Permit Fact Sheet

for the General Discharge Permit For Stormwater Associated with Industrial Activity

Maryland General Permit No. 20SW0000, NPDES Permit Number MDR00000

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Maryland regulations (COMAR 26.08.04.08) specify the process required for issuing General Permits and their renewals. The renewal process includes publication of a notice that the Department has drafted a Tentative Determination and Fact Sheet, and allows the public 30 days to comment before issuance of the Final Determination. Maryland Code, Environment § 1-606 requires the Department to extend the public comment period to a total of 90 days on request by a person. The Department assumes for a permit like this, a request would be made, therefore the comment period allowed is 90 days. The regulations also allow for a public hearing when a written request has been made. It is the Department's intent to provide and schedule online meetings for the exchange of information in hopes of achieving an equivalent outcome to the process that would occur through an in person meeting or hearing. Nevertheless, current rules provide the opportunity for traditional meeting and or hearing unless waived by a requesting party or where interim rules are declared applicable during the COVID-19 emergency declaration for Maryland. The public notice is published in the Maryland Register and in newspapers around the State. The Department must review and respond to comments on the Tentative Determination. With this background, once the Department has created a Tentative Determination, public participation rules require publishing in the Maryland Register and newspapers. The Department also sends a copy of the notice to the permittees and interested parties and will be posted to our website [HYPERLINK "https://mdewwp.page.link/ISW" \h]. The dates of any scheduled public hearing and the specific end date of the comment period are included in the notice. An interest list will also be

established for those interested in online opportunities for meetings and for online opportunities to present comments for the record. Comments can also be mailed in written form or emailed to the Department to Paul Hlavinka's attention.

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1. BACKGROUND

The Clean Water Act (CWA or the Act) establishes a comprehensive program "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). The CWA "also seeks to attain 'water quality which provides for the protection and propagation of fish, shellfish and wildlife.'" P.U.D. No. 1 of Jefferson City v. Washington Dep't of Ecology, 511 U.S. 700, 704 (1994) (quoting 33 U.S.C. § 1251(a)(2)). To achieve these goals, the CWA requires U.S. Environmental Protection Agency (EPA) to authorize discharges through issuance of National Pollution Discharge Elimination System ("NPDES") permits. As a delegated state, Maryland is authorized to issue NPDES permits. The Code of Maryland Regulations (COMAR) Title 26, subtitle 08, require that all discharges of wastes or wastewater shall be authorized by a discharge NPDES permit. State permits include discharges to surface and/or ground waters.

Section 405 of the Water Quality Act of 1987 (WQA) added section 402(p) of the CWA, which directed the EPA to develop a phased approach to regulate stormwater discharges under the NPDES program. EPA published a final regulation on the first phase of this program on November 16, 1990, establishing permit application requirements for "stormwater discharges associated with industrial activity". See 55 FR 47990. EPA defined the term "stormwater discharge associated with industrial activity" in a comprehensive manner to cover a wide variety of facilities. See 40 CFR 122.26(b)(14). Maryland Department of the Environment (the Department) is issuing the General Permit Number 20-SW under this statutory and regulatory authority. The Department has chosen to update the state's renewal permit based on changes proposed to the EPA's Multi-Sector General Permit (MSGP) [HYPERLINK "https://www.epa.gov/npdes/proposed-2020-msgp-public-comment" \h] and notes that the issuance of this permit, including the requirements to submit information in the Notice of Intent (NOI) to be covered, is based, in addition, on the Agency's authority under section 308(a) of the CWA. See e.g., NRDC v. EPA, 822 F.2d 104, 119-120 (DC Cir. 1987) (finding EPA's NPDES permit application regulations at 40 CFR 122.21(g) can seek information on what "could" be discharged.)

This permit, the 20-SW, replaces the General Permit Number 12-SW that was issued for a five-year term on January 1, 2014. The General Permit 12-SW expired on December 31, 2018 but is administratively continued for facilities that were covered under the permit at the time it expired. In July 2020, 1083 facilities were covered under the permit. The included 776 facilities without restoration (12-SW) and 307 with restoration (12-SR) and 422 facilities were exempted as having industrial activity but verified none exposure.

1.1 Coverage Requirements

Operators choosing to be covered by this new permit must submit a complete and accurate Notice of Intent (NOI) to be covered and certify in the NOI that they meet the requisite eligibility requirements, described in Part I of the permit, including the requirement to select, design, and install control measures to comply with the technology- and water quality-based effluent limits in Part III.A and Part III.B and to develop a SWPPP, pursuant to Part III.C. Once covered under this permit, a permittee is required to take corrective action and additional implementation measures (AIM) if it determines through inspection, evaluation, or monitoring that the control measures chosen to meet the limits are not adequately reducing pollutants in the discharge. Permittees must, within one year of coverage, provide a plan of how they intend to complete restoration of impervious surfaces into their facilities and, within the time provided in the permit,

implement restoration of impervious surfaces on 20% of their untreated impervious surfaces, or equivalent actions.

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby, unless, as a result of the remand, the permit would not meet the minimum legal requirements for NPDES permits under the CWA or its implementing regulations.

1.2. Development of Permit

Permits are developed through review of public comments, meetings with stakeholders, and consultations with the EPA. This permit has been developed with a review of EPA's recently drafted MSGP, a review of the National Academies of Science Report, input from the Department's compliance program, with input from various NGOs that have provided input in 2017 and in 2020 and from the Department's TMDL group. Results of the input will be discussed within this fact sheet. Once a draft is submitted to and approved by EPA, the Department intends to hold a public hearing in Baltimore, MD at our 1800 Washington Boulevard, to answer stakeholder questions about the proposed permit, as well as take written comments on the draft prior to issuing the final permit.

1.3. General Structure of This Permit / Terminology

This permit is divided into several parts: applicability (Part I), authorization (Part II), stormwater management requirements (including restoration of impervious surfaces, control measures and effluent limits and stormwater pollution prevention plan) (Part III), corrective actions (Part IV), inspections, monitoring, and reporting (Part V), and standard permit conditions (Part VI). Additionally, the permit includes reference codes for industry sectors covered (Appendix A), the quarterly visual monitoring form (Appendix B), the method for calculating hardness in receiving water for hardness dependent metals (Appendix C), industrial sector-specific permit conditions (Appendix D), the definitions and acronyms (Appendix E), Nutrient Reduction Progress Report (Appendix F) and Reporting and Verification Requirements for Trading (Appendix G) .

This organization has not changed from the 12-SW and generally follows that of the MSGP which was designed to clarify permittee responsibilities. For instance, this permit separates into distinct parts those requirements dealing with the implementation of stormwater control measures to meet required technology-based and water quality-based limitations (Part III.A and Part III.B), corrective actions to address conditions at the site that are indicative of control measure deficiencies (Part IV), and the inspection and evaluation of the performance of existing stormwater control measures (Part V), from those addressing preparation of the SWPPP (Part III.C). In addition, the Department included a section for provisions which require the permittee to document activities demonstrating compliance with permit requirements (Part V).

Throughout this fact sheet, the Department uses consistent terms when referring to different responsible entities. For instance, the permit holder is referred to either as the "permittee" or "operator" in this fact sheet. Typically, the term "operator" will be used when discussing those actions required prior to permit authorization, while "permittee" will be used where the fact sheet is referring to provisions that affect a covered discharger. "You" and "Your" – as used in the permit are intended to refer to the permittee, the operator, or the discharger as the context indicates and that party's facility or responsibilities. The use of "you" and "your" refers to a

particular facility and not to all facilities operated by a particular entity. For example, "you must submit" means the permittee must submit something for that particular facility. Likewise, "all your discharges" would refer only to discharges at that one facility.

2. Reviewed Data and Summary of Changes Proposed

2.1 Review of 12-SW Benchmark Monitoring Data

The 12-SW marked the first time that the Department implemented benchmarks for industrial stormwater permittees. Prior to issuing the 12-SW permit effective January 1, 2014, operators were subject to stormwater pollution prevention, with no meaningful measure of what concentrations of pollutants were acceptable. The 12-SW implemented the benchmarks to a limited set of industries. The rationale for implementing the limited set of benchmarks related to the specific industries identified were considered more common in the state, and also had experienced more visits based on counts of inspections performed at them. Also some were chosen based on their benchmarks including the Bay pollutants of nutrients or sediments. A benefit of this approached was to place a focus on a limited set in order for the State to work with those industries to get them sampling and reporting data as required under EPA NPDES protocols.

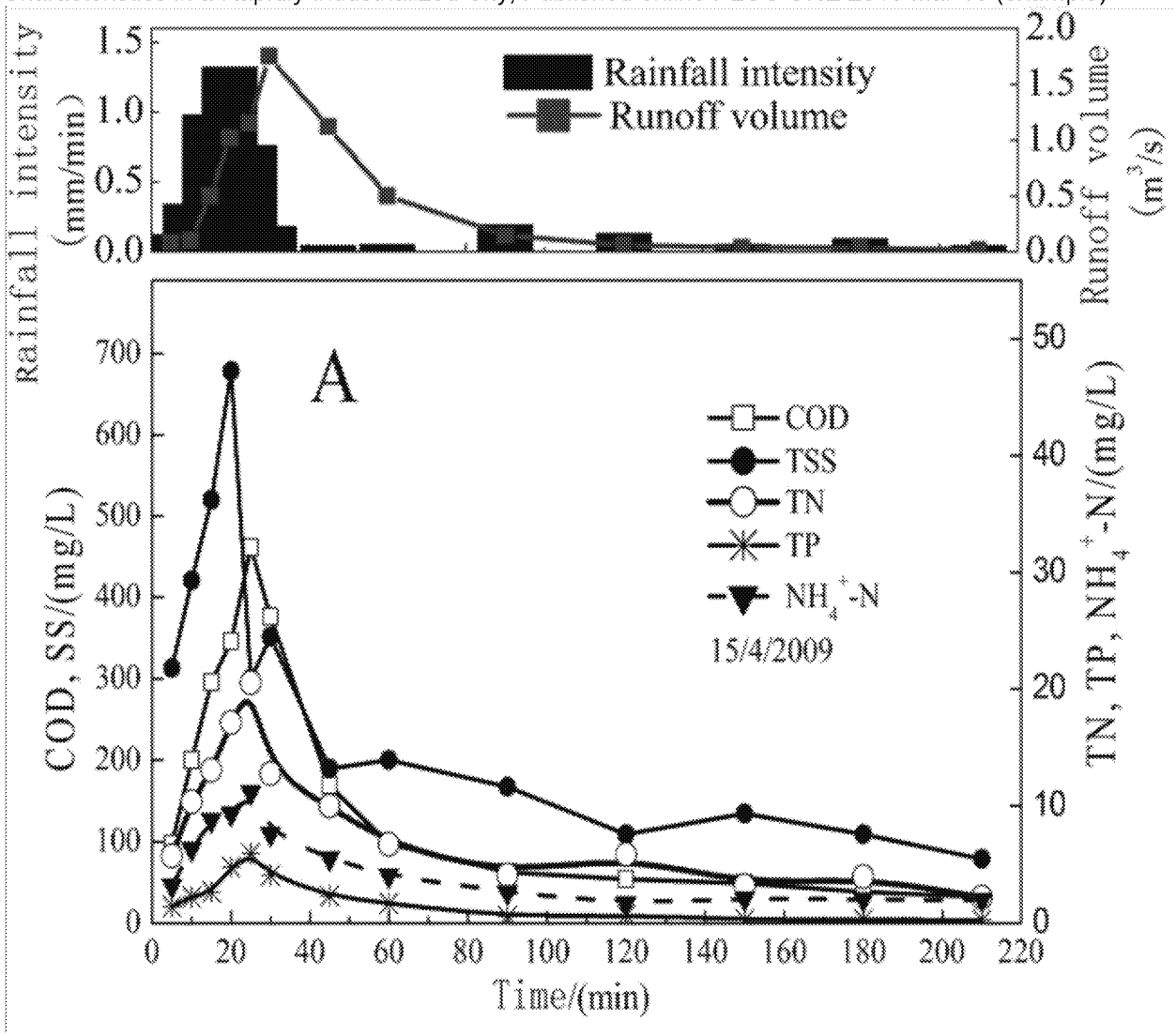
Since 2014, the State has had a significant amount of experience in implementing benchmarks. A summary of the lessons learned follow, and as a result changes to both benchmarks and corrective actions were made to the proposed 20-SW permit and those changes are identified later in this fact sheet. As noted later in this fact sheet, the Department is now proposing to implement the full complement of industry specific benchmarks from the MSGP in the 20-SW.

As noted in EPA's response to the NRC Study below, EPA points out that benchmarks "were designed to be as least burdensome as possible on operators while still providing the intended utility: a tool to for determining whether operators could have SWPPP/stormwater control measure deficiencies". The goal of picking half an hour after runoff begins is to try capturing the peak concentration. However, even this process is subject to variability, as evidenced in literature. Maryland stormwater design manual references Chang, G., J. Parish and C. Sober 1990. The First Flush Of Runoff And Its Effect On Control Structure Design. Environmental Resource Management Division. City of Austin, Texas. The Design Manual targets capturing of the first flush at a minimum, but goes beyond that to include volume control. "In practice this is achieved by specifying a rainfall amount (such as the first ½-inch, 1-inch or other rainfall depth over impervious areas) or the capture of a stormwater runoff volume that correlates to a design storm (such as the 6-month, 1-yr or 2-yr frequency storm)."[1] The graphs below are example of how the concentrations vary widely, but peak fairly quickly and then decline over time. In addition the size of the drainage area, the terrain, the % impervious surface, treatment, all would influence the graph. Suffice it to say the benchmarks are created more to evaluate the performance of controls than to inform TMDL development or estimating total loads within a watershed. Single data points, such as these benchmarks, cannot be used to accurately predict a load of the pollutant from a facility, since concentrations from stormwater is variable based on time and location. However, EPA proposes in their latest MSGP an explicit clarification that

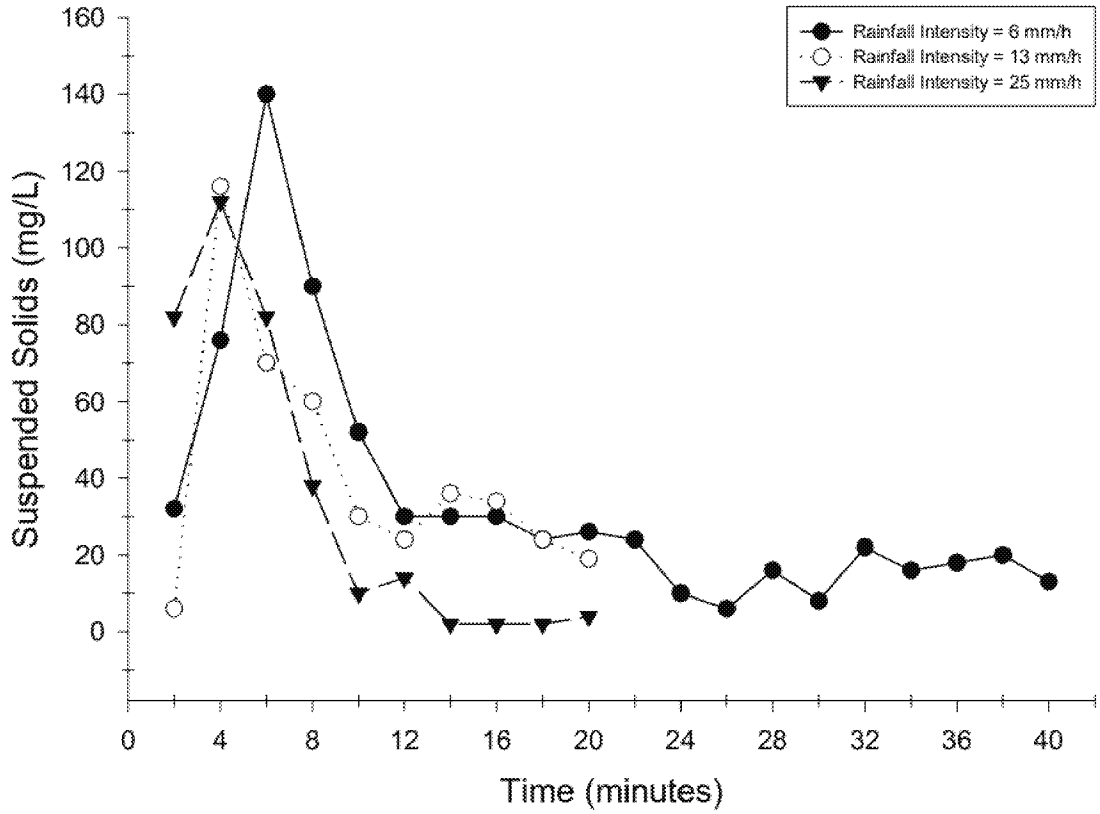
[1] United States Office of Research EPA/600/R-04/121 Environmental Protection and Development September 2004 Agency Washington DC 20460 Stormwater Best Management Practice Design Guide.

composite sampling is allowed for benchmark monitoring. The Department is following this lead and allowing composite sampling in the 20-SW. This uncertainty is important to delve into, since there have been attempts to take the reported benchmark results to try predict entire wasteload allocations from industrial facilities, and this is not the purpose of the data.

Stormwater Runoff Pollutant Loading Distributions and Their Correlation with Rainfall and Catchment Characteristics in a Rapidly Industrialized City, Published online PLOS ONE 2015 Mar 16 (example)



Effects of Rainfall Intensity and Duration on the First Flush from Parking Lots, 28 July 2016, *Water* (ISSN 2073-4441; CODEN: WATEGH)



The data for reported benchmarks can be downloaded for specific sites through EPA's ECHO website. The Department pulled the entire dataset to review data by the type of pollutant. The averages of each pollutant are provided in the following table. These datasets were reviewed. The aggregate data is hard to interpret, however when looking at specific sites, there are downward trends in concentrations. However the average doesn't reflect any specific site trend, it actually reflects the worst case since the heavy hitters stay on the list for all 5 years. Sites that do well are removed. The results as presented in the table are essentially the worst case benchmarks in all the categories. But there are positive trends in a few of the constituents and positive signs in others. Each constituent is described below the table.

Benchmark (mg/L)	2015 Average mg/L	2016 Average mg/L	2017 Average mg/L	2018 Average mg/L	2019 Average mg/L
Zinc (0.12)	0.0709	**0.4848**	**1.2754**	**0.7168**	**0.2074**
# of Reports	142	213	187	255	109
TSS (100)	60.4882	28.5450	40.0813	39.2071	42.0078
# of Reports	260	273	198	251	204

Aluminum (0.75)	**4.8372**	**2.0468**	**6.8187**	**2.7182**	**4.8567**
# of Reports	96	220	201	325	288
BOD (30)	4.5	7.7909	3.04	24.3	15.0357
# of Reports	2	11	5	10	14
COD (120)	**174.07**	**170.8713**	**266.7191**	**151.9364**	**207.1527**
# of Reports	65	136	114	172	154
Copper (0.014)	**1.9006**	**0.1415**	**0.2732**	**0.1922**	**0.4518**
# of Reports	61	114	108	165	161
Iron (1.0)	**8.1137**	**4.1128**	**8.2024**	**6.2347**	**3.9529**
# of Reports	243	392	324	425	147
Lead (0.082)	**1.2176**	**0.1134**	**0.4495**	**0.1134**	**0.2326**
# of Reports	102	213	187	310	294
Nitrogen (0.68)	**15.1782**	**13.3568**	**13.3429**	**19.0991**	**7.0060**
# of Reports	108	143	123	167	145
Phosphorus (2.0)	**2.775**	**3.2126**	**5.2946**	**2.5973**	**3.4622**
# of Reports	50	47	46	60	55

Table 1: Shown are the benchmark averages for are sites required to submit benchmarks under the 12SW through 2019.

Zinc: The zinc benchmark of 0.12 mg/L was met in the 2015 permit year but not afterwards due to an increase in the number of sites reporting and a drop in those sites that had acceptable numbers no longer needing to report. The zinc average rose through the year 2017 and has been dropping since with an increase in sites no longer required to submit zinc benchmarks after the 2018 reporting year.

TSS: The Total Suspended Solids (TSS) benchmark of 100 mg/L was met during every year from 2015-2019.

Aluminum: The total Aluminum benchmark of 0.75 mg/L was not met during a single year during the permit cycle. The benchmark for aluminum demonstrated a pattern of the results being high-low-high-low-high. The sites that had exceedances were normally grouped into one of two categories either the facility was just over the limit going back and forth between the two, or the facilities were two to three times over the limit.

BOD: The Biological Oxygen Demand (BOD) benchmark of 30 mg/L has not exceeded the yearly average from the 2015-2019 timeframe.

COD: The Chemical Oxygen Demand (COD) benchmark of 120 mg/L was exceeded in every year from 2015-2019. There were 65 COD reports in 2015 to a maximum of 172 in 2018 with many of the worst offenders being ten to thirty times the reporting limit.

Copper: The copper benchmark of 0.014 mg/L is dependent on water hardness, but the lowest reported average was 0.1415 mg/L showing that water hardness was not a factor in failing to meet the benchmarks.

Iron: The iron benchmark of 1 mg/L was not achieved in any full year from 2015-2019 the closest was nearly 4 times the reporting limit. The past two years the trend has been a decreasing trend in iron. EPA is proposing to remove this benchmark in their draft MSGP.

Lead: the lead benchmark of 0.082 mg/L was exceeded in every full reporting year with the first year being the worst and 102 reports and by 2019 it was 1/6 the initial level and had 294 reports.

Nitrogen: The nitrogen benchmark of 0.68 mg/L was exceeded by a large amount in every full reporting year with the lowest year being 2019 with about 7 mg/L and the highest being 2018 with 19 mg/L.

Phosphorus: The phosphorus benchmark of 2 mg/L was exceeded in every full year of reporting. It increased to its highest level in 2017, but has been much lower in the two years since.

This data indicates that there are operators who are very challenged in meeting the benchmarks. Since each operation is unique, the ultimate solution may be structural control such as a treatment system from a manufacturer or specific control measures identified in literature. The goal of the corrective action should be to marry the correct control measure to the pollutant and site conditions. If not addressed with a time frame identified by the permit, going the next step of hiring a professional to identify and help implement the strategy is required. The Department cannot endorse proprietary practices or specific practices, so the market and industry must identify strategies that work. Professionals in the field would more likely understand what methods may work. Thus the permit Corrective Action portion of the permit has changed substantially to address operators that are not meeting the benchmarks after substantial timeframes.

2.2 Review of Reports

Various recommendations have been made to strengthen the permit. The sources and a summary of them are proved below.

2.2.1. Review of The EPA's 2015 MSGP Litigation

After EPA issued the 2015 MSGP in June 2015, several parties, collectively referred to as "petitioners," filed petitions for review of the permit which were consolidated in the United States Court of Appeals for the Second Circuit. Petitioners included Waterkeeper Alliance, Apalachicola Riverkeeper, Galveston Baykeeper, Raritan Baykeeper, Inc. d/b/a NY/NJ Baykeeper, Snake River Waterkeeper, Ecological Rights Foundation, Our Children's Earth Foundation, Puget Soundkeeper Alliance, Lake Pend Oreille Waterkeeper, and Conservation Law Foundation. Federal Water Quality Coalition and Federal Storm Water Association intervened in the case as respondents on August 4, 2015. Before any briefs were filed in the MSGP Litigation, the parties entered into settlement discussions under the auspices of the Second Circuit's Civil Appeals Mediation Program. A Settlement Agreement resulted from these discussions, which all parties signed on August 16, 2016. The Settlement Agreement did not affect the 2015 MSGP, but stipulated several terms that EPA agreed to address in the proposed 2020 MSGP. EPA understands that the terms of the Settlement Agreement, in particular the proposed "Additional Implementation Measures" (AIM) benchmark exceedance protocol, will increase regulatory certainty from for those who must comply with the permit, as intervenors expressed, while resolving petitioners' concerns that the previous corrective actions for benchmark exceedances were not sufficient to ensure that the permit controlled discharges as sufficient to protect water quality, as is required by the CWA. Industrial stormwater discharges are explicitly required to meet all provisions of CWA §301, including applicable water quality standards (CWA §402(p)(3)(A)). See Part 5 of this EPA's MSGP Fact Sheet for a detailed discussion of the AIM protocol as agreed upon in the Settlement Agreement. Below, are the EPA outlines for the key terms from this Settlement Agreement and how and where EPA addressed those terms in their proposed permit.

