure.[96] The NAS implied that EPA should revise the benchmark to be consistent with the new criteria, noting that "[t]he selenium benchmark based on chronic aquatic life criteria is now outdated."[97] However, the NAS also suggested that EPA should allow for site-specific benchmarks, based on the translation of the chronic criteria for acute or intermittent exposure, for facilities with repeated benchmark exceedances.[98]

EPA is proposing to retain the existing selenium benchmarks. We fail to see why EPA would not revise the freshwater benchmark to reflect the revised water quality criteria. The Agency previously determined that the chronic criterion was a suitable basis for the benchmark and has not provided any indication that its position on this issue has changed. The selenium benchmark for freshwater should be revised to 3.1 µg/L (or, to the extent that any permittees are discharging into lakes or ponds, 1.5 µg/L for those permittees).

EPA has tentatively decided against allowing for site-specific alternative benchmarks as described above, reasoning that "the translation of the chronic criteria would require gathering additional data, including background base-flow concentration of selenium in the receiving water and the length of exposure."[99] We agree with EPA's reasoning. Furthermore, as with copper, we are opposed to the idea of site-specific benchmarks because the idea lacks detail in the draft fact sheet. EPA cannot finalize the site-specific alternative selenium benchmark without a more substantial proposal that answers critical questions, including those raised with respect to copper above. At this point in time, given the lack of clarity, we oppose the idea.

EPA should revise the selenium benchmark to 3.1 µg/L and should not adopt a site-specific alternative for facilities that repeatedly exceed the benchmark.

[95] *Id*. at 64.
[96] *Id*. at 65.
[97] NAS at 33.
[98] *Id*.
[99] Fact Sheet at 65.

13. EPA Must Require PAH Monitoring for Sectors I, P, R, C, F and Q, in Accordance with the Recommendations by the National Academies and for Other Reasons.

EPA must require PAH monitoring for at least Sectors I, P and R (based on NAS recommendations) and Sectors C, F and Q (based on the analysis in EPA's fact sheet). The NAS recommendations are clear, and the NAS does not support using COD as a surrogate. More fundamentally, while we recognize that it would be outside the scope of the current rulemaking, EPA must establish water quality criteria for PAHs, as Canada has done.[100] In the meantime, the very least EPA could do is require the monitoring data necessary to characterize the pollution problem and stormwater treatment capabilities.

The NAS notes that "PAHs have been shown to be extremely toxic to fish and aquatic invertebrates and are known to bioaccumulate," and that "PAHs are expected at industrial sites with petroleum hydrocarbon exposure."[101] In the draft fact sheet, EPA itself discusses the risks associated with PAH pollution.[102]

The NAS report and the EPA fact sheet barely scratch the surface of what we know about the risks of PAH exposure. Many PAHs are carcinogenic, cause organ damage, and/or suppress the immune system. They also comprise one of the most ubiquitous classes of compounds that industrial facilities discharge into the air and water.[103] EPA lists 17 PAHs as Priority Pollutants, including a number of chemicals commonly found in NPDES permits associated with Sector C, F, and Q facilities: acenaphthene, anthracene, benz(*a*)anthracene, benzo(*k*)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene[FN] phenanthrene, and pyrene.[104]

The toxicity of PAHs has long been known. The scientific community first identified the carcinogenic nature of benzo(*a*)pyrene in 1918. Albers 2003 and a 1987 U.S. Fish and Wildlife Service Biological Report called PAHs "among the most potent carcinogens known to exist, producing tumors in some organisms through single exposures to microgram quantities."[105] When metabolized, PAHs byproducts can cause a host of problems in humans and animals, including inflammation, suppressed immune system function, endocrine (hormone) system disruption, genotoxicity, embryotoxicity, mutation,

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[100] *See, e.g.*, NAS at 43.
[101] NAS at 33 (internal citations omitted).
[102] Fact Sheet at 21.
[103] Canadian Council of Ministers of the Environment, Canadian Water Quality Guidelines for the Protection of Aquatic Life: Polycyclic Aromatic Hydrocarbons (CWQG PAHs) (1999).
[104] U.S. Envtl. Prot. Agency, 2014, Priority Pollutant List, https://www.epa.gov/sites/production/files/2015-09/documents/priority-pollutant-list-epa.pdf; Collier, T. K. et al., Effects on fish of polycyclic aromatic hydrocarbons (PAHs) and naphthenic acid exposures, 33 Organic Chemical Toxicology of Fishes 195 (2014); Eisler, R., Polycyclic aromatic hydrocarbon hazards to fish, wildlife, and invertebrates: a synoptic review, U.S. Fish & Wildlife Serv. Biological Report 85(1.11) (May 1987); Kannan, K. & E. Perrotta, Polycyclic aromatic hydrocarbons (PAHs) in livers of California sea otters, 71 Chemosphere 649 (2008).
[105] Eisler 1987, at 4.

developmental malformations, tumors, and cancer (specifically, lung, skin, gastrointestinal, and bladder cancers).[106]

As in humans, PAHs induce a wide variety of detrimental effects in aquatic organisms, including reproductive harm, compromised immune system function, cancer, and death.[107] These harms impact species across taxa, from bacteria to invertebrates, fish to reptiles, birds to mammals. Aquatic organisms exposed to PAHs may exhibit reduced growth; deformities; endocrine disruption; inhibited reproduction and reduced survival of young; toxicity to embryos; suppressed immune systems; liver and kidney toxicity; cancers; and mortality.[108] The most striking evidence for the effect of PAHs on marine mammals comes from an eight-year study on St. Lawrence Estuary beluga whales (*Delphinapterus leucas*). A quarter of adult St. Lawrence Estuary belugas—which are exposed to PAHs through the ingestion of contaminated worms—die from cancer.[109]

In short, PAHs are extremely toxic and their discharge in industrial stormwater must be controlled. It should go without saying that PAHs must also be monitored.
The NAS goes on to observe that "PAHs were not previously monitored as part of the MSGP process, but aquatic impacts of PAHs are now better understood and analytical technologies have advanced significantly since the 1992 group application,"[110] before concluding that "[a]dditional information and data gathering for polycyclic aromatic

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[106] Abdel-Shafy, Hussein I. & Mona S.M. Mansour, A review on polycyclic aromatic hydrocarbons: source, environmental impact, effect on human health and remediation. 25 Egyptian J. Petroleum 107 (2016); Albers, P., *Petroleum and Individual Polycyclic Aromatic Hydrocarbons, Ch. 14 in* HANDBOOK OF ECOTOXICOLOGY (David J. Hoffman et al. eds. 2nd ed. 2003); Albers, P.H. & T. R. Loughlin, *Effects of PAHs on Marine Birds, Mammals and Reptiles, Ch. 13 in* PAHS: AN ECOTOXICOLOGICAL PERSPECTIVE (Peter E.T. Douben ed. 2003); Collier et al. 2014; Kabir, Eva Rahman et al., A review on endocrine disruptors and their possible impacts on human health, 40 Envtl. Toxicology & Pharmacology 241 (2015); Kannan & Perrotta 2008; Rengarajan, T. et al., Exposure to polycyclic aromatic hydrocarbons with special focus on cancer, 5 Asian Pacific J. Tropical Biomedicine 182 (2015); Troisi, G. et al., Impacts of oil spills on seabirds: unsustainable impacts of non-renewable energy, 41 Int'l J. Hydrogen Energy 16,549 (2016).
[107] Eisler 1987; Albers 2003.
[108] Albers 2003; Albers & Loughlin 2003; Bell, Barbara et al., High incidence of deformity in aquatic turtles in the John Heinz National Wildlife Refuge, 142 Envtl. Pollution 457 (2006), at 463-64; Eisler 1987; Collier et al. 2014; Cousin, Xavier and Jérôme Cachot, PAHs and fish—exposure monitoring and adverse effects—from molecular to individual level, 21 Envtl. Sci. & Pollution Research 13,685 (2014); CWQG PAHs 1999; Goodale, Britton C., PH.D. DISSERTATION: DEVELOPMENTAL TOXICITY OF POLYCYCLIC AROMATIC HYDROCARBONS: DEFINING MECHANISMS WITH SYSTEMS-BASED TRANSCRIPTIONAL PROFILING (Aug. 12, 2013); Malcolm, H. M. & Richard F. Shore, *Effects of PAHs on Terrestrial and Freshwater Birds, Mammals and Amphibians*, *in Ch. 12* PAHS: AN ECOTOXICOLOGICAL PERSPECTIVE (Peter E.T. Douben ed. 2003); Meador, J.P. et al., Bioaccumulation of Polycyclic Aromatic Hydrocarbons by Marine Organisms, 143 Review of Envtl. Contamination & Toxicology 79 (1995); Payne, J. F. et al., *Ecotoxicological Studies Focusing on Marine and Freshwater Fish*, *in Ch. 11* PAHS: AN ECOTOXICOLOGICAL PERSPECTIVE (Peter E.T. Douben ed. 2003); Reynolds, J. & D. Wetzel, *PowerPoint presentation: Polycyclic Aromatic Hydrocarbon (PAH) Contamination in Cook Inlet Belugas* (undated); Troisi et al. 2016; Zychowski, G. V. et al., Reptilian exposure to polycyclic aromatic hydrocarbons and associated effects, 36 Envtl. Toxicology & Chemistry 25 (2017).
[109] Albers & Loughlin 2003; Martineau, Daniel, *Contaminants and Health of Beluga Whales of the Saint Lawrence Estuary*, *in Ch. 17* ECOSYSTEM HEALTH AND SUSTAINABLE AGRICULTURE 2 (Norrgren, L. & J. Levengood eds. 2012).
[110] NAS at 31.

hydrocarbons (PAHs) could help EPA determine if benchmark monitoring is needed for sectors that have the potential to release PAHs."[111]

The NAS also recommends PAH monitoring for two specific sectors. Regarding the Oil and Gas sector (Sector I), the NAS noted that "[s]pills and leaks can also lead to petroleum hydrocarbon contaminants in stormwater, including PAHs, which have been shown to be highly toxic to aquatic life. Chemical-specific monitoring is appropriate for this sector to ensure that stormwater is appropriately managed."[112] The NAS said the same thing about the Motor Freight and Transportation sector (Sector P),[113] and EPA notes that the same reasoning applies to Sector R (Ship and Boat Building and Repair Yards).[114]

EPA also presents "industrial process wastewater discharges" of PAHs from various MSGP sub-sectors "as a proxy" for stormwater loads.[115] This analysis suggests that EPA should also require PAH monitoring for Sectors C, F and Q, which contain the top five subsectors for process wastewater PAH loads.

EPA's suggestion[116] that the NAS approves of COD as a surrogate for PAHs is plainly false. The NAS said no such thing. To the contrary, the NAS repeatedly said the opposite:

- "While both COD and TOC are gross measures of organic pollution, they are not specific enough or sensitive enough to detect possible excursions of toxic pollutants (e.g., polycyclic aromatic hydrocarbons [PAHs]) at moderate/low concentrations."[117]

- "Analytical methods for determination of PAHs are standardized and readily available (EPA, 2015c). It may <u>appear</u> that [Chemical Oxygen Demand] can be used as a surrogate for PAHs, but PAHs can be toxic at concentrations orders of magnitude lower than the [Chemical Oxygen Demand] benchmark (120 mg/L). Canadian water quality guideline values for PAHs for the protection of aquatic life range from 0.012 µg/L (anthracene) to 5.8 µg/L (acenaphthene) (Canadian CME, 1999). Currently, EPA has no recommended aquatic life criteria for individual or total PAHs. [118]

What the NAS actually recommended with respect to PAHs and COD is that EPA <u>first</u> require PAH monitoring, and then evaluate whether COD could be an adequate

[111] *Id*. at 3; see also *id*. at 33 and 42.
[112] *Id*. at 29 (internal citations omitted).
[113] *Id*. at 30.
[114] Fact Sheet at 62.
[115] *Id*. at 67-68.
[116] *Id.* at 69.
[117] NAS at 28.
[118] Id. at 43 (emphasis added).

surrogate.[119] Based on the information available now, and the NAS's discussion, it should be clear that COD is not an adequate surrogate.

In light of the known toxicity of PAHs, the clear NAS recommendations for sector-specific monitoring, and the fact that COD is not a reliable surrogate for PAHs, EPA must require PAH monitoring for Sectors I, P and R, and also for sectors C, F and Q while it works on developing water quality criteria for PAHs.

[119] Id. at 33.

14. EPA Should Adopt its Proposal to Establish Sector-Specific Benchmark Monitoring for Sector I (Oil and Gas Extraction), Sector P (Land Transportation and Warehousing), and Sector R (Ship and Boat Building and Repair Yards) in Accordance with the Recommendations by the National Academies and Other Certain Revisions.

Commenters urge EPA to adopt its proposal to include new sector-specific benchmark monitoring requirements for Sector I (Oil and Gas Extraction), Sector P (Land Transportation and Warehousing), and Sector R (Ship and Boat Building and Repair Yards).[120] However, EPA should also revise its proposal to require PAH benchmark monitoring for Sectors I, P, and R in accordance with the recommendations of the National Academies and by the Commenters, as discussed more fully in the preceding comment section. EPA should also include additional benchmark monitoring requirements for Sectors I, P, and R as described below.

EPA should require operators in Sector I (Oil and Gas Extraction) to conduct benchmark monitoring for radium and other radionuclides, radioactive constituents, or appropriate surrogate or indicator for technologically enhanced naturally occurring radioactive material associated with oil and gas extraction. Studies have demonstrated significant and widespread radioactive contamination by drilling fluids and wastewaters (including "brine") from hydraulic fracturing and other conventional methods of oil and gas extraction.[121] The land application of wastewaters from oil and gas extraction is permitted within several jurisdictions, including New Mexico, for dust suppression, road deicing, road maintenance, and/or for disposal onto or within the land upon which oil and gas extraction facilities are located.[122] Permitted land applications or other pathways for stormwater exposure of wastewater at oil and gas extraction facilities covered by the MSGP may result in stormwater discharges contaminated by radioactive constituents that reach receiving waterways and contribute to violations of applicable surface and drinking water standards. EPA must adopt stormwater controls to address discharge of radioactive constituents by facilities in Sector I.[123]

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[120] Fact Sheet at 62.

[121] Tasker TL, Burgos WD, Piotrowski P, et al. Environmental and Human Health Impacts of Spreading Oil and Gas Wastewater on Roads. *Environ Sci Technol*. 2018;52(12):7081-7091. doi:10.1021/acs.est.8b00716 (attached); Lauer NE, Warner NR, and Vengosh A. Sources of Radium Accumulation in Stream Sediments near Disposal Sites in Pennsylvania: Implications for Disposal of Conventional Oil and Gas Wastewater. *Environ Sci Technol.* 2018 *52* (3), 955-962. DOI: 10.1021/acs.est.7b04952; Nelson AW, May D, Knight AW, Eitrheim ES, Mehrhoff M, Shannon R., Littman R, and MK Schultz. Matrix Complications in the Determination of Radium Levels in Hydraulic Fracturing Flowback Water from Marcellus Share. *Environ Sci Technol. Lett.* 2014; *See also*, Justin Nobel. America's Radioactive Secret. *Rolling Stone*, Jan. 21, 2020. Available at https://www.rollingstone.com/politics/politics-features/oil-gas-fracking-radioactive-investigation-937389/.

[122] Tasker TL, et al.; *also* Troutman MA. Still Wasting Away: The Failure to Safely Manage Oil and Gas Waste Continues (May, 2019) at 18 and 60-63. Available at https://earthworks.org/cms/assets/uploads/2019/06/National-Phase-1_WastingAway_2.0-5-2019.pdf.