• The NRC Study. EPA agreed to fund a study conducted by the National Academies of Sciences, Engineering, and Medicine's (NAS) National Research Council (NRC). The study committee was tasked to 1) Suggest improvements to the current MSGP benchmarking monitoring requirements; 2) Evaluate the feasibility of numeric retention standards; and 3) Identify the highest-priority industrial facilities/subsectors for consideration of additional discharge monitoring. The study was released in February 2019 and can be found at the following link: https://www.nap.edu/catalog/25355/improving-the-epa-multi-sectorgeneral-permit-for-industrial-stormwater-discharges. In the Settlement Agreement, EPA agreed that, when drafting the proposed MSGP, it will consider all recommendations suggested in the completed NRC Study. In addition, where the completed NRC Study made recommendations regarding the sectors/subsectors, frequency, parameters, and/or parameter levels in the 2015 MSGP's benchmark monitoring provisions, EPA will solicit comment on such recommendations in the proposed MSGP. See the section below for a detailed outline and discussion of the NRC Study recommendations.

• Comparative Analysis. EPA agreed to review examples of numeric and non-numeric effluent limitations (including complete prohibitions, if any) applicable to the discharge of industrial stormwater that have been set in other jurisdictions and evaluate the bases for those limitations. EPA includes this analysis in the docket for this proposed permit on regulations.gov (Docket ID#: EPA-HQ-OW-2019-0372).

• Preventing Recontamination of Federal CERCLA Sites. EPA agreed to propose for comment an expansion to all EPA Regions the existing eligibility criterion regarding operators discharging

to Federal CERCLA sites that currently applies to operators in Region 10 in the 2015 MSGP. See Part 1.1.7 of the proposed MSGP permit.

• Eligibility Criterion regarding Coal Tar Sealcoat. EPA agreed to propose for comment a new eligibility condition for operators who, during their coverage under the next MSGP, will use coal tar sealant to initially seal or to re-seal pavement and thereby discharge polycyclic aromatic hydrocarbons ("PAHs") in stormwater. EPA agreed to propose that those operators are not eligible for coverage under the MSGP and must either eliminate such discharge or apply for an individual permit. See Part 1.1.8 of the proposed MSGP permit.

• Permit Authorization Relating to a Pending Enforcement Action. EPA agreed to solicit comment on a provision on the situation where a facility not covered under the 2015 MSGP submits a Notice of Intent (NOI) for permit coverage while there is a related pending stormwater-related enforcement action by EPA, a state, or a citizen (to include both notices of violations ("NOVs") by EPA or the State and notices of intent to bring a citizen suit). In this situation, EPA agreed to solicit comment on holding the facility's NOI for an additional 30 days to allow EPA an opportunity to (a) review the facility's control measures expressed in its SWPPP, (b) identify any additional control measures that EPA deems necessary to control site discharges in order to ensure that discharges meet technology based and water quality-based effluent limitations, and/or (c) to conduct further inquiry regarding the site's eligibility for general permit coverage. See Part 1.3.3 and Table 1-2 of the proposed MSGP permit.

• Additional Implementation Measures (AIM). EPA agreed to include in the benchmark monitoring section of the proposed MSGP "Additional Implementation Measures" (AIM) requirements for operators for responding to benchmark exceedances. EPA includes proposed AIM requirements in Part 5.2 of the proposed MSGP permit.

• Part 4.2.4.1 Facilities Required to Monitor for Discharges to impaired waters without an EPA approved or established TMDL (previously Part 6.2.4.1. in the 2015 MSGP). EPA agreed to propose for comment specific edits regarding monitoring for impaired waters. See Part 4.2.4.1 of the proposed MSGP permit.

• Revision of Industrial Stormwater Fact Sheets. EPA agreed to review and revise the MSGP's sector-specific fact sheets associated with the permit. See Appendix Q of the proposed MSGP permit.

Given this extensive list of proposed changes to the MSGP, it is the Department's intention to review and implement similar changes in our industrial stormwater permits, in order to strengthen the permit. However, the Department is under pressure to re-issue this permit as soon as possible, as the existing 12-SW has expired and EPA has notified the Department that new authorizations cannot be issued under an expired permit. Due to the uncertainty of the terms of EPA's final permit, the Department has reviewed the changes and moved forward with some of the changes in this permit (See below), and is delaying implementation of others, in order to not miss the opportunity to make positive changes, while not committing to changes that are most likely to change (as noted below).

- Comparative Analysis.

The EPA was also to review state initiatives and compare them to the MSGP. Because EPA funded the NRC study, EPA did not conduct additional analyses that would have duplicated any analyses found in the NRC study.

- Preventing Recontamination of Federal CERCLA Sites.

  EPA's MSGP is considering expanding their control measures from Region 10, to all regions of the country. They have requested input as part of their re-issuance. CERCLA § 101(39)(A) defines a brownfield site as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant." This definition is very broad and covers many different types of properties. In Maryland, CERCLA sites developed for industrial, commercial or even residential use are cataloged on the Brownfield Master Inventory (BMI). [HYPERLINK "https://mde.maryland.gov/programs/Land/MarylandBrownfieldVCP/Pages/BrownfieldMasterInventory.aspx" \h]. This activity is managed through the Department's Land and Materials Management Administration. What has complicated Chesapeake Bay Restoration in brownfields, is the sites are often stabilized by capping them with impervious surfaces so that their contaminants do not leach out into ground or surface waters. Maryland is addressing these sites by allowing an out from restoration, if methods cannot be feasibly implemented on-site, by implementing them either off-site or through nutrient trading. Additional actions such as those taken in Region 10 are not being considered in this General Permit. If a site has hazardous pollutants, those would either have to be successfully managed through the SWPPP in coordination with LMA, or through an individual permit.

- Eligibility Criterion regarding Coal Tar Sealcoat.

  In Maryland, counties have taken the lead and go further than contemplated by EPA. Several counties in Maryland indicate that they either ban coal tar pavement products or do not use coal tar pavement products, including Anne Arundel, Baltimore, Charles, Howard, Montgomery, and Prince George's counties. as well as Washington DC. At the State Level, Maryland House Bill 411 in the 2019 Legislative Session, elected officials contemplated a Statewide Prohibition on the Sale and Application of Coal Tar and Coal Tar Pavement Products. Although not passed, the bill did propose funds for a statewide enforcement coordinator to be funded through the bill. Contemplating either County or Statewide bans is more effective that targeting only a subset of industrial sites. The MSGP suggest that using coal tar sealants required an individual permit. This approach focuses only on coal tar sealants and ignores the actual industrial pollutants that are addressed through the permit requirements. Because of these reasons, the Department did not follow the approach from the draft MSGP.

- Permit Authorization Relating to a Pending Enforcement Action.

  This is being considered in the 20-SW, for cases where the permittees under 12-SW failed to implement Restoration of Impervious surfaces. However, it is naive to suggest that every facility that has a violation should be denied coverage.

There are violations that are minor, such as not having an updated SWPPP on-site, or lack of on-site training records, that do need to be addressed through threat of an enforcement action but don't rise to the level of denying coverage under the permit. There may be other facilities that have significant impact on receiving waters which under the permit may be required to apply for and obtain an individual permit. It is through the requirements in the permit that industrial sites understand how to operate to minimize impacts to receiving waters. Therefore, we have not followed the entire approach from the draft MSGP.

- Additional Implementation Measures (AIM).

  The Department considers the improvement in corrective actions as the key element to focus our efforts on. This is discussed further in the changes to the permit.

- Facilities Required to Monitor for Discharges to impaired waters without an EPA approved or established TMDL

  The 20-SW language adopts the MSGP approach to impaired waters.

- Revision of Industrial Stormwater Fact Sheets.

  These are not an integral part of the permit, but are worthy guidance for those permitted. The Department has included the existing industry specific fact sheets on the MDE website, and will update them with the new Fact Sheets once they are available.

2.2.2. The National Research Council (NRC) National Academies of Sciences

Per the 2015 MSGP Settlement Agreement, discussed above, EPA agreed to fund a study conducted by the National Academies of Sciences, Engineering, and Medicine's (NAS) National Research Council (NRC). The NAS solicited suggestions for potential study committee members from a wide range of sources before recommending a slate of nominees to the NAS/NRC president. NAS posted the provisional list of committee members for public comment before the committee was finalized. The committee included representatives from both the environmental and regulated communities. NAS had full and final control over the committee selection process. The committee collected information from individuals and stakeholder organizations representing various interests and heard from several state permitting authorities (including Maryland) for industrial stormwater.

The study committee was tasked to 1) Suggest improvements to the current MSGP benchmarking monitoring requirements; 2) Evaluate the feasibility of numeric retention standards; and 3) Identify the highest-priority industrial facilities/subsectors for consideration of additional discharge monitoring. NAS released the study in February 2019, which can be found at the following link: https://www.nap.edu/catalog/25355/improving-the-epa-multi-sector-general-permit-for-industrialstormwater-discharges.

In the Settlement Agreement, EPA agreed that, when drafting the proposed MSGP, it will consider all recommendations suggested in the completed NRC Study. In addition, where the completed NRC Study made recommendations regarding the sectors/subsectors, frequency,

parameters, and/or parameter levels in the 2015 MSGP's benchmark monitoring provisions, EPA has solicited comment on such recommendations in the proposed MSGP. EPA thoroughly reviewed the NRC Study recommendations and relied on the committee's analysis of the permit to support the proposed permit requirements originating from the Study. Because EPA funded the NRC study, EPA did not conduct additional analyses that would have duplicated any analyses found in the NRC study. Below is a summary of the NRC study recommendations (verbatim from the NRC study executive summary) and how and where EPA addressed each recommendation. Where recommendations were related or linked to each other, EPA addresses them jointly below. EPA realizes these changes will generate significant input, and thus has solicited comment on alternatives to the proposal and/or not going forward with that proposal in the final permit.

NRC Recommendations on Pollutant Monitoring Requirements and Benchmark Thresholds

NRC recommendation: EPA should require industry-wide monitoring under the MSGP for pH, total suspended solids (TSS), and chemical oxygen demand (COD) as basic indicators of the effectiveness of stormwater control measures (SCMs) employed on site.

• *EPA response: EPA proposes to require "universal benchmark monitoring" for pH, TSS, and COD for all facilities.*

• The Department's is holding on this requirement. The selection of these constituents can be considered arbitrary even though used in other states as a screening tool. TSS for example would be appropriate at sites with earth disturbances, but not at a warehouse or printer. This is one area that is subject to significant input and challenges.

NRC recommendation: EPA should implement a process to periodically review and update sector-specific benchmark monitoring requirements that incorporates new scientific information.

• *EPA response: As part of the permitting process to propose and finalize the MSGP, EPA reviews and updates sector-specific benchmark monitoring requirements to incorporate new scientific information.*

o As part of the 2015 MSGP Settlement Agreement, EPA revised the MSGP's sector specific fact sheets associated with the permit. See Appendix Q of the proposed permit and this Fact Sheet.

o EPA proposes to require specific benchmark monitoring for Sectors I, P, and R. See Parts 8 and 4.2.1.1 of the proposed permit and this Fact Sheet.

o EPA evaluated options for developing a benchmark for polycyclic aromatic hydrocarbons (PAHs). After conducting the cost analysis for this proposed permit for 3 options, EPA concluded that COD is the most cost-effective option as a surrogate for PAHs, and since COD is already being proposed under the new "universal benchmark monitoring," no additional monitoring for PAHs is being proposed at this time. EPA requests comment on information and data related to specific sectors with petroleum hydrocarbon exposure that can release PAHs, any concentrations of individual PAHs and/or total PAHs at industrial sites, and the correlation of PAHs and COD. EPA may consider additional monitoring for PAHs in the final permit if it receives sufficient information to develop an appropriate benchmark threshold. For a full

discussion and detailed analysis of the options and the costs, see Part 4.2.1.2 of the MSGP Fact Sheet and Section E.3 of the Cost Impact Analysis in the EPA's MSGP docket.

• The Department is expanding the benchmarks required in the 20-SW to closely match EPA's MSGP. Our own review of data presented above indicates that they are focused on pollutants found at the sector specific operations.

NRC recommendation: EPA should update the MSGP industrial-sector classifications so that requirements for monitoring extend to nonindustrial facilities with activities similar to those currently covered under the MSGP.

• *EPA response: Prior to the issuance of the 1995 MSGP an analysis of industrial sources not covered under the stormwater Phase I rule was performed to determine whether any such industries should be covered under the 1999 stormwater Phase II rule (Report to Congress, March 1995, EPA 833-K-94-002). Ultimately, no new industrial sources were included in the stormwater Phase II rulemaking. While EPA recognizes the benefits of the recommendation to cover facilities with activities similar to those already covered by the MSGP, such an expansion would require a separate regulatory action to modify the definition of "stormwater discharges associated with industrial activity" in 40 CFR 122.26(b)(14) and is outside of the scope of this permit. Additionally, in Sector AD, the MSGP covers other stormwater discharges designated by the Director as needing a permit (see 40 CFR 122.26(a)(9)(i)(C) & (D)) or any facility discharging stormwater associated with industrial activity not described by any of Sectors A-AC.*

• Similar to EPA, the Department has chosen to use Sector AD, to include requirements for specific industrial sites. In the 20-SW specific Sector AD categories have been created, including highway maintenance or Department of Public Works, closed landfills, salt terminals and school bus maintenance facilities. On a case-by-case basis, Sector AD can also be used when an unregulated facility's operation is having an impact on local water quality.

NRC recommendation: Benchmarks should be based on the latest toxicity criteria designed to protect aquatic ecosystems from adverse impacts from short-term or intermittent exposures, which to date have generally been acute criteria.

• *EPA response: EPA proposes to update the benchmark thresholds for cadmium; leave the benchmark threshold for aluminum as it was in the 2015 MSGP; remove benchmark thresholds for magnesium and iron; and requests comment on the benchmark thresholds for selenium, arsenic, and copper. See Parts 4.2.1.2 and 8 of the proposed MSGP Fact Sheet.*

• The Department, as stated in a response above, is adopting the Sector Specific Benchmarks closely. However, iron is one specific pollutant that will be retained in the 20-SW.

NRC recommendations:

• Additional monitoring data collection on the capacity of stormwater control measures (SCMs) to reduce industrial stormwater pollutants is recommended to inform periodic reviews of the benchmark thresholds and identify sectors for which new national effluent limits could help address treatment attainability.

• Because of the paucity of rigorous industrial SCM performance data, the development of new numeric effluent limitations (NELs) is not recommended for any specific sector based on existing data, data gaps, and the likelihood of filling them.

o EPA response: EPA acknowledges that a more complete and robust dataset is needed to establish numeric limitations (NELs) for industrial stormwater in a general permit Numeric limitations are determined only on an industry-by-industry basis (or subsector-by-subsector) and require discharge pollutant levels corresponding to specific control measures. Many 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 NELs, which are developed through the effluent limitations guidelines (ELG) development process. NRC notes that the MSGP as a general permit is not the appropriate vehicle for collecting the rigorous performance monitoring data which is necessary to develop new NELs based on the capabilities of treatment technology and other on-site stormwater management practices. While EPA recognizes the importance and utility of NELs, the MSGP benchmark monitoring requirements were designed to be as least burdensome as possible on operators while still providing the intended utility: a tool to for determining whether operators could have SWPPP/stormwater control measure deficiencies. Generally, NELs are feasible only where predictably reliable treatment technologies (as opposed to standard pollution prevention SCMs other than product substitution) are employed. Where standard SCMs provide adequate water quality protection, NELs are unnecessary. Some of the requisite components of a stormwater monitoring program that is sufficient to characterize a discharge and to accommodate the development of NELs include the following:

o Rainfall monitoring in the drainage area (rate and depth, at least at two locations);
o Flow monitoring at the discharge point (calibrated with known flow or using dye dilution methods);
o Flow-weighted composite sampling, with sampler modified to accommodate a wide range of rain events;
o Water quality sonde to obtain high-resolution and continuous measurements of such parameters as turbidity, conductivity, pH, oxidation reduction potential, dissolved oxygen (DO), and temperature (recommended);
o Preparation of adequate experimental design that quantifies the needed sampling effort to meet the data quality objectives (adequate numbers of samples in all rain categories and seasons); and
o Selection of constituents that meet monitoring objectives.

Permitted facilities cannot be compelled to collect additional detailed performance data for common SCMs under typical stormwater conditions, as this would be very complicated to do in context of a permit and possibly expensive for operators in balance with other proposed requirements.

o The Department acknowledges this variability and the challenges of the data for uses other than their intended use of identifying deficiencies in stormwater control measures.

NRC Recommendations on Stormwater Sampling and Data Collection

NRC recommendation: EPA should update and strengthen industrial stormwater monitoring, sampling, and analysis protocols and training to improve the quality of monitoring data.

• *EPA response: EPA has existing guidance on industrial stormwater monitoring and sampling, which can be found at https://www3.epa.gov/npdes/pubs/msgp_monitoring_guide.pdf. The guidance explains how to conduct visual and analytical monitoring of stormwater discharges and can be used by facilities required to comply with the MSGP's monitoring requirements as well as facilities subject to state-issued industrial stormwater permits. EPA may consider updating this guidance as a separate activity from the permit proposal. Although EPA recognizes the benefits of developing a new comprehensive industrial stormwater training or professional certificate program, establishing such a program would require significant time, resources, and indefinite EPA staff commitment, and is outside the scope of the permit and capabilities of EPA's industrial stormwater program at this time.*

• The Department makes extensive use of EPA's monitoring guide, other state aides such as Minnesota's monitoring videos and has begun offering opportunities for training on aspects of the permit including monitoring through the Maryland Center for Environmental Training.

<u>NRC recommendation: EPA should allow and promote the use of composite sampling for benchmark monitoring for all pollutants except those affected by storage time.</u>

• *EPA response: EPA proposes an explicit clarification that composite sampling is allowed for benchmark monitoring. See Part 4.1.4 of the proposed permit and the MSGP Fact Sheet.*

• The Department has included similar provisions.

<u>NRC recommendation: Quarterly stormwater event samples collected over 1 year are inadequate to characterize industrial stormwater discharge or describe industrial SCM performance over the permit term.</u>

• *EPA response: As part of proposed "universal benchmark monitoring" for pH, TSS, and COD for all facilities in Part 4.2.1.1, EPA proposes that facilities monitor and report for these three parameters on a quarterly basis for the entire permit term, regardless of any benchmark threshold exceedances, to ensure facilities have current indicators of the effectiveness of their stormwater control measures throughout the MSGP permit term. See Part 4.2.1.2 of the proposed MSGP permit and the EPA MSGP Fact Sheet.*

• The Department is not implementing the universal benchmark, however is retaining the visual monitoring and the resulting corrective actions. The benefits of visual monitoring include low cost (no lab requirements), immediate test results and they can also be used by third parties concerned about runoff from a facility when communicating to an inspector. In many ways this is more comprehensive than the universal benchmarks. For instance TSS of 100 mg/L can be considered less restrictive than suspended solids, dissolved solids and turbidity of the visual monitoring sample. Also it may be assumed that if the facility meets the TSS, pH and COD benchmarks, that they are off the hook for their control measures, when we know that color for instance from a mulch manufacturer, or plastic pellets from a plastic manufacturer, are not acceptable and has an impact on receiving waters.

<u>NRC recommendation: State adoption of national laboratory accreditation programs for the Clean Water Act with a focus on the stormwater matrix and interlaboratory calibration efforts would improve data quality and reduce error.</u>

• *EPA response: EPA has existing guidance on laboratory procedures and quality assurance in the NPDES Compliance Inspection Manual (January 2017), which can be found at* [HYPERLINK "https://www.epa.gov/sites/production/files/2017-01/documents/npdesinspect.pdf" \h]. *Because this guidance is relatively recent, EPA has no plans to further update it at this time.*

• The Department appreciates such guidance as EPA provides.

NRC recommendation: To improve stormwater data quality while balancing the burden of monitoring, EPA should expand its tiered approach to monitoring within the MSGP, based on facility risk, complexity, and past performance.

• *EPA response:*

o EPA proposes to have the following tiered approach to monitoring: 1) a possible "inspection-only" option in lieu of benchmark monitoring available to low-risk facilities (see Part 4.2.1.1 of the proposed MSGP permit and the MSPG Fact Sheet and associated request for comment in that Part); 2) require new "universal benchmark monitoring" for pH, TSS, and COD; 3) continue existing benchmark monitoring requirements from the 2015 MSGP; and 4) require continued benchmark monitoring as part of the proposed Additional Implementation Measures (AIM) protocol for repeated benchmark exceedances. See Parts 4.2. and 5.2 in the proposed MSGP permit and the MSGP Fact Sheet.

o EPA is also considering an "inspection-only" option as an alternative to benchmark monitoring for low-risk facilities. EPA acknowledges the benefits of an in-person inspection and aims to provide flexibility in the permit, where appropriate. EPA requests comment on whether the permit should include an "inspection-only" option, ways to identify eligible low-risk facilities, what frequency would be appropriate for such an inspection, what the inspection should entail, and what qualifications or certifications an inspector should have. Based on the information received during the comment period for this proposed permit, the Agency may include this option in the final permit.

For a full discussion and detailed analysis of this option and the costs, see EPA MSGP Fact Sheet Part 4.2.1.1 and Section E.5 of the Cost Impact Analysis in the EPA MSGP docket.

• The Department acknowledges the uncertainty of the proposed options and will continue visual monitoring instead of an "inspection only" option. The operations with established benchmarks are the higher risk facilities; whereas and the other facilities including those who have met benchmarks are the lower risk. This established requirement continues to be an appropriate balance of the burden. However, the Additional Implementation Measures (AIM) tiered approach for corrective actions involves continued monitoring and a professional at some point.

NRC recommendation: To improve the ability to analyze data nationally and the efficiency and capability of oversight by permitting agencies, EPA should enhance electronic data reporting and develop data management and visualization tools.

• *EPA response: EPA recognizes the benefits of improved electronic data reporting and management and continues to work on upgrading its electronic reporting systems and tools with*

each permit reissuance. EPA will consider implementing improved compliance reminders, checks on missing or unusual data, and the possibility of developing a data visualization tool.

• The Department is fortunate to have chosen to utilize EPAs DMR tools and will continue to use them as they are integrated with improvements.

NRC Recommendations on Consideration of Retention Standards in the MSGP

NRC recommendations:

a. Rigorous permitting, (pre)treatment, and monitoring requirements are needed along with careful site characterization and design to ensure groundwater protection in industrial stormwater infiltration systems.

b. Site-specific factors and water quality-based effluent limits render national retention standards for industrial stormwater infeasible within the existing regulatory framework of the MSGP.

c. EPA should consider incentives to encourage industrial stormwater infiltration or capture and use where appropriate.

• *EPA response: EPA acknowledges the importance of protecting groundwater during the use of stormwater infiltration systems. EPA proposes infiltration, where the operator can demonstrate to EPA that it is appropriate and feasible for site-specific conditions, as an alternative or adjunct to structural source controls and/or treatment controls required in proposed Tier 3 Additional Implementation Measures (AIM) responses. See Part 5.2.3.2.b of the proposed MSGP permit and the MSGP Fact Sheet.*

• The Department has included infiltration as one of the approved practices for restoration of impervious surfaces in the 12-SW and the 20-SW. Infiltration isn't always the best choice for contaminated water, so the permit allows for infiltration outside of the regulated industrial area. Impervious surfaces are often a better choice for industrial areas, such that a paved road may be better than a dirt or gravel road, or a roof may be better than allowing certain materials from being exposed. The 20-SW even allows generation of credits that can be used in the nutrient trading market. However, the State has implemented Stormwater Management into law, requiring new facilities to meet Environmental Site Design (ESD) requirements which include infiltration, and even redeveloped facilities have similar standards.

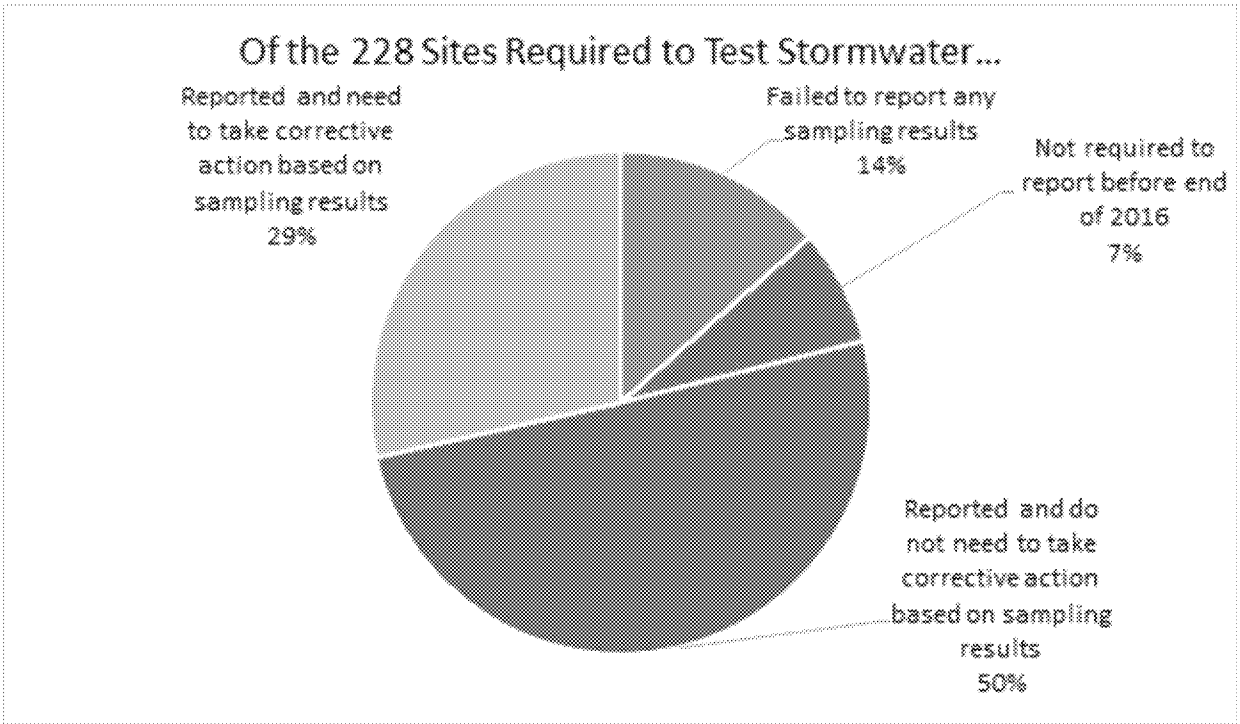
NRC recommendation: EPA should develop guidance for retention and infiltration of industrial stormwater for protection of groundwater.