[123] Conference of Radiation Control Program Directors, Inc. E-42 Task Force Report Review of TENORM in the Oil & Gas Industry, (June, 2015) at 24, 73-76 (attached), Publication No. CRCPD E-15-2. Available at https://www.epa.gov/radtown/radioactive-waste-material-oil-and-gas-drilling.

The Transportation and Warehousing Sector (P) has quite literally an outsized footprint in the Chesapeake Bay watershed, for example, especially in Pennsylvania – and also likely in other states which host key shipping and goods distribution centers along, or at multiple intersecting Interstate highways. Break-bulk and major warehouse and highway-related trucking facilities are a dominant land use in parts of Pennsylvania where several Interstate highways intersect, where major north-south interstate routes (I-95, I-81) carry freight along the heavily populated East Coast corridor, and where east-west routes connect East Coast shipping ports with Midwestern population centers.

Land transportation and warehouse facilities of 50-75 acres in size are not unusual, and additional attention is required for their stormwater loads. While the Commonwealth of Pennsylvania issues its own stormwater permits for Pennsylvania's industrial facilities, its industrial stormwater general permits have regularly hewed very closely to EPA's MSGP -- just as the MSGP serves as a basic template for many other states across the country. As such, the MSGP should attend closely to this sector.

Sector-specific benchmarks appropriately include total recoverable lead and mercury benchmarks (e.g. 1.4micrograms/L for the former, depending on water hardness, which is listed); these are important toxic pollutants and relate directly to various types of transportation equipment and fuels.[124] But these alone are insufficient. Benchmarks should be established for more prosaic stormwater runoff pollutants, such as nitrogen, phosphorus, total suspended solids, and indeed, water volume itself -- since the massive impervious surfaces, from rooftops to parking and service areas in these sizeable warehousing and shipping centers, generate extensive runoff subject to large and fast-moving volumes of water, which either carry nutrient (N and P) and sediment or contribute to such loading by blowing out stream banks and beds. These physical configurations lead to significant adverse water quality impacts in streams and rivers and should require specific controls related to those specific pollutants.

Sector-specific benchmarks for Sector R (Ship and Boat Building and Repair Yards) are long overdue and must be included in the Final MSGP. Copper-based bottom paint is customarily applied to the bottom of ships and boats for its anti-fouling properties. Blasting, refinishing, and painting activities at ship and boat yards often result in the release of copper laden overspray, paint chips, and dust, which can easily pollute stormwater and receiving waters. Additionally, ship and boat yards often engage in engine maintenance and repair, parts cleaning, metal working, welding, cutting and grinding – industrial activities which are known to produce heavy metals pollution.[125] Despite the fact that heavy metals are often associated with Sector R's industrial activities, previous iterations of the MSGP have failed to require ship and boat yards to analyze their stormwater samples for heavy metals. Commenters appreciate that the Agency has adopted NAS's recommendations[126] in favor of including sector-specific benchmarks for Sector R in the 2020 MSGP.

[124] Draft Permit at 93, Part 8.P.6.
[125] NAS at 30.
[126] *Id.* at 30.

In response to the Agency's Request for Comment 12[127] for any data related to Sector R, Commenters have attached a compilation of self-reported industrial stormwater sampling results from Sector R facilities located in California for the heavy metals chromium, copper, lead, nickel, and zinc.[128] Of the more than 80 Sector R facilities in California, approximately 30 analyzed their industrial stormwater samples for heavy metals in the past five years. As evidenced by the attached sampling results, heavy metals are present in stormwater discharged from Sector R facilities, and thus must be monitored and controlled across this entire industrial sector.

Accordingly, the Agency must include sector specific benchmarks for Sector R for chromium (III), chromium (VI), copper, lead, nickel, and zinc in the Final 2020 MSGP.

[127] Fact Sheet at 62.

[128] Commenters downloaded from California's Stormwater Multiple Application and Report Tracking System (SMARTS) database self-reported parameter results (i.e. chromium, copper, lead, nickel, and zinc) for Sector R (i.e., SIC Codes 3731 and 3732) for facilities located in California (attached).

15. EPA Should Adopt its Proposal for "Consideration of Major Storm Control Measure Enhancements," with Certain Revisions.

Flood risks to industrial facilities and, in particular, the threat of flood-induced contaminated stormwater discharges and chemical disasters are a present and increasing risk and must continue to be fully addressed in the MSGP. The MSGP has long required regulated facilities that are exposed to extreme weather and flood risks to develop SWPPPs with enforceable measures to address those risks and to comply with effluent limits, water quality standards, antidegradation requirements for high quality waterways, and applicable waste load allocations. The well-documented current and increasing effects of climate change, such as increased frequency of severe storms, extreme precipitation, storm surge, and sea level rise, only intensify the risk of harm from contaminated stormwater discharges and catastrophic spills to water quality, public health and safety.[129]

While the narrative standards contained in the 2015 and prior versions of the MSGP already require permittees to take these issues into consideration and implement appropriate controls and actions at facilities, the proposed 2020 MSGP language as it currently stands is not sufficient because it appears to narrow the necessary consideration of flood risk from the 2015 version. Accordingly, the Agency should strengthen the proposed language in Part 2.1.1.8 by underscoring existing obligations requiring applicants to use good engineering practice, disclose information in their possession, consider all reasonably available data and information, and thoroughly document present-day and future flood risks, such as hurricane storm surge and high tides, extreme precipitation, known and committed sea level rise, and historic flood incidents. EPA should further underscore that applicants must include specific enforceable design, operation, and maintenance measures in their SWPPPs to fully address identified risks of pollutant discharges. Relying upon the self-reported data and information contemplated in this proposal, EPA should evaluate the universe of permitted facilities at risk of flooding and prioritize inspections, outreach, technical assistance, and compliance resources to the most vulnerable facilities.

a. EPA Should Require Applicants to Self-Identify Risk of Flooding Conditions Resulting from Major Storms in Notice of Intent Applications for Permit Coverage

EPA should require applicants to report identified flood risks in their NOI application following consultation with resources and data sets applicable to present and future flood risks as discussed below. As with the prior permit, the draft permit requires applicants to document their consideration of the design and selection of control measures in their SWPPP (Part 6.4), which includes consideration of the risks of major storm events and extreme flooding conditions. Consistent with good engineering

[129] Minovi, D. Toxic Floodwaters: Public Health Risks and Vulnerability to Chemical Spills Triggered by Extreme Weather, Center for Progressive Reform (May, 2020) (attached); *also* Government Accountability Office. *Superfund: EPA Should Take Additional Actions to Manage Risks from Climate Change*. GAO-20-73: Published: Oct 18, 2019. Publicly Released: Nov 18, 2019. https://www.gao.gov/products/GAO-20-73.

practice and in order to support meaningful evaluation of an applicant's consideration of potential major storm and flood risk, EPA should make explicit that applicants must identify 1) the specific present-day flood risks and reasonably foreseeable flood risks over the design life of their facilities; 2) all of the information and analysis applicants have in their or their agents' possession relevant to flood risk; and 3) information and analysis relied upon for consideration and implementation of control measures to address identified risks.

EPA should require applicants to self-designate exposure to flood risk if any part of their facility's footprint is located within a geographic area at risk of flooding based upon the best available flood projection information and models for that area. This must include consideration of all reasonably available data and information consistent with good engineering practice.

Unfortunately, proposed Part 2.1.1.8 narrows the universe of data that must currently be considered under the MSGP by constraining the flood-risk analysis solely to "base flood elevations (BFE) shown on the Federal Emergency Management Agency's Flood Maps and on the flood profiles, which can be accessed through https://msc.fema.gov/portal/search."[130] As EPA is well aware, FEMA flood hazard designations are insufficient to capture present-day coastal flood risks, which also include hurricane storm surge and nuisance or 'sunny-day' tidal flooding, to sites discharging industrial stormwater.[131] Further, the underlying models used by FEMA to identify flood risks for flood insurance rate development were never intended for use in regulatory programs and are based upon retrospective data. Therefore, FEMA designations are outdated in many cases and even across some entire regions. These concerns are especially grave given observed increases in precipitation intensity, severe storm frequency, and sea level rise. Dramatically intensified development of impervious surfaces over the last several decades further confounds simple reliance on the FEMA designations. As a result, currently applicable spatial flood hazard designations significantly underestimate present-day risk. Reliance on FEMA BFEs alone in this proposed provision artificially constrains the 2015 MSGP requirements and would be arbitrary and unreasonable given current scientific consensus regarding both the insufficiencies of the FEMA maps and the dramatic current and certainly impending effects of climate change.

Nevertheless, FEMA flood hazard designations represent basic information that must be considered for identifying present-day flood risks and risk over the design life of a facility. EPA should make explicit that applicants must, at a bare minimum, identify areas designated by FEMA as in or adjacent to a flood risk zone with a 0.2 percent or greater annual chance of flooding. Despite their underestimation of risk and flaws, the FEMA designations of statistical probability are based upon streamflow measurements and coastal flooding data, which are available for a widespread geography.

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[130] Draft Permit at 14, Part 2.1.1.8, Note 5

[131] Highfield, W.E., Norman, S.A. and Brody, S.D. (2013), Examining the 100-Year Floodplain as a Metric of Risk, Loss, and Household Adjustment. Risk Analysis, 33: 186-191. doi:10.1111/j.1539-6924.2012.01840.x.

EPA should also make explicit that applicants are required to self-designate exposure to flood risk if any part of their facility's footprint is located within geographic areas that are projected by NOAA to be exposed to present-day risk of hurricane storm surge. NOAA has developed multiple hurricane storm surge models and projections. For example, NOAA's National Hurricane Center publishes coastal storm surge vulnerability projections based upon the agency's SLOSH (Sea, Lake, and Overland Surges from Hurricanes) model, which is based upon analysis of different tropical storm trajectories and intensities.[132] Coastal areas are already at risk of flooding due to storm surge, and that risk is growing due to increased frequency and intensity of hurricane storms and observed sea level rise.[133] Therefore, EPA should require applicants to identify a site's risk of exposure to storm surge arising from any of five categories of hurricanes (in accordance with NOAA modeled projections) and consider accordingly the necessary control measures to account for those risks.

EPA should also make explicit that applicants must self-designate exposure to flood risk if any part of their facility's footprint is located within geographic areas that are projected by NOAA to be exposed to present-day or future risk of dry-weather tidal flooding, including so-called 'king tides,' 'sunny-day,' recurrent and nuisance flooding. Tidal flooding is already impacting coastal regions, including industrial areas and public infrastructure such as storm sewers and roadways.[134] NOAA has identified coastal areas that are exposed to present-day nuisance flooding, based upon decades of observed data.[135] The risks of coastal nuisance flooding are also increasing due, for

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[132] National Hurricane Center. National Storm Surge Hazard Maps - Version 2, National Oceanic and Atmospheric Administration, US Department of Commerce (accessed May 26, 2020). Available at https://www.nhc.noaa.gov/nationalsurge/; *also,* National Hurricane Center Storm Surge Unit. National Storm Surge Hazard Maps, National Oceanic and Atmospheric Administration, US Department of Commerce (accessed May 26, 2020). Available at https://noaa.maps.arcgis.com/apps/MapSeries/index.html?appid=d9ed7904dbec441a9c4dd7b277935fad&entry=1.

[133] Fleming, E., J. Payne, W. Sweet, M. Craghan, J. Haines, J.F. Hart, H. Stiller, and A. Sutton-Grier, 2018: Coastal Effects. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 322–352. doi: 10.7930/NCA4.2018.CH8.

[134] National Ocean Service. What is high tide flooding? National Oceanic and Atmospheric Administration, US Department of Commerce (accessed May 26, 2020). Available at https://oceanservice.noaa.gov/facts/nuisance-flooding.html; *also*, Jacobs, J. M., Cattaneo, L. R., Sweet, W., & Mansfield, T. (2018). Recent and Future Outlooks for Nuisance Flooding Impacts on Roadways on the U.S. East Coast. Transportation Research Record, 2672(2), 1–10. https://doi.org/10.1177/0361198118756366.

[135] Sweet, W.V.; Duseket, G.; Obeysekera, J. and Marra, J.J. (2018) Patterns and Projections of High Tide Flooding Along the U.S. Coastline Using a Common Impact Threshold. Silver Spring, MD, NOAA NOS Center for Operational Oceanographic Products and Services, 44pp. (NOAA Technical Report NOS CO-OPS 086), DOI: http://dx.doi.org/10.25607/OBP-128; Office for Coastal Management. Sea Level Rise and Coastal Flooding Impacts – Sea Level Rise Viewer, National Oceanic and Atmospheric Administration, US Department of Commerce (accessed May 26, 2020). Available at https://coast.noaa.gov/slr/#/layer/slr.

example, to observed land subsidence and sea level rise.[136] The coincidence of high tidal conditions with major storms and related flood conditions also has the potential to exacerbate the risk of harm to industrial sites. Therefore, EPA should make clear that applicants must identify a site's risk of exposure to nuisance flooding (in accordance with NOAA modeled projections) and consider accordingly the necessary control measures to account for those risks.

Identification of flood risks based solely upon the aforementioned analyses and designations will not adequately reflect the universe of present-day flood risk at MSGP-covered facilities which are typically comprised of infrastructure with a long service life. FEMA and NOAA projections are typically based upon analysis of historical data; there is no substitute for site-specific flood data and future data-driven projections. In addition, EPA should require applicants to self-designate exposure to flood risk if any part of their facility has been flooded within the last 20 years. The past incidence of flooding is another indicator of present-day risk and should be disclosed by applicants and should also serve as a mandatory basis for selection and design of control measures.

Further, in accordance with the foregoing and good engineering practice, EPA should make explicit that applicants must identify a "Site-Specific Flood Planning Elevation". Certain sites may be exposed to more than one type of present-day flood risk, so the identified Site-Specific Flood Planning Elevation can simplify the applicant's consideration of flood risk in the selection and design of control measures. In particular, EPA should require applicants to certify that they have (1) modeled the efficiency of existing control measures; (2) designed and implemented measures in accordance with their self-reported Site-Specific Flood Planning Elevation; and (3) that their SWPPP includes a "Storm and Flood Protection Protocol," as described in the following section.

Lastly, EPA should make an explicit presumption against no-exposure certifications for facilities at-risk of flooding, as above, and should prohibit eligibility for no-exposure certification for any facility that has experienced flooding in the last twenty years. EPA should revise the form application for no-exposure certification to require applicants or a qualified professional to affirm that an applicant facility does not meet any of the flood exposure criteria described above. EPA may also allow applicants seeking no exposure certification to otherwise provide a detailed analysis prepared by a third-party engineer demonstrating that existing site-specific features and control measures will prevent inundation on any part of the site and the discharge of runoff contaminated by pollutants present on the premises.

b. EPA Should Make Explicit that Facilities Must Implement Measures Designed to Prevent Pollutant Discharges from Floods

In addition to requiring applicants to explicitly document and describe the process for

[136] Sweet, W. P. J., Marra, J., Zervas, C. & Gill, S. Sea Level Rise and Nuisance Flood Frequency Changes Around the United States, NOAA Technical Report NOS CO-OPS 073 (NOAA, 2014). Available at http://tidesandcurrents.noaa.gov/publications/NOAA_Technical_Report_NOS_COOPS_073.pdf.

selection and design of control measures that is responsive to identified flood risks, the Agency should also make clear that operators of facilities at-risk of flooding must implement such measures concurrent with their annual SWPPP update. EPA should explicitly require operators to assess and report on the flood vulnerability of sites and pollution control measures in the initial submission and subsequent updates of SWPPPs. As a component of this required self-evaluation, operators must continue to model the efficiency of existing control measures and design additional control measures in accordance with their self-reported Site-Specific Flood Planning Elevation.

EPA should explicitly require operators of facilities at-risk of flooding to implement additional pollution prevention and mitigation measures necessary to address site-specific flood vulnerabilities as necessary to comply with effluent limits, applicable water quality standards, and other requirements of the MSGP. EPA should require operators to submit engineering designs for control measures within 6 months of SWPPP completion or update; implement necessary control measures within 12 months; and commence post-construction monitoring within 24 months.

EPA should require applicants to include a Storm and Flood Protection Protocol for safe full/partial shutdown of facility and application of temporary stormwater pollution control measures during an emergency caused by forecasted storm or flooding and the site-specific risks of flooding (as above). The protocol may be copied from or incorporated by reference to other emergency planning documents applicable to the facility. If so incorporated by reference, those other documents will become integrated into a site's SWPPP. EPA should also require operators to indicate on proposed publicly-accessible signage whether a site is exposed to any risk of flooding, while the more detailed information about flood risk and a facility's plan for control measure changes and flood response protocols would be made accessible its SWPPP.

EPA should explicitly require operators to monitor and report on flooding impacts to sites and pollution control measures. EPA should require visual assessment for flooding impacts as part of required routine facility inspections (Part 3.1) and quarterly visual assessments (Part 3.2), for example. Visual assessment of flooding impacts should also be required as part of required procedures for monitoring (i.e. measurable storm events, Part 4.1.3). Operators should be required to document "Adverse Weather Conditions," and, in doing so, assess and document flooding impacts (Part 4.1.5).

EPA should use facility-reported information and data, as well as other relevant resources, to evaluate the universe of permitted facilities at risk of flooding and to prioritize inspections, outreach, technical assistance, and compliance assistance to the most vulnerable facilities. If EPA adopts the proposed requirements, as above, in the final MSGP, then the Agency will have more robust site-specific information and analysis with which to deliver compliance assistance to flood vulnerable facilities during the permit cycle, while also collecting valuable nation- and sector-wide data for the purpose of revising future permit requirements responsive to flood risks. This information would include, for example, self-identification of Exposure to Flood Risk (NOI), including data for historic, site-specific incidents of flooding; Site-Specific Flood

Planning Elevation (NOI); certification and modeling of control measures in accordance with the Site-Specific Flooding Planning Elevation (NOI and SWPPP); certification and submission of Storm and Flood Protection Protocol (NOI and SWPPP); and site-specific incident documentation for flooding and adverse weather conditions.

16. EPA Must Adequately Define the Terms "Feasible" and Feasibility," or Adopt an Appropriate Alternative Standard.

"Feasible" and "feasibility" – These terms are used repeatedly, usually within the phrase "where determined to be feasible" and connected to stormwater controls recommended as examples to be implemented within specific industrial sectors. While the controls offered as examples are generally good ones, and they are usually closely connected to that sector's type of potential stormwater pollution, the phrase and the concept require a complete definition to be operable. Without objective criteria in a definition, this concept is entirely subjective and thus ineffective. What are some factors that would make something "infeasible?" Is cost a relevant factor, and how much is too much? Is too much effort with a small or limited staff another criterion? Is technical practicability a third? Are there others? In addition to the necessity for fully *defining* this concept within this regulation, leaving its *determination* wholly to the permittee is a form of flexibility which may not legally be granted.

For example, in **8.N.3.1.5 Scrap and Recyclable Waste Processing Areas**, operators are directed to minimize the discharge of runoff with control measures (examples given), "where determined to be feasible". Or, for **Automobile Salvage Yards**, **8.M.2.3. - Management of Runoff**, "Implement control measures to minimize discharges of pollutants in runoff such as the following, where determined to be feasible." Without a clear definition of feasibility and how it is to be determined, this is an impermissibly broad standard.

The opposite (and effective) way to phrase such a directive, is to simply state the minimization standard and provide examples. This is found, for example, under **8.N.3.1.3, Stockpiling of Turnings Exposed to Cutting Fluids (Outdoor Storage)**: "Minimize contact of surface runoff with residual cutting fluids by storing all turnings exposed to cutting fluids under some form of permanent or semi-permanent cover, or establishing dedicated containment areas…." The requirement goes on to describe how containment areas should be constructed, and if runoff is discharged from such areas, that it must be collected and treated by an oil and water separator, or its equivalent.

A third, but much less than optimal, option for stating such a regulatory standard is to simply end each of these types of sentences, across the regulation, with the words "shall be minimized," and then providing clear examples of some of the possible controls that might be deployed which meet the minimization concept. Leaving "feasibility" to be determined solely by the permittee is legally fraught, especially with no definition or criteria by which neither the permittee nor the Agency may judge its attribution in particular circumstances.

17. EPA Should Revise Certain Provisions for Corrective Actions.

a. EPA Should Revise its Proposed "Too Late in the Work Day" Exception for Corrective Action

Section 5.1.2.1 requires permittees to minimize or prevent the unauthorized discharge of pollutants "immediately," and defines the word "immediately" to include an exception for problems that occur "too late in the work day to initiate corrective action," in which case "immediately" means the next day. EPA should limit the "too late in the work day" exception to immediate actions in order to prevent unnecessary harm from spills and leaks that go unaddressed overnight. The exception for "too late in the work day" should not apply to an unauthorized release or discharge (5.1.1.1), because spills should be controlled and leaks or other unauthorized discharges abated as soon as possible so as to limit discharge of pollutants to receiving waterways during overnight (12+ hours) periods.

b. EPA Should Strengthen Notification, Documentation, and Reporting Requirements for Corrective Action

EPA should require operators to provide timely and complete notifications for conditions or events requiring corrective actions, as well as reporting for any and all subsequent efforts to implement corrective actions, because the Agency acknowledges that such conditions have the potential to be violations of the permit. Parts 5.1 and 5.3. EPA acknowledges that conditions or events requiring corrective actions (5.1.1) may include permit violations. See Part 5.1.3. However, the Agency proposes a requirement that operators report these potential permit violations and subsequent corrective actions in an annual report only. See Parts 5.3.1 and 5.3.3. At that reporting timescale, potential permit violations and harm to downstream water quality may continue for an unjustifiably long period of time.

In all cases, EPA should require operators to notify the Agency of conditions or events requiring corrective actions pursuant to Parts 5.1.1, 5.1.2.1-2, and 5.1.4, and then provide the required documentation for corrective actions through NeT-DMR, so that the Agency may ensure that potential permit violations are adequately and timely addressed. EPA should require submission of notification for corrective action conditions or events and required documentation for corrective actions within a defined period no greater than 14 days.

c. EPA Should Shorten Unreasonably Long Extension Periods for Corrective Action

EPA should reduce the proposed extension period for required "Subsequent Actions" and require operators to provide adequate justification for extensions.[137] After immediately taking all reasonable steps to correct with interim controls a discovered problem, the proposed rule requires the basic control to be modified as necessary, before the next storm event and within 14 calendar days, to complete the repair and

[137] Draft Permit at 36, Part 5.1.2.2.

eliminate the problem. If the 14-day period is infeasible for reasons fully documented by the permit holder, the proposed rule requires corrective action within 45 days after discovery. First, this unreasonably long *initial* extension period should be reduced to 30 days. If the permit holder then finds that a longer period is still necessary due to necessary design or construction delays, such should be fully justified to EPA, and that period should be specified as 45 days without beginning to incur Clean Water Act penalties for permit violation. Only extraordinary circumstances might be cited to justify a 60-day period during which no penalties would be incurred.

18. EPA Should Adopt its Proposal for Additional Implementation Measures, with Certain Revisions.

a. Reporting and Documentation Requirements

EPA should substantially strengthen the reporting and documentation requirements for the proposed Additional Implementation Measures provisions. The Agency states that a "[…] benchmark exceedance is not definitive proof that water quality standard has been exceeded." Pg. 77 of Fact Sheet. However, where required AIM reporting is limited to notification of benchmark exceedances and annual reporting, the Agency will have limited information with which to timely ensure that exceedances and other incidents have not caused or contributed to an episodic or ongoing violation of water quality standards, for example, or other requirements of the MSGP and Clean Water Act.

EPA should require operators to provide timely and complete documentation for (1) notifications of all incidents that have or are likely to meet the criteria for any AIM Tier trigger and (2) reporting for any and all required efforts to review, implement, and/or modify stormwater control measures, including exceptions proposed by the operator.[138] The Agency acknowledges that such conditions have the potential to be violations of the permit or of an applicable water quality standard. re: Part 5.3 and Request for Comment 26, among other relevant provisions cited below. The notification and reporting of documentation within the specified deadlines for action will allow EPA to identify permit violations at a comparatively reasonable time-scale (e.g. within weeks or months instead of annually) and guard against noncompliance or bad-faith efforts to comply. In all cases, EPA should require operators to submit this documentation to NeT-DMR within the deadline specified in Part 5.3 in addition to the proposed requirement for reporting a summary of corrective action and/or AIM responses in the annual report per Part 7.5.

EPA should require operators to document the information and technical analysis supporting the rationale for not implementing certain sector-specific stormwater control measures because the measures are counter-productive or would not result in any reduction in the discharge of the pollutant of concern. This documentation is necessary for the Agency to evaluate whether adoption of this exception is technically appropriate and will have the added benefit of guarding against noncompliance or bad-faith efforts to comply. As above, EPA should require operators to submit documentation supporting the claim exception to NeT-DMR within the specified deadline (i.e. 14 days at Part 5.2.2.3).

b. Natural Background, Run-On, and Aberrant Event Exceptions

i. Proposed Exception for "Natural Background" Pollutant Levels

[138] Provisions in the Draft Permit that should be subject to improved reporting and documentation requirements include Parts 5.2.1.1, 5.2.1.2, 5.2.1.3, 5.2.2.1, 5.2.2.2, 5.2.2.3, 5.2.3.1, 5.2.3.2, 5.2.3.3, and 5.2.4.

EPA proposes to waive "AIM or additional benchmark monitoring" for pollutants whose benchmark exceedances are "solely attributable to the presence of [a] pollutant in natural background sources,"[139] and solicits comment on whether the proposed approach should be applied "throughout the permit."[140]

EPA's proposed section 5.2.4.1 is arbitrary and capricious, mathematically flawed, and contrary to law, and must not be finalized in any form, in any part of the MSGP.

1. EPA's proposed methodology is mathematically flawed

EPA purports to be waiving monitoring for pollutants whose benchmark exceedances are "solely" attributable to background, yet the draft permit language would do something very different. The draft permit would actually waive monitoring unless the exceedances are solely attributable to the permittee:

> You are not required to perform AIM or additional monitoring . . . provided that the following conditions are met: (a) The four-quarter average concentration of your benchmark monitoring results minus the concentration of that pollutant in the natural background is less than or equal to the benchmark threshold.[141]

This language is not at all limited to exceedances "solely" attributable to background. In fact, it would exempt a wide range of benchmark exceedances, including exceedances with a trivial natural background contribution. Consider the following hypothetical examples:

	Pollutant	Benchmark	Average benchmark monitoring result	Natural background concentration	Net contribution from permittee
Ex. 1	TSS	100 mg/L	120 mg/L	10 mg/L	110 mg/L
Ex. 2	TSS	100 mg/L	120 mg/L	60 mg/L	60 mg/L
Ex. 3	TSS	100 mg/L	105 mg/L	6 mg/L	99 mg/L

- Example 1 illustrates EPA's proposal working as we presume the Agency intended. After subtracting the natural background concentration, the permittee's net contribution to the benchmark monitoring result is 110 mg/L. This exceeds the benchmark, and this permittee would not be eligible for the monitoring exemption.

[139] Draft Permit at 49, Part 5.2.4.1.
[140] *Id.*, Request for Comment 24.
[141] *Id.*, Part 5.2.4.1.

- In Example 2, the benchmark monitoring result exceeds the benchmark by the same amount, but in this case half of the TSS load is coming from natural sources. Here, the benchmark exceedance is clearly *not* "solely" attributable to natural background – again, only half of the TSS is coming from natural sources. Yet the language would exempt the permittee from further monitoring.

- Example 3 present a more extreme, though by no means unrealistic, scenario. In this case, virtually all of the TSS load is coming from the permittee, and only a small fraction is coming from natural sources, yet the permittee would still be exempt from further monitoring because its net contribution is less than the benchmark.

EPA's proposal completely inverts its stated intent. It does not limit the exemption to situations where exceedances are solely attributable to natural sources. Instead, it asks whether an exceedance is solely attributable to the permittee. If not, the exceedance is ignored.

The discussion in the fact sheet suffers from basic mathematical and logical mistakes. In EPA's example,[142] the natural contribution is 80 mg/L, and the industrial contribution is 40 mg/L, for a total concentration of 120 mg/L. In this case, the exceedance would not occur without the natural contribution, so EPA concludes that the natural contribution is "solely" responsible. The problem with EPA's logic is that it applies equally to the permittee – the exceedance would not occur without the permittee, so EPA would have to also conclude that the permittee is solely responsible. This is of course impossible. The reality is that neither source is solely responsible, but both sources are contributing to an exceedance.

Or consider this thought experiment: There are two sources of pollution. They combine to cause an exceedance, but neither one would cause an exceedance by itself (i.e., EPA's example, or example 2 above). One is natural and one is industrial, but we don't reveal which is which. We simply say 'both samples have 60 mg/L of TSS.' How would one decide which source is "solely" responsible? Again, the fact is that neither source would be solely responsible; both would be partially responsible.

Mathematically, the only time an exceedance can be "solely" attributable to natural background is when natural background is the only source. The net contribution from the permittee in such a case would be zero. In order for EPA's proposal to reflect its stated intent, the proposed condition in 5.2.4.1(a) would have to read '*[t]he four-quarter average concentration of your benchmark monitoring results minus the concentration of that pollutant in the natural background is less than or equal* ***to zero.***'

2. EPA's proposal is contrary to law

The idea that polluters are only responsible for their pollution load when that load is by itself enough to cause water quality problems is directly contrary to the Clean Water Act.

[142] Fact Sheet at 84.

The "national goal" of the Clean Water Act is that "the discharge of pollutants into the navigable waters be eliminated." Short of that zero-discharge goal, the Clean Water Act allows for water-quality based limits, but it is important to remember that maintaining water quality is only an "interim goal" on the path to zero discharge.[143] Polluters – including industrial stormwater permittees – are required by the Clean Water Act to minimize their pollution loads, regardless of water quality impacts. This is why the Act requires technology-based effluent limitations (TBELs), which include the narrative requirements in the MSGP.[144] TBELs "represent[] a commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges."[145] TBELs represent the floor, or minimum level of effort that EPA must require, again regardless of water quality impacts. EPA is not permitted to waive TBELs just because a polluter is not the sole source of pollution.