• *EPA response: For the final permit, EPA may develop guidance for retention and infiltration after it reviews any existing state or other federal guidance.*

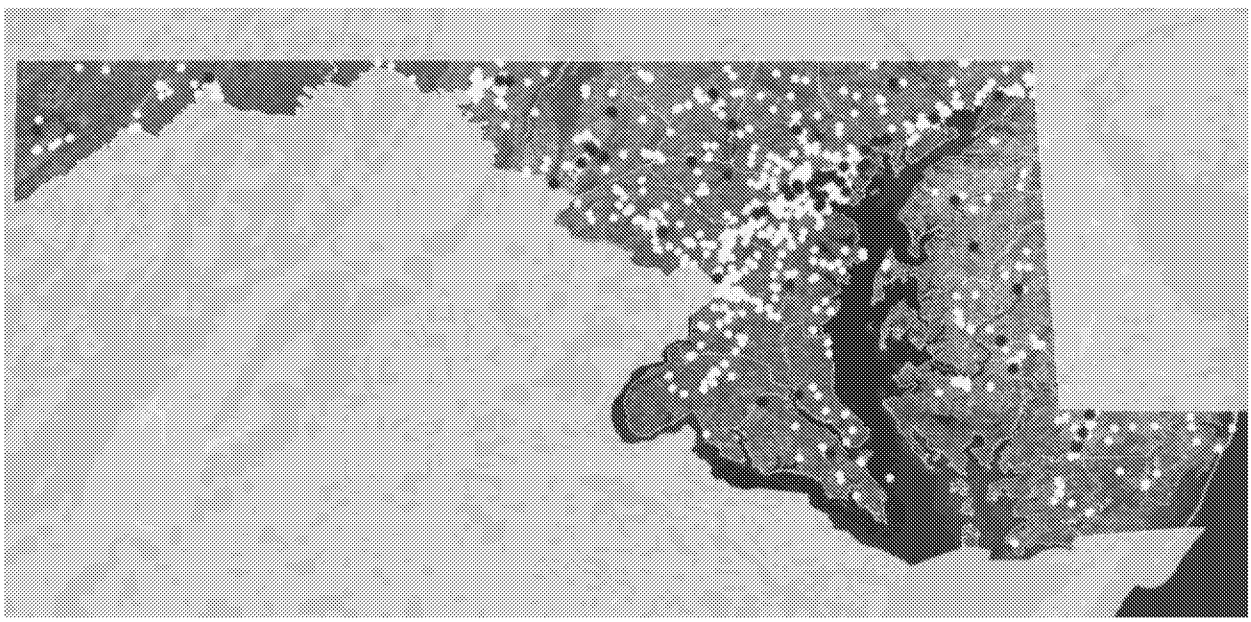
• The Department would evaluate EPA's guidance and as long as it isn't less restrictive than State Stormwater Management, would provide this to permittees.

2.2.3 Toxic Runoff from Maryland Industry - Report

In 2017, the Center for Progressive Reform and the Environmental Integrity Projects, published a report on the performance of the State's industrial stormwater permit. The report included a review of DMR data from 228 sites. The report found that of these sites, 180 qualified for benchmarks, and of those 180, 65 exceeded acceptable pollution levels in four consecutive quarters. In the report, recommendations were made to improve compliance.



The report also uses GIS to show where sites are located, and where the ones that don't meet benchmarks are located.



Statewide distribution of sites (in red) reporting discharges that exceeded acceptable benchmark thresholds over four quarters and are therefore required to take "corrective action" to comply with the industrial stormwater permit.

The report gives recommendations for strategies for inspection and compliance. It also gives specific recommendations for the next permit. "By adopting these recommendations, Maryland would take a significant step toward protecting its residents and preventing further degradation of the Chesapeake Bay and local waterways from toxic pollution."

- MDE should revise its industrial stormwater permit to incorporate deadlines for polluters to take corrective action when current practices fail to protect local communities and waterways.
- The next iteration of Maryland's industrial stormwater permit should adopt more realistic and more detailed monitoring requirements.
- Maryland should create a publicly available reporting database and require permittees to electronically submit updated pollution plans and compliance reports once per quarter. MDE should also publicly disclose its inspection and enforcement activities in a timely fashion on its website.

The report cites "Although testing and reporting serve as important tools for regulators and the public, only six of the 29 industrial sectors covered under the industrial stormwater permit are required to do so." The report also cites specific pollutants as examples that should be addressed using benchmarks, such as lead at a landfill, although no citation or basis is given, such as if EPA's MSGP requires it. Interestingly the NAOS study didn't identify the pollutants.

The report also notes that Washington requires additional testing for certain pollutants if a permit-holder's stormwater discharges into a waterway that is impaired by that same pollutant.

The report also calls out monitoring that is flowrate based, which would require automated sampling. List all monitoring points as well as GPS coordinates and details of the corresponding stormwater discharged from each point on the permit application.

2.3. Summary of Major Changes from the 12-SW

The Department weighed each of these sources of information to identify areas where the current permit has issues that need to be addressed. As a result there are departures from the 12-SW in the areas noted below:

1. **Restoration of Impervious Surfaces**
2. **Benchmarks Additions and Changes**
3. **Additional Implementation Measures (AIM) level approach for Corrective Actions**
4. **Updated Renewal Language**
5. **Reopener for MSGP Change Consideration**
6. **Impaired Water Monitoring Consistent with the EPA and Additional Controls**
7. **Signage Requirement**
8. **Climate Adaptation**
9. **Added chemical additives, for use at Landfills**
10. **Warehousing Clarification**

2.3.1 Restoration of Impervious Surfaces

The requirement to implement Restoration of Impervious Surfaces within the Chesapeake Bay watershed continues to be an important component of this permit. This requirement is driven by the Chesapeake Bay watershed impairment.

Since 1972, Section 303(d) of the federal Clean Water Act has required states to identify waters that do not meet water quality standards and publicly report them on a list published every two years. For each of the listed waters, states are to determine the maximum amount of pollution that the waters can withstand and still meet water quality standards. This maximum amount of pollution is called a Total Maximum Daily Load or TMDL.

In 1996, the U.S. Environmental Protection Agency (EPA) listed certain sections of the Virginia portion of the Chesapeake Bay as "impaired." That is, water quality, most notably dissolved oxygen, was insufficient to fully support aquatic life. Recognizing the low dissolved oxygen in portions of the Upper Bay, Maryland listed all of the upper Chesapeake Bay tidal water segments as not meeting standards for phosphorus, nitrogen (nutrients) and sediments.

In 2000, the Bay watershed partners signed the Chesapeake 2000 Agreement to clearly identify the actions needed to achieve water quality standards. With this Agreement came the understanding that if the voluntary actions taken were not successful in reaching the water quality goals, EPA would complete a TMDL by the end of 2010. Although much progress has been accomplished, it has not been enough reach the pollution reduction goals. For the past several years, EPA has led a process to develop TMDLs for the Chesapeake Bay.

After the TMDL was published in December 2010, each state in the Chesapeake Bay watershed had to develop a plan for how they would reach the pollution load reductions required by the TMDL, called a Watershed Implementation Plan or WIP. This plan had to provide what EPA called "reasonable assurance" or a demonstration that achieving the pollution load reductions required by the TMDL can reasonably be met. In other words, that current or planned resources and commitments to reduce pollution are expected to be sufficient meet the required pollution load reductions.

Maryland's WIP included several required actions, including specific actions for quality and quantity control of stormwater regulated by the CWA. From this perspective, the permit supports the WIP and addresses stormwater concerns related to the TMDL through volume or quantity control for all facilities through restoration of impervious surfaces. The restoration requirement is not a surrogate for the Bay TMDL. The requirements for facilities to manage runoff from these industrial sites by reducing impervious surfaces or retrofitting using environmental site design practices has brought a broad range of benefits to local receiving waters, including, but not limited to, improving the hydrology of the local watershed by reducing runoff volumes, reducing nutrients, sediment and other pollutants, and allowing greater groundwater recharge.

Under the 12-SW, nearly 307 facilities were subject to the Chesapeake Bay restoration requirements. These facilities were over 5 acres, were within urbanized areas (defined as MS4s), were within the Chesapeake Bay watershed and were not owned or operated by an MS4. These facilities were required to implement restoration within established timeframes. Of the 307 sites required to do restoration, 212 have completed it, 31 are in process of

implementation, and 64 must either trade or are out of compliance. This permit builds on the previous permit requirements:

a. **Providing an incentive** for facilities to increase their contribution of restoration through nutrient trading **based on permit baseline.**
b. **Requiring restoration for new operators, as well as existing operators in** the newly identified urban areas (Phase 2 MS4s **jurisdictions), with specific deadlines for completion.**
c. **Maintaining practices or measures implemented under the 12-SW, including requirements for this to be documented in the SWPPP.**

2.3.2 Benchmarks Additions and Changes

Benchmarks are a core component of the permit. Under the 12-SW, not all of the MSGP benchmarks were implemented. In the 20-SW the Department intends to implement the complement of benchmarks, with a few exceptions.

2.3.2.1 Increasing iron from 1 mg/L to 3 mg/L.

The EPA MSGP draft is dropping iron benchmarks. The Department intends to keep iron as a benchmark, but the basis for the benchmark will be the concentration considered the technology standard of 3 mg/L maximum. Iron is an indicator of groundwater seeps at landfills, is present at scrap yards, so it is a useful benchmark. However, the 1 mg/L is below what is commonly treatable using oxidation. Without treatment, iron does cause staining of receiving waters. For these reasons this is being retained differently that EPA. For the full list of sector benchmarks being included review the summary in the section below.

2.3.2.2 Make industrial category changes to benchmarks based on MSGP.

The EPA MSGP draft benchmarks were compared to the 12-SW benchmarks to identify the ones that were not implemented in 2014/2015. Based on the comparison, the identified benchmarks were added, using the draft benchmarks. There are a few notable exceptions. Sectors I, P, and R benchmarks were added based on the NRC study. The Department is implementing the benchmarks for Sector I (Crude Petroleum and Natural Gas) without any changes, however Sector P and Sector R were not. Sector P benchmarks, that being transportation were lead and mercury, rather than the potential pollutants more commonly found at maintenance shops. Given that these may change, the benchmarks for that sector will not implemented. The Ship and Boat Building or Repairing Yards were not similar to Sector Q (water transportation). The Department relates these as similar activities and chose to use the same benchmarks for both. Based on this the following Sectors have benchmarks added in the 20-SW.

- Subsector A1 Benchmarks (General Sawmills and Planing Mills for SIC 2421)
- Subsector A2 Benchmarks (Wood Preserving for SIC 2491)
- Subsector A3 Benchmarks (Log Storage and Handling for SIC 2411)
- Subsector A4 Benchmarks (Special Products Sawmills, not elsewhere classified and Wood Products Facilities not elsewhere classified for SIC 2426 and 2499)
- Subsector D1 Benchmarks (Asphalt Paving and Roofing Materials SIC 2951, 2952)

- Subsector E1 Benchmarks (Clay Product Manufacturers SIC 3251-3259, 3261-3269)
- Subsector E2 Benchmarks (Concrete and Gypsum Product Manufacturers SIC 3271-3275)
- Subsector F1 Benchmarks (Steel Works, Blast Furnaces, and Rolling and Finishing Mills for SIC 3312-3317)
- Subsector F2 Benchmarks (Iron and Steel Foundries for SIC 3321-3325)
- Subsector F3 Benchmarks (Rolling, Drawing, and Extruding of Nonferrous Metals for SIC 3351-3357)
- Subsector F4 Benchmarks (Nonferrous Foundries (SIC 3363-3369)
- Subsector I1 Benchmarks (Crude Petroleum and Natural Gas; Natural Gas Liquids; Oil and Gas Field Services (SIC 1311, 1321, 1381-1389)
- Subsector K1 Benchmarks (ALL - Industrial Activity Code "HZ". Benchmarks only applicable to discharges not subject to effluent limitations in 40 CFR Part 445 Subpart A)
- Subsector Q1 Benchmarks (Water Transportation Facilities SIC 4412-4499)
- Subsector R1 Benchmarks (Ship and Boat Building or Repairing Yards for SIC 3731, 3732), however used Q1 benchmarks vs EPA's modified ones.
- Subsector S1 Benchmarks (Airports using more than 100,000 gallons of deicing glycols based fluids or 100 tons of urea, on an annual basis for SIC 4512 - 4581)

The other result of the comparison between EPA's MSGP draft benchmarks and the 12-SW benchmarks was the lack of saltwater criteria. The differences in the criteria are substantial and based on where the facility is, the ability to consider the receiving water may be important consideration. The following benchmarks where modified to be consistent with MSGP:

- Subsector C1 Benchmarks (Agricultural Chemicals for SIC 2873-2879) - Removed Iron, Added Saltwater criteria
- Subsector L2 Benchmarks - Landfills and Land Application Sites, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60, Removed iron
- Sector M Benchmarks (Automobile Salvage Yards) Added Saltwater criteria, Changed Iron to 3mg/L
- Subsector N1 Benchmarks (Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling), Changed Iron to 3mg/L, Added saltwater criteria for Lead, Copper and Zinc
- Subsector Y1 Benchmarks (Tires and Inner Tubes, Rubber and Plastics Footwear, Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting, Fabricated Rubber Products, Not Elsewhere Classified for SIC 3011, 3021, 3052, 3053, 3061, 3069) Added saltwater criteria

- Sector AA Benchmarks (Fabricated Metal Products, Fabricated Metal Coating and Engraving, and Allied Services, Jewelry, Silverware, and Plated Ware) Added saltwater criteria

The other changes made to the benchmarks and applicable controls were Adding Sector AD Maryland Specific Monitoring, Benchmarks and Controls associated with

- Subsector AD.a1 Benchmarks required for stormwater that has come into contact with street sweeping or stormdrain inlet cleaning debris for Nitrate plus Nitrite Nitrogen, Phosphorus and TSS.
- Sector AD.d includes specific controls for the larger salt piles (salt terminals) within Maryland. This was developed in 2017 with the salt industry and now being added officially. Also includes specific Reporting Flow, Chloride, Free Amenable Cyanide, and Iron.
- Moved landfill subsector L3 to Sector AD. These are closed landfills that only apply when required.

2.3.2.3 Add Benchmarks by outfall to the NOI.

The 20-SW now provides the opportunity to list each outfall on the NOI, so that outfalls can be assigned benchmarks per outfall. This was a problem with the 12-SW, as only one outfall was listed on the NOI, or required by the permit. However the data had to be reported for every outfall causing confusion. This has been addressed in a similar fashion as provided by EPA's MSGP and the Department's more recent General Permits.

2.3.2.4 Allow Automated Composite Sampling.

In the 12-SW, there was a concern with requirements for composite sampling, due to costs and complexity. However, there have been request for this by permittees, and EPA is allowing this as an option. The 20-SW provides the option of using automated sampling for benchmarks, consistent with the MSGP.

2.3.3 Additional Implementation Measures (AIM) tiered approach for Corrective Actions

EPA included in the benchmark monitoring section of the proposed MSGP "Additional Implementation Measures" (AIM) requirements for operators for responding to benchmark exceedances. EPA included the proposed AIM requirements in Part 5.2 of the proposed MSGP permit.

Ensuring that there are defined timeframes and escalating levels of actions required by those operators not able to meet benchmarks. This portion of the MSGP is very complex, and will be subject to changes prior to issuing their final determination. The Department has taken portions that provide more certainty (see discussion below in section 7.0), and will focus on this portion of the permit in a reopener. A re-opener has been proposed in this permit to allow the permit to be reopened after the EPA successfully issues the final MSGP permit.

Base on DMR date reviewed above, the benchmark and corrective action framework does work very well for those facilities who are able to verify their control measures achieve the concentration, however for those that continue to try meet the benchmark but cannot, the lack of

a specific end date for closure or lack of a clear cut violation for not meeting the benchmark is one of the elements of the MSGP and the 12-SW that need to be addressed going forward. The other missing element in the corrective actions is identified solutions that have been proven to work.

Based on the uncertainty of EPAs AIM process, a modified version was developed by the Department.

2.3.4 Updated Renewal Language

The renewal language has been updated consistent with recent changes which confirm the permit is effective for 5 years, and in order to be considered for continuation under an extended permit that the permittee must provide notice of continuance.

2.3.5 Reopener for MSGP Change Consideration

Since there was uncertainty in the proposed draft MSGP, the Department wishes to have an opportunity to reconsider portions of the permit. To allow this, an automatic reopener has been proposed to allow for consideration of changes made to the corrective action language AIM process in the final MSGP and consider revisions to the 20-SW. The date for the re-opener would be 3 years after the effective date.

2.3.6 Impaired Water Monitoring Consistent with the EPA and Additional Controls.

There were portions of the impaired water monitoring that had not been implemented in the 12-SW, which are viewed as important to TMDL development in the future. The change includes monitoring for parameters such as PCB (which is part of your industrial activity) identified in an impairment without an established TMDL, once a year. If after 3 years there is no detection, then continued monitoring may discontinued. If there is an established TMDL then monitoring and/or limits may be required by the Department to be consistent with any wasteload allocation in the TMDL.

The permit also requires that the permittee identify sources of the pollutants based on EPA Fact Sheets, their own knowledge of their operation or based on specific tables provided in the permit intended to inform specifically on potential sources of PCB or PFAS based on Virginia's research, and notice on PFAS if certain activities have occurred.

Table III.C.3.b.ii - Activities with higher likelihood to be source of Polychlorinated Biphenyls (PCB)

Sector or Subsector or (specific SICs)	Sector Description
(SIC 7600)	Miscellaneous Repair Service
(SIC 9700)	National Security and International Affairs
AA	FABRICATED METAL PRODUCTS
AB (SIC 3711-3799)	Transportation Equipment
AC (SIC 3612)	TransformersTranformers

B	PAPER AND ALLIED PRODUCTS
C (SIC 2812-2899)	Chemicals & Allied Products
F	PRIMARY METALS
M	AUTOMOBILE SALVAGE YARDS
N1	Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling.
P (SIC 4212-4215, 4231)	Motor Freight Transportation
P (SIC 4011)	Railroads, Line Haul Ops
Q	Water Transportation
R1	Ship and Boat Building or Repairing Yards
U	Food and Kindred Products
V (SIC 2211-2299)	Textile Mill Products
X	Printing Publishing & Allied Industries
Y1	Tires and Inner Tubes, Rubber and Plastics Footwear, Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting, Fabricated Rubber Products, Not Elsewhere Classified

"The Relationship between Polychlorinated Biphenyls (PCBs), VPDES Wastewater/Stormwater Facilities, Stormwater Industrial General Permitted Facilities (ISWGPs), and the Standard Industrial Classification System (SIC)", Virginia Department of Environmental Quality (VDEQ), Mark Richards & Will Isenberg, February 1, 2016.

Your facility should examine any potential sources of per- and polyfluoroalkyl substances (PFAS), an emerging pollutant. Include your analysis of any potential PFAS at your operation which is exposed to stormwater in your SWPPP. Sources would include areas where fire retardants were discharged or stored, or where material used in your manufacturing involves this potential pollutant and has spilled. For more information review [HYPERLINK "https://www.epa.gov/pfas/basic-information-pfas" \h].You should also be aware that the Department may require ongoing monitoring under this permit if an impairment is identified in your receiving stream.

In addition to the potential monitoring or limits, are specific controls added:

Include PCB requirements at auto salvage and scrap yards, similar to New York permit:

- All employees of automobile salvage yards must have PCB training.
- For scrap and waste recycling facilities they are required to remove small PCB capacitors from vehicles.

2.3.7 Signage Requirement

EPA proposed signage similar to that required for other NPDES permits, as a method of providing public notice of the permit and to provide contact information. The requirement is to

post a sign of permit coverage at a safe, publicly accessible location in close proximity to the facility. The Department is considering a similar requirement to the one in the MSGP.

2.3.8 Climate Adaptation:

EPA proposed requirements in the MSGP 2.1.1.8, for implementing structural improvements, enhanced pollution prevention measures, and other mitigation measures, to minimize impacts from stormwater discharges from major storm events that cause extreme flooding conditions. The increase of major storm events due to climate change are a concern to the Department. The requirement to consider these impacts is a reasonable way to ensure receiving waters are protected.

The permit also includes requirements for a Wetlands General Permit to address any storage of materials within areas which become flooded.

2.3.9 Added chemical additives, for use at Landfills.

The Department has been including use of polymers to ensure that products are used that minimize potential toxicity on receiving waters. This unique approach has been developed and implemented in the 17-HT permit related to dewatering, the 20-CP general permit related to construction dewatering, the 15-MM mining permit and the 17-CM draft coal mining permits. The latest.MSGP also is proposing controls for chemical additives. The focus of these additives in Maryland are for landfills in this permit, and for mining in other General Permits, that have active grading or land disturbance that may cause sediment loading or be a source of turbidity to the receive stream.

2.3.10 Warehousing Clarification

This change address specific triggers are for when warehousing is required to have a permit in Sector P, based on frequently asked questions. Not all warehouses are required to have permit coverage. The actual basis for this comes from the pre-amble to the rule. The language added notes that warehouses of either preassembly parts of finished products that are not located at an industrial facility (i.e. located off-site) are not required to have coverage.

3. APPLICABILITY (Part I)

Consistent with previous permits, to be eligible for coverage under this permit, operators of industrial facilities must meet the eligibility provisions described in Part I of the permit. If they do not meet the eligibility requirement, discharges of stormwater associated with industrial activity that require permit coverage will be in violation of the CWA, unless the operator has obtained coverage under another permit.

3.1 Geographic Coverage (Part I.A)

This permit provides coverage for classes of point source discharges considered Stormwater Associated with Industrial Activity, that occur in the state of Maryland.

3.2 Facilities Covered (Part I.B)

This permit is available for stormwater discharges from the following 26 sectors of industrial activity (Sector A – Sector AC), excluding those marked as not covered, as well as any discharge not covered under the 26 sectors (Sector AD) that have been identified by the Department as appropriate for coverage. Sectors marked as "not covered in this permit" are covered under the MSGP, but not under 20-SW because they are covered by the Departments other industry specific general permits. An example would be one of the mining sectors covered under one of the Mining General permits, thus not included in 20-SW. The sector descriptions are based on Standard Industrial Classification (SIC) Codes and Industrial Activity Codes consistent with the definition of stormwater discharge associated with industrial activity at 40 CFR 122.26(b)(14)(i-ix, xi). See Appendix A in the 20-SW permit for specific information and how the SIC relate to each sector. The sectors are listed below:

Sector A – Timber Products	**Sector P** – Land Transportation and Warehousing
Sector B – Paper and Allied Products Manufacturing	**Sector Q –** Water Transportation Facilities
Sector C – Chemical and Allied Products Manufacturing	**Sector R** – Ship and Boat Building or Repairing Yards
Sector D – Asphalt Paving and Roofing Materials Manufactures and Lubricant Manufacturers	**Sector S** – Air Transportation Facilities
Sector E – Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing	**Sector T** – Treatment Works
Sector F – Primary Metals	**Sector U** – Food and Kindred Products
Sector G – Not currently covered in this permit.	**Sector V** – Textile Mills, Apparel, and other Fabric Products Manufacturing
Sector H – Not currently covered in this permit.	**Sector W** – Furniture and Fixtures
Sector I – Oil and Gas Extraction and Refining	**Sector X** – Printing and Publishing
Sector J – Not currently covered in this permit.	**Sector Y** – Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries
Sector K – Hazardous Waste Treatment Storage or Disposal	**Sector Z** – Leather Tanning and Finishing
Sector L – Landfills and Land Application Sites	**Sector AA –** Fabricated Metal Products
Sector M – Automobile Salvage Yards	**Sector AB** – Transportation Equipment, Industrial or Commercial Machinery

Sector N – Scrap Recycling Facilities	**Sector AC** – Electronic, Electrical, Photographic and Optical Goods
Sector O – Steam Electric Generating Facilities	**Sector AD** – Reserved for Facilities Not Covered Under Other Sectors and Designated by the Department

3.3 Limitations on Coverage (Part I.C)

For this permit, the Department has modified the eligibility requirements for many of the criteria in this section to match the MSGP. The rationale for these changes and for limitations on coverage under this permit is described below.

3.3.1 Stormwater Discharges Associated with Construction Activity. This permit does not apply to stormwater discharges associated with construction activity, defined in 40 CFR 122.26(b)(14)(x) and (b)(15).

3.3.2 Discharges Subject to Effluent Limitations Guidelines. Unlike the MSGP, discharges subject to stormwater-specific effluent limitations guidelines (ELGs) that are not eligible for coverage under this permit. All stormwater and non-stormwater discharges subject to effluent limitation guidelines must be covered under any applicable alternate general permit or an individual permit. Several industrial sectors which have published ELGs are provided coverage through the MSGP. However, the Department requires an individual permit when ELGs exist related to stormwater.

3.3.3 Discharges Mixed with Non-Stormwater. The 20-SW does not authorize stormwater discharges that are mixed with non-stormwater other than those non-stormwater discharges listed in Part I.E.3.

3.3.4 Stormwater Discharges containing Listed Toxic Pollutants. This part was moved into Appendix D, as it refers to Federal Regulations specific to certain industrial areas.

3.3.5 Stormwater coverage limitation for Specific Causes. Stormwater where coverage was denied or which requires an individual permit or which requires and alternative general permit.

3.3.6 New Discharges to Water Quality Impaired Waters. Part I.C.6 of the permit requires any new discharger to demonstrate its ability to comply with 40 CFR 122.4(i) (prohibiting the issuance of permits to new dischargers that will cause or contribute to the violation of water quality standards) prior to coverage under the permit. To satisfy the requirements of 40 CFR 122.4(i), an operator must (a) eliminate all exposure to stormwater of the pollutant(s) for which the waterbody is impaired, and document no exposure and retain such documentation with the SWPPP; or (b) demonstrate that the pollutant for which the waterbody is impaired is not present at the site, and retain documentation of this finding with the SWPPP; or (c) submit data to the Department documenting that the pollutant discharge will not cause or contribute to an excursion of water quality standards because the discharge will meet in-stream water quality standards at the point of discharge or because there are sufficient remaining wasteload allocations in an approved TMDL and the discharge is controlled at least as stringently as similar discharges subject to that TMDL.

Purpose: This part, which applies to new dischargers and not to existing dischargers, is designed to comply with 40 CFR 122.4(i) requirements that address new discharges to waterbodies not meeting in-stream water quality standards.

3.4 Prohibited Stormwater Discharges (Part I.D)

Contributing to a water quality standard violation is in itself a violation of the permit, and a trigger for required corrective action.

3.5 Eligible Discharges (Part I.E)

Part I.E specifies which stormwater and non-stormwater discharges are eligible for coverage under the permit. As described in section 3.3 of this fact sheet, not all stormwater discharges associated with industrial activity are eligible for coverage under the 20-SW permit (e.g., stormwater discharges regulated by national effluent limitations guidelines).

- Part I.E.1 clarifies that co-located activities are eligible for coverage in addition to the primary industrial activity; and
- Part I.E.2 clarifies that discharges per the Department's discration under Sector AD are eligible; and
- Part I.E.3 clarifies which non-stormwater discharges are allowed to co-mingle with stormwater and are therefore authorized under this permit.
- Part I.E.4 clarifies that certain individual permit or alternate General Permit coverage may be subject to the Restoration Requirements in lieu of modifying those other permits are also eligible.
- Part I.E.5 clarifies that certain treatment chemicals used to reduce turbidity requires prior notice, and in cases where cationic chemical additives are used, additional approval by the Department is required.

Purpose: This provision lists the type of stormwater discharges eligible for coverage under the permit. Dischargers should use this section to determine which stormwater discharges from their site can be covered under the 20-SW. This provision also species which non-stormwater discharges are covered under the permit as exceptions to the general exclusion of non-stormwater discharge from eligibility. To be authorized under this permit, any sources of non-stormwater (except flows from fire fighting activities) must be identified in the SWPPP.

Comparison to 12-SW: Part I.E.5 is the new addition to provide requirements for use of chemical additives consistent with other permits issued by the Department (i.e. 17-HT, 15-MM), and similar to that required under the draft MSGP.

3.6 Certification Required to be Exempt from Permit Requirement (Part I.F)

Part I.F states that after submitting certification certified that there is no potential for the stormwater discharged from their facility to waters of the State to be exposed to pollutants a permittee is no longer authorized by, nor required to comply with, 20-SW. To receive this exemption the permittee must submit form MDE/WMA/PER.067 found on http://www/mde/state/md/us/. This exemption is non-transferable, does not require a fee, and is valid for five years or until conditions change. Unique to Maryland is the requirement to have a

third party verify that the operation meets the criteria established and described in the Guidance provided by the Department.

Purpose: This provision allows permittees who become eligible for an exemption for no exposure from permitting under 40 CFR 122.26(g) to certify their eligibility for exemption. For background, under the conditional no exposure exclusion, operators of industrial facilities have the opportunity to certify to a condition of "no exposure" if their industrial materials and operations are not exposed to stormwater. As long as the condition of "no exposure" exists at a certified facility, the operator is excluded from NPDES industrial stormwater permit requirements provided that the operator notifies the permitting authority at least every five years consistent with 40 CFR 122.26(g) requirements. This section also notifies that permittee that their MS4 may require restoration of impervious surfaces at their facility.

Comparison to 12-SW: No significant changes were made. In addition to Storm Water Quality (CPSWQ), a Registered Architect, or a Landscape Architect, the Department has added "other professional as approved by the Department" to allow for alternate certifications that provide credentials that attest to the third parties capabilities to independently verify the site conditions.

3.7 Alternative Permit Coverage (Part I.G)

Purpose: Part I.G clarifies that the Department may require any discharger covered under this general permit to apply for and obtain coverage under an individual permit or an alternative general permit. The permittee may request the same.

Comparison to 12-SW: No changes were made in any of these scenarios in Part I.G.

3.7.1 The Department Requiring Coverage Under an Individual Permit due to Water Quality Standards Exceeded (Part I.G.1).

The Department may require an individual permit (in accordance with 40 CFR 122.28(b)(3)(ii)) or coverage under an alternative NPDES general permit instead of the 20-SW. In this case the Department may require a permittee to apply for an individual permit only if the Department notifies the owner or operator in writing that a permit application is required.

3.7.2 The Department Requiring Coverage Under an Alternative Permit (Part I.G.2).

The Department may require an individual permit (in accordance with 40 CFR 122.28(b)(3)(ii)) or coverage under an alternative NPDES general permit instead of the 20-SW if any stormwater discharges from a permittee's facility are subject to effluent limitations guidelines or new source performance standards under 40 CFR Subchapter N. The issuance of the individual permit or alternative NPDES general permit is in accordance with 40 CFR Part 124 and provides for public comment and appeal of any final permit decision. The circumstances in which such an action would be taken are set forth at 40 CFR 122.28(b)(3). Alternatively the permittee may be required to apply for one of the industry specific stormwater general permits that provide the coverage with the ELG.

3.7.3 Permittee Requesting Coverage Under an Alternative Permit (Part I.G.3).

After being covered by this permit, the permittee may request to be excluded from such coverage by applying for an individual permit or industry specific general permit. In this case,

the permittee must submit an individual permit application in accordance with 40 CFR 122.28(b)(3)(iii) or apply for coverage under an industry specific general permit, along with a statement of reasons supporting the request, to the Department. The request may be granted by issuance of an individual permit or authorization of coverage under an alternative general permit if the reasons are adequate to support the request. Under this scenario, if an individual permit is issued, or authorization to discharge under an alternative general permit is granted, coverage under this permit is automatically terminated under 40 CFR 122.28(b)(3)(iv) on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit.

Purpose: Part I.G.3 reminds permittees of their ability to apply for coverage under an individual permit in lieu of coverage under this general permit and describes the steps they must take to exclude themselves from this permit after being authorized under this permit. Cases where an individual NPDES permit may be required, are described in 122.28(b)(3)(iii) and include the following:

> (A) The discharger or "treatment works treating domestic sewage" is not in compliance with the conditions of the general NPDES permit;
> (B) A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source or treatment works treating domestic sewage;
> (C) Effluent limitation guidelines are promulgated for point sources covered by the general NPDES permit;
> (D) A Water Quality Management plan containing requirements applicable to such point sources is approved;
> (E) Circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary;
> (F) Standards for sewage sludge use or disposal have been promulgated for the sludge use and disposal practice covered by the general NPDES permit; or
>
> When an individual NPDES permit is issued to an owner or operator otherwise subject to a general NPDES permit, the applicability of the general permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit.

3.8 Continuation of an Expired General Permit (Part I.H)

If this permit is not reissued or replaced (or revoked or terminated) prior to its expiration date, dischargers are covered under an administrative continuance, in accordance with 40 CFR § 122.26. However, to be considered for consideration to be continued under the permit, the permittee must file a Continuation of Registration. The condition also specifies that NOIs and continuation of registrations will not be allowed after the expiration date.

Purpose: Where the Department fails to issue a final general permit prior to the expiration of a previous general permit, the Department has the authority to administratively extend the permit for permittees authorized to discharge under the prior general permit.

Comparison to 12-SW: This section was rewritten to conform with new interpretation of 40 CFR.

3.9 Duty to Reapply (Part I.I)

This requires the permittee to re-apply under a renewed permit once issued.

Purpose: Standard Term and Condition required for General Permits.

Comparison to 12-SW: This is a new condition being added after comparison to Federal Regulations identified this missing.

3.9 Re-opener for Permit Modification (Part I.I and Part VI.Q)

This condition is being added to put permittees on notice, that changes in the Final MSGP may be considered in a modification to this permit.

Comparison to 12-SW: This is a new condition.

4. AUTHORIZATION UNDER THIS PERMIT (Part II)

4.1 How to Obtain Authorization (Part II.A)

To obtain authorization under this permit, operators must be located in the State; meet the Part I eligibility requirements; select, design, install, and implement control measures in accordance with Part III.B.1 to meet numeric and non-numeric effluent limits; submit a complete an accurate NOI according to the instructions with that document; pay the applicable fee as specified in COMAR 26.08.04.09-1(C) and develop a SWPPP according to the requirements of Part III.C of the permit. These requirements apply to operators previously covered by the 12-SW, as well as new facilities seeking coverage. The Operators will also be responsible for identifying those parts of the facility requiring restoration as described in Part III.A, and must commit to and follow the Schedule of Compliance as described in Part III.A.2.

4.1.1 Notice of Intent (NOI) and Transfer Requests

This part describes what must be included on a complete NOI.

Comparison to 12-SW: The requirement to include each outfall that has benchmarks and to include coordinates are new conditions. This addresses on ongoing point of confusion when configuring customer DMRs, since the customer wants to be specific, however the information wasn't included on the NOI.

4.1.2 Permit Fee

This part indicates the obligation to pay the permit fee as part of submitting for authorization under the permit.

Comparison to 12-SW: No change.

4.1.3 SWPPP Availability (Part II.A.3)

This permit requires that a copy of the SWPPP be kept on a website publically available or at the facility and be immediately available to representatives of the State, or a local stormwater agency (e.g., MS4 operator), as well as representatives of the Services at the time of an on-site inspection or upon request.

Comparison to 12-SW: No change.

4.2 Deadlines for Notification of Intent (NOI) (Part II.B)
This part gives the deadlines required to be covered by the permit.

4.2.1 For permittees who are covered under the General Permit number 12-SW not subject to Restoration
The permittee will be given 6 weeks after the effective date of this permit to submit a new NOI, fee, and SWPPP to the Department in order to obtain coverage. Failure to do so will result in termination of coverage under General Permit 12-SW and will be subject to enforcement by the Department for discharging without a permit. If they submit timely notification for continued permit coverage, they may operate under the administratively extended permit number 12-SW until receiving notification from the Department of coverage (or denial of coverage) under the new permit.

Comparison to 12-SW: The 12-SW allowed 6 months, whereas the 20-SW allows 6 weeks, since the permit was substantially different and required additional time for permittees to verify controls and bring their SWPPP up to new standards.

4.2.2 For permittees who are covered under the General Permit number 12-SW that are subject to Restoration
The permittee will be given 6 months after the effective date of this permit to submit a new NOI, fee, and SWPPP (including restoration plan) to the Department in order to obtain coverage. Failure to do so will result in termination of coverage under General Permit 12-SW and will be subject to enforcement by the Department for discharging without a permit. If they submit timely notification for continued permit coverage, they may operate under the administratively extended permit number 12-SW until receiving notification from the Department of coverage (or denial of coverage) under the new permit.

Comparison to 12-SW: The 12-SW allowed 1 year, whereas the 20-SW allows 6 months, since the permit was substantially different and required additional time for permittees to verify controls and bring their SWPPP up to new standards. The concept of restoration for industrial sites was also new, whereas now there are professionals who are familiar and can be consulted.

4.2.2 Other Deadlines

New Dischargers or New Sources – Require a minimum of 60 days prior to discharging to allow the Department to process the authorization.

New Owner/Operator of Existing Discharger – Requires a minimum of 30 days prior to transfer to allow the Department to acknowledge the transfer.

Other Eligible Dischargers – in operation prior to permit effective date, but not covered under the 12-SW or another NPDES permit. – This puts the permittee on notice that they must apply immediately and that any authorization is not retroactive.

Comparison to 12-SW: No changes to these deadlines.

4.3 Required Signatures (Part II.C)
This part describes who the signatories are that may sign NOIs, transfer requests and No Exposure Certifications. It also provides a process that allows other signatures such as SWPPPs, to be signed by duly authorized representatives. This section also contains requirements for when signatories change.

Comparison to 12-SW: No changes to these signature requirements.

4.4 Failure to Notify (Part II.D)

Comparison to 12-SW: No changes to these requirements.

4.5 Additional Notification (Part II.E)

Comparison to 12-SW: No changes to these requirements.

4.6 Change in Permit Coverage (Part II.F)

4.6.1 Planned Changes

This part puts the permittee on notice that when there are changes that impact the discharges, they must notify the Department.

Comparison to 12-SW: This part contains new language requiring the permittee to consider impacts of climate change when making changes, such that they consider countours /eleveations and locations of structures.

4.6.2 Terminating Coverage

4.6.2.1 Submitting a Notice of Termination. This part indicates that permittees should use the paper form, or an equivalent electronic one approved by the Department, to file Notices of Termination. The permittee's authorization to discharge under the permit terminates at midnight of the day that a complete Notice of Termination is processed and acknowledged by the Department.

Purpose: The Department requires permittees to file a Notice of Termination to notify the Department that its obligation to manage industrial stormwater no longer is necessary for one of the approved reasons (as described in Part II.F.2.b). Once a valid Notice of Termination is submitted, this permit no longer applies to stormwater discharges associated with industrial activities at the site. If the Department determines that the Notice of Termination is incomplete or the permittee has not satisfied one of the conditions in Part II.F.2.b for being able to submit a Notice of Termination, then the notice is not valid; the permittee must continue to comply with the conditions of the permit.

Comparison to 12-SW:.The permit provision now allow an alternate electronic form approved by the Department, consistent with the NOI, in anticipation that this will be available at some point in the future as required under the eRule.

4.6.2.2 When to Submit a Notice of Termination Once a stormwater discharge associated with industrial activity is eliminated from a facility, the permittee must submit a Notice of Termination, as described in Part I.H.1, within 30 days after one or more of the following conditions have been met: (1) a new owner or operator has assumed responsibility for the facility; (2) operations have ceased at the facility and there no longer are discharges of stormwater associated with industrial activity and necessary sediment and erosion controls have already been implemented at the facility as required by Part III.B.1.b.v; or (3) permit coverage has been obtained under an individual or alternative general permit for all discharges requiring NPDES permit coverage, either because the Department required you to obtain such coverage or you petitioned the Department requesting coverage under an alternative permit.

Purpose: This part specifies when and under what conditions a Notice of Termination must be filed.

Comparison to 12-SW: No changes to these requirements.

4.6.2.3 The Department Terminating Coverage (Part I.H.3). The Department may terminate a permittee's under this general permit if the Department finds good cause to do so.

Comparison to 12-SW: No changes to these requirements.

4.7 Requirement to Post a Sign of your Permit Coverage.

This part requires posting of a sign to include the permit number, the Departments wastewater permits portal URL and the contact and phone number for the facility, so that interested parties can learn more about the permitted discharge.

Purpose: In order to provide full transparence, a copy of each permit application and each permit issued should be available to the public. The Department does provide copies of NOIs and registration letters on our wastewater permits portal, and the permit is also located there, so that they are available to the public.

Comparison to 12-SW: This is a new requirement and has been largely taken from EPA's proposed MGSP.

5. STORMWATER MANAGEMENT REQUIREMENTS

5.1 Chesapeake Bay Restoration Requirements (Part III.A)

The stormwater management requirement for the restoration of impervious surfaces was a significant change in 2014, when the Department issued the 12-SW. The requirements were further modified to allow for considerations of nutrient trading under Maryland Water Quality Trading Program regulations (COMAR 26.08.11). The requirement was at that time, to provide for treatment of 20% of the impervious surfaces not currently treated to the standards of the Department's Design Manual (untreated impervious surface) for the first inch of runoff, or

equivalent, to be accomplished within the 4 years of the permit term. Specific requirements include the following.

5.1.1 Control Measures for Nutrient Reduction

The permittee must select, design, install and implement restoration of 20% of the untreated impervious surface area at their facility or equivalent control measures for the reduction of nutrients.

The baseline for calculation of the restoration requires is based on the total area of untreated impervious surfaces that existed at the facility on January 1, 2006. That is the date which the Bay Model was calibrated based on the best information available. For the purposes of this permit requirement, a clarification has been given. Impervious surfaces are those surfaces that do not allow stormwater to infiltrate into the ground and may include any driveway, road or parking lot that is paved (concrete, asphalt) or used for vehicular storage or traffic, any building or storage facility rooftop, any water resistant material covers, any sidewalks/paths, any decks, any paved storage areas, any tanks or containment structures or any surfaces that are paved or covered for other reasons. These impervious surfaces also must collect or convey stormwater discharges associated with industrial activity (as defined in Appendix E "Stormwater Discharges Associated with Industrial Activity"), for your primary industrial or co-located industrial activities at your facility.

The selected control measures must be designed and implemented using any combination of the following three methods. Any treatment of impervious surfaces added since January 1, 2006 may be counted towards meeting the 20% requirement (including restoration completed under the previous permit 12SW).

A. Practices found in the Design Manual (as defined in Appendix E, "Design Manual"), or other Proprietary Practices (as defined in Appendix E, "Proprietary Practices") approved by the Department.

B. Practices found in the Accounting Guidance (as defined in Appendix E, "Accounting Guidance").

C. Other equivalent control measures.

- New controls required by this permit for erosion and sediment control, or for reduced use of fertilizer.
- New controls to achieve the benchmarks for nitrogen required by this permit, if benchmarks are applicable for your facility.
- Reducing an existing TN load allocation under an individual NPDES permit, issued to the permittee.

The permit references specific Design Manual for Stormwater Management and additional implementation guidance. The "Maryland Stormwater Design Manual, Volumes I & II (Design Manual)" serves as the Department's guide for storm water management principles, methods, and practices for new development, redevelopment, retrofits and restoration. Modifications were made to the Design Manual in 2009, to include Environmental Site Design (ESD) in addition to the established Best Management Practices (BMPs). The latest edition of the Design Manual is available on the Departments website as part of Programs in Water Management for Sediment, Stormwater and Dam Safety. The other updated Guidance is made available to MS4s, and may be used by industrial operators. Since the areas are limited where practices may be implemented, the intent of allowing flexibility was to ensure practices are brought to completion.

The permittee must implement these control measures at their facility(s) unless infeasible (as defined in Appendix E, "Infeasible"). This hasn't been a common option, but was included for those cases where restoration isn't possible based on site conditions (brownfields), and since it is desirable to accomplish restoration within the Chesapeake Bay Watershed. If it is infeasible to implement any or all of these practices at their facility(s), they may satisfy the restoration requirement by working through your local jurisdiction to implement project(s) offsite. It was anticipated when the permit was written the MS4s would appreciate the assistance. The option added during the modification was to allow trading to acquire credits as another option when it is infeasible to implement the practices on-site.

When trading is considered, additional requirements are specified in the permit. The reduction of nutrients associated with compliance with the 20% restoration requirement shall not generate any marketable credits. Reductions beyond the requirements in this permit may be eligible as marketable credits in accordance with Maryland Water Quality Trading Program regulations (COMAR 26.08.11).

If the permittee intends to trade to meet these requirements, they must

- **A.** notify the Department and address all applicable regulatory requirements, including all reporting and notification requirements under Appendix G of this permit;
- **B.** translate the restoration requirements from impervious acres to Total Nitrogen (TN), Total Phosphorus (TP) and Sediment (TSS), using the calculation method prescribed by COMAR 26.08.11; and
- **C.** complete the acquisition of verified credits no later than 3 months (end of March) following the end of the calendar year in which the credits are applicable. This timing coincides with the availability of credits when trading with WWTPs.

Timeframes have been specified. The control measures must be implemented within four (4) years from the date you file an NOI, unless you were required to implement restoration under the 12-SW, which may have started the implementation schedule based on a previously submission of an NOI. In those cases, the permit requires that the implementation is based on the terms of the previous permit. Timeframes are important since these can be both expensive and require considerable coordination.

5.2.2 Nutrient Control Measure Planning and SWPPP Documentation

For those facilities that were entirely developed or entirely redeveloped after 2002, such that all impervious surfaces have been treated with stormwater BMPs in the Design Manual, the permittee has no additional restoration work, but must document certain calculations in their SWPPP. For all other facilities, they must develop a plan and:

- **A.** Document their selection of BMPs and equivalent measures, including calculations that show your approach will achieve the nutrient reduction requirement.
- **B.** Provide a schedule and basis for all options they selected that cannot be implemented within 30 days of registration under the permit.

5.2.3 Nutrient Control Measure Verification

When the required selection of BMPs and equivalent measures have been implemented, the permittee must obtain written certification, update their SWPPP and complete the Nutrient Reduction Progress Report Form, provided in Appendix F, and send both the SWPPP and Appendix F to the Department within four (4) years from the date you file an NOI.

5.2.4 Ongoing Requirements

For those facilities that have certified their implementation of the Chesapeake Bay Restoration requirements of this permit, and for those facilities who have reached their required deadline for certification, they must continue to maintain structural practices, and/or continue to perform any non-structural requirements (such as street sweeping or trading), yearly, as long as the permit remains effective (or administratively extended). They must document these continued maintenance, ongoing non-structural practices or trading requirements in their SWPPP.

In addition, those operators seeking to achieve nutrient reduction via trading must continue to provide additional information verification of compliance annually. (Refer to Appendix G).

Purpose: The requirements for facilities to manage runoff from these industrial sites by reducing impervious surfaces and retrofitting using environmental site design practices will bring a broad range of benefits to local receiving waters, including, but not limited to, improving the hydrology of the local watershed by reducing runoff volumes, reducing nutrients, sediment and other pollutants, and allowing greater groundwater recharge. The requirement is based on the Chesapeake Bay TMDL, however the benefits should include local waters as well.

Comparison to 12-SW: The permit language was updated to clarify that facilities less than 5 acres have a baseline of 0, meaning any restoration completed can be considered eligible for the trading program.. This was included to encourage the creation of credits and thus provide an incentive to restore more impervious surfaces in the Chesapeake Bay Watershed. The new MS4 Phase II jurisdictions were included, such that any facility within those newly determined urban areas perform restoration. A clarification that any restoration included under the 12-SW can be credited towards the 20% restoration requirement. The ongoing requirements now include the requirement to document maintenance of activities in the SWPPP.