Even within the context of water-quality based effluent limitations, the Clean Water Act clearly applies to every source of pollution that might be contributing to a water quality impairment, regardless of whether it is the sole source. This can be seen, for example, in the Act's provisions for Total Maximum Daily Loads (TMDLs), which start from the goal of restoring a certain level of water quality, and then work backward to estimate the extent to which each polluter in a given watershed contribute to the problem, and the level of reduction that each polluter must make. The TMDL framework does not require that any individual source be solely responsible, or that any individual source have a pollution load that would, by itself, be enough to cause water quality impairments. The operative question is simply whether the cumulative pollution load is too high:

> [W]here the applicable water quality standard has not yet been attained, any effluent limitation based on a total maximum daily load or other waste load allocation established under this section may be revised only if (i) the cumulative effect of all such revised effluent limitations based on such total maximum daily load or waste load allocation will assure the attainment of such water quality standard, or (ii) the designated use which is not being attained is removed in accordance with regulations established under this section.[146]

Indeed, the CWA's TMDL provisions illustrate exactly why EPA's current 'natural background' proposal is illegal. Consider Example 2 above, where a natural source and an industrial source each add equal amounts of pollution to a waterway. Assume that the receiving stream is impaired for the pollutant in question. If a TMDL were established, the regulatory agency would have to calculate the necessary pollution reductions and allocate the reductions among the various sources. In Example 2, there is nothing that can be done about the natural source; the industrial source would be

[143] 33 USC §1252(a)(2).
[144] *See, e.g.*, NAS at 11 ("Under the MSGP, TBELs are provided either through a limited number of ELGs or through a suite of narrative requirements").
[145] *EPA v. Nat'l Crushed Stone Ass'n*, 449 U.S. 64, 74 (1980).
[146] 33 U.S.C.A. § 1313 (emphasis added).

required to reduce its pollution load and would in fact be required to make all of the necessary reductions, even though it is not the sole cause of the impairment.

To sum up and simplify, the Clean Water Act requires pollution reductions from all polluters, and the Act holds polluters responsible whenever they cause or contribute to water quality problems. EPA cannot waive benchmark monitoring just because a permittee is not the sole cause of a benchmark exceedance.

Finally, we note that EPA's proposed change from the "no net facility contribution" language in the 2015 MSGP to the proposed 2020 MSGP method would have the effect of making the benchmark monitoring requirements less stringent. This constitutes impermissible backsliding, in violation of the CWA's anti-backsliding prohibition.[147]

3. EPA's proposal is impracticable

EPA solicits comment on "appropriate methods to characterize natural background concentrations."[148] The request reflects how difficult it is to conceptualize, define or characterize "natural background" in the context of industrial stormwater. By process of elimination, we conclude that it is effectively impossible. According to EPA, none of the following options are available:

> ***The National Stormwater Quality Database.*** We strongly agree with EPA that the NSQD cannot be used as a source of background values, because it "does not accurately represent pollutant concentrations that are attributable only to natural background sources."[149] There are two specific problems with using the NSQD in this way. First, the NSQD does not reflect "natural" stormwater, but instead reflects stormwater with municipal and industrial contributions. Second, it should go without saying that the NSQD, which is by definition a "national" database, cannot be a reliable proxy for site-specific background water quality data. It would be entirely inappropriate for any permittee to compare its discharge to other industrial (or partially industrial) stormwater, and only log an exceedance if the difference between the two exceeded a benchmark. This would theoretically (but realistically) waive monitoring even for permittees that are the sole source of an exceedance. If, for example, a permittee is discharging 140 mg/L of TSS, but some subset of the NSQD – from totally different locations – shows an average TSS concentration of 50 mg/L, the permittee would be exempt from further monitoring. This is of course an absurd outcome that precludes the use of the NSQD.
>
> ***Legacy pollutants from the site.*** According to EPA, "[n]atural pollutants do not include legacy pollution from earlier activity on your site." We agree with EPA on this point. It would be antithetical to the CWA to allow a permittee to remove itself from liability for pollutants originating on its property, regardless of when those

[147] 33 U.S.C. §1342(o).
[148] Draft Permit at 50, Request for Comment 25.
[149] *Id*.

pollutants were deposited at the site. It would also be technically challenging, to say the least, to segregate pollution loads according to the pollutants' date of origin.

Run-off from neighboring sources. We also agree with EPA that it would irresponsible to allow permittees to subtract runoff from neighboring, non-natural sources such as other industrial facilities or roadways. Again, the technical challenge of segregating pollution loads should by itself take this option off the table. Furthermore, allowing permittees to subtract industrial run-on would undermine and contradict other sections of the permit, including run-on controls.[150]

Since natural background cannot include offsite municipal/industrial stormwater, onsite legacy pollution, or non-natural run-on, there are very few remaining sources of "natural background." Perhaps EPA imagines that facilities will want to subtract the pollutants running onto a site from a neighboring forest (or other natural land use), or from on-site natural land uses. We presume that these situations are very rare, to the point that we see no value in creating an option with such a dubious technical foundation. It will be virtually impossible for permittees to segregate pollution loads among different natural and non-natural sources. The only sure-fire way to do this would be to physically separate the component stormwater flows through run-on and run-off controls, so that each component can be sampled separately. But if a permittee is separating the stormwater flows, then there is no need for netting out the natural contribution, because there is no commingling.

In short, EPA's proposal is mathematically unsound, contrary to law, and technically impracticable.

ii. Proposed Exception for "Run-On" Contributions to Exceedances

EPA proposes to waive "AIM or additional benchmark monitoring" where "run-on from a neighboring source . . . is the cause of the exceedance."[151] For all of the reasons set forth in the preceding section, we object to this waiver.

It is not clear what EPA means by "the cause," but we suspect that EPA intends for this section to mirror section 5.2.4.1, such that EPA would apply the same flawed logic with respect to exceedances "solely attributable" to natural background. Again, for all of the reasons set forth above, EPA cannot waive monitoring just because run-on contributes to a benchmark exceedance. If a permittee is causing or contributing to a benchmark exceedance, then that permittee must continue the AIM process and additional benchmark monitoring.

[150] Draft Permit at 15, Part 2.1.2.1(a); *See also* Draft Permit at 13, Part 2.1 ("Regulated stormwater discharges from your facility include stormwater run-on that commingles with stormwater discharges").
[151] *Id.* at 50.

The only theoretical scenario in which a permittee might legitimately be exempt is where the pollutant load is entirely attributable to run-on (i.e., where the contribution from on-site industrial stormwater is zero). However, we question whether there is any value in a carve-out for this scenario. If a permittee is able to separately monitor run-on, then the permittee should be able to avoid commingling, and no net calculations should be necessary.

iii. Proposed Exception for an "Aberrant Event"

EPA should eliminate the proposed "aberrant event" exception entirely or, alternatively, adopt a well-defined regulatory term of art, as described below. EPA proposes that an "*aberration*" or *"aberrant event*" (noted within "Request for Comment 22") should be one of the three exceptions to one of the triggering events described for requiring Tier 2, "Additional Implementation Measures" (AIM's), at Part 5.2.2.1.c.i.
The triggering event is where one sampling event is more than eight times the benchmark threshold. But this exception to that trigger states that such an instance may be characterized as an "aberration" if (1) immediate documentation is undertaken; (2) the documentation includes a description of how measures taken will prevent a recurrence; and (3) the next qualifying rain event sampling is either less than the benchmark (and therefore one is excused entirely from any Tier triggering), or the sample is less than four times the benchmark, wherein one is excused from triggering Tier 2, but still triggers Tier 1. An industrial source may only avail itself of this excuse one time per parameter per discharge point.

"Aberration" or "aberrant event" are not, to our knowledge, terms found anywhere in the federal Clean Water Act or elsewhere in other CWA regulations or guidance. They require a clear definition or better, a substitution (together with a definition). Such a substitution might be to use the more common term, "upset," as found throughout federal CWA (and other environmental) permitting. For example, the "Glossary" in the *U.S. EPA NPDES Permit Writers' Manual* contains this definition for the "upset:'

> An exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.[152]

This definition hearkens back to 40 C.F.R. §122.41(n)(1), which contains it, and which sets conditions necessary for its demonstration (among others, submitting notice of the upset within 24 hours of the occurrence) as well as a burden of proof related to any subsequent enforcement proceeding. Qualifying exceedances caused, even in part, by human action likely indicate deficiencies in control measures requiring modifications, which should not fall within the definition of an upset. With the exception of the addition

[152] U.S. Envtl. Prot. Agency, *NPDES Permit Writers' Manual*, EPA 833-K-10-001 (September 2010), Exh. A-2, at A-17. The definition cites to 40 C.F.R. §122.41(n)(1).

of a requirement for immediate mitigation (with which Commenters agree), the MSGP should not attempt to invent a wholly new, previously undescribed standard, new, untested words, or new conditions of applicability, to describe essentially the same thing.

c. AIM Triggers, Deadlines, and Other Exceptions

EPA should require an AIM Tier 1 trigger for "facility changes," including those described in the Request for Comment 21 and specified in Part 4.2 of the 2015 MSGP. Response to Request for Comment 21. The 2015 MSGP includes "facility changes" as a corrective action condition requiring operators to conduct a SWPPP review and implementation of modifications, if necessary. Failing to include "facility changes" as an AIM Tier 1 trigger or condition for corrective action in the 2020 MSGP would effectively roll back the effluent limitation as it is contained in the 2015 MSGP. At the very least, EPA must provide a legal and technical justification for not including "facility changes" as a corrective action condition or AIM trigger, in accordance with the anti-backsliding requirements of the Clean Water Act. CWA Section 402(o) and CFR 122.44(l).

EPA should not limit the Tier 2 trigger in Part 5.2.2.1.a. to only consecutive annual exceedances. EPA should provide the technical basis for limiting this trigger to specifically consecutive annual average exceedances. For example, the Agency should offer a technical justification for excluding a Tier 2 trigger in the event that a facility experienced below-average rainfall during an intervening year, resulting in comparatively lower precipitation quantity and intensity with the potential to cause on-site contamination of stormwater discharges.

EPA should clarify the requirements and deadlines for operators seeking to except substantially similar discharge points from Tier 3 requirements for installation of permanent controls. Part 5.2.3.2.a. As drafted, the provision requires operator to "individually monitor" these discharge points and "demonstrate that Tier 3 requirements are not triggered" at those points. However, the Agency does not specify requirements for: (1) how and by when an operator must conduct this monitoring; (2) which data and analysis, at a minimum, are required to make the demonstration; and (3) by which date the data and the demonstration must be made available to the Agency.

EPA should shorten proposed deadlines and timeframes for implementation in each of the three proposed tiers and require operators to provide adequate justification when seeking extensions. In general, the proposed deadlines are too generous and fail to promote timely effort by operators to identify modifications that would mitigate or prevent ongoing exceedances. For example, if there is a Tier I trigger, and if the 14-day deadline is infeasible for documented reason(s), modifications should be implemented within 30 days. A permittee may seek a 45-day period if extraordinary circumstances explain why action could not be taken sooner, such as special difficulties obtaining design and construction assistance.

EPA should also shorten the 31-day deadline extensions in Part 5.2.1.3 and Part 5.2.3.3 and the 60-day deadline extension in Part 5.2.3.3. In the alternative, EPA should provide a justification for the length of these proposed extensions, which includes, in part, reference to the specific information that provides the basis for 31 and 60-day periods. EPA should also address concerns about the use of the term "feasibility" (as discussed fully in Comment Section 16 above) as it relates to implementation of modifications to control measures that an operator has deemed "infeasible" for implementation within the 14-day deadline.

Installing permanent "structural" controls (including GI), as required by Part 5.2.3 for Tier 3, should not be considered a "penalty" or "consequence," rather, undertaking such actions should be what permittees must do in any case.

EPA should not adopt its proposed exception for "discharges not resulting in any exceedances of water quality standards" available to other AIM Tier levels or triggering events. Response to Request for Comment 23. Permittees should be required to undertake all efforts required pursuant to Tier 1 and 2 in order to resolve exceedances of benchmark standards and ensure that control measures are operating as required by the permit.

d. Other Terms and Provisions.

As described below, EPA should revise the proposed Additional Implementation Measures in order to clarify a number of vague or undefined terms in the draft provisions.

EPA should clarify that the One Annual Average Over the Benchmark Threshold is defined as the average of any four sequential quarterly samples, irrespective of the calendar year in which the samples were collected. Part 5.2.1.1.a. In other words, EPA should clarify whether the average or mathematically certain average exceedance may be based upon four or fewer sequential quarterly samples collected in two different calendar years.

EPA should clarify how the requirement to "Review Stormwater Control Measures" in Part 5.2.1.2.a. is different from the requirement for "SWPPP Review and Revision," for example, in Part 5.1.1.

EPA should clarify whether the "next year" is the following four quarters or all of the four quarters in the following calendar year, or whichever is longer. Parts 5.2.1.2.c., 5.2.2.2.b., and 5.2.3.2.c.

EPA should revise the language in Parts 5.2.1.2.a. and b. to note that, in addition to the requirement for operators to document their determination that nothing needs to be done with control measures in response to an AIM Tier 1 trigger, operators are also required to document their (a.) review of stormwater control measures and (b.) implementation and/or modifications of control measures, in accordance with Part 5.3.3.

As discussed above, EPA should require operators to submit this documentation to NeT-DMR within the deadline specified in Part 5.3.3 in addition to the proposed requirement for reporting a summary of corrective action and/or AIM responses in the annual report per Part 7.5.

19. EPA Must Revise or Eliminate its Proposal for Stormwater Retention in Order to Protect Groundwater Resources, in Accordance with the Recommendations of the National Academies of Sciences.

The NAS suggested that it might be appropriate for EPA to encourage stormwater retention and infiltration systems by developing retention system guidance, but cautioned that retention and infiltration poses serious risks that must be carefully managed:[153]

> When evaluating the potential for stormwater retention at an industrial facility, extreme caution should be used to ensure that infiltration does not result in groundwater contamination or mobilization of existing soil or groundwater contamination. Many common pollutants found in stormwater, such as heavy metals and toxic organics, have some mobility in the soil column (Armstrong and Llena, 1992; Clark et al., 2010; Treese et al., 2012). Without appropriate treatment, as well as spill prevention and containment, industrial stormwater retention can lead to groundwater contamination well beyond the site boundary that is difficult and costly to remediate.[154]

And indeed, "[g]roundwater contamination from stormwater infiltration has been documented in various locations around the country."[155]

EPA has not taken the NAS recommendations seriously. The Agency proposes to encourage the use of retention and infiltration as an alternative to structural or treatment controls in Tier 3 AIM responses, but without carefully protecting groundwater.[156] EPA states that it "intends to develop guidance on determining the feasibility of an infiltration/retention approach" at some unspecified future time.[157] This is entirely inappropriate and backward. EPA cannot allow for a risky practice prior to developing guidance for ensuring that the practice is implemented safely.

The NAS provided very specific guidelines for how the promotion of retention and infiltration could be done safely. Ensuring groundwater protection requires, among other things:[158]

- Rigorous permitting
- Pretreatment
- Monitoring. Among other things, "water quality should be monitored and evaluated in the infiltration device or at the base of the vadose zone."
- Site characterization

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[153] NAS at 6-7, 67-80.
[154] *Id.* at 71.
[155] *Id.* at 72.
[156] Fact Sheet at 8, 83.
[157] *Id.* at 83.
[158] *Id.* at 78-79.

- "In lieu of other information on the attenuation of contaminants in groundwater . . . infiltrated groundwater should be required to meet primary drinking water standards for inorganic chemicals and organic chemicals, and secondary standards for chloride and total dissolved solids."
- And, again, EPA guidance, including guidance "for demonstrating that exceeding the benchmark during storms with precipitation amounts greater than the design storm do not result in exceedance of water quality standards."