5.3. Control Measures and Effluent Limits (Part III.B)

5.3.1 Control Measures and Technology-Based Effluent Limits – Definition of "Minimize" (Part III.B)

This permit contains effluent limits that correspond to required levels of technology-based control (BPT, BCT, BAT) for various discharges under the CWA. Where an effluent limitation guideline or NSPS applies, the permittee may be notified by the Department to apply for an individual permit with appropriate numeric effluent limitations. Where EPA has not yet issued an effluent limitation guideline, EPA has determined, and the Department has accepted, an appropriate technology-based level of control based on best professional judgment. CWA section 402(a)(1); 40 CFR § 125.6. Because of the nature of stormwater discharges, it is infeasible to use numeric effluent limits to demonstrate the appropriate levels of control. (Refer to more detailed discussion below under "EPA's Authority To Include Non-Numeric Technology-Based Effluent Limits In NPDES Permits" and "EPA's Decision To Include Non-Numeric Technology-Based Effluent Limits In This Permit".) In such situations, the CWA authorizes EPA, and in turn the Department, to include non-numeric effluent limits in NPDES permits[2]. The 20-

[2] *Natural Res. Def. Council, Inc. v. EPA, 673 F.2d 400, 403 (D.C. Cir. 1982)* (noting that "*section 502(11)* defines 'effluent limitation' as ' *any* restriction' on the amounts of pollutants discharged, not just a numerical restriction"; holding that section of CWA authorizing courts of appeals to review promulgation of "any effluent limitation or other limitation" did not confine the court's review to the EPA's establishment of numerical limitations on pollutant

SW includes a number of such non-numeric effluent limits. Several of these require facilities to "minimize" various types of pollutant discharges. Consistent with the control level requirements of the CWA, EPA in the MSGP, and the Department with the 20-SW, clarifies in this permit that the term "minimize" means to reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically achievable (BAT) and practicable (BPT) in light of best industry practice. EPA has determined that the technology-based numeric and non-numeric effluent limits in this permit, taken as a whole, constitute BPT for all pollutants, BCT for conventional pollutants, and BAT for toxic and nonconventional pollutants that may be discharged in industrial stormwater.

Purpose: This permit defines the term "minimize" to provide a clear definition as to what is required of the discharger under this permit. To meet the effluent limits that require the discharger to "minimize" pollutants," permittees are required to select, design, install and implement control measures that reduce or eliminate discharges of pollutants in stormwater to the extent achievable. These control measures must reflect best industry practice considering their technological availability and economic practicability (BPT) and achievability (BAT). Because toxic and nonconventional pollutants are controlled in the first step by BPT and in the second step by BAT, and the second level of control is "increasingly stringent" {EPA v. National Crushed Stone, 449 U.S. 64, 69 (1980)}, for simplicity of discussion, the rest of this discussion will focus on BAT. Similarly, because the BAT levels of control are BMPs and pollution prevention measures, they will also control conventional pollutants. Therefore this discussion will focus on BAT rather than BCT or BPT for conventional pollutants. To determine technological availability and economic achievability , operators need to consider what control measures are considered "best" for their industry, and then select and design control measures for their site that are viable in terms of cost and technology. EPA believes that for many facilities minimization of pollutants in stormwater discharges can be achieved without using highly engineered, complex treatment systems. The specific limits included in Part III.B.1 emphasize effective "low-tech" controls, such as minimizing exposure to stormwater (albeit, without significantly increasing impervious surfaces), regular cleaning of outdoor areas where industrial activities may take place, proper maintenance of equipment, diversion of stormwater around areas where pollutants may be picked up, minimization of runoff through infiltration and flow dissipation practices, and effective advanced planning and training (e.g., for spill prevention and response).

Comparison to 12-SW: No Change in the definition.

Introduction to CWA Requirements to Control Pollutants in Discharges

The CWA requires that discharges from existing facilities, at a minimum, must meet technology-based effluent limitations reflecting, among other things, the technological capability of permittees to control pollutants in their discharges. Water quality-based effluent limitations (WQBELs) are required by CWA Section 301(b)(1)(C). Water quality-based requirements will be discussed in greater depth later. Both technology-based and water quality-based effluent limitations are implemented through NPDES permits. CWA sections 301(a) and (b).

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discharges, but instead authorized review of other limitations under the definition) (emphasis added). In *Natural Res. Def. Council, Inc. v. Costle, 568 F.2d 1369 (D.C. Cir. 1977)*, the D.C. Circuit stressed that when numerical effluent limitations are infeasible, EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels.

Types of Technology-Based Effluent Limitations

Technology-based effluent limitations are in many cases established by EPA in regulations known as effluent limitations guidelines, or "ELGs." EPA establishes these regulations for specific industry categories or subcategories after conducting an in-depth analysis of that industry[3]. The Act sets forth different standards for the effluent limitations based upon the type of pollutant or the type of permittee involved.

The CWA establishes two levels of pollution control for existing sources. In the first stage, existing sources that discharge pollutants directly to receiving waters were initially subject to effluent limitations based on the "best practicable control technology currently available" or "BPT." 33 U.S.C. § 1314(b)(1)(B). BPT applies to all pollutants. In the second stage, existing sources that discharge conventional pollutants are subject to effluent limitations based on the "best conventional pollutant control technology," or "BCT." 33 U.S.C. §1314(b)(4)(A); see also 40 C.F.R. §401.16 (list of conventional pollutants) while existing sources that discharge toxic pollutants or "nonconventional" pollutants (*i.e.,* pollutants that are neither "toxic" nor "conventional") are subject to effluent limitations based on "best available technology economically achievable," or "BAT." 33 U.S.C. §1311(b)(2)(A); see also 40 C.F.R. §401.15 (list of toxic pollutants). The factors to be considered in establishing the levels of these control technologies are specified in section 304(b) of the CWA and EPA's regulations at 40 CFR §125.3.

All NPDES permits are required to contain technology-based limitations. 40 CFR §§122.44(a)(1) and 125.3. CWA sections 301(b)(1)(A) for (BPT); 301(b)(2)(A) for (BAT); and 301(b)(2)(E) for (BCT). Technology-based limits in this permit represent the BPT (for conventional, toxic, and non-conventional pollutants), BCT (for conventional pollutants), and BAT (for toxic pollutants and non-conventional) levels of control for the applicable pollutants. When EPA has not promulgated effluent limitation guidelines for an industry, or if an operator is discharging a pollutant not covered by the effluent guideline, permit limitations may be based on the best professional judgment (BPJ, sometimes also referred to as "best engineering judgment") of the permit writer. 33 U.S.C. § 1342(a)(1); 40 CFR 125.3(c). See Student Public Interest Group v. Fritzsche, Dodge & Olcott, 759 F.2d 1131, 1134 (3d Cir. 1985); American Petroleum Inst. v. EPA, 787 F.2d 965, 971 (5th Cir. 1986). For this permit, most of the technology-based limits are based on BPJ decision-making because no ELG applies. However, the 20-SW permit also excludes technology-based limits based on the stormwater-specific ELGs listed, where applicable as COMAR 26.08.04.09(B)(1) "Exceptions. The following activities are not regulated under this general permit: (a) Industrial stormwater discharges with federal effluent guideline limitations". This exclusion is specific to the 20-SW and is not consistent with the MSGP. In these cases, the Department prefers to issue individual permits to include these ELG specific to the facility, or through an industry specific General Permit.

The Department's Authority to Include Non-Numeric Technology-Based Limits in NPDES Permits

The BPJ limits in this permit are in the form of non-numeric requirements. Under EPA's regulations, non-numeric effluent limits are authorized in lieu of numeric limits, where "[n]umeric

[3] Where EPA has not issued effluent guidelines for an industry, EPA and State permitting authorities establish effluent limitations for NPDES permits on a case-by-case basis based on their best professional judgment. See 33 U.S.C. § 1342(a)(1); 40 C.F.R. § 125.3(c)(2).

effluent limitations are infeasible." 40 CFR 122.44(k)(3). As far back as 1977, courts have recognized that there are circumstances when numeric effluent limitations are infeasible and have held that EPA may issue permits with conditions (e.g., BMPs) designed to reduce the level of effluent discharges to acceptable levels. Natural Res. Def. Council, Inc. v. Costle, 568 F.2d 1369 (D.C.Cir.1977).

Through the Agency's NPDES permit regulations, EPA interpreted the CWA to allow BMPs to take the place of numeric effluent limitations under certain circumstances. 40 C.F.R. §122.44(k), entitled "Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs ...)," provides that permits may include BMPs to control or abate the discharge of pollutants when: (1) "[a]uthorized under section 402(p) of the CWA for the control of stormwater discharges"; or (2) "[n]umeric effluent limitations are infeasible." 40 C.F.R. § 122.44(k).

The EPA has further justified the approach of non-numeric standards by referencing the Sixth Circuit cited to Natural Res. Def. Council, Inc. v. EPA, 673 F.2d 400, 403 (D.C.Cir.1982) noting that "section 502(11) [of the CWA] defines 'effluent limitation' as '*any* restriction' on the amounts of pollutants discharged, not just a numerical restriction."

EPA, and in turn the Department, have substantial discretion to impose non-quantitative permit requirements pursuant to Section 402(a)(1)), especially when the use of numeric limits is infeasible. See *NRDC* v. *EPA,* 822 F.2d 104, 122-24 (D.C. Cir. 1987) and 40 CFR 122.44(k)(3).

EPA's Decision to Include Non-Numeric Technology-Based Effluent Limits in MSGP Permit

Numeric effluent limitations are not always feasible for industrial stormwater discharges as such discharges pose challenges not presented by the vast majority of NPDES-regulated discharges. Stormwater discharges can be highly intermittent, are usually characterized by very high flows occurring over relatively short time intervals, and carry a variety of pollutants whose source, nature and extent varies. See 55 FR at 48,038; 53 FR at 49,443. This is in contrast to process discharges from a particular industrial or commercial facility where the effluent is more predictable and can be more effectively analyzed to develop numeric effluent limitations. To develop numeric technology-based effluent limitations, EPA generally obtains efficacy data concerning removals achieved from representative facilities employing the technology viewed as representing the BAT level of control. Even in this situation, there is some variability in performance at facilities properly using the BAT levels of control and EPA is often subject to challenge that it did not sufficiently take into account the variability that occurs even in a well-controlled discharge. In other words, facilities argue that the numeric effluent limits cannot be met even when they are properly operating BAT levels of control.

The variability of effluent and efficacy of appropriate control measures makes setting uniform effluent limits for stormwater extremely difficult. The record for this permit indicates that there is a high level of variability among discharges, in terms of both flow rates and volumes and levels of pollutants, since the volume and quality of stormwater discharges associated with industrial activity depend on a number of factors, including the industrial activities occurring at the facility, the nature of precipitation, and the degree of surface imperviousness. Due to the dissimilarity among the 26 different industrial sectors covered by this permit, and among the individual facilities within the different industrial sectors, the sources of pollutants in stormwater discharges differ with the type of industry operation and specific facility features. For example, material

storage operations may be a significant source of pollutants at some facilities, shipping and receiving areas at others, while runoff from such areas at other facilities may result in insignificant levels of pollutants. Additionally, because it is often not reasonable to use traditional wastewater treatment technologies to control industrial stormwater discharges due to the absence of a steady flow of wastewater, control measures for such discharges tend to focus on pollution prevention and BMPs. In addition, the same set of pollution prevention measures or BMPs typically is not appropriate for all the different types of facilities and discharges covered by this permit. The pollutant removal/reduction efficacies of these pollution prevention and BMP-based control measures are not amenable to the type of comparative analyses conducted for non-stormwater treatment technologies and used to set numeric limits. While EPA continues to study the efficacy of various types of pollution prevention measures and BMPs, EPA at this time does not have a record basis for developing numeric limits that would reasonably represent a well-run application of BMPs. Because the flow and content is so variable, if EPA had tried to base numeric limits on a few sites, it is likely that any number it would develop would not to be technologically available and economically achievable by all well-run facilities.

These factors create a situation where, at this time, it is generally not feasible for the Department or the EPA, to calculate numeric effluent limitations, with the limited exception of certain effluent limitations guidelines that have already been established through national rulemaking. For example, covering exposed areas where feasible and cleaning them regularly where they are not covered may be an effective way of significantly reducing stormwater pollutant discharges, but the degree of pollutant reduction will be highly site-specific and cannot be generally quantified. Therefore, EPA had determined that it is not feasible for the Agency to calculate numeric, technology-based limits for many of the discharges covered under their MSGP permit and, based on the authority of 40 CFR 122.44(k), had chosen to adopt non-numeric effluent limits. The Department agrees with this approach and has followed suit with this permit.

The BAT/BPT/BCT effluent limits in this permit are expressed as specific pollution prevention requirements for minimizing the pollutant levels in the discharge. In the context of this general permit, these requirements represent the best technologically available and economically practicable and achievable controls. EPA has long maintained that the combination of pollution prevention approaches and structural management practices required by these limits are the most environmentally sound way to control the discharge of pollutants in stormwater runoff from industrial facilities to meet the effluent limits. This approach is supported by the results of a comprehensive technical survey[4]6 EPA completed in 1979. Pollution prevention continues to be the cornerstone of the NPDES stormwater program.

Control Measures Used to Meet the Technology-Based Effluent Limits

The Department generally does not mandate the specific control measures operators must select, design, install and implement. It is up to the operator to determine what must be done to

[4] This survey found that two classes of management practices are generally employed at industrial facilities to control the non-routine discharge of pollutants from sources such as stormwater runoff, drainage from raw material storage and waste disposal areas, and discharges from places where spills or leaks have occurred. The first class of management practices includes those that are low in cost, applicable to a broad class of industries and substances, and widely considered essential to a good pollution control program. Some examples of practices in this class are good housekeeping, employee training, and spill response and prevention procedures. The second class includes management practices that provide a second line of defense against the release of pollutants. This class addresses containment, mitigation, and cleanup.

meet the applicable effluent limits. For example, Part III.B.1.b.i requires operators to minimize the exposure of raw, final and waste materials to stormwater and runoff. How this is achieved will vary by facility: For some facilities, some or all activities may be moved indoors, while for others this will not be feasible. However, even for the latter, many activities may be moved indoors, others may be "covered" by roofing or tarps, while still other activities may be limited to times when exposure to precipitation is not likely. Each of these control measures is acceptable and appropriate in some circumstances. In this respect, the non-numeric effluent limits in this permit are analogous to more traditional numeric effluent limits, which also do not require specific control technologies as long as the limits are met.

Control measures can be actions (including processes, procedures, schedules of activities, prohibitions on practices and other management practices), or structural or installed devices to prevent or reduce water pollution. They can be just about anything that "does the job" of preventing deleterious substances from entering the environment, and of meeting applicable limits. In this permit, industrial facility operators are required to select, design, install, and implement site-specific control measures to meet these limits. Most industrial facilities already have such control measures in place for product loss prevention, accident and fire prevention, worker health and safety or to comply with other environmental regulations. The permit along with this fact sheet provides examples of control measures, but operators must tailor these to their facilities as well as improve upon them as necessary to meet permit limits. The examples emphasize prevention over treatment. However, sometimes more traditional end-of-pipe treatment may be necessary, particularly where a facility might otherwise cause or contribute to a violation of water quality standards.

There are many control measures that could be used to meet the limits in this permit. In addition to the Department's Design Manual, EPAs industrial stormwater factsheets are included on the Department's website (https://mdewwp.page.link/ISWGuidance). EPA has committed to updating these in the future (www.epa.gov/npdes/stormwater/msgp), at which time the Department will consider loading them as well. Other resources include th EPA Post-Construction Stormwater Management in New Development and Redevelopment (https://mdewwp.page.link/SWBMPs)

Control Measures (Part III.B.1)

Part III.B.1 requires the operator to select, design, install and implement control measures to meet the technology-based effluent limits listed in Part III.B.1.b. Meeting the Bay TMDL requires similar technology-based limits through restoration of impervious surfaces per the Design Manual. The selection, design and implementation of these other control measures must be in accordance with good engineering practices and manufacturer's specifications. Regulated stormwater discharges from the facility include stormwater run-on that commingles with stormwater discharges associated with industrial activity at the facility. If operators find their control measures are not reducing pollutant discharges adequately, the control measures must be modified as expeditiously as practicable.

Purpose: Part III.B.1 establishes the requirements for selecting, designing and implementing control measure practices to meet the technology-based effluent limitations in this permit.

<u>Control Measure Selection and Design Considerations (Part III.B.1.a)</u>

In Part III.B.1.a and III.A operators are required to consider certain factors when selecting control measures, including:

- guidance in the Departments Design Manual,
- preventing stormwater from coming into contact with polluting materials is generally more effective and less costly than trying to remove pollutants from stormwater;
- using combinations of control measures is more effective than using control measures in isolation for minimizing pollutants;
- assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to determining which control measures will achieve the limits in this permit;
- minimizing impervious areas at your facility and infiltrating runoff onsite (via bioretention cells, green roofs, pervious pavement, etc.) can reduce runoff, and improve groundwater recharge and stream base flows in local streams (although care must be taken to avoid groundwater contamination);
- attenuating flow using open vegetated swales and natural depressions to reduce in-stream impacts of erosive flows;
- conserving and restoring riparian buffers will help protect streams from stormwater runoff and improve water quality; and
- using treatment interceptors (e.g., swirl separators, oil-water separators, sand filters) may be appropriate in some instances to minimize the discharge of pollutants.
- adapting operations to address climate change impacts by implementing structural improvements, enhanced pollution prevention measures, and other mitigation measures, to minimize impacts from stormwater discharges from major storm events that cause extreme flooding conditions,

Purpose: **III.B.1.a**, similar to Part III.A provides permittees with important considerations for the selection of control measures.

Changes from the 12-SW: This Part (III.B.1.a.viii) includes additional language from EPA's proposed MSGP requiring that major storm events be considered. This requirement relates to climate change, and the increased intensity of storms experienced in the State. The Department requests comment on whether it is appropriate for the permit to include language similar to the proposed language above that facilities should consider implementing enhanced controls to minimize impacts from stormwater discharges from major storms that cause extreme flooding conditions. Since this was being added to the MSGP, and EPA has requested information on structural improvements, enhanced pollution prevention measures, and other mitigation measures that the permit could require facilities to consider. EPA also requested comment on how the permit might identify facilities that are at the highest risk for stormwater impacts from major storms that cause extreme flooding conditions.

The approach here uses the Federal Emergency Management Agency's (FEMA) Flood Map Service Center (found at https://msc.fema.gov/portal/search) to determine if the facility is in a "Special Flood Hazard Area" or Other Area of Flood Hazard. SFHAs are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base

flood or 100-year flood. SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone AR, Zone AR/AE, Zone AR/AO, Zone AR/A1-A30, Zone AR/A, Zone V, Zone VE, and Zones V1-V30. "Other flood hazard areas" (or moderate flood hazard areas) are labeled Zone B or Zone X (shaded) are also shown on the Flood Map and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded). More information on FEMA flood zones can be found at https://www.fema.gov/flood-zones

Technology-Based Effluent Limits (BPT/BAT/BCT): Non-Numeric Effluent Limits (Part III.B.1.b).

This permit requires permittees to comply with non-numeric technology-based effluent limits (found in Parts III.B.1.b and Appendix D of the permit) by implementing control measures. The achievement of these non-numeric limits will result in the reduction or elimination of pollutants from the operator's stormwater discharge. Such limits constitute this permit's technology-based limits, expressed narratively per 40 CFR 122.44(k), and are developed using best professional judgment (BPJ).

This permit uses the term "control measures" more often than "best management practices" and "BMPs". This change was adopted to better describe the range of pollutant reduction practices that may be employed, whether they are structural, non-structural or procedural. In addition, the definition of "control measures" in Appendix E of this permit includes both BMPs and "other methods" used to prevent or reduce the discharge of pollutants to receiving waters. The greater breadth of meaning for control measures vis-à-vis BMPs is why EPA uses this term in Part III.B.1, and throughout the permit.

The permit requires the operator to achieve all of the non-numeric effluent limits delineated in Part III.B.1.b. The following is a summary of the permit's non-numeric technology-based effluent limits:

Minimize Exposure (to Stormwater) (Part III.B.1.b.i). To the extent technologically available and economically practicable and achievable, locate industrial materials and activities inside or protect them with storm-resistant coverings. This is one of the most important control options. Minimizing exposure prevents pollutants from coming into contact with precipitation and can reduce the need for control measures to treat or otherwise reduce pollutants in stormwater runoff. Examples include covering materials or activities with temporary structures (e.g., tarps) when wet weather is expected or moving materials or activities to existing or new permanent structures (e.g., buildings, silos, sheds). Even the simple practice of keeping a dumpster lid closed can be very effective. While the permit requires consideration of exposure minimization, EPA does not recommend significantly increasing impervious surfaces to achieve it. In minimizing exposure, the permittee should pay particular attention to manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, and cleaning, maintenance, and fueling operations).

Good Housekeeping (Part III.B.1.b.ii). Keep all exposed areas that are potential pollutant sources clean. Good housekeeping is an inexpensive way to maintain a clean and orderly facility and keep contaminants out of stormwater discharges. Often the most effective first step towards preventing pollution in stormwater from industrial sites simply involves using common sense to improve the facility's basic housekeeping methods. Poor housekeeping can result in

more stormwater running off a site than necessary and an increased potential for stormwater contamination. A clean and orderly work area reduces the possibility of accidental spills caused by mishandling of chemicals and equipment. Well-maintained material and chemical storage areas will reduce the possibility of stormwater mixing with pollutants.

There are some simple procedures a facility can use to meet the good housekeeping effluent limit, including improved operation and maintenance of industrial machinery and processes, improved materials storage practices, better materials inventory controls, more frequent and regular clean-up schedules, maintaining well organized work areas, and education programs for employees about all of these practices.

Examples of control measures that a permittee may implement to meet the good housekeeping effluent limit include containerizing materials appropriately, storing chemicals neatly and orderly; maintaining packaging in good condition; promptly cleaning up spilled liquids; sweeping, vacuuming or other cleanup of dry chemicals and wastes to prevent them from reaching receiving waters, and using designated storage areas for containers or drums to keep them from protruding where they can be ruptured or spilled. Proper storage techniques can include:

- Providing adequate aisle space to facilitate material transfer and easy access for inspections;
- Storing containers, drums, and bags away from direct traffic routes to prevent accidental spills;
- Stacking containers according to manufacturers' instructions to avoid damaging the containers from improper weight distribution;
- Storing containers on pallets or similar devices to prevent corrosion of the containers, which can result when containers come in contact with moisture on the ground; and
- Assigning the responsibility of hazardous material inventory to a limited number of people who are trained to handle hazardous materials.

Maintenance (Part III.B.1.b.iii). Regularly inspect, test, maintain and repair or replace all industrial equipment and systems to prevent releases of pollutants to stormwater. Maintain all control measures in effective operating condition. Nonstructural control measures must also be diligently maintained (e.g., spill response supplies available, personnel trained).

Most facilities will already have preventive maintenance programs (PMPs) that provide some environmental protection. Preventive maintenance involves regular inspection and testing of equipment and operational systems to uncover conditions such as cracks or slow leaks that could cause breakdowns or failures that result in discharges of pollutants to storm sewers and surface water. To prevent breakdowns and failures operators should adjust, repair or replace equipment.

As part of a typical PMP, operators must include regular inspection and maintenance of stormwater management devices and other equipment and systems. Operators should identify the devices, equipment and systems that will be inspected; provide a schedule for inspections and tests; and address appropriate adjustment, cleaning, repair or replacement of devices, equipment and systems. For stormwater management devices such as catch basins and oil-water separators, PMPs should include the periodic removal of debris to ensure that the devices are operating efficiently. For other equipment and systems, there should be procedures to

reveal and correct conditions that could cause breakdowns or failures that may result in the release of pollutants.

The PMP should include a suitable records system for scheduling tests and inspections, recording test results and facilitating corrective action. The program should be developed by qualified plant personnel who evaluate the existing plant and recommend changes as necessary to protect water quality.

Spill Prevention and Response Procedures (Part Part III.B.1.b.iv). Minimize the potential for leaks, spills and other releases, which are major sources of stormwater pollution, to be exposed to stormwater. The purpose of this effluent limit is not only to prevent spills and leaks but, in the event one does occur, to limit environmental damage via development of spill prevention and response procedures. Operators should identify potential spill areas and keep an inventory of materials handled, used and disposed of. Based on an assessment of possible spill scenarios, permittees must specify appropriate material handling procedures, storage requirements, containment or diversion equipment, and spill cleanup procedures that will minimize the potential for spills and, in the event of a spill, ensure proper and timely response.

Areas and activities that typically pose a high risk for spills include loading and unloading areas, storage areas, process activities, and waste disposal activities. These activities and areas, and their accompanying drainage points, must be addressed in the procedures. For a spill prevention and response program to be effective, employees should clearly understand the proper procedures and requirements and have the equipment necessary to respond to spills.

The following are suggestions to incorporate into spill prevention and response procedures:

- Install leak detection devices, overflow controls and diversion berms;
- Perform visual inspections and identify signs of wear;
- Perform preventive maintenance on storage tanks, valves, pumps, pipes and other equipment;
- Use filling procedures for tanks and other equipment that minimize spills;
- Use material transfer procedures that reduce the chance of leaks or spills;
- Substitute less toxic materials;
- Ensure that clean-up materials are available where and when needed;
- Ensure appropriate security;
- Notify emergency response agencies where necessary as specified.