None of these things are in the draft permit or the fact sheet. Instead, EPA offers a retention/infiltration alternative that is virtually unlimited by any criteria whatsoever. EPA merely states that permittees:

> may install infiltration or retention controls (e.g., through green infrastructure) for your industrial stormwater, if such an approach is appropriate and feasible for your site-specific conditions. If this approach is feasible, the execution must be compliant with regulations for ground water protection and underground injection control (UIC). The analysis that shows infiltration/retention is appropriate for your site-specific conditions and is compliant with other applicable regulations must be provided to the EPA Regional Office in Part 7 BEFORE you can choose this option and the EPA Regional Office must concur with your conclusions.[159]

The only truly limiting factor in this broad grant of flexibility is the approval of an EPA regional office. But that approval is itself unlimited by any of the criteria recommended by the NAS, or any other criteria.

EPA cannot simply encourage a practice that poses a serious threat to groundwater without any assurances of groundwater protection. This would only move pollution from surface water to groundwater, at a net environmental cost (relative to what would happen under AIM implementation without the infiltration alternative). EPA must require the all of the NAS recommendations, including the following:

- Monitoring of water in the infiltration device or at the base of the vadose zone.
- Pretreatment sufficient to ensure that stormwater complies with primary and secondary drinking water standards "either before the stormwater is applied to the infiltration area or after passing through the infiltration/treatment media at the base of the unsaturated zone."[160]
- Site characterization sufficient to demonstrate that there is no potential to "mobilize existing contaminants in the subsurface."[161]

[159] Draft Permit at 44, Part 5.2.3.2.b.
[160] NAS at 76.
[161] *Id.* at 72.

These must be required of permittees in applications for infiltration under section 5.2.3.2.b, and EPA approval must be contingent on a finding that all of the NAS-recommended conditions have been met.

20. EPA Must Strengthen and Adopt Other Provisions for Monitoring and Control of Plastics Pollution.

Many facilities that EPA proposes to cover under the 2020 MSGP (Permit Parts 1-9 with related appendices)[162] discharge plastic pellets, powders, granules, and flakes into surface waters during the process of transferring plastic pellets internally and while packaging and preparing plastic pellets for transport between facilities.[163] This industry is also in the midst of a boom. According to the American Chemistry Council, the plastics and chemical industry is investing more than $204 billion in the United States for an estimated 333 projects (including new facilities and expansions) designed in large part to convert plentiful and affordable natural gas from shale into petrochemical and plastic products).[164] The industry aims to increase North American plastics production by at least 35 percent by 2025.[165] These new plastics will be used to manufacture a variety of products, including water bottles, straws, utensils, food wrappers, packaging, shopping bags, and other single-use items that account for approximately 40 percent of plastic use.[166]

Plastic pollution that escapes via stormwater from facilities that produce and handle pre-production plastic can adversely impact the aquatic environment in numerous ways, including from: ingestion by marine animals, including fish, sea turtles, birds, and marine mammals; becoming embedded in sediments and plant matter; introducing toxic plastic additives to the environment, such as bisphenol a and nonylphenol; and accumulating other toxic chemicals on pellet surfaces, such as PCBs and dioxin, which end up in the aquatic food chain when ingested.

The measures proposed by the 2020 MSGP are unchanged from those in the 2015 MSGP and are entirely inadequate to address this problem and eliminate (or even

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[162] Including many listed in Appendix D, Table D-1 under Sector B: Paper and Allied Products Manufacturing (e.g. SIC 2673 Plastics, Foil, and Paper Bags), Sector C: Chemicals and Allied Products (e.g. C4, SIC 2821-2824 Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers) and Sector Y: Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries (e.g. Y2, 3081-3089 Miscellaneous Plastic Products).

[163] U.S. Envtl. Prot. Agency, 1993, Plastic Pellets in the Aquatic Environment Sources and Recommendations, A Summary, EPA 842-S-93-001; California Environmental Protection Agency (CalEPA), State Water Resources Control Board, *Preproduction Plastic Debris Program*, https://www.waterboards.ca.gov/water_issues/programs/stormwater/plasticdebris.shtml (last updated April 14, 2014).

[164] American Chemistry Council, U.S. Chemical Investment Linked to Shale Gas: $204 Billion and Counting (May 2019), https://www.americanchemistry.com/Policy/Energy/Shale-Gas/Fact-Sheet-US-Chemical-Investment-Linked-to-Shale-Gas.pdf.

[165] Center for International Environmental Law, et al., How Fracked Gas, Cheap Oil, and Unburnable Coal Are Driving the Plastics Boom (2017), https://www.ciel.org/wp-content/uploads/2017/09/Fueling-Plastics-How-Fracked-Gas-Cheap-Oil-and-Unburnable-Coal-are-Driving-the-Plastics-Boom.pdf; Center for International Environmental Law, Plastic & Health: The Hidden Costs of a Plastic Planet (Feb. 2019a), https://www.ciel.org/plasticandhealth/. [CIEL 2019a]; Center for International Environmental Law, Plastic & Climate: The Hidden Costs of a Plastic Planet (May 2019b), https://www.ciel.org/wp-content/uploads/2019/05/Plastic-and-Climate-FINAL-2019.pdf. [CIEL 2019b].

[166] Geyer, R. et al., Production, use, and fate of all plastics ever made, 3 Sci. Adv. (2017), doi:10.1126/sciadv.1700782.

reduce) the discharge of plastic materials into waters of the United States. They are inadequate for the jurisdictions and facilities over which EPA retains permitting authority,[167] and they set too low of a bar for programs delegated to the majority of states. EPA's 2020 MSGP has two options: (1) it must include a zero-discharge standard for plastic pellets, powders, flakes, granules, and other plastic material from industrial sources of stormwater and monitoring and enforcement provisions to ensure this standard is met; or (2) EPA must exclude facilities that handle pre-production plastic from coverage under the 2020 MSGP.

Plastic pollution from industrial facilities harms water quality and the environment.

Plastic production and use in industrial facilities results in the loss of millions of plastic pellets to the environment. These plastic pellets are often spilled in outdoor areas, picked up in stormwater runoff, and discharged to surface waters. Once in the environment, plastic pellets are persistent and can be transported long distances from their source in flowing surface waters such as streams, rivers, and oceans. Similarly, user plastic accumulating on shorelines and in the oceans has become a staggering pollution problem.

Trillions of pieces of plastic float in the world's oceans.[168] The vast majority of marine debris—including plastic—originates from land-based sources like urban runoff; inadequate waste disposal and management; and industrial activity.[169]

Unfortunately, the plastic pollution problem continues to grow. Global trends reveal increasing plastic accumulations in aquatic habitats, consistent with the increasing trend in plastic production: a 560-fold increase in just over 60 years.[170] Tragically, under a business-as-usual scenario, the ocean is expected to contain one ton of plastic for every three tons of fish by 2025, and more plastics than fish (by weight) by 2050.[171] We

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[167] These include the District of Columbia, Idaho (authority for general and stormwater permits transferring in 2020-21), Massachusetts, New Hampshire, and New Mexico and the territories of American Samoa, Guam, Johnston Atoll, Midway Island, Northern Mariana Islands, Puerto Rico, and Wake Island. U.S. EPA, NPDES State Program Information, available at https://www.epa.gov/npdes/npdes-state-program-information.

[168] Eriksen, Marcus et al., Plastic pollution in the world's oceans: more than 5 trillion plastic pieces weighing over 250,000 tons afloat at sea, 9 PLoS ONE e111913 (2014); van Sebille, Erik et al., A global inventory of small floating plastic debris, 10 Environ. Res. Letters 124006 (2015); Derraik, José G.B., The pollution of the marine environment by plastic debris: a review, 44 Marine Pollution Bull. 842 (2002); Barnes, David K.A. et al., Accumulation and fragmentation of plastic debris in global environments, 364 Phil. Trans. R. Soc. B 1985 (2009); Rodrigues, Alyssa et al., Colonisation of plastic pellets (nurdles) by E. coli at public bathing beaches, 139 Marine Pollution Bull. 376 (2019).

[169] Gordon, Miriam, Eliminating Land-Based Discharges of Marine Debris in California: A Plan of Action from the Plastic Debris Project (June 2006), https://www.coastal.ca.gov/publiced/coordinators/Plastic_Debris_Action_Plan.pdf

[170] Thompson, Richard C. et al., Lost at Sea: where is all the plastic? 304 Science 838 (2004); Goldstein, Miriam C. et al., Scales of spatial heterogeneity of plastic marine debris in the northeast Pacific Ocean, 8 PLos ONE e80020 (2013).

[171] World Economic Forum, Ellen MacArthur Foundation, The new plastics community: Rethinking the future of plastics (Jan. 2016), http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf.

must find ways to stem the tide of plastic pollution, including pollution with the microplastic pellets that petro-plastics facilities produce.

Microplastic Impacts - Local

Of the 51 trillion plastic particles currently floating in the world's oceans,[172] 92 percent are microplastics.[173] Microplastics, generally defined as plastic particles less than five millimeters in length or diameter, constitute a major threat to marine wildlife and water quality. While some microplastics are the result of larger pieces breaking down, up to 30 percent of the ocean's microplastics originate as plastic pellets, or nurdles, that are used as a raw material to make plastic products.[174] Microplastics are ubiquitous to coastal and marine environments, found at sites worldwide from the poles to the equator and from the ocean surface to the sea floor.[175] One California survey reported 118,705,732 plastic pellets on the state's beaches, and in the Los Angeles area alone, 20 tons of microplastics are carried into the Pacific Ocean every day (Moore et al. 2011).[176]

Microplastic Pollution, Source: NOAA Office of Response and Restoration

Plastic pellets—also known as primary microplastics—have caused documented damage to freshwater, coastal, and marine ecosystems. They also represent one of the

[172] van Sebille et al. 2015.
[173] Eriksen et al. 2014.
[174] Boucher, Julien & Damien Friot, Primary microplastics in the oceans: a global evaluation of sources, IUCN (2017), https://portals.iucn.org/library/sites/library/files/documents/2017-002.pdf; Karkanorachaki, Katerina et al., Plastic pellets, meso- and microplastics on the coastline of Northern Crete: Distribution and organic pollution, 133 Marine Pollution Bull. 578 (2018).
[175] Barnes et al. 2009; Bergmann, Melanie, Lars Gutow & Michael Klages (eds.), MARINE ANTHROPOGENIC LITTER (2015); Browne, Mark Anthony et al., Accumulations of microplastic on shorelines worldwide: sources and sinks, 45 Envtl. Sci. & Tech. 9175 (2011); Ferreira, Guilherme V.B., Mário Barletta & André R.A. Lima et al., Use of estuarine resources by top predator fishes. How do ecological patterns affect rates of contamination by microplastics?, 655 Sci. Total Envt. 292 (2019); Ivar do Sul, Juliana A. & Monica F. Costa, The present and future of microplastic pollution in the marine environment, 185 Envtl. Pollution 352 (2014); Obbard, Rachel W. et al., Global warming releases microplastic legacy frozen in Arctic Sea ice, 2 Earth's Future 315 (2014); O'Donovan, Sarit et al., Ecotoxicological Effects of Chemical Contaminants Adsorbed to Microplastics in the Clam *Scrobicularia plana*, 5 Frontiers in Marine Sci. (2018), doi: 10.3389/fmars.2018.00143; Woodall, Lucy C. et al., The deep sea is a major sink for microplastic debris, 1 R. Soc'y Open Sci. 140317 (2014).
[176] Moore, C.J., G.L. Lattin & A.F. Zellers, Quantity and type of plastic debris flowing from two urban rivers to coastal waters and beaches of Southern California, 11 Revista da Gestão Costeira Integrada 65 (2011).

most common types of plastic pollution in these environments.[177] Pellets frequently spill during handling at plastic factories as well as during loading and transportation both on land and at sea.[178] Road runoff and wind transfer also lead to pellet pollution.[179]

Extant protective measures, including U.S. federal regulations, appear insufficient to curb the flow of pellet pollution. Formosa Plastic's Point Comfort, Texas, plastics manufacturing facility continues to release plastic pollution in violation of its discharge permit.[180] The company explained that plastic can escape in loading areas, which "unavoidably happens when billions of tiny polyethylene pellets are produced and are transferred from one materials handling unit to another."[181]In a recent federal court decision holding Formosa liable for its plastic pollution discharges, the court noted that the company and the Texas Commission on Environmental Quality had repeatedly failed to prevent discharges of plastics.[182] Absent updated and more stringent regulations monitoring that reflect best available technology, plastic pollution from these facilities will continue.

Microplastic Impacts – Global

a. The scale and expanse of microplastic pollution

A rapidly growing body of research suggests there is not one square mile of ocean surface anywhere on earth not polluted with microplastics.[183] Microplastics comprise the majority of plastic pollution in the global ocean.[184] Ocean currents rapidly disperse microplastic particles, and scientists have found microplastics accumulating in remote locations far from population centers, including Arctic and Antarctic waters .[185] Given the alarming amount of plastic polluting coastal and marine ecosystems worldwide, we must seek ways to reduce the flow of primary microplastics into our oceans. Existing regulatory schemes have proven insufficient to prevent this pollution, and continuing to

[177] Moore et al. 2011; Anbumani, Sadasivam & Poonam Kakkar, Ecotoxicological Effects of Microplastics on Biota: A Review, 25 Envtl. Sci. & Pollution Res. 14,373 (2018); Karkanorachaki et al. 2018; O'Donovan et al 2018; Rodrigues et al. 2019..
[178] Ashton, Karen et al., Association of metals with plastic production pellets in the marine environment, 60 Marine Pollution Bull. 2050 (2010).
[179] Rodrigues et al. 2019.
[180] Sneath, S., *Former Formosa worker finds plastic pellets in bay*, VICTORIA ADVOCATE, Feb. 20, 2016, https://www.victoriaadvocate.com/news/business/former-formosa-worker-finds-plastic-pellets-in-bay/article_45c91c0e-f8dd-586b-9acc-5b4f0a969d49.html.
[181] *Id.*
[182] *San Antonio Bay Estuarine Waterkeeper, et al., v. Formosa Plastics Corp., Texas, et al*., Civil Action No. 6:17-CV-0047 Order and Consent Decree (2019).
[183] Eriksen et al. 2013.
[184] To illustrate, a recent study on plastic particles flowing from two rivers into coastal areas in southern California found that microplastic particles were 16 times more abundant and had a cumulative weight three times greater than larger particles (Moore et al. 2011); *see also* Boucher & Friot 2017.
[185] Isobe, Atsuhiko, Percentage of microbeads in pelagic microplastics within Japanese coastal waters, 110 Marine Pollution Bull. 432 (2016); Cózar, Andrés et al., The Arctic Ocean as a dead end for floating plastic in the North Atlantic branch of the Thermohaline Circulation, 3 Sci. Advances e1600582 (2017); O'Donovan et al. 2018; Chen, Q. et al., Marine microplastics bound dioxin-like chemicals: model explanation and risk assessment, 364 J. Hazardous Materials 82 (2019).

permit new petro-plastics facilities under these schemes will only exacerbate the ongoing plastic pollution catastrophe.

b. Microplastic impacts on aquatic wildlife

1. In General

Plastics harm fish and wildlife both through physical effects of ingestion (e.g. intestinal blockage) and by acting as a transfer agent for toxic chemicals.[186] Many plastics—including pellets—adsorb persistent environmental chemicals,[187] such as polychlorinated biphenyls (PCBs), pesticides like dichlorodiphenyltrichloroethane (DDT), polycyclic aromatic hydrocarbons ("PAHs"), heavy metals, and dioxins.[188] Scientists began acknowledging plastic's role as a toxin vector as early as 1973 .[189] Because of their large surface-area-to-volume ratio and their tendency to attract contaminants more readily than natural sediments, plastic fragments concentrate organic pollutants; these concentrations can be up to 1,000,000 times higher than that of the surrounding seawater.[190] The two types of plastic that the petro-plastics facilities discussed in this petition will primarily produce—polyethylene and polypropylene—show a particularly strong adsorption capacity for harmful chemicals, including PAHs and DDT.[191]

Aquatic species may ingest these pollutant-laden plastic particles, resulting in lethal and sublethal harms. The absorbed toxins—as well as plastic additives such as bisphenol A ("BPA"), phthalate plasticizers, and flame retardants—can leach from ingested plastics into animal tissues,[192] inducing adverse effects such as endocrine disruption (that is, the disruption of hormone systems), neurotoxicity, and carcinogenesis.[193]

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[186] Hammer, Jort, Michiel H.S. Kraak & John R. Parsons, Plastics in the Marine Environment: The Dark Side of a Modern Gift, 220 Rev. Envtl. Contamination & Toxicology (2012); CIEL 2019b.