In the event of a spill, it is important that the facility have clear, concise, step-by-step instructions for responding to spills. The approach will depend on the specific conditions at the facility such as size, number of employees and the spill potential of the site.

Erosion and Sediment Controls (Part III.B.1.b.v). Stabilize and contain runoff from exposed areas to minimize onsite erosion and sediment creation, and the accompanying discharge of pollutants (other pollutants can bind to soil and other particles and be discharged along with the sediment).

There may be exposed areas of industrial sites that, due to construction activities, steep slopes, sandy soils or other factors, are prone to soil erosion. Construction activities typically remove grass and other protective ground covers resulting in the exposure of underlying soil to wind and rain. Similarly, steep slopes or sandy soils may not be able to hold plant life so that soils are exposed. Because the soil surface is unprotected, dirt and sand particles are easily picked up by wind or washed away by rain. This erosion process can be controlled or prevented through the use of certain control measures.

To meet this limit, operators must select, design, install and implement controls to address the on-site exposed areas prone to soil erosion. Erosion control practices such as seeding, mulching and sodding prevent soil from becoming dislodged and should be considered first. Sediment control practices such as silt fences, sediment ponds, and stabilized entrances trap sediment after it has eroded. Sediment control practices, such as flow velocity dissipaters and sediment catchers, should be used to back-up erosion control practices.

Management of Runoff (Part III.B.1.b.vi). Operators must divert, infiltrate, reuse, contain or otherwise reduce stormwater runoff to minimize pollutants in the discharge. Employ practices that direct the flow of stormwater away from areas of exposed materials or pollutant sources. Such practices can also be used to divert runoff that contains pollutants to natural areas or other types of treatment locations.

To meet this effluent limit, operators may consider vegetative swales, collection and reuse of stormwater, inlet controls, snow management, infiltration devices, and wet detention/retention basins. If infiltration is a selected control, permittees should pay special attention to the discussion at the end of this section of the fact sheet entitled: *Stormwater infiltration control measures that meet the definition of a Class V Injection Well could be subject to the Underground Injection Control (UIC) Regulations*.

Salt Storage Piles or Pile Containing Salt (Part III.B.1.b.vii). Enclose or cover piles of salt or piles containing salt used for deicing or other industrial purposes. Implement appropriate measures to minimize the exposure of the piles during the adding to or removing from processes.

Options for meeting the salt pile effluent limit include covering the piles or eliminating the discharge from such areas of the facility. Preventing exposure of piles to stormwater or run-on also eliminates the economic loss from materials being dissolved and washed away. A permanent under-roof storage facility is the best way to protect chemicals from precipitation and runoff, but where this is not possible, salt piles can be located on impermeable bituminous pads and covered with a waterproof cover.

There are additional controls and related requirements for Salt Terminals, in the Sector-Specific Effluent Limit address salt.

Sector-Specific Effluent Limits (Part III.B.1.b.viii). Achieve any additional non-numeric limits stipulated in the relevant sector-specific controls in Part 8.

Employee Training (Part III.B.1.b.ix). Operators must train all employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit.

Employee training programs should thoroughly educate members of the Stormwater Pollution Prevention Team (see Part III.C.1) on their roles in implementing the control measures employed to meet the limits in the permit. Training should address the processes and materials on the plant site, good housekeeping practices for preventing discharges, and procedures for responding properly and rapidly to spills or other incidents. The training program should also address other requirements in the permit such as inspections and record-keeping.

Training sessions should be conducted at least annually to assure adequate understanding of the objectives of the control measures and the individual responsibilities of each employee. More frequent training may be necessary at facilities with high employee turnover or where stormwater programs are involved or multi-faceted. Often, training could be a part of routine employee meetings for safety or fire protection. Where appropriate, contractor personnel also must be trained in relevant aspects of stormwater pollution prevention.

Training sessions should review all aspects of the control measures and associated procedures. Facilities should conduct spill or incidence drills on a regular basis which can serve to evaluate the employee's knowledge of the control measures and spill procedures and are a fundamental part of employee training. Such meetings should highlight previous spill events or failures, malfunctioning equipment and new or modified control measures.

Non-Stormwater Discharges (Part III.B.1.b.x). Eliminate non-stormwater discharges that are not authorized by an NPDES permit. This limit is intended to reinforce the fact that, with the exception of the allowable non-stormwater discharges listed in Part I.E.3, non-stormwater discharges are ineligible for coverage, pursuant to Part I.C. Operators needing help in finding and eliminating unauthorized discharges may find the following guidance helpful: *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, Chapters 7, 8, 9 at:
http://www.epa.gov/npdes/pubs/idde_manualwithappendices.pdf

Waste, Garbage, and Floatable Debris (Part III.B.1.b.xi). Operators must ensure that waste, garbage and floatable debris are not discharged to receiving waters.

Trash and floating debris in waterways have become significant pollutants, especially near areas where a large volume of trash can be generated in a concentrated area. Trash can cause physical impairments in waterbodies to aquatic species and birds and is also visual pollution and detracts from the aesthetic qualities of receiving waters.

This effluent limit can be met through the implementation of a variety of control measures. For instance, to prevent garbage from being carried in runoff to receiving waters, there are essentially two methods of control: source control and structural control. Source control includes personnel education, improved infrastructure and cleanup campaigns. Education, such as informing employees about options for recycling and waste disposal and about the consequences of littering, is one of the best ways. Another topic that should be emphasized is proper trash storage and disposal. Improved infrastructure can include optimizing the location, number, and size of trash receptacles, recycling bins, and cigarette butt receptacles based on expected need. Clean-up campaigns are an effective way to reduce trash. Facilities should determine whether the number and placement of receptacles are adequate and if regular maintenance activities (e.g., sweeping, receptacle servicing) are preventing litter from entering receiving waters. Structural controls include physical filtering structures and continuous deflection separation. Filtering structures concentrate diffuse, floating debris and prevent it from

traveling downstream. Some examples are trash racks, mesh nets, bar screens and trash booms. Continuous deflection separation targets trash from storm flows during and after heavy precipitation.

Dust Generation and Vehicle Tracking of Industrial Materials (Part III.B.1.b.xii). Operators must minimize generation of dust and off-site tracking of raw, final or waste materials.

Dust control practices can reduce the activities and air movement that cause dust to be generated. Airborne particles pose a dual threat to the environment and human health. Dust carried off-site increases the likelihood of water pollution. Control measures to minimize the generation of dust include:

Vegetative Cover. In areas not expected to handle vehicle traffic, vegetative stabilization of disturbed soil is often desirable. By establishing a vegetative cover, exposed soil is stabilized and wind velocity at ground level can be reduced, thus reducing the potential for dust to become airborne.
Mulch. Mulching can be a quick and effective means of dust control for a recently disturbed area.
Wind Breaks. Wind breaks are barriers (either natural or constructed) that reduce wind velocity through a site which then reduces the possibility of suspended particles. Wind breaks can be trees or shrubs left in place during site clearing or constructed barriers such as a wind fence, snow fence, tarp curtain, hay bale, crate wall or sediment wall.
Stone. Stone can be an effective dust deterrent in areas where vegetation cannot be established.
Spray-on Chemical Soil Treatments (Palliatives). Examples of chemical adhesives include anionic asphalt emulsion, latex emulsion, resin-water emulsions and calcium chloride. Chemical palliatives should be used only on mineral soils. When considering chemical application to suppress dust, determine whether the chemical is biodegradable or water-soluble and what effect its application could have on the surrounding environment, including waterbodies and wildlife.

To reduce vehicle tracking of materials, the operator should keep stored or spilled materials away from all roads within the site. Specific measures such as setting up a wash site or separate pad to clean vehicles prior to their leaving the site may be effective as well.

Purpose: Part III.B.1.b requires all operators to meet certain technology-based effluent limits through the implementation of control measures that minimize pollutants from the discharge.

*Comparison to t*he 12-SW: Additional controls and requirements are added to Salt Storage Piles or Pile Containing Salt, and broken webpage links were corrected.

5.4 Water quality-based effluent limitations (Part III.B.2)

The 20-SW includes water quality-based effluent limits (WQBELs) to ensure that authorized discharges will be controlled as necessary to meet applicable water quality standards, pursuant to CWA section 301(b)(1)(C) and 40 CFR 122.44(d)(1). The provisions of Part III.B.2 were adopted from EPA's MSGP, and supplement the permit's technology based effluent limits in Part III.B.1. The following is a list of the permit's WQBELs:

• Control discharges as necessary to meet applicable water quality standards of all affected states or tribes (See Part III.B.1);

• Implement any additional measures that are necessary to be consistent with the assumptions and requirements of the applicable Total Maximum Daily Load (TMDL) and its wasteload allocation (See Part III.A and Part III.B.2.b.i). For discharges to impaired waters without a TMDL, conduct impaired waters monitoring (See Part III.B.2.b.ii). Additionally, new discharges to impaired waters must implement any measures required per the Part I.C.5 eligibility requirements;

• Implement any additional measures that the Department determines are necessary to comply with applicable antidegradation requirements for discharges to Tier II waters (see Part III.B.2.c).

Prior to or after initial discharge authorization, the Department may require operators to implement additional measures on a facility-specific basis, or require operators to obtain coverage under an individual permit, if information in the NOI, required reports, or other sources indicates that, after complying with the technology-based limits in Part III.B.1 and the WQBELs in Part III.B.2, discharges will not be controlled as necessary to meet water quality standards.

Facilities that achieve the permit's technology-based limits through the careful selection, design, installation, and implementation of effective control measures are likely to be controlling their stormwater discharges to a degree that would make additional water quality-based measures unnecessary. However, to ensure that this is so, the permit contains additional provisions in Part III.B.2, which, along with the BAT/BPT/BCT limits in the permit, are as stringent as necessary to achieve water quality standards.

The WQBELs included in the permit continue to be non-numeric. Like EPA, the Department relies on a narrative limit to ensure discharges are controlled as necessary to meet applicable water quality standards, and to ensure that additional measures are employed where necessary to meet the narrative WQBELs, or to be consistent with the assumptions and requirements of an applicable TMDL and its WLA, or to comply with antidegradation requirements. This is a reasonable approach for the 20-SW, based on the following considerations:

• Limited waterbody information available about individual dischargers: The Department will not know prior to receiving NOIs where any new facilities are located and where they will discharge. In addition, existing facilities' NOI data from earlier permits has typically been difficult to access, and this factor plus other NOI system limitations have restricted the number and quality of NOI reviews that EPA or the Department could do. Facility type and location, and receiving water information are necessary for the Department to determine what, if any, special protections apply to that water. To assist operators in determining their receiving water information, the Department has web based tool that will facilitate identification of their receiving water(s) and impairment status. The Department's receipt of the NOI and receiving water information may then trigger a review. For now, however, it is not possible to know what specific requirements apply to facilities a priori, and to include any such requirements in a general permit.

• Review of the NOI and applicable watershed documents is the appropriate forum for deriving facility-specific WQBELs: Once the Department receives an NOI for the new permit, the staff will be better able to assess whether any more protective control measures are necessary. For instance, if an NOI indicates that the facility will discharge to an impaired waterbody with an EPA-approved or established TMDL, the Department can analyze the relevant information to

determine whether any additional control measures are necessary to meet the permit's effluent limits and whether discharges will be consistent with the TMDL and WLAs. If the operator is unwilling or unable to implement such additional control measures (or other measures that would yield the same results), the Department may notify the facility that it is not eligible for 20-SW coverage and must instead apply for an individual permit. The Department may undertake a similar assessment process when facilities indicate that they are discharging to a waterbody designated as Tier II for antidegradation purposes.

Part III.B.2.a Water Quality Standards

This Part specifies that operators must control their discharge as necessary to meet applicable water quality standards of all affected states. The Department expects that compliance with the other conditions in the 20-SW (e.g., the technology-based limits, corrective actions) will result in discharges that are controlled as necessary to meet applicable water quality standards. However, if an operator becomes aware, or the Department determines, that a discharge does not meet applicable water quality standards, corrective actions are required per Part IV. In addition, any time the Department determines that the discharge is not meeting the WQBEL (i.e., the discharge is not controlled as necessary to meet applicable water quality standards), the Department may inform the operator that additional measures are needed, or require that the operator instead apply for an individual permit. The same applies to situations where additional measures are necessary for discharges to be consistent with an available wasteload allocation in an EPA-established or approved TMDL. In such situations, the Department will be available to help operators understand what they need to do to ensure that their discharges are consistent with any available wasteload allocations.

Part III.B.2.b Discharges to Water Quality-Impaired Waters

This Part includes the requirements applicable to discharges to impaired waters. Facilities will be considered to discharge to an impaired water if the first Waters of This State discharged to is:

• Identified by the Department, pursuant to Section 303(d) of the CWA, as not meeting an applicable water quality standard, or;

• Addressed by an EPA-approved or established TMDL, or;

• Not in either of the above categories but the waterbody is covered by a pollution control program that meets the requirements of 40 CFR 130.7(b)(1).

Part III.B.2.b.i Existing Discharge to an Impaired Water with an EPA-Approved or Established TMDL

This Part specifies the Department may inform operators that additional requirements are necessary for the discharge to be consistent with the assumptions and requirements of an applicable TMDL and its wasteload allocation (WLA). Water quality-based effluent limits must be "consistent with the assumptions and requirements of any available wasteload allocation for the discharge," pursuant to 40 CFR 122.44(d)(1)(vii)(B). Where an operator indicates on its NOI that a discharge is to one of the types of waters this Part covers, the Department will review the applicable TMDL to determine whether it includes provisions that apply to the individual discharger or its industrial sector. If so, the Department will determine whether compliance with

the existing permit limits is sufficient or what additional measures are necessary for the discharge to be consistent with the WLA. Alternatively, the Department may decide an individual permit application is necessary. Because WLAs for stormwater discharges may be specified in many different formats, it has not always been clear to operators what they need to do to ensure that their discharge is consistent with available WLAs. The Department has thus established a set of controls in the Design Manual for nutrient and sediment, which may be required to ensure that these requirements are properly interpreted and communicated to the facility in a way that is implementable. If other pollutants are identified, the Department would work with the facility to develop appropriate controls in light of the best information available.

Part III.B.2.b.ii Existing Discharge to an Impaired Water without an EPA-Approved or Established TMDL

This Part reiterates that facilities discharging to impaired waters without an EPA-approved or established TMDL must still control their discharges as necessary to meet water quality standards (as also required per Part III.B.1). The Department expects an operator will achieve this if it complies with the other requirements in the permit, including monitoring requirements applicable to impaired waters discharges in Part V.B. However, if information in the NOI, required reports, or from other sources indicates that discharges are not controlled as necessary to meet applicable water quality standards, the Department may inform an operator that it needs to implement additional measures on a site-specific basis to ensure the WQBEL is met, or, alternatively, of the need to apply for an individual permit.

Part III.B.2.b.iii New Discharger or New Source to an Impaired Water

This Part requires an operator that is a “new source” or meet the definition of a “new discharger” (see Appendix A) that discharge to impaired waters to maintain for the permit term any control measures in good working order that it has implemented to meet the eligibility requirements of Part I.C.5.

Part III.B.2.c Tier II Antidegradation Requirements for New Dischargers or Increased Discharges

This provision applies to new dischargers, new sources, and existing dischargers whose discharges directly to waters designated by a state or tribe as Tier II (defined in Appendix E) have increased. (In general, any existing discharger required to notify the Department of an increased discharge consistent with Part II.F.1 (i.e., a “planned changes” report) will be considered to have an increased discharge.) Such dischargers must, for antidegradation purposes implement any additional measures that the Department determines are necessary to comply with the permit’s WQBEL, including the applicable antidegradation requirements (COMAR 26.08.02.04-1 antidegradation policy pursuant to 40 CFR 131.12). The Department may also, per the applicable antidegradation policy, notify operators that they cannot be covered under the 20-SW due to the unique characteristics of the discharge or the receiving waters, and that they must apply for an individual permit. Conversely, if the Department does not notify an operator that additional measures are needed to ensure compliance with antidegradation requirements, the operator is authorized to discharge under the permit.

Waters designated as “Tier II” by Maryland can generally be described as follows: Tier II protects "high quality" waters -- waterbodies where existing conditions are better than necessary to support CWA § 101(a)(2) "fishable/swimmable" uses. Use the interactive Tier II webmap

located at: [HYPERLINK "about:blank" \h] to assist you. On the map, Tier II watersheds colored orange have NO assimilative capacity.

Water quality may be lowered in Tier II waters where "allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located." 40 CFR 131.12(a)(2). The process for making this determination is what is commonly known as "Tier II review." The essence of a Tier II review is an analysis of alternatives to the proposed new or increased discharge. 63 Fed. Reg. 36, 742, 36,784 (col. 1)(July 8, 1998). In no case may water quality be lowered to a level that would interfere with existing or designated uses. 40 CFR 131.12(a)(1), 122.44(d). Maryland has broad discretion in identifying Tier II waters. 63 Fed. Reg. at 36,782-83. In addition, states and tribes may adopt what is known as a "significance threshold." A "significance threshold" is a de minimis level of lowering of water quality below which the effects on water quality do not require Tier II review. Id. at 36,783.

Comparison to 12-SW: This permit, like the MSGP, includes provisions requiring that discharges are controlled as necessary to meet water quality standards. The 12-SW didn't contain provisions related to required monitoring for waters to access potential impacts. In fact it didn't differentiate between a waterbody with or without an established TMDL. The Department is including the language in the 20-SW to be consistent with the MSGP, and to allow the Department to collect data on specific sites to determine if the industrial site does have an impact or contribute to the impairment. This process is informed by several factors described in the monitoring section. These include identification whether the operation is a source of the pollutant, and clarify which types of impairments are required to monitor.

6. Stormwater Pollution Prevention Plan (SWPPP) (Part III.C)

Part III.C of the permit requires the discharger to develop a SWPPP to document the specific control measures dischargers will use to meet the limits contained in Part III.A and Part III.B of the permit, as well as documenting compliance with other permit requirements (e.g., monitoring, recordkeeping, reporting). The SWPPP itself does not contain effluent limits; rather it constitutes a tool to assist both the permittee and inspectors in ensuring and documenting that effluent limits are met. This documentation must be kept up-to-date. Where control measures are modified or replaced, for instance in response to a Part IV.A triggering condition, such changes must be documented in the SWPPP. See Part III.C.8. If permittees fail to develop and maintain an up-to-date SWPPP, they will have violated the permit. This recordkeeping violation is separate and distinct from a violation of any of the other substantive requirements in the permit (e.g., effluent limits, corrective action, inspections, monitoring, reporting, and sector-specific requirements).

To be covered under this permit, the initial SWPPP must be completed prior to submitting an NOI for permit coverage. Doing so helps to ensure that permittees have (1) taken steps to identify all sources of pollutant discharges in stormwater and (2) implemented appropriate control measures to control these discharges in advance of permit coverage. Part III.C of the permit contains most of the required elements to be documented in the SWPPP; however, sector-specific requirements are also included in Appendix D of this permit.

Generally, permittees must document the following: (1) the establishment of a stormwater pollution prevention team; (2) a description of the site; (3) summary of potential pollutant

sources; (4) description of control measures; and (5) monitoring and inspection procedures (including schedules).

For permittees covered under a previous 12-SW, their existing SWPPP must be reviewed and modified, as necessary, to comply with the permit.

The SWPPP prepared under this permit must address specific requirements. In the 02-SW, the Department had combined the SWPPP documentation requirements and effluent limitations into one section leading to confusion over what was a documentation requirement and what was an effluent limitation. EPA believes, and the Department agrees, that separating the effluent limitations (Part III.A and III.B) and the SWPPP requirements (Part III.C) clarifies the distinction between them.

Permittees may choose to reference other documents in the SWPPP rather than recreating the same text in the SWPPP; however, when referencing other documents, the permittees are responsible for ensuring their SWPPP and the other documents together contain all the necessary elements for a complete SWPPP. In addition, permittees must ensure that a copy of the referenced document is located on-site.

For example, allowances apply to other program documents such as Spill Prevention, Control and Countermeasure (SPCC) Plans. The Department strongly recommends that, regardless of whether all required SWPPP components are combined into one document, an index be kept which identifies where individual SWPPP components are addressed.

Pollution Prevention Team (Part III.C.1)

Developing a SWPPP requires that a qualified individual or team of individuals be identified as responsible for developing and revising the facility's SWPPP. Additionally, this team is responsible for implementing and maintaining the control measures to meet effluent limits, and taking corrective action where necessary. Team members should be chosen for their expertise in the relevant departments at the facility to ensure that all aspects of facility operations are considered in developing the plan. The SWPPP must clearly describe the responsibilities of each team member to ensure that each aspect of the plan is addressed. The Department expects most permittees will have more than one individual on the team, except for small facilities with relatively simple plans and/or staff limitations. The permit requires that team members have ready access to any applicable portions of the SWPPP and the permit.

Purpose: Identification of a stormwater pollution prevention team ensures that appropriate persons (or positions) are identified as necessary for developing and implementing the plan. Inclusion of the team in the plan provides notice to facility staff and management (i.e., those responsible for signing and certifying the plan) of the responsibilities of certain key staff for following through on compliance with the permit's conditions and limits.

Site Description (Part III.C.2)

The SWPPP must describe activities, materials, and physical features of the facility that may contribute significant amounts of pollutants to stormwater runoff or, during periods of dry weather, result in pollutant discharges through the municipal separate storm sewers or stormwater drainage systems that drain the facility. The SWPPP must also contain both a general location map of the site that shows the location of the facility in relationship to receiving waters and other geographical features, and a more detailed site map that contains information on facility/site characteristics that affect stormwater runoff quality and quantity. For areas of the facility that generate stormwater discharges with a reasonable potential to contain significant amounts of pollutants, the map must indicate the probable direction of stormwater flow and the pollutants likely to be in the discharge. Flows with a significant potential to cause soil erosion also must be identified. The site map must also include locations of: existing structural control measures; receiving waters; stormwater conveyances, inlets and outfalls; potential pollutant sources; past significant spills or leaks; stormwater monitoring points; municipal separate storm sewer systems; and locations and sources of run-on to the operator's site (see permit language for complete list of required items). To improve readability of the map, some detailed information may be kept as an attachment to the site map and pictures may be included as deemed appropriate.

Purpose: A detailed site description assists permittees in subsequent efforts to identify and set priorities for the selection, design, and implementation of measures taken to meet effluent limits and in identifying necessary changes in materials, materials management practices, or site features.

Summary of Potential Pollutant Sources (Part III.C.3)

This permit requires permittees to identify potential sources of pollutants in stormwater resulting from exposure of industrial activities to stormwater. In addition, permittees must document in their SWPPP any allowable non-stormwater discharges that are released. The permit and the NPDES regulations at 122.26(b)(14) define "stormwater discharges associated with industrial activities" to include, but not be limited to: stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. The term "stormwater discharges associated with industrial activity" excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas.

Additionally, the term "material handling activities" is defined in the permit to include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product.

Part III.C.3 is only applicable to those parts of the site for which the permittee is covered under this permit. For example, a site that discharges stormwater to an area of the site covered by a different NPDES permit, is not required to identify the specific activities occurring in that area. EPA does expect permittees to clearly identify those areas of the site and describe why they need not be covered under this permit.

When identifying potential pollutant sources at the site, permittees must consider industrial stormwater from the following sources:

Activities in the Area (Part III.C.3.a)

This description must include a list of the industrial activities at the facility, including any co-located industrial activities that may be exposed to stormwater.

Pollutants (Part III.C.3.b)

For each of the industrial activities described above, operators must document the associated pollutants or pollutant constituents (e.g., biochemical oxygen demand, suspended solids). The pollutant list must include all significant materials that have been handled, treated, stored or disposed, and that have been exposed to stormwater in the 3 years prior to the date the permittee prepares or amends its SWPPP as well as any additional significant materials that the permittee plans to use during the life of the permit. The Department includes PCBs and PFAS as two other pollutants specifically called out in Maryland that must be identified on your SWPPP as potential pollutants if they exist at your operation.

EPA defines "significant materials" at 122.26(b)(12) as including but 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 permittee is required to report pursuant to section 313 of title III or SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

CERCLA section 101(14) defines "hazardous substance" to include: (A) any substance designated pursuant to section 311(b)(2)(A) of the Federal Water Pollution Control Act (also known as the Clean Water Act (CWA)); (B) any element, compound, mixture, solution, or substance designated pursuant to section 102 of CERCLA; (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (also known as the Resource Conservation and Recovery Act or RCRA); (D) any toxic pollutant listed under CWA section 307(a); (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act. The list of CERCLA hazardous substances is provided in 40 CFR 302.4.