[187] Adsorbed toxins are toxins that are "stuck" to plastic particles. Interestingly, toxin adsorption to plastic surfaces may reduce contaminant biodegradation—meaning the contaminants do not break down and persist for an even longer time in the environment than they would were they not adsorbed to plastic (Hammer et al. 2012).

[188] Teuten, Emma L. et al., *Transport and release of chemicals from plastics to the environment and to wildlife*, 364 Phil. Trans. R. Soc'y B 2027 (2009); Rochman, Chelsea M. et al., Ingested plastic transfers hazardous chemicals to fish and induces hepatic stress, 3 Scientific Reports 3263 (2013); Wright, Stephanie L. et al., Microplastic ingestion decreases energy reserves in marine worms, 23 Current Biology R1031 (2013); Hammer et al. 2012; O'Donovan et al. 2018; Chen et al. 2019.

[189] CIEL 2019b.

[190] Guzzetti, Eleonora et al., Microplastic in Marine Organisms: Environmental and Toxicological Effects, 64 Envtl. Toxicology & Pharmacology 164 (2018); Rios, Lorena M., Charles Moore & Patrick R. Jones, Persistent organic pollutants carried by synthetic polymers in the ocean environment, 54 Marine Pollution Bull. 1230 (2007); Bakir, Adil et al., Enhanced desorption of persistent organic pollutants from microplastics under simulated physiological conditions, 185 Envtl. Pollution 16 (2014); Anbumani & Kakkar 2018; Karkarnorachaki et al. 2018.

[191] O'Donovan et al. 2018.

[192] These contaminants can be released into animal digestive tracts up to 30 times faster than to seawater (CIEL 2019b).

[193] Teuten at al. 2009; Hammer et al. 2012; Rochman et al. 2013; Anbumani & Kakkar 2018; O'Donovan et al. 2018.

Scientists have documented over 2200 species impacted by ocean plastic pollution and at least 690 that have ingested microplastics.[194] Because of their small size and environmental persistence, microplastics remain readily available to ingestion by a wide variety of marine organisms for an extended period of time.[195] Plankton, invertebrates, fish, sea birds, sea turtles, and marine mammals all are known to adsorb, ingest, or otherwise uptake microplastics.[196] Trophic transfer of microplastics (*i.e.,* transfer up the food chain) also occurs, with the potential transfer of microplastics to humans when they eat shrimp, bivalves, fish, or other marine organisms containing these pollutants .[197]

Smaller and larger microplastic particles harm wildlife in different ways. Larger particles may have longer residence time in the digestive tract, in turn leading to increased toxicant release.[198] Smaller micro- and nanoplastics may move into an organism's cells, causing a variety of harms discussed in more detail below.[199] Smaller particles may also carry more of a toxicant load, as their increased surface area to volume ratio allows them to adsorb more contaminants .[200] Documented harms from ingestion of microplastics and adsorbed contaminants include but are not limited to decreased feeding and growth; increased stress; behavioral modifications; reproductive harms; immunotoxicity; neurological harms; alteration of gene expression; cancer; and increased mortality.[201]

2. Plankton

Microplastics inhibit growth of planktonic marine microalgae; they also decrease growth, fertility, and fecundity, and increase mortality of copepods, an important zooplankton species .[202] Scientists observed a similar reproductive response, as well as reduced feeding, growth, and survival rates, in freshwater *Daphnia* species.[203] These impacts not only affect the planktonic organisms themselves, but also higher trophic level organisms that rely on plankton as a primary food source.[204]Finally, impacts to plankton species that uptake CO_2 from the atmosphere may significantly reduce the ocean's

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[194] Gall, S.C. & R.C. Thompson, The Impact of Debris on Marine Life, 92 Marine Pollution Bull. 170 (2015); Litterbase: Online Portal for Marine Litter (2019), https://litterbase.awi.de/; CIEL 2019b; *see also* Table 2, "Observed Ecotoxicity of Microplastics in Different Model Systems," *in* Anbumani & Kakkar 2018.
[195] Nelms, S.E. et al., Microplastics in marine mammals stranded around the British coast: ubiquitous but transitory?, 9 Scientific Reports 1075 (2019).
[196]Duncan, Emily M. et al., Microplastic ingestion ubiquitous in marine turtles, 25 Global Change Biology 744 (2019); Herrera, A. et al., Microplastic ingestion by Atlantic chub mackerel (Scomber colias) in the Canary Islands coast, 139 Marine Pollution Bull. 127 (2019); Donohue, Mary J. et al., Evaluating exposure of northern fur seals, Callorhinus ursinus, to microplastic pollution through fecal analysis, 138 Marine Pollution Bull. 213 (2019); Anbumani & Kakkar 2018; Gall & Thompson 2015; Guzzetti et al. 2018; O'Donovan et al. 2018.
[197] O'Donovan et al. 2018; CIEL 2019b; Ferreira et al. 2019; Herrera et al. 2019.
[198] O'Donovan et al. 2018.
[199] *Id.*
[200] Anbumani & Kakkar 2018; O'Donovan et al. 2018.
[201] O'Donovan et al. 2018.
[202] Anbumani & Kakkar 2018; Guzzetti et al. 2018.
[203] *Id.*
[204] *Id.*

ability to absorb and store greenhouse gases, with serious implications for atmospheric warming .[205]

3. Marine Invertebrates

Scientists report microplastic ingestion in a variety of marine invertebrate species, including molluscs, sea worms, and crabs.[206] Effects include inflammation; reduced feeding activity; suppressed immune system function; reproductive harms; damage to gills and digestive tract; increased mortality; and possible DNA damage.[207] Microplastics also harm corals by reducing calcification and inducing bleaching and tissue death.[208]

4. Fish

Freshwater, estuarine, and marine fish ingest microplastics and their adsorbed pollutants either directly or through contaminated prey.[209] Such ingestion induces physiological effects and harm, including liver toxicity, endocrine disruption, behavioral changes, and intestinal effects.[210]

5. Seabirds

Seabirds are among the most sensitive wildlife species to microplastics pollution due to high frequency of ingestion, impacts on body condition, and transmission of toxic chemicals .[211] Ingested plastic may stay in seabirds' stomachs for months, potentially interfering with feeding behavior and increasing leached contaminant loads .[212] Laboratory studies show that contaminants (including PCBs and DDT) from microplastics ingested by shearwater chicks are released once inside the bird's body.[213] Plastic contaminants like endocrine-disrupting phthalates affect seabirds across the

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[205] CIEL 2019b.
[206] Graham, Erin R. & Joseph T. Thompson, Deposit and suspension-feeding sea cucumbers (*Echinodermata*) ingest plastic fragments, 368 J. Experimental Marine Biology & Ecology 22 (2009); Gall & Thompson 2015; Guzzetti et al. 2018; CIEL 2019b; Duncan et al. 2019.
[207] Mearns, Alan J. et al., Effects of Pollution on Marine Organisms, 85 Water Envt. Research 1828 (2013); Browne, Mark A. et al., Ingested microplastic plastic translocates to the circulatory system of the mussel, *Mytilus edulis* (L.), 42 Envtl. Sci. & Tech. 5026 (2008); Anbumani & Kakkar 2018; Duncan et al. 2019; Guzzetti et al. 2018; Herrera et al. 2019; O'Donovan et al. 2018; Wright et al. 2013.
[208] Chapron, L. et al., Macro- and microplastics affect cold-water corals growth, feeding and behavior, 8 Sci. Reports 15,299 (2018); Reichert, Jessica et al., Responses of reef building corals to microplastic exposure, 237 Envtl. Pollution 955 (2018); Gall & Thompson 2015; Donohue et al. 2019.
[209] Anbumani & Kakkar 2018; Duncan et al. 2019; Herrera et al. 2019.
[210] Anbumani & Kakkar 2018; CIEL 2019b; Guzzetti et al. 2018.
[211] Wilcox, Chris, Erik Van Sebille & Britta Denise Hardesty, Threat of plastic pollution to seabirds is global, pervasive, and increasing, 112 Proc. Nat'l Acad. Sci. 11899 (2015); CIEL 2019b.
[212] Gall & Thompson 2015.
[213] Ryan, P.G., A.D. Connell & B.D. Gardner, Plastic ingestion and PCBs in seabirds: is there a relationship? 19 Marine Pollution Bull. 174 (1988); Teuten et al. 2009; Hammer et al. 2012; Gall & Thompson 2015; O'Donovan et al. 2018.

globe, even in remote environments like the Arctic.[214] Scientists estimate that by 2050, the percentage of seabird species ingesting plastic will reach 99.8 percent, resulting in increased mortality and decreased reproduction.[215]

6. Sea Turtles

Plastic pollution also poses a serious risk to sea turtles.[216] Scientists have documented ingestion of microplastic particles in all seven species of sea turtles .[217] This microplastic consumption exposes sea turtles to dangerous toxins and pathogens that affect reproduction and survival.[218]

7. Marine Mammals

Marine mammals, including whales and seals, likewise ingest and may be harmed by microplastics and adsorbed contaminants. Such ingestion occurs directly as a consequence of feeding activity or through predation on contaminated prey.[219] There also exists the possibility that whales inhale microplastics when they surface to breathe .[220] In addition to leaching contaminants, microplastics can clog baleen, which impedes feeding behavior, reduces body condition, and suppresses immune response.[221] Nelms et al. (2019) found evidence of a possible relationship between a cetacean's body burden of microplastics and cause of death—specifically that animals dying from infectious disease contained a higher number of plastic particles than those dying from other causes.[222]

c. Human health risks associated with marine microplastic pollution

Marine species from plankton to invertebrates to large pelagic fishes have been shown to ingest microplastics (or prey that contain them).[223] Thus, people who ingest aquatic plants or seafood may be exposed to dangerous levels of contaminants. Scientists have yet to fully investigate the human health implications of microplastic ingestion from

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[214] Sample, Ian, *Plastics Reach Remote Pristine Environments, Scientists Say*, THE GUARDIAN, Feb. 17, 2019, https://www.theguardian.com/science/2019/feb/17/plastics-reach-remote-pristine-environments-scientists-say.
[215] Wilcox et al. 2015.
[216] CIEL 2019b.
[217] Garrison, Samantha R. & Mariana M.P.B. Fuentes, Marine Debris at Nesting Grounds Used by the Northern Gulf of Mexico Loggerhead Recovery Unit, 139 Marine Pollution Bull. 59 (2019); Guzzetti et al. 2018; Duncan et al. 2019.
[218] Schuyler, Qamar et al., To eat or not to eat? Debris selectivity by marine turtles, 7 PLoS ONE e40884 (2012); Duncan et al. 2019; Garrison et al. 2019; Guzzetti et al. 2018.
[219] Zhu et al., Cetaceans and microplastics: First report of microplastic ingestion by a coastal delphinid, *Sousa chinensis*, 659 Sci. Total Envt. 649 (2019).
[220] Nelms et al. 2019.
[221] Guzzetti et al. 2018.
[222] *See also* Donohue et al. 2019; Gall & Thompson 2015) (discussing microplastics' effects on seals and sea lions).
[223] Romeo, Teresa et al., First evidence of presence of plastic debris in stomach of large pelagic fish in the Mediterranean Sea, 95 Marine Pollution Bull. 358 (2015).

fishes and other seafood, but it stands to be serious, especially given the prevalence of microplastics in fish caught and sold for human consumption both nationally and internationally.[224]

Robust medical evidence links various persistent organic pollutants commonly found on microplastics with a host of human illnesses, including cancers (e.g., breast cancer, pancreatic cancer, non-Hodgkin's lymphoma, adult-onset leukemia, and soft tissue sarcomas), neurological disorders (e.g., attention deficit disorder, impaired memory, learning disabilities, and behavioral problems), and reproductive disorders (e.g., menstrual disorders, abnormal sperm, miscarriages, pre-term delivery, low birth weight, altered sex ratios, and shortened lactation periods).[225] Many of these persistent organic pollutants bioaccumulate and biomagnify up the food chain, posing a risk of harm for higher trophic-level organisms, including humans.[226]

An additional human health concern from microplastic pollution relates to plastics' ability to harbor infectious agents.[227] Both viruses and bacteria, including *Escherichia coli* and *Vibrio* (which cause gastrointestinal illness in humans), find refuge on pellets. The potential for microbial contamination-related impacts grows as coastal regions warm from climate change; such warming increases both the range of pathogenic microbes and the likelihood that storm surges and other events bring contaminated pellets into contact with humans.[228]

Another concerning development is the discovery that microplastic is contaminating drinking water supplies. Scientists have only recently studied plastic pollution in freshwater, but it is now documented in groundwater,[229] and it is at least as ubiquitous in rivers and streams as it is in marine environments.[230] For example, a scientist recently swam the length of the Tennessee River—the drinking water source for 4.7 million people—and found one of the highest concentrations of microplastics in the world.[231] Samples showed 18,000 particles per cubic meter of water, which is 8,000

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[224] *See,* e.g., Van Cauwenberghe, Lisbeth & Colin R. Janssen, Microplastics in bivalves cultured for human consumption, 193 Envtl. Pollution 65 (2014); Bergmann et al. 2015; Rochman, Chelsea M. et al., Anthropogenic debris in seafood: plastic debris and fibers from textiles in fish and bivalves sold for human consumption, 5 Sci. Reports 14,340 (2015); Herrera et al. 2019.
[225] CIEL 2019a.
[226] Wassermann, M. et al., World PCBs map: storage and effects in man and his biologic environment in the 1970s, 320 Ann. N.Y. Acad. Sci. 69 (1979); Gobas, Frank A.P.C. et al., Time response of the Lake Ontario ecosystem to virtual elimination of PCBs*,* 29 Envtl. Sci. & Tech. 2038 (1995); Rochman et al. 2013.
[227] Wright et al. 2013; Donohue et al. 2019; Mearns et al. 2013; CIEL 2019a; Rodrigues et al. 2019.
[228] Rodrigues et al. 2019.
[229] Panno, Samuel V. et al., Microplastic Contamination in Karst Groundwater Systems, 57 Groundwater 189 (2019).
[230] Koelmans, Albert A. et al., Microplastics in freshwaters and drinking water: Critical review and assessment of data quality, 155 Water Res 410 (2019); McCormick, Amanda R. et al., Microplastic in surface waters of urban rivers: concentration, sources, and associated bacterial assemblages, 7(11) Ecosphere e01556 (2016).
[231] Tennessee Aquarium, *A Plastic Pandemic - German Scientist's Analysis Finds Staggering Levels of Microplastic Pollution in Tennessee River* (Oct. 18, 2018), https://www.tnaqua.org/newsroom/entry/a-

percent higher than measurements in the Rhine and 80 percent higher than measurements in the Yangtze River—the source of 55 percent of all river-born microplastic entering the ocean.[232]

Recent studies have also found microplastics at the outflows of drinking water treatment facilities, and in tap water, bottled water, and even domestic beer.[233] The first study that looked at microplastics in bottled water found concentrations as high as 10,000 plastic pieces per litre of water, with only 17 of 259 bottles testing free of microplastics.[234]

d. Ecological impacts from microplastics

In addition to the wildlife and human health impacts just described, microplastic pollution impacts ecosystem structure and function.[235] For example, microplastics affect seafloor and open ocean habitats by altering biogeochemical cycles, including carbon storage (with implications for climate change).[236]

Microplastics affect nearshore and inshore environments—such as sandy beaches—through sediment contamination.[237] The presence of microplastics also alters physical properties of beaches, including heat transfer and water movement.[238] These changes may have broad ecological implications for a wide variety of beach dwelling organisms and their eggs—including crustaceans, molluscs, fish, and sea turtles—and climate change may exacerbate these impacts.[239] These concerns are not merely theoretical: researchers recently found anthropogenic marine debris, including plastics, at 10 loggerhead sea turtle nesting beaches—including protected areas.[240]

In addition, because plastics do not readily degrade, they become vehicles for invasive species dispersal—effectively serving as a raft for exotic species transport and as a

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plastic-pandemic-german-scientists-analysis-finds-staggering-levels-of-microplastic-pollution-in-tennessee-river.

[232] *Id.*

[233] Eerkes-Medrano, Dafne et al., Microplastics in drinking water: A review and assessment, 7 Envtl Sci & Health 69 (2019); Novotna, Katerina et al., Microplastics in drinking water treatment – Current knowledge and research needs, 667 Sci Total Environ 730 (2019); Pivokonsky, Martin et al., Occurrence of microplastics in raw and treated drinking water, 43 Sci Total Environ 1644 (2018); Kosuth, Mary et al., Anthropogenic contamination of tap water, beer, and sea salt, 13(4) PLoS ONE e0194970 (2018); Koelmans et al. 2019.

[234] Kosuth et al. 2018.

[235] Guzzetti et al. 2018; CIEL 2019b.

[236] *Id.*

[237] Oehlmann, Jörg et al., A critical analysis of the biological impacts of plasticizers on wildlife, 364 Phil. Trans. R. Soc'y B 2047 (2009); Rios et al. 2007; Gall & Thompson 2015.

[238] Carson, Henry S. et al., Small plastic debris changes water movement and heat transfer through beach sediments, 62 Marine Pollution Bull. 1708 (2011); Gall & Thompson 2015.

[239] Carson et al. 2011; Valenzuela, N. et al., Extreme Thermal Fluctuations from Climate Change Unexpectedly Accelerate Demographic Collapse of Vertebrates with Temperature-Dependent Sex Determination, 9 Nature Sci. Rep. 4254 (2019), https://www.nature.com/articles/s41598-019-40597-4.pdf.

[240] Garrison et al. 2019.

colonizing surface in areas otherwise lacking one.[241] These invasive organisms can prove devastating when they move into a new area, wiping out native species, and also harming human health and local economies (*see* discussion on viruses and bacteria, *supra*).[242]

Environmental plastic pollution also directly contributes to climate change.[243] When plastic particles are exposed to the elements, they slowly break down. Photodegradation (*i.e.,* degradation caused by exposure to sunlight) of plastic triggers the production of greenhouse gases; this off-gassing increases as the plastic particles become smaller. The breakdown of low-density polyethylene, in particular, releases methane, ethylene (C_2H_4), ethane, and propylene at a high rate. As more plastic accumulates in the environment, so too will greenhouse gas emissions from this source increase.[244]

Finally, plastic pollution litters our beaches, harming the aesthetic, recreational, tourism, and economic values of our waterways and seashores.

a. Proposed Sector-Specific Revisions for Plastics

As described above, microplastics are an increasing threat to human health and the environment. Currently, the only restrictions or treatment requirements for stormwater are found in the Best Management Practices contained in either state- or EPA-issued industrial stormwater permits, including the expiring MSGP.[245] This is an entirely unreasonable and insufficient response to this pollution problem.

Best Management Practices, which typically include measures such as minimizing exposure of pollutants to precipitation or managing runoff via swales and filtration devices, have been wildly ineffective at preventing plastic particles produced at plastics facilities from entering the nation's waterways. Plastic pellets, flakes, and powders regularly escape from petro-plastics facilities, contaminating nearby beaches and waterways, and harming wildlife and communities.[246] The toxins from these substances leach into the environment, exposing wildlife and human communities to hazardous compounds that can result in cancer, neurotoxicity, and death. Prohibiting the discharge of *any* plastic debris from these facilities is necessary to safeguard our rivers, coasts,

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[241] Gregory, Murray R., Environmental implications of plastic debris in marine settings—entanglement, ingestion, smothering, hangers-on, hitch-hiking and alien invasions, 364 Phil. Trans. R. Soc'y B 2013 (2009); Barnes et al. 2009; Hammer et al. 2012; Mearns et al. 2013; Wright et al. 2013; Gall & Thompson 2015; Guzzetti et al. 2018.
[242] Barnes et al. 2009.
[243] CIEL 2019b.
[244] *Id.*
[245] For example, EPA has not established numeric effluent limitations for contaminated runoff/stormwater for the Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers industry group, including the Organic Chemicals, Plastics, and Synthetic Fibers (40 C.F.R. § 414) or Plastics Molding and Forming (40 C.F.R. § 463) point source categories. Stormwater is only covered under Part 414 if it is combined with process wastewaters (EPA 1987; EPA 2004) 40 C.F.R. Part 414.
[246] *San Antonio Bay Estuarine Waterkeeper, et al., v. Formosa Plastics Corp., Texas, et al*., Civil Action No. 6:17-CV-0047 Order and Consent Decree (2019).

and communities from harmful pollutants. This is particularly true due to increasing threats from major storm events that can cause extreme flooding conditions.

The 2019 NAS study included a section titled "Overarching Message" that summarizes our concerns with EPA's stale approach to the regulation of industrial stormwater discharges generally and plastic pellets and other materials specifically:

> [T]he [Multi-Sector General Permit] should incorporate the best available science in the MSGP process. Science continues to improve our understanding of the environmental and human health impacts of industrial stormwater. Technologies for water quality monitoring, stormwater treatment, and modeling are advancing at rapid rates, and new data can inform understanding of the performance of stormwater control measures. New tools are being developed to improve toxicological assessments and data management and visualization… In general, EPA has been slow to adopt new knowledge into its [Multi-Sector General Permit] permit revisions, but the [Multi-Sector General Permit] should not be a static enterprise. Both permitted facilities and the nation's waters would be best served by a progressive and continuously improving [Multi-Sector General Permit] based on analysis of new data and focused data-gathering efforts, advances in industrial stormwater science and technology, and structured learning to develop and evaluate permit improvements. (NAS 2019).

EPA has the authority and obligation in the 2020 MSGP to ensure that our nation's waterways, wildlife, and communities are not polluted by pre-production plastic, including but not limited to pellets, resins, flakes, granules, and powders. Not only is the MSGP important for facilities that EPA continues to directly regulate,[247] but it also serves as the model (and floor) for states with delegated permitting authority (NAS 2019). As technology advances and industry changes, the Clean Water Act requires EPA to revise its regulations to advance the Act's ultimate objective of eliminating pollution into our nation's waters.[248] This fundamental goal is not reflected in the 2020 MSGP's proposed regulation of stormwater from Sector B (Paper and Allied Products Manufacturing, including single-web and multi-web plastic bags), Sector C (Chemical and Allied Products Manufacturing) or Sector Y (Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries). With respect to plastic pollution, the MSGP appears to be utterly unchanged from the prior MSGP.

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[247] EPA Office of Water, EPA-833-F-06-018, December 2006, Industrial Stormwater Fact Sheet Series, Sector C: Chemical and Allied Products Manufacturing and Refining, https://www.epa.gov/sites/production/files/2015-10/documents/sector_c_chemical.pdf. *See also* National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, 55 Fed. Reg. 47,990 (Nov. 16, 1990) (codified at 40 C.F.R. § 122.26).

[248] *See* U.S. EPA, Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, 80 Fed. Reg, 67,837 (Nov. 3, 2015); California NPDES General Permit for Storm Water Discharges Associated with Industrial Activities, effective July 1, 2015, Part XVIII, https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/industrial/2014indgenpermit/wqo2014_0057_dwq_revmar2015.pdf.

i. EPA must require a zero discharge of plastic standard in lieu of the ineffective and unenforceable standard of "best management practices" in the MSGP

The proposed regulations rely on "good housekeeping" to allegedly "eliminate such plastic discharges in stormwater."[249] Specifically, the regulation provides that "best management practices" be used:

> e. Plastic Materials Requirements: Facilities that handle pre-production plastic must implement best management practices to eliminate discharges of plastic in stormwater. Examples of plastic material required to be addressed as stormwater pollutants include plastic resin pellets, powders, flakes, additives, regrind, scrap, waste and recycling.[250]

The proposed MSGP then gives examples of those best management practices just for Sector Y "where determined to be feasible:"

> **8.Y.2.2** Controls for Plastic Products Manufacturers. Minimize the discharge of plastic resin pellets in your stormwater discharges through implementation of control measures such as the following, where determined to be feasible (list not exclusive): minimizing spills; cleaning up of spills promptly and thoroughly; sweeping thoroughly; pellet capturing; employee education; and disposal precautions.[251]

The "best management" guidance has limited value and contains no engineering, monitoring or discharge requirements and no effective enforcement mechanism. No standards are set for the quantity of plastics that can be discharged ("minimize" is not a standard). Industry is given total discretion regarding whether to adopt the "best management," because industry can determine that certain measures are not "feasible" (EPA provides no standards to determine feasibility). Furthermore, the control examples are vague and unenforceable.

Additionally, source control – stopping plastics from hitting the ground – is in the economic interest of those with plastics at their facilities, provided there are rules prohibiting the eventual discharge of those plastics, which this regulation lacks. Rather than maintain vague ideas about how to manage plastics inside the plant, EPA should prohibit the discharge of plastics from these facilities.

Draft permit, Part 2.1.2.2(e) should be amended to state.

> e. Plastic Materials Requirements: Facilities that handle pre-production plastic ~~must implement best management practices to eliminate~~ shall not discharge~~s~~ ~~of~~ plastics in stormwater. Examples of plastics ~~material~~ required to be addressed as

[249] Draft Permit at 16, Part 2.1.2.2 Good Housekeeping.
[250] *Id.*, Part 2.1.2.2(e).
[251] Draft Permit - Part 8 Sector Requirements for Industrial Activity at 117-118, Part 8.Y.2.2.

stormwater pollutants include plastic resin pellets, powders, flakes, additives, regrind, scrap, waste and recycling. No discharge of plastics will be permitted.

To ensure compliance with a zero-discharge standard, monitoring and enforcement provisions must be added. The following language should be added:

(e) All facilities that handle pre-production plastics shall comply with the following:

(i) zero discharge and zero release of preproduction plastics of may occur from the facility,
(ii) the facility will conduct monthly monitoring outside the property line of the facility and in any receiving waters for stormwater discharges to confirm that the zero discharge requirements are being met, with stormwater monitoring conducted within 8 hours of a rainfall event,
(iii) any preproduction plastics found outside the property line of a facility will be presumed to have been released or discharged by that facility,
(iv) the facility will report any exceedance of the zero discharge to the regulatory agency within 2 working days, and
(v) the facility will be given an opportunity to prove that preproduction plastics found outside the property line of the facility did not originate from that facility;
(vi) violations of the zero discharge are a violation of the permit; and
(vii) a permittee shall be required to clean up any discharged or released plastics in a manner that cleans up the most plastics possible without causing harm to the ecosystem.

ii. EPA must define microplastics as a "pollutant," not a "significant material."

The proposed regulations define microplastics as a "significant material."

> Significant Materials – includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, **and plastic pellets**; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges. See 40 CFR 122.26(b)(12).[252]

"Significant materials" are less regulated than pollutants. Current regulations merely require the facility to "estimate" and give a "narrative description" of "Significant materials that in the three years prior to the submittal of this application have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of such materials; materials management practices

[252] Draft Permit - Appendix A, definitions A-7 of 10 (emphasis added).

employed, in the three years prior to the submittal of this application, to minimize contact by these materials with storm water runoff; materials loading and access areas…."[253]

Plastic nurdles, powders and flakes are pollutants and should be regulated as such. 40 C.F.R. §122.2 should be amended to state:

> Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, ~~and~~ agricultural waste, **and plastics (including plastic nurdles, powder and flakes)** discharged into water.

The vast expansion of the plastics industry will add billions of plastic pellets and other materials into stormwater runoff unless EPA takes action now. The health of our birds, fish, and mammals, as well as our own human health, depends on clean waterways free of hazardous plastic pollution. In accordance with its authority under the Clean Water Act, EPA must therefore promulgate regulations ensuring that the plastics industry does not discharge any more plastic waste through stormwater and wastewater runoff.[254]

iii. EPA must in the alternative require individual stormwater permits for facilities that produce or handle pre-production plastic

If the above-noted measures are not included in this MSGP, EPA should exclude these facilities from coverage and instead require individual stormwater permits that incorporate the recommendations noted above at (e)(i)-(vii). Individual permits can be tailored specifically towards the plastic materials these facilities are producing, handling, transporting, and releasing in order to achieve the zero-discharge standard. Clean Water Act regulations recognize that the MSGP benchmark monitoring requirements, Stormwater Pollution Prevention Plans, and Stormwater Control Measures may be inadequate to address pollution from industrial stormwater. Given the scope of the plastic pollution problem from facilities that produce and handle pre-production plastic, EPA (as well as State Directors) can and should exclude facilities from industrial General Permits and require individual NPDES permits if they cannot be held to the zero discharge standard via an MSGP.[255] An individual stormwater permit can be required for any number of reasons, including a change in demonstrated technology or practices that better control pollutants, Effluent Limitation Guidelines promulgated for point sources, and the nature of the discharge.[256] Here, as

[253] 40 C.F.R. § 122.26(c)(1)(i)(B).
[254] 40 C.F.R. § 122.26(a)(4).
[255] 40 C.F.R. § 122.28(b)(3) (General permits (applicable to State NPDES programs) subsection on requiring an individual permit).
[256] *Id.*

demonstrated above, the nature of the discharge and inadequacy of the MSGP to address the pollution problem supports the requirement of individual NPDES permits.

Individual permits could better regulate these facilities by requiring an enforceable zero discharge criterion for plastic and more effective monitoring that can detect permit violations when the zero-discharge standard is exceeded. As the NAS concluded in its 2019 review of EPA's stormwater regulations, "[t]his stricter enforcement of pollutant exceedances can be helpful for sites that represent a high public concern or that raise environmental justice issues."[257] Plastics facilities are of high public concern, and their proliferation in low-income communities of color raises environmental justice concerns. Each facility should be required to receive an individual NPDES permit if the MSGP is not strengthened in the ways suggested above.

The only way EPA can mitigate the dangers posed by microplastics conveyed far and wide from their original presence in industrial stormwater is to ensure they are not discharged in the first place. We request that the EPA remedy the ongoing failure of "best management practices" to meaningfully reduce plastic in stormwater discharge by adopting these measures.

[257] NAS at 76.