Comparison to 12-SW: This is the section which has been modified to assist the permittee in determining if they are potentially required to monitor for PCBs or other pollutants. Part of

the evaluation for potential sources somes from EPA's fact sheets, which can be found on the Department's website. Other pollutants of interest have been expanded on in the permit. For PCB specially, the Department reviewed various methodologies and found the best source of information in neighboring Virginia. Based on monitoring at industrial sites, they were able to determine which industries are more likely to discharge PCB. The table inserted was based on their report "The Relationship between Polychlorinated Biphenyls (PCBs), VPDES Wastewater/Stormwater Facilities, Stormwater Industrial General Permitted Facilities (ISWGPs), and the Standard Industrial Classification System (SIC)", Virginia Department of Environmental Quality (VDEQ), Mark Richards & Will Isenberg, February 1, 2016. The other pollutant of emerging concern is PFAS, which may not be listed in the EPA fact sheets.

Spills and Leaks (Part III.C.3.c)

The SWPPP must include a list of any significant spills and leaks of pollutants that occurred in the 3 years prior to the date the SWPPP was developed or amended. New owners of existing facilities should, to the extent practicable, identify any significant spills or leaks attributable to past owners. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under section 311 of the CWA (see 40 CFR 110.10 and 40 CFR 117.21) or section 102 of CERCLA (see 40 CFR 302.4). Significant spills may also include releases of materials that are not classified as oil or hazardous substances. The list of significant spills and leaks should include a description of the causes of each spill or leak, the actions taken to respond to each release, and the actions taken to prevent similar spills or leaks in the future. This effort will aid operators in developing spill prevention and response procedures and any additional procedures necessary to fulfill the requirements set forth in Part III.B.1.b.iv of the permit.

As required in Part III.C.8 of this permit, any spills or leaks that occur while covered under this permit must be documented.

Documenting spills does not relieve permittees of any reporting requirements established in 40 CFR 110, 40 CFR 117, and 40 CFR 302, or any other statutory requirements relating to spills or other releases of oils or hazardous substances.

Non-Stormwater Discharges (Part III.C.3.d)

Each SWPPP must include documentation that all unauthorized discharges have been eliminated. The documentation must include the date of any evaluation, and describe any test or evaluation conducted to detect such discharges, the results of those evaluations. Acceptable test or evaluation techniques include dye testing, television surveillance, visual observation of outfalls or other appropriate locations during dry weather, water balance calculations, and analysis of piping and drainage schematics. A combination of these mechanisms may be necessary to complete a thorough evaluation. In general, smoke tests should not be used for evaluating the discharge of non-stormwater to a municipal separate storm sewer as many sources of non-stormwater typically pass through a trap that may limit the effectiveness of the test. When unauthorized discharges are discovered, the documentation must also include a description of how those discharges were eliminated.

Common unauthorized discharges and common resolutions include: re-routing sanitary wastes (e.g., sinks, drinking fountains, toilets) to sanitary sewer systems; obtaining an appropriate NPDES permit for cooling water or industrial process wastewater discharges; capping or plugging floor drains; and prohibiting practices such as paint brush washing or wash bucket dumping into storm drain inlets.

Where an allowable non-stormwater discharge has been identified, the permittee must document in the SWPPP the location of that discharge and the appropriate control measures implemented to meet limits. In many cases, the same types of controls for contaminated stormwater would suffice, but the nature and volume of potential pollutants in the non-stormwater discharges must be taken into consideration in selecting controls.

Salt Storage (Part III.C.3.e)

The SWPPP must identify any storage piles containing salt, including piles that only contain salt as a portion of the mixture in the pile, used for deicing or other commercial or industrial purposes. Although no changes are listed here, if the permittee is subject to the monitoring under the Salt Terminal (Sector AD), this would be the section they would discuss their plans related to those conditions.

Sampling Data (Part III.C.3.f)

A summary of all existing data on the quality or quantity of stormwater discharges collected from the facility during the previous permit term must be described in the SWPPP. New dischargers must provide a summary of any available stormwater discharge sampling data they may have, including the methods used to collect the data and the sample collection location. These data may be useful for locating sources and causes of stormwater pollutants.

Purpose: Identification of sources of pollutants in stormwater is critical for selecting source control practices at the site necessary for meeting permit limits. Information provided in this section of the SWPPP will help facility operators identify potential pollutants of concern on-site through a comprehensive assessment of existing conditions and available information.

Comparison to 12-SW: The previous permit (02-SW) didn't have any benchmark, so this Part was limited to visual monitoring. However with the 20-SW, this language now includes benchmark DMR data.

Description of Measures Implemented to Meet Effluent Limits (Part III.C.4)

Control Measures to Meet Technology-Based and Water Quality-Based Effluent Limits (Part III.C.4). A permittee must describe in its SWPPP the control measures it has implemented at its site to achieve each of the effluent limits in Parts III.A, III.B.1, and III.B.2, and to address any stormwater run-on that commingles with discharges covered under this permit. The description of the control measures implemented to meet the effluent limits must include a brief explanation of the measures implemented at the site, including how the Part III.B.1.a selection and design considerations were followed.

Purpose: To demonstrate how the operator specifically plans to meet the applicable.

Schedules and Procedures – Pertaining to Control Measures Used to Comply with the Effluent Limits in Part III.B (Part III.C.5.a)

The permit identifies specific information that must be documented in the SWPPP. The Department emphasizes that ALL control measures implemented to meet the Part III.B limits must be documented in the SWPPP.

In addition to the description to the on-the-ground control measures implemented to meet the effluent limits, the permit requires certain schedules and procedures to be documented in the SWPPP. The following items are specifically identified in the Part III.C.4 permit language:

Good Housekeeping (see also Part III.B.1.b.ii or Appendix D). Include a schedule for pickup and disposal of waste materials, along with the frequency of inspections for leaks and conditions of drums, tanks and containers.

Maintenance (see also Part III.B.1.b.iii or Appendix D). Describe the preventive maintenance program, including how the following will be addressed: regular inspections, testing, maintenance, repair of all industrial equipment and systems to avoid situations that may result in leaks, spills, and other releases, and back-up practices in place should a runoff event occur while a control measure is off-line.

Spill Prevention and Response Procedures (see also Part III.B.1.b.iv or Appendix D). Describe areas and activities that typically pose a high risk for spills including loading and unloading areas, storage areas, process areas, and waste disposal activities and identify corresponding outfalls. Also, describe appropriate material handling procedures, storage requirements, containment or diversion equipment, and spill cleanup procedures that will minimize the potential for spills, or in the event of a spill, enable proper and timely response. Describe which employees are to be trained on proper procedures and requirements and which are responsible for ensuring that appropriate equipment is available to respond to spills.

Employee Training (see also Part III.B.1.b.ix or Appendix D). Describe how personnel are to be trained and their responsibilities. The SWPPP must include a schedule for conducting this training.

Restoration Requirements Describe your requirements to maintain restoration practices required in this permit.

Comparison to 12-SW: The 20-SW includes the requirements to have plans to maintain the Restoration Practices.

Schedules and Procedures – Pertaining to Monitoring and Inspection Procedures (Part III.C.5.b)

This permit requires permittees to document in the SWPPP monitoring and inspection procedures that will be followed. For monitoring activities, the permittee must document in the SWPPP information such as locations where samples are to be collected, person(s) or position(s) responsible for collecting those samples, the frequency of sampling and the parameters to be sampled, applicable control values at each sample location, and procedures that will be followed to gather storm event data.

If an operator chooses to use the substantially identical outfall exception, he/she is required to describe in the SWPPP the locations of each of these outfalls, the general industrial activities conducted in the drainage area of each outfall, the control measures being implemented for each outfall, the exposed materials that are likely to be a significant contributor of pollutants to the stormwater discharge, an estimate of the runoff coefficient of the drainage area, and why the outfalls are expected to discharge substantially identical effluents.

For inspection activities, permittees must document procedures for performing the three types of inspections specified in the permit, namely, routine facility inspections (Part V.A.1), quarterly visual assessments (Part V.A.3), and Comprehensive Site Inspections (Part V.A.2). For each of these types of inspections, the SWPPP must include information such as person(s) or position(s) performing inspections, the inspection schedule, and specific items to be covered by the inspection.

Purpose: The Agency is requiring these documentation provisions to help ensure that appropriate monitoring and inspection procedures consistent with permit requirements are implemented. The Department believes documenting these activities will help to improve facility compliance with the requirements.

Signature Requirements (Part III.C.6)

This permit requires the permittee to sign and date the SWPPP consistent with procedures detailed in Part II.C.2 (standard permit condition for signatory requirements).

Purpose: This requirement is consistent with standard NPDES permit conditions described in 40 CFR 122.22 and is intended to ensure that the permittee understands its responsibility to create and maintain a complete and accurate SWPPP. Permittees are allowed to appoint an authorized representative consistent with the regulations. Therefore, if a facility feels it is more appropriate for a member of the stormwater pollution prevention plan team to sign the documentation, that option is available under the permit. The signature requirement includes an acknowledgment that there are significant penalties for submitting false information.

Required SWPPP Modifications (Part III.C.7)

This permit requires that the SWPPP be updated whenever any of the triggering conditions for corrective action in Part IV.A occur, or when a review following the triggering conditions in Part IV.B indicates that changes to the permittee's control measures are necessary to meet the effluent limits in this permit. The permit requires that the SWPPP be signed and

dated by an authorized representative each time it is modified. Changes to the SWPPP must be made in accordance with Parts IV.C and IV.D.

It is important to note that failure to update the SWPPP in accordance with Part III.C.7 is a recordkeeping violation, not a violation of an effluent limit. For example, if the permittee changes its maintenance procedures, but fails to update its SWPPP to reflect these changes, a recordkeeping violation will result. The permittee must revise its SWPPP to reflect the new maintenance procedures and include documentation of the corrective action to return to full compliance.

Purpose: Part III.C.7 requires that the SWPPP document be modified, and signed and dated by the operator, whenever any of the listed scenarios occur. This requirement ensures that the SWPPP document will be kept up to date.

Documentation Requirements (Part III.C.8)

Part III.C.8 of this permit describes recordkeeping requirements associated with activities covered under this permit. These include the original SWPPP and any modifications, so as to provide a traceable historical record of the SWPPP and its evolution, additional documentation, all reports and certifications required by the permit, monitoring data, and records of all data used to complete the NOI to be covered by this permit. Permittees must retain copies of these documents for a period of at least 5 years from the date that the permittee's coverage under this permit expires or is terminated.

Purpose: This permit requires permittees to maintain certain records to help them assess performance of control measures and as a way to document compliance with permit conditions. These requirements are consistent with Federal regulations at 40 CFR 122.41(j), but have been tailored to more closely reflect requirements of the 20-SW.

Part III.C.8 includes a list of documents, findings, activities, and information that must be kept with the permittee's SWPPP. See permit language for details.

Purpose: The Department requires documentation of various implementation activities, such as reports of routine facility inspections and descriptions of corrective actions, after facilities are authorized to discharge. This documentation is useful both for facility personnel and the Department (and other agencies) inspectors to assess overall performance of the control measures selected to meet the technology-based and water quality-based effluent limits in the permit.

Comparison to 12-SW: Overall there were very few changes in this part, except where noted in each individual section where there is a note about the comparison with the 12-SW.

7. CORRECTIVE ACTIONS AND ADDITIONAL IMPLEMENTATION MEASURES (AIM) (Part IV)

The Department is proposing new additional implementation measures that similar to those being proposed by EPA in the MSGP. They are consistent with a settlement agreement

reached by parties and intervenors challenging the former permit. (J. Mot. to Hold Consol. Cases in Abeyance Pending Resp't's Performance Under Settlement Agreement, Waterkeeper Alliance, Inc. v. U.S. EPA, Docket No. 15-2091 (L), 15-2259 (CON), 15-2428 (CON), 15-3315 (CON)). In addition to the proposal related to the settlement agreement, the Department also proposes updating the corrective actions conditions in Part IV.A.1 and subsequent action deadlines in Part IV.A.2 consistent with the 2015 MSGP. These conditions are especially important for facilities that have no established benchmarks. Those conditions in Part IV.A.1 include an unauthorized release, an exceedance of numeric effluent limits (if required), failed or improperly installed SCMs (including restoration measures), and visual assessments indicating water quality standards may be violated. If any conditions in Part IV.A.1 occurred, Part IV.A.2 requires that the operator implement timely fixes so that the condition triggering the issue is resolved.

The 12-SW also required corrective action in the event of an exceedance of a benchmark monitoring value. The 12-SW's corrective action required the facility to review the SWPPP and adjust SCMs, depending on the facility's assessment, to bring any exceedances below the benchmark threshold.

The additional implementation measures will increase regulatory certainty for those who must comply with the permit while resolving environmental groups' concerns (those expressed to EPA about the MSGP and those expressed to the Department) that the previous corrective actions were not sufficient to ensure that the permit controlled discharges as sufficient to protect water quality. In the challenge to the 2015 MSGP, petitioners posited that the 2015 MSGP's corrective action requirements for benchmark exceedances were inadequate because they allowed facilities to comply with the permit by making only minimal SCM changes, or no changes, and often these changes did not lower pollutant levels below the benchmark thresholds, indicating poor stormwater control effectiveness. Petitioners also wanted repeated unsuccessful attempts by facilities to reduce pollutant levels below benchmarks to, at some point, be a permit violation. At the same time, some industry stakeholders wanted more certainty and clarity with respect the expectations under the permit. EPA's has concured that more specific responses to benchmark exceedances may be appropriate in certain situations. However, EPA has always and continues to hold that benchmark thresholds by themselves are not water quality based effluent limits (or any effluent limit) and therefore facilities whose responses to benchmark exceedances comply with the permit's requirements, but do not achieve subbenchmark pollutant levels, cannot be in violation of the permit, because a benchmark exceedance is not definitive proof that a water quality standard has been exceeded. EPA is therefore proposing in the 2020 MSGP a clearer process to improve the previous permit's requirements for responding to benchmark exceedances. With similar goals in mind, the Department has in similar fashion modified this portion of the permit.

The proposed improvement to the permit's provisions for responding to benchmark exceedances include a four-stage protocol that gets progressively more prescriptive with the required SCMs, and thus more protective, when quarterly monitoring results exceed or repeatedly exceed benchmark values. There are four stages of response, known in the 20-SW proposal as "Additional Implementation Measures" or "AIM". The AIM concept is so-named by EPA to bolster the Agency's long-held position that benchmark exceedances alone are not permit violations nor do they signify a condition that is in violation of the permit. The 4-level AIM protocol would be triggered after a facility has either a single egregious exceedance of a benchmark value (e.g., greater than 4 times the benchmark), or high levels of quarterly sampling average exceedances. The proposed AIM requirements apply on parameter specific basis and supplement, as opposed to supplant, the technology-based, water quality-based, and

remaining provisions of the permit. Regarding annual averages, their calculation (i.e., the clock) is reset upon triggering and complying with each tier individually above. A difference in the Department's approach is that each escalating level is based strictly on time. The 20-SW also puts those who were covered under the 12-SW, who were not able to meet the benchmark into an advanced level.

Consistent with the settlement agreement, the AIM requirements would apply on a parameter-specific basis, would not themselves constitute water quality-based effluent limits, and would supplement, as opposed to supplant, the technology-based, water quality-based, and remaining provisions of the permit. Regarding annual averages, their calculation (i.e., the clock) is reset upon triggering and complying with each level individually. And regarding Level 2, an operator may only avail itself of the "aberration" demonstration opportunity one time per parameter per discharge point, which shall include substantially similar discharge points.

Specific details about each AIM level are discussed further below.

Part IV.A Corrective Action

Part IV.A.1 Conditions Requiring SWPPP Review and Revision to Ensure Effluent Limits are Met

As discussed above, the Department is proposing that the corrective actions conditions in Part IV.A.1 and subsequent action deadlines in Part IV.A.2 be updated based on the 2015 MSGP. If operators find that any of the conditions in Part IV.A.1 of the proposed 20-SW have occurred, they are required to review and revise their SWPPP to eliminate the condition so that the permit's effluent limits are met and pollutant discharges are minimized. Operators may become aware of these conditions through an inspection, monitoring, or other means, or if the Department informs the operator of the condition(s).

The SWPPP review should focus on sources of pollution, spill and leak procedures, nonstormwater discharges, selection, design, installation and implementation of control measures. Part IV.A of the proposed 20-SW specifies the following conditions requiring review and revision to ensure effluent limits are met, which are updated based on the correction action triggering conditions in the 2015 MSGP:

- An unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by the MSGP or another NPDES permit) occurring at the facility.
- A discharge that violates a numeric effluent limitation (if required by the Department).
- Control measures that are not stringent enough for the discharge to meet applicable water quality standards or the non-numeric effluent limits in the permit.
- Where a required control measure was never installed, was installed incorrectly, or not in accordance with Parts III.A, III. B and/or in Appendix D, or is not being properly operated or maintained.
- Whenever a visual assessment shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam).

Comparison to 12-SW: The third combines installation issues and maintenance issues into a single bullet, and the fourth bullet was modified to be clear that the triggering event is specific to those characteristics in the visual monitoring.

Part IV.A.2 Corrective Action Deadlines

The proposed 20-SW includes specific deadlines for taking corrective actions to remedy deficiencies. These proposed deadlines remain largely unchanged from the 12-SW. The time limits in Part IV are those that the Department considers reasonable for making the necessary repairs or modifications and are included specifically so that inadequacies are not allowed to persist indefinitely.

When conditions exist that trigger corrective action, a facility must immediately take (i.e., on the same day the condition was found) all reasonable steps to minimize or prevent pollutant discharges until the operator can implement a permanent solution. This concept was also adopted from the MSGP, as a reminder that actions are required not just documentation.

The permit's proposed immediate actions are substantially similar to requirements in the 2015 MSGP and new to the Department's permit. Minor changes made by EPA clarify that "all reasonable steps" means responding to the conditions triggering the corrective action (the 2015 MSGP describes "all reasonable steps" to be undertaking initial actions to assess and address the condition causing the corrective action). Additionally, the 20-SW clarifies in the proposed permit that when corrective actions are identified too late in the work day, the corrective action must be performed by the following work day morning (the 2015 MSGP specified that corrective action be initiated the following work day). These proposed changes provide greater assurance that corrective actions are implemented expeditiously to minimize pollutant discharges.

The proposed 20-SW requires that the operator take subsequent action to implement a permanent solution no later than 14 calendar days from discovering the corrective action-triggering condition (e.g., by installing a new or modifying an existing control or by completing any needed stormwater control repairs). This proposed requirement has not changed from the 12-SW.

The Department does recognize that there may be circumstances in which immediate action to initiate corrective action may not be possible within the same day a corrective action condition is found. "All reasonable steps" does not necessitate taking action when it is unsafe to do so (e.g., due to inclement weather). The Department also recognizes that there may be circumstances where it is not feasible to complete needed corrective actions within 14 days, and therefore provides that operators may modify the schedule for completing the corrective action so that corrective action is taken as soon as practicable after the 14-day timeframe, and is completed no later than 45 days after discovery of the triggering condition. If the will take longer than 45-days to complete the corrective action, the permit also allows operators to take the minimum additional time necessary to complete the corrective action, provided that the operator notifies the Department's Compliance Program. This is a change to what was required in the 12-SW which contained a 30 day notice to the Department when a control measure is not complete. The language proposed in the 20-SW establishes 45 days as a deadline, and instead of a notification to the Department, requires that the operator to "notify compliance of your intention to exceed 45 days, your rationale for an extension, and a completion date, which you must also include in your corrective action documentation". Operators must provide a rationale for an extension of the timeframe, and a corrective action completion date to the Department's Compliance Program, and also include this in their corrective action documentation. The Department recognizes that identifying both the need to take corrective action and the appropriate modifications to the control measures will, in some cases, be an iterative process. Several storm events may be needed to determine how to fully resolve the triggering issue(s). For example, if a visual assessment indicates that the facility is discharging suspended solids in stormwater, an appropriate corrective action may be to immediately clean up any signs of visible sources of the pollutants on the site (e.g., through immediate sweeping or vacuuming of

exposed surfaces), and then to review the SWPPP to identify additional potential deficiencies or pollutant sources. If poor housekeeping is suspected to be the cause, permittees may decide to implement a new schedule of increased sweeping or vacuuming within 14 calendar days. However, if a subsequent visual assessment indicates that suspended solids remain a stormwater pollution issue that would be a separate corrective action-triggering event. In such a case, operators would undertake the corrective action review process again in order to assess and correct other deficiencies that are suspected to be the cause, meaning that the corrective action deadlines in Part IV.A.2 would be reset.

The Department emphasizes that these timeframes are not grace periods within which an operator is relieved of any liability for a permit violation that may have triggered the corrective action. If the original inadequacy triggering a corrective action constitutes a permit violation, then that violation is not deferred or erased by the timeframe the Department has allotted for corrective action. In all cases, failing to take corrective action as required in Part IV constitutes a permit violation separate and apart from any violation that the triggering event may have constituted.

Part IV.A.3 Effect of Corrective Action

The permit states that if the condition triggering the corrective action review is a permit violation (e.g., exceedance of a numeric effluent limitation), correcting it does not remove the original violation. Additionally, failure to take corrective action in accordance with Part IV is a separate permit violation (in addition to any permit violation that may have triggered corrective action). The Department will consider the appropriateness and promptness of corrective action in determining enforcement responses to permit violations. This proposed provision is unchanged from the 12-SW.

Part IV.A.4 Substantially Identical Discharge Points

If the event triggering corrective action is associated with an discharge point that has been identified as a "substantially identical discharge points" (see Parts V.B.6), permittees must assess the need for corrective action for all related substantially identical discharge points. Any necessary changes to control measures that affect these other discharge points must also be made before the next storm event if possible, or as soon as practicable following that storm event. Any corrective actions must be conducted within the timeframes set forth in Part IV.A.2.

Part IV.B Additional Implementation Measures (AIM)

As discussed above, the Department is proposing improvements to the permit's provisions for responding to benchmark exceedances. The Department is proposing a four-stage protocol that gets progressively more prescriptive with the required SCMs, and thus more protective, when monitoring results exceed or repeatedly exceed benchmark values. The Department proposes a reopener to the permit to consider changes EPA may make in their final MSGP. The Department also recognizes that for the next proposed 2025 MSGP, EPA will evaluate the benchmark monitoring data submitted under the 2020 MSGP permit along with data on the AIM triggered by any benchmark exceedances to analyze the effectiveness of the AIM response requirements (i.e., implementing more robust SCMs) on reducing benchmark exceedances. The following is a discussion of each proposed AIM Benchmark Action Level (AIM Level).

Part IV.B.1 AIM Level 1

Part IV.B.1.a AIM Level 1 Triggering Events

AIM Level 1 has two proposed triggering events. The first trigger of AIM Level 1 is based on a quarterly sampling annual average benchmark exceedance. Here, AIM is triggered when a four-sample average exceeds a benchmark value. If the facility takes less than four benchmark samples and the results are such that an exceedance of the four-quarter average is mathematically certain (i.e., if the sum of quarterly sample results to date is more than four times the benchmark value) then the facility has exceeded the benchmark, triggering AIM Level 1. This level is very similar to the 12-SW benchmark and trigger.

The second trigger of AIM Level 1 is based on the same principle as the first trigger, only this time the exceedance that triggers AIM is a single sampling result that is more than four times the benchmark value. This means that even with three other samples achieving zero values, that single sample would still make the four-sample average exceed by up to but less than or equal to two times the benchmark value.

Part IV.B.1.b AIM Level 1 Responses

There are three proposed responses for any Level 1 trigger. First the facility would need to immediately review existing control measures, SWPPP, and other on-site activities to see if any actions or SWPPP revisions are necessary. Examples of portions of the facility's control measures, SWPPP, and other on-site activities it should review include: sources of pollution, spill and leak procedures, non-stormwater discharges, and selection, design, installation, and implementation of your control measures. Secondly, after reviewing the control measures and SWPPP, the facility would install those additional implementation measures, such as a single comprehensive clean-up, a change in subcontractor, a modification or replacement of an existing SCM, and/or increased inspections, to bring the exceedances below the parameter's benchmark threshold in order to suspend the AIM process. However, a facility could determine that, after reviewing the control measures and SWPPP, that nothing further needs to be done to achieve lower pollutant levels. In this case, the facility would be required to document per Part IV.C and include in the annual report why it expected its existing SWPPP and SCMs to bring exceedances below the parameter's benchmark threshold for the next 12-month period. With the variability of stormwater and the small sample set of monitoring results, it may be reasonable for the facility to conclude that the current control measures are performing appropriately and further monitoring will support that the facility's existing controls will achieve the necessary pollutant reductions. This response mirrors the 12-SW corrective action response requirements. The third response to an AIM Level 1 trigger is that quarterly monitoring would continue into the next year. Even if AIM was triggered in the first quarter of the first year of monitoring, the Department proposes that the facility would first comply with AIM Level 1 requirements, continue monitoring for the remaining three quarters, and then continue monitoring into the following year. The Department considers this a trigger to require submitting the comprehensive annual report so that plans contained in there may be accessed by the Department or interested parties.