21. EPA Should Revise Deadlines for Maintenance and Repairs of Control Measures.

For maintenance, repairs, and development of most control measures, the 14 day timeframe is appropriate.[258] However, if meeting that time frame is infeasible or impracticable ("feasible" is not defined but must be if the concept remains in the final regulation, given its frequent use in these regulations – see Comment Section 16 for an additional discussion of "feasibility"), the amount of time to deploy maintenance or repairs should be set at 30, not 45 days (note that even 30 days, during an especially rainy month in a watershed or sub-watershed severely stressed by various stormwater pollutants and high water volumes, can do substantial damage to water quality in that waterbody and beyond). Then, if completion must take longer due to certain engineering and design or unavoidable construction delays, the notification to EPA specified in the draft language should be made, and the rationale for a 45-day timeframe adequately documented.

[258] Draft Permit at 17, Part 2.1.2.3(b)(ii)

22. EPA Should Clarify and Strengthen Required Routine Inspections of Control Measures.

With respect to exceptions to routine inspection frequency,[259] it is not clear which facilities may need to conduct monthly inspections to ensure the proper functioning of control measures. Additionally, while it is perhaps appropriate for certain facilities (i.e. where neither equipment nor industrial materials are exposed to the elements), to conduct inspections once/year *when stormwater discharges are occurring*, for any and all others, where discharges may routinely carry pollutants into control structures, an (approximate) quarterly inspection should be required during storm events.

[259] Draft Permit at 22 and 23, Parts 3.1.4 and 3.1.5, respectively.

23. EPA Should Adopt its Proposed Revision for Authorized Non-Stormwater Discharges of Wash Water.

EPA should require control measures to minimize discharges of pollutants from wash water related to routine external wash-downs and power washing, because, as the Agency acknowledges, it is important to minimize particulates and other industrial residues that accumulate during dry-weather conditions from discharging to receiving waterways. However, the proposed revision to Part 1.2.2.1.g. should be worded to include the exterior of structures other than buildings, such as storage tanks, for example, that also have the potential to accumulate pollutants associated with industrial activity on their surfaces.

24. EPA Should Adopt Certain Revisions for Sector-Specific Requirements

8.C - Chemical and Allied Products (Sub-sectors of importance to Chesapeake Bay watershed: industrial organic chemicals, fertilizer mixing)[260]

In the Chesapeake Bay watershed of six Mid-Atlantic states and the District of Columbia, this sector is one of about a half-dozen industrial sectors or sub-sectors that are a small subset (<1%) of all industrial facilities subject to industrial stormwater permits, *but whose pollutant loadings are more than 10x the Waste Load Allocations* in the Chesapeake Bay Total Maximum Daily Load (TMDL),[261] at least as measured in one major jurisdiction, the Commonwealth of Virginia.[262] It is possible -- even likely – that, upon investigation, other states across the country might also find this sector/sub-sector contributing a disproportionate amount of nutrient pollution to waterways. These regulations, however, do not provide any focus on these sub-sectors, or these pollutants.

Given that there is a Chesapeake Bay TMDL with Waste Load Allocations for Nitrogen, Phosphorus, and Sediment, and follow-on state-developed Watershed Implementation Plans with a year-2025 deadline; given the fact that in the Bay watershed, this sector and those specific sub-sectors are among the few producing a substantial proportion of stormwater pollutants into the Bay (29% of the overall phosphorus load and 20% of the overall nitrogen load coming from stormwater);[263] and given that many other states outside the Chesapeake Bay watershed have similarly-sized, similarly-characterized industrial sectors -- and similarly challenged waterways -- we believe this MSGP should contain such a focus. In fact, there is no discussion nor are there any examples provided of possible controls related to various components or activities unique to this sector as a whole, as there are for most other sectors in these regulations.

8.M- Automobile Salvage Yards[264]

8.M.3.2 Potential Pollutant Sources – This section states that the potential for pollution from certain activities needs to be assessed, but it does not say what is to be done if the potential is assessed to be moderate to high and such activities or equipment need to be isolated, buffered or otherwise controlled.

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[260] Draft Permit - Part 8 Sector Requirements for Industrial Activity at 6-8, Subpart C - Sector C.
[261] U.S. Envtl. Prot. Agency, *Chesapeake Bay Total Maximum Load for Nitrogen, Phosphorous and Sediment* (December 29, 2010), https://www.epa.gov/chesapeake-bay-tmdl/chesapeake-bay-tmdl-document
[262] Letter from Joseph D. Wood, Ph.D. and Margaret L. Sanner to Matt Richardson (December 18, 2018) (commenting upon Virginia Industrial Stormwater Permit and discussing extensive research conducted by the Chesapeake Bay Foundation pertaining to state data on various industrial stormwater pollution sources) (attached). Note that the Commonwealth issues its own NPDES permits for Industrial Stormwater. This MSGP, however, can and does generally set a floor for such regulations in the Bay watershed and elsewhere across the country, and should reflect the most complete industrial stormwater pollution information and standards available.
[263] *Id.*
[264] Draft Permit - Part 8 Sector Requirements for Industrial Activity at 79-80, Subpart M - Sector M.

8.Q - Water Transportation (sub-sector of importance to Chesapeake Bay watershed: Marine Cargo Handling)[265]

8.Q.3.1 Good Housekeeping Measures – Some of the specific areas of control do have a clear "minimize" directive (e.g., blasting and painting areas, material storage areas). Others, (e.g. engine maintenance and repair areas, material handling areas, and dry-dock activities) use the ineffective "where determined to be feasible" language. As noted previously, such language is inappropriate without further definition, and providing even clearer direction is a better approach in this sub-section and in following sub-sections with the same phrase.

8.S - Air transportation (sub-sector of importance to Chesapeake Bay watershed: Airports, Flying Fields and Services)[266]

8.S.4.1.1 Good Housekeeping – Subsections concerning aircraft; ground vehicle and equipment maintenance and storage areas; material storage areas; and fuel systems and fueling areas all require that control measures should be used "where determined to be feasible."

8.S.4.1.6 Source Reduction – This section pertains to deicing operations for both runways and aircraft; the nitrogen pollution impacts of urea-based fluids is discussed above. The "where determined to be feasible" language should be removed and substituted as noted above. Nitrogen should be added as a benchmarked pollutant.

8.S.4.1.7 Management of Runoff – Eliminate the "where determined to be feasible" language and substitute as noted above.

8.U – Food and Kindred Products (subsectors of importance to Chesapeake Bay watershed: Meat Packing Plants, Canned and Cured Fish and Seafood, Prep Feeds and Ingredients for Animals)[267]

These sub-sectors are among the SICs presenting the highest runoff pollutant loading rates of any industrial sector in parts of the Chesapeake Bay watershed. The noted sub-sectors may also present runoff pollution problems in other states and regions where similar industrial profiles are prevalent and where this MSGP applies or is used as a model for state regulation. The draft regulations do not provide any focus on these sub-sectors, however, nor is there any discussion of possible controls related to various components or activities unique to this sector as a whole, as there is for other sectors. There should be.

8.U.6 Sector-Specific Benchmarks – Phosphorus should be added to the list of benchmarks to be measured in Table 8.U-1, as it is a limiting pollutant in the Chesapeake Bay and is part of the TMDL developed for the Chesapeake Bay states.

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[265] *Id.* at 94-96, Subpart Q - Sector Q.
[266] *Id.* at 101-107, Subpart S - Sector S.
[267] *Id.* at 110-111, Subpart U - Sector U.

8.P.3.1. Good housekeeping measures (required).[268] While these measures are required for important activity areas (vehicle and equipment storage areas, fueling areas, material storage areas, vehicle and equipment cleaning areas, and vehicle and equipment maintenance areas), the proposed rule inappropriately states that such facilities must implement these practices "where determined to be feasible" (note comments on the definition of "feasibility," below).

[268] *Id.* at 91-92.

25. EPA Should Require Additional Monitoring of Source Control Methods in Accordance with the Recommendations of the National Academies of Sciences.

The NAS recommended that EPA require additional monitoring specifically focused on the capacity of Source Control Methods (SCMs) to reduce stormwater pollution.[269] EPA declines to adopt this recommendation yet fails to provide a legitimate rationale for its decision.

EPA's stated rationale for not requiring SCM performance data is that it "would be very complicated to do in context of a permit and possibly expensive for operators in balance with other proposed requirements."[270] It is painfully obvious that EPA never took the NAS recommendation seriously. Among other things, EPA failed to estimate the cost of collecting SCM performance data, and merely speculates that it is "possibly expensive."[271] The Agency also responds to the recommendation as if the only purpose of SCM performance data is to inform new numeric effluent limitations, when the NAS clearly recommended SCM performance data for two reasons – to identify sectors for which new national effluent limits are necessary, and to inform periodic reviews of benchmarks.[272] Finally, while EPA speculates about cost to permittees, it arbitrarily ignores the corresponding benefit to public health and the environment of learning more about SCM performance.

EPA has a statutory obligation to ensure that industrial stormwater permittees are minimizing their pollution loads using the best available technology. It should go without saying that the Agency cannot fulfill its obligation without learning more about the pollutant removal capabilities of various SCMs. EPA's stated rationale for ignoring the NAS recommendation is wholly unsupported by reasoned analysis. The Agency must require SCM performance data to address the concerns raised by the NAS and to fulfill its statutory obligations under the CWA.

[269] NAS at 4, 43.
[270] Fact Sheet at 6.
[271] *Id.*
[272] NAS at 4.

26. EPA Should Prepare a Full Environmental Impact Statement for the Issuance of the MSGP and Re-evaluate its Unsupportable Environmental Justice Conclusions.

Section VII of EPA's March 2, 2020 Notice contends that "reissuance of the MSGP is eligible for a categorical exclusion requiring documentation under 40 CFR 6.204(a)(1)(iv)." 85 Fed. Reg. at 12294. This subsection applies to actions involving the "re-issuance of a NPDES permit for a new source providing the conclusions of the original NEPA document are still valid, there will be no degradation of the receiving waters, and the permit conditions do not change or are more environmentally protective." 40 CFR § 6.204(a)(1)(iv). EPA notes that it completed an Environmental Assessment/Finding of No Significant Impact (EA/FONSI) for the 2015 MSGP and contends that the "analysis and conclusions regarding the potential environmental impacts, reasonable alternatives, and potential mitigation included in the EA/ FONSI are still valid for the reissuance of the MSGP because the proposed permit conditions are either the same or in some cases are more environmentally protective." 85 Fed. Reg. at 12294.

EPA must reconsider its invocation of this categorical exclusion and to instead at a bare minimum prepare an EA to determine whether a full Environmental Impact Statement (EIS) is required. 40 C.F.R. § 1501.4. As an initial matter, this categorical exclusion on its face does not squarely apply to the issuance of this MSGP. It references "a NPDES permit" and "a new source" not thousands of permits and sources. The sheer number of industries and facilities covered by the 2020 MSGP counsel for a full environmental review under NEPA. In addition, in the intervening five years since issuance of the 2015 MSGP, much has changed both in terms of the society, regional, and local context of the sources and intensity of the proposed action.

There are changes that EPA must evaluate, including in the type and number of facilities covered, the nature of the pollutants covered (including but not limited to plastic), the receiving environment (including direct, indirect, and cumulative impacts to and uncertain or unknown risks), and the best available technical and scientific information. *See, e.g.,* 40 C.F.R. § 1508.27; *see also* 40 C.F.R. § 1502.24 (agencies must use high quality, accurate scientific information and ensure the scientific integrity of this analysis). In its cumulative impacts analysis, EPA may not brush aside "individually minor but collectively significant actions taking place over a period of time" regardless of what agency or person undertakes such other actions." *Id*. § 1508.7. This is especially important when considering cumulative industrial discharges that can harm water quality, biological resources, functioning ecosystems, historic and cultural resources, and public health.

EPA should also consider the likelihood and environmental impacts of unpermitted discharges, spills, and other accidents from sources covered by the MSGP. 40 C.F.R. § 15022.22(b)(4). EPA has a duty to evaluate the impacts of this vast MSGP with fresh eyes and fresh science. To do otherwise would violate the tenets of NEPA and fail to be the "hard look" required.

Agencies must also consider the environmental justice implications of a proposed project. Under Section VIII of its March 2, 2020 Notice, EPA includes just one cursory paragraph on environmental justice:

> The EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994). The EPA has determined that the proposed permit will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because the requirements in the permit apply equally to industrial facilities in areas where the EPA is the permitting authority, and the proposed provisions increase the level of environmental protection for all affected populations.

85 Fed. Reg. at 12294. It is unclear how EPA can conclude that in applying the same standards to every facility, there can be no disproportionate impact. The issue is the density of industrial facilities in these communities. A recent EPA report concluded that African-Americans and individuals living below the poverty level are more likely than others to live near pollution-emitting facilities, and that the racial correlation was stronger than the poverty-based one.[273] Studies dating back to the 1970s have documented a consistent pattern of siting facilities disproportionately where poor people and people of color live.[274] In the fence-line zones around industrial facilities that use or store hazardous chemicals, the percentage of Latinos is 60 percent greater and percentage of blacks 75 percent greater than for the United States as a whole.[275]

Furthermore, the 2019 NAS report noted that an individual permit can better regulate facilities by requiring more extensive monitoring and coverage of a greater number of pollutants relative to a General Permit, where benchmark monitoring is determined by standard industrial classification (SIC) code.[276] Individual permits can also be structured with enforceable discharge criteria expressed as numerical effluent limits, which then trigger a permit violation when exceeded. As the report concluded, "[t]his stricter enforcement of pollutant exceedances can be helpful for sites that represent a high public concern or that raise environmental justice issues."[277] Many of the facilities that

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[273] Mikati, I. et al., Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status, 108 Am. J. Pub. Health 480 (2018), https://doi.org/10.2105/AJPH.2017.304297.
[274] Brown, P. Race, class, and environmental health: a review and systematization of the literature. 69 Envtl. Res. 15 (1995).
[275] Environmental Justice and Health Alliance for Chemical Policy Reform, Who's in Danger? Race, Poverty, and Chemical Disasters (2014), https://comingcleaninc.org/assets/media/images/Reports/Who's%20in%20Danger%20Report%20FINAL.pdf.
[276] NAS at 76.
[277] *Id.*

would be covered by the MSGP are of high public concern, and their proliferation in low-income communities of color raises environmental justice concerns.

These concerns are not addressed or alleviated by EPA's statement that the MSGP provides an increase in protection. The MSGP is still permitting pollution that has direct, indirect, and cumulative impacts on these communities – impacts that are harmful. It is not acceptable for EPA to dismiss this with one paragraph that contains EPA's "belief" but is devoid of analysis.

27. EPA Should Clarify or Revise Certain Features of Required Forms.

Appendix G, NOI form: not clear on the paper form what information regarding TMDLs the permittee is expected to provide if their receiving water is subject to a TMDL.

Appendix I, annual report form: should be beefed up by adding the following requirements:

- report any changes to outfalls (number, area drained, etc)
- provide the dates that routine inspections were completed and identify the wet weather inspection date
- provide the dates that quarterly visual assessments of stormwater were completed
- Certify via checkbox that: SWPPP is up to date

A more robust approach to the annual report is exemplified by the New York DEC's Annual Certification Report.[278]

[278] New York State Dept. of Environmental Conservation. Annual Certification Report GP-0-17-004. Stormwater Compliance Coordinator NYSDEC, Bureau of Water Compliance (attached).

In its current form, EPA's proposed Multi-Sector General Permit makes some progress since the development and issuance of the 2015 MSGP. However, still many issues that concern legal and technical compliance with the requirements of the Clean Water Act and other federal law are not adequately addressed or resolved in the Draft Permit. As explained above, EPA must adopt and revise a number of provisions in the final draft of the 2020 MSGP.

We thank you for the opportunity to provide these comments and are happy to discuss them with you in further detail.

Sincerely,

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Attachments

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