Part IV.B.1.c AIM Level 1 Deadlines

The Department proposes that if any actions or modifications to the control measures are necessary from an AIM Level 1 trigger that the operator would be required to implement those actions or modifications within 14 days. If doing so within 14 days is infeasible, the operator would be required to document per IV.C why it is infeasible and then would be required to implement such actions or modifications within 45 days. The Department is proposing the 14-

day deadline for AIM Level 1 responses because achieving benchmark averages under the threshold to avoid further AIM requirements should provide the impetus to make timely changes, if deemed necessary, similar to the proposed MSGP.

Part IV.B.2 AIM Level 2

Part IV.B.2.a AIM Level 2 Triggering Events

The proposed AIM Level 2 triggering events are similar to Level 1, but are in the second year of performing benchmarks under this permit or by an operator covered under the 12-SW who struggled to meet benchmarks and is in the first year of coverage under 20-SW.

Part 5.2.2.2 AIM Level 2 Responses

Continued exceedances of Tier 2 are likely to warrant mandatory fixes. Therefore, after Level 2 is triggered, the Level 2 response would require the operator once again review and make chages or to consider selection and implemention of all feasible SCMs from the appropriate sector-specific Stormwater Control Measure Checklist(s) that applies to their facility, which are found in Appendix Q of the EPA MSGP permit. The checklists enumerate the types of industrial activities and pollutant sources typically found at regulated facilities, broken out by the MSGP's 29 sectors. These are subject to changes in the Final MSGP, therefore it is provide here as an option since those subject to them may not be able to provide comments on EPAs permit. For each activity/pollutant source, there are a suite of SCMs that an operator could implement to control discharges from the respective activities/pollutant sources. Checklist SCMs are mostly of the pollutant prevention type, along with basic stormwater treatment (e.g., inlet filters), and enhanced training and inspections. Because the SCM Checklists are intended to be as complete as possible, SCMs may be inappropriate, interchangeable or redundant, and thus not relevant once the specific activity/pollutant source is adequately controlled. In addition, many of the SCMs may already be included in the operator's SWPPP as part of compliance with the 20-SW's Part III effluent limitations.

It is noted that in order to lower pollutant levels below benchmarks (to better protect water quality and enable operators to get out of the AIM process), the EPA is proposing to require operators to select from the checklist(s) those SCMs best suited for their site-specific conditions, sources, and pollutants (if not already implemented) and to notate on their checklist whether the SCM is implemented. Again, as noted above, this checklist is yet unproven and still in draft form at the time this permit is being written, thus the Department considers this an option. For those SCMs deemed redundant or not needed (e.g., due to already being present, not having the specific activity/pollutant source at the site, source is not exposed to stormwater, some other SCM is providing the same function, etc.), the operator must indicate why the SCM is not being selected. This helps ensure that SCM selections are made with rigor and completeness, yielding an effective SWPPP. The final response to an AIM Level 2 trigger is that quarterly monitoring would continue into the next year. The Department considers this a trigger to require submitting the comprehensive annual report so that plans contained in there may be accessed by the Department or interested parties.

Part IV.B.2.c AIM Tier 2 Deadlines

The operator would be required to select and implement all feasible SCMs to comply with Level 2 within 14 days and document per Part IV.C how the measures will achieve benchmark thresholds. If the operator uses the EPA Appendix Q, and does not decide to implement an

SCM from the checklist, then it would be required to document why it did not implement such measures per Part IV.C. If it is infeasible for the operator to implement a measure within 14 days, it may take up to 45 days to implement such measures, but would be required to document per Part IV.C why it was infeasible to do so within in 14 days. The Department Compliance Program may also grant you an extension beyond 45 days based on an appropriate demonstration by the operator. While persistent high levels of pollutants should be mitigated as soon as possible, the Department acknowledges that operators may need more time for planning, designing, and funding purposes.

Part IV.B.3 AIM Level 3

Part IV.B.3.a AIM Level 3 Triggering Events

The proposed AIM Level 3 triggering events are similar to Level 1, but are in the third year of performing benchmarks under this permit or by an operator covered under the 12-SW who struggled to meet benchmarks and is in the second year of coverage under 20-SW.

IV.B.3.b AIM Level 3 Responses

The Level 3 response would require an operator to implement one or more permanent, structural or treatment technology train appropriate for the pollutants of concern. Treatment removes pollutants from effluent rather than the more prevalent stormwater approach of pollution prevention. Structural controls could include building structures to prevent stormwater from being discharged. Treatment and structural controls are regarded as a last resort due to the complexity and cost to the operator and is proposed to be mandated only when earlier attempts to lower pollutants via pollution prevention and other procedural changes fail to do so. The EPA has stated that very few operators will need to comply with Tier 3 after completing Tiers 1 or 2. The Department understands that many operators will meet benchmarks and no longer be subject to the AIM process, but that the ones who are not able to may need to reach out for help in implementing solutions.

An option proposed under Level 3 is to install infiltration or retention controls as a substitute or adjunct to permanent treatment controls, albeit this option is not always feasible. Larger facilities may already have implemented all potential infiltration practices as part of their restoration practices. However additional infiltration can be considered for credit generation. If the site-specific conditions are conducive to it, an operator can infiltrate stormwater discharges via a retention pond or an underground injection well, or retain the discharge on site using green infrastructure. The intent of this option is simply to not discharge pollutants offsite. There are numerous obstacles to using of this option, such as aquifer impacts, hydrologic connectivity to water bodies, and the type of pollutants of concern. The EPA has stated they intend to develop guidance on determining the feasibility of an infiltration/retention approach and how to implement it for industrial stormwater discharges. Once that is available, the Department will consider providing this guidance to permittees as well. The final response to an AIM Tier 3 trigger is that quarterly monitoring would continue into the next year. The Department considers this a trigger to require submitting the comprehensive annual report so that plans contained in there may be accessed by the Department or interested parties.

Part IV.B.3.c AIM Level 3 Deadlines

The Department is proposing that installation of appropriate treatment control measures would be required to be completed within 30 days of the Level 3 triggering event. If is not feasible

within 30 days, the operator may take up to 90 days to install such measures, documenting per Part IV.C why it is infeasible to install the measure within 30 days. The Department Compliance Program may also grant an extension beyond 90 days based on an appropriate demonstration by the operator.

Part IV.B.4 AIM Level 4

Part IV.B.4.a AIM Level 4 Triggering Events

The proposed AIM Level 4 triggering events are similar to Level 1, but are in the fourth year of performing benchmarks under this permit or by an operator covered under the 12-SW who struggled to meet benchmarks and is in the third year of coverage under 20-SW.

Part IV.B.4.b AIM Tier 4 Responses
At this Level in the AIM process, after this amount of time has passed, the operator must consult a professional engineer, stormwater professional or geologist to prepare an action plan. They may take up to 90 days to prepare the action plan for the Department, to include milestone dates, and which may include: installing structural source controls and/or treatment controls or demonstrate why the discharge is not resulting in an exceedance of water quality standards. This exception is also proposed by EPA in their MSGP when an operator has acquired sufficient data and generates an analysis that demonstrates that their discharges do not and will not result in any exceedance of a water quality standard. Computer models would likely be used to make such a case, such as SWMM, DR3M and HSPF. Based on the concentration of pollutants, this exception may not be feasible and warrant the permanent control measures proposed to be implemented. Industrial stormwater discharges are explicitly required to meet all provisions of CWA §301, including applicable water quality standards (CWA §402(p)(3)(A)). Thus the permittee is put on notice that if they continue to exceed the benchmark threshold for the same parameter even after installation of structural source controls or treatment controls, the Department may revoke coverage under this permit, unless you are under a consent order or they have obtained an individual permit which consider site specific water quality based limits. As with the other levels the operator must continue Quarterly Benchmark Monitoring, however would be in a cycle of repeating Level 4, or installing controls or the alternatives as stated above.They must also attach their updated Comprehensive Annual Report to their DMR.

Part IV.B.4.c AIM Tier 4 Deadlines

The Department is proposing that installation of appropriate treatment control measures would be required to be completed within 30 days of the Level 3 triggering event. If is not feasible within 30 days, the operator may take up to 90 days to install such measures, documenting per Part IV.C why it is infeasible to install the measure within 30 days. The Department Compliance Program may also grant an extension beyond 90 days based on an appropriate demonstration by the operator.

Part IV.B.5 AIM Exceptions

The proposed AIM protocol has two proposed exceptions that could allow an operator to be relieved of compliance with AIM requirements at any AIM Tier level. The first exception is carry-overs from the 12-SW, which is the allowance for natural background levels. The condition was however moved from the monitoring section into the AIM, similar to the organization EPA uses in the MSGP. The other exception is adopted from EPA's MSGP for contributions of run-on

from a neighboring source which elevates the operator's pollutant levels, which requires the Department approval before the operator can qualify for this exception.

Details on AIM Exception due to Natural Background Pollutant Levels
The Department maintains from the 12-SW the option for facilities to justify benchmark exceedances based on local natural background concentrations, with some modifications. Part IV.B.5.a allows for an exception from AIM requirements and further benchmark monitoring when natural background levels are solely responsible for the exceedance of a benchmark threshold, provided that all the following conditions are met and the operator submits an analysis and documentation to the Department's Permit Program:

- 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; and
- You document and maintain with your SWPPP, as required in Part III.C, your supporting rationale for concluding that benchmark exceedances are in fact attributable solely to natural background pollutant levels. You must include in your supporting rationale any data previously collected by you or others (including literature studies) that describe the levels of natural background pollutants in your stormwater discharge. Natural background pollutants are those substances that are naturally occurring in soils or ground water. Natural background pollutants do not include legacy pollutants from earlier activity on your site, or pollutants in run-on from neighboring sources which are not naturally occurring, such as other industrial facilities or roadways.

For example, assume the benchmark monitoring threshold for a parameter is 100 mg/L, the natural background concentration is 80 mg/L, and the facility's four-quarter average concentration for that parameter is 120 mg/L. Because 120 mg/L is an exceedance, the facility would first subtract the background concentration from the benchmark monitoring results to find out the facility's pollutant contributions (120 – 80 = 40 mg/L). The facility would then compare the facility's pollutant contributions to the benchmark threshold to see if natural background levels are solely responsible for the exceedance. Because 40 mg/L is less than the benchmark threshold (100 mg/L), the exceedance would not have occurred without the natural background contribution and therefore the facility may invoke this exception.

Here is another example, but this time the exception cannot apply: Assume the benchmark monitoring threshold for a parameter is 100 mg/L, the natural background concentration is 80 mg/L, and the facility's four-quarter average concentration for that parameter is 220 mg/L (an exceedance). First, subtract the background concentration from the benchmark exceedance to find out the facility's pollutant contributions (220 – 80 = 140 mg/L). The facility would then compare the facility's pollutant contributions to the benchmark threshold to see if natural background levels are solely responsible for the exceedance. Because 140 mg/L is still higher than the benchmark threshold (100 mg/L), the exceedance was caused by the facility's pollutant discharges and the facility must comply with the AIM process.

This is a change from the 12-SW's exception, and consistent with the proposed MSGP, for natural background concentrations which required there to be no net facility contribution of the pollutant (i.e., the average concentration detected in discharges from all facility discharge points required to be monitored for four separate events minus the average natural concentration of the parameter could not exceed zero). The Department is proposing this change because the newly proposed method of subtracting natural background concentrations from the total benchmark exceedance is a less burdensome threshold for operators to meet and makes more sense as a method to determine the contributions of natural background pollutants.

This natural background exception could apply to parameters such as metals derived from natural mineral deposits and nutrients attributable to background soil, vegetation, or wildlife sources. Natural background levels cannot be attributed to run-on from non-natural sources such as other industrial sites or roadways (however, per Part IV.B.5.b, a facility may be eligible to discontinue monitoring for pollutants that occur solely from run-on sources). If background concentrations are not responsible for the benchmark exceedance, the facility will need to comply with the applicable AIM requirements, per Part IV.B. Facilities must use the same sample collection, preservation, and analysis methods for natural background monitoring as required for benchmark monitoring.

If facilities experience average benchmark exceedances for one or more pollutants during coverage under the 20-SW or suspect that they might have benchmark exceedances caused entirely by natural background, they can begin monitoring the natural background pollutant concentrations from a non-human impacted reference site concurrently with required benchmark monitoring and compliance with AIM requirements. After monitoring for four quarters and adequately determining that exceedances are the result of pollutants present in the natural background, facilities may discontinue additional benchmark sampling if all conditions in Part IV.B.5.a are met. The following is a list of the types of information that should be considered to support a rationale for the natural background exception:

• Map showing the reference site location in relation to facility along with available land cover information;
• Reference site and facility site elevation;
• Available geology and soil information for reference and facility sites;
• Photographs showing reference site vegetation;
• Reference site reconnaissance survey data regarding presence of roads, discharge points, or other human-made structures; and
• Records from relevant state or federal agencies indicating no known mining, forestry, or other human activities upstream of the reference site.

The background concentration of a pollutant in discharges from a non-human impacted reference site in the same watershed should be determined by evaluating ambient monitoring data or by using information from a peer-reviewed publication or a local, state, or federal government publication specific to runoff or stormwater in the immediate region. Studies that are in other geographic areas, or are based on clearly different topographies or soils, are not appropriate. When no data are available, and there are no known sources of the pollutant, the background concentration should be assumed to be zero.

In cases where historic monitoring data from a site are used for generating a natural background value, and the site is no longer accessible or able to meet reference site acceptability criteria, then there must be documentation (e.g., historic land use maps) that the site met reference site criteria (indicating absence of human activity) during the time data collection occurred.

The justification for this exception must be kept on-site with the facilities' SWPPP (see Part III.C), and made available to the Department for concurrence. The Department may review the facility's determinations that a benchmark exceedance is based solely on natural background concentrations, and disallow the exception if the Department finds the documentation inadequate. Facilities that have previously made a determination that benchmark exceedances are attributable solely to the presence of that pollutant in the natural background may be able to

rely on a previous analysis and rationale for waiving compliance with AIM requirements and discontinuing benchmark monitoring under the 20-SW. However, these facilities must conduct four quarters of benchmark monitoring in the first year of permit coverage under the 20-SW and the results must continue to show that the four-quarter average concentration of the benchmark monitoring results minus the concentration of that pollutant in the natural background is less than or equal to the benchmark threshold.. In such circumstances, there is no ongoing burden to comply with AIM requirements or to expend additional resources in justifying the rationale for meeting this exception, and benchmark monitoring can be discontinued for the permit term.

Details on AIM Exception due to Run-On

This operator is not required to perform AIM or additional benchmark monitoring for any parameters for which it can demonstrate and obtain the Department's agreement that run-on from a neighboring source (e.g., a source external to the facility) is the cause of the exceedance, provided that all the following conditions are met and the operator submits its analysis and documentation to the Department's Compliance Program for concurrence:

• After reviewing and revising your SWPPP, as appropriate, you should notify the other facility or entity contributing run-on to your discharges and request that they abate their pollutant contribution.
• If the other facility or entity fails to take action to address their discharges or sources of pollutants, you should contact the Department's Compliance Program.

Part IV.C Corrective Action and AIM Documentation

For any event described in Parts Parts IV.A.1, IV.B.1.a, IV.B.2.a, IV.B.3.a and/or IV.B.4.a, operators must document basic information describing the event that triggers corrective action and their response to that event. As described previously, the permit establishes conditions for both immediate and longer response periods. Operators must maintain a copy of this documentation with their SWPPP as well as summarize this information in the annual report. These documentation requirements are substantially similar to the 12-SW, with the exception of requiring annual reports in cases where benchmarks have been exceeded..

8. Inspections, Monitoring, and Reporting (Part V)
This section provides the inspection, monitoring and reporting requirement, meant to evaluate the performance of the various BMPs and controls as well as potential impacts to receiving waters.

8.1 Site Inspections and Evaluations (Part V.A)

This permit requires permittees to conduct three types of inspections: routine facility inspections, quarterly visual assessments, and comprehensive site inspections. Each is described in more detail below.

Routine Facility Inspections (Part V.A.1)

To clarify inspection requirements for permittees, the Department includes the routine facility inspections in this section along with the other types of site inspections required under this permit (i.e., quarterly visual assessments and comprehensive site inspections).

Permittees are required to conduct routine inspections, at least quarterly, of all areas of the facility where industrial materials or activities are exposed to stormwater, and of all stormwater control measures used to comply with the effluent limits required by the 12-SW. Qualified personnel must conduct the routine facility inspections with at least one member of the Pollution Prevention Team participating. Because some equipment, processes, and procedures may require more frequent inspections, the relevant inspection schedules must be documented in the SWPPP. For example, inspection of outdoor areas associated with regular industrial activity may require more frequent inspections to ensure that that the site is swept, garbage picked up, drips and spills cleaned, etc. on a regular basis. The permit elaborates on the specific information to be documented for each routine inspection. Most importantly, this documentation must include when the inspection took place, who conducted the inspection, and any indication that controls may not be adequate or are not functioning properly. The findings of these routine inspections must be maintained on-site with the SWPPP.

Some industry sectors have more specific routine inspection requirements, which are described in more detail in Appendix D of the permit for the relevant sectors.

At least once each calendar year, the routine facility inspection must be conducted during a period when a stormwater discharge is occurring. As permittees are already required to perform visual monitoring, and benchmark monitoring during storm events, the Department does not believe this imposes significant additional burden on permittees. However, the Department does see this as a potentially important tool for the permittee to be able to better identify sources of pollutants discharged in stormwater runoff from the facility and to actively observe the effectiveness of control measures.

• *Purpose:* Routine inspections help ensure that stormwater control measures are adequate and are operated and maintained properly.

Comparison to 12-SW: No changes to this section.

Comprehensive Site Inspections (Part V.A.2)

This permit requires that permittees conduct comprehensive site inspections at least once a year for the entire permit term, even if the permit were to be administrately extended.

Comprehensive site inspections may be conducted simultaneously with other site inspections (such as with the routine facility inspection described in permit section V.A.1), provided the scope is sufficient to address the minimum requirements of the comprehensive site inspection. Qualified personnel must conduct inspections, and the inspection team must include at least one member of the Pollution Prevention Team. Qualified personnel are those who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility, and who can also evaluate the effectiveness of controls selected. Permittees may hire outside contractors to perform these inspections; however, signature and certification of inspection reports must be by a duly authorized representative of the facility, as defined in Part I.C.2.

Note that the comprehensive site inspections are not the same as routine facility inspections. Routine facility inspections (Part V.A.1) are required more frequently and are meant to be less formal evaluations of the facility's exposed industrial activities so that permittees have a mechanism for ensuring that problems are not developing. Comprehensive site inspections, as the term implies, include a much more in-depth review of the site and all operations, as they relate to stormwater management and the requirements of this permit.

The comprehensive site inspection must cover all areas of the facility affected by the requirements in the permit including areas where industrial materials or activities are exposed to stormwater, stormwater control measures used to comply with the effluent limits, and areas where any leaks, spills, or other accidental discharge may have occurred in the last 3 years. EPA developed an Annual Report Form for the MSGP, which may be used by the permittee. However the Department relies on a flexible approach for the permittee to issue in the format that works best for them.

The permit identifies the specific activities that may occur at the facility that are to be inspected. Also, the comprehensive site inspection must include observation of stormwater control measures used to meet permit requirements to assess the adequacy of these control measures, including any measures in need of maintenance, repair, or replacement or where additional controls are needed.

The results of each comprehensive site inspection must be documented in a report signed and certified by an authorized company official in accordance with Part I.C.2 of the permit and kept with the SWPPP. In addition to documenting findings of the assessment and observations described above, the report must also include basic inspection information (e.g., inspectors, date, and NPDES permit number), must certify if the facility is in compliance with the permit, and must describe any corrective action initiated or completed during the reporting period or required as a result of the inspection.

Purpose: This provision requires a permittee to conduct an on-site inspection to ensure its facility is in compliance with all relevant requirements in the 20-SW. The comprehensive site inspection is intended to be more thorough and detailed than the routine inspections conducted at least quarterly. The Department does require that control measures be assessed during stormwater discharge for at least one of the routine inspections, but not necessarily during this comprehensive review.

Comparison to 12-SW: No changes to this section.

Annual Report from Comprehensive Site Compliance Evaluation (Part V.A.2)

The permit requires all permittees to prepare an annual report that contains the results of the required comprehensive site inspection and a discussion of corrective actions required and/or taken at any time since the previous comprehensive site inspection or, for the first comprehensive inspection required under this permit, since permit authorization. These annual reports must be submitted (i.e., printed) and placed with the SWPPP within 45 days after conducting the comprehensive site inspection. In addition to the information required in the corrective action report (Part IV.D) and comprehensive site inspection report (Part

V.A.2.b), the permittee is required to include the facility name, the NPDES permit tracking number, the facility physical address, and the contact person's name, title, and phone number. To simplify this reporting requirement, EPA had developed an annual report form, a copy of which is included in their MSGP as Appendix I. The Department is flexible in the format of the report, but Permittees certainly can use the EPA's form to conduct these inspections and report results of those inspections.

Purpose: The Department is requiring creation of an annual report to gather information from permitted facility to identify potential water quality concerns and to assess compliance with permit provisions. Prior to inclusion of this requirement, permittees (i.e., those with no benchmark) have little required documentation, other than an updated SWPPP. If the Department's inspector shows up on-site, there is now a basis to assess compliance with the permit.

Comparison to 12-SW: Annual reports are now submitted to the Department when sites are implementing Additional Implementation Measures (AIM).

Quarterly Visual Assessment of Stormwater Discharges (Part Part V.A.3)

This permit continues this requirement from the 12-SW, to conduct quarterly visual examinations of stormwater discharges. All industrial sectors covered by this permit are required to conduct these examinations. This permit requires that grab samples of stormwater discharges be taken and examined visually for the presence of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution. No analytical tests are required to be performed on these samples. The grab samples must be taken within the first 30 minutes or a soon as practicable after the occurrence of an actual discharge from your site (including documentation of why sampling was not practicable within the first 30 minutes). The trigger for visual monitoring is simply that the precipitation event causes an actual discharge to occur, and conditions specific to the monitoring of snowmelt. Specifically, in areas subject to snow, the 20-SW now requires that at least one of the quarterly samples be collected from snowmelt. For practical purposes, the permit does not require that these snowmelt samples be collected within the first 30 minutes of discharge as is the case for samples collected during rain events.

Permittees must document the results of their visual assessments in a report that includes the sample location, date and time, personnel collecting the sample and performing visual assessments, results of the observations, and probable sources of any observed stormwater contamination. The visual examination reports must be maintained onsite with the SWPPP. A reporting form with some guidance is provided in Appendix B.

When conducting a stormwater visual examination, the pollution prevention team, or individual team member, should attempt to relate the results of the examination to potential sources of stormwater contamination on the site. For example, should an oil sheen be observed, facility personnel (preferably members of the pollution prevention team) should conduct an inspection of the area of the site draining to the examined discharge to look for obvious sources of spilled oil, leaks, etc. If a source can be located, then this information

would allow the facility operator to immediately conduct a clean-up of the pollutant source, and/or to revise control measures to minimize the contaminant source.

The permit includes exceptions to these requirements in order to account for circumstances during which conducting quarterly visual assessments may not be infeasible, namely during adverse (e.g., dangerous) weather conditions. Where these types of conditions prevent a facility from performing these assessments quarterly, permittees have the ability to modify their assessment schedule such that the four assessments are conducted over the course of the year during periods when discharges, be it from rain or snow, actually occur and can be safely observed.

Operators with two or more essentially identical outfalls may also elect to conduct a visual assessment at just one of these outfalls each quarter, but must perform their quarterly assessments on a rotating basis to ensure that each substantially identical outfall is periodically observed throughout the period of permit coverage. If stormwater contamination is identified through visual monitoring performed at a substantially identical outfall, the operator must assess and modify his/her control measures as appropriate for each outfall represented by the monitored outfall. This approach ensures that operators will assess discharges from the entire site over the term of the permit, and will address any identified problems at all substantially identical outfalls where the problem may be occurring.

• *Purpose:* These assessments provide a useful and inexpensive means for permittees to evaluate the effectiveness of their control measures. Although the visual examination cannot assess the chemical properties of the stormwater discharged from the site, the examination will provide meaningful results upon which the permittee may act quickly.

Comparison to 12-SW: No changes to this section.

Industry Specific Benchmarks and Impaired Waters Monitoring Requirements (Part V.B)

This Part requires that operators collect, analyze, and document stormwater benchmark or impaired waters samples from outfalls consistent with the procedures described in Part V.C. The 20-SW contains two types of monitoring requirements (in addition to the quarterly visual inspections in Part V.A):
• Benchmark monitoring (Part V.B.1); and
• Impaired waters monitoring (Part V.B.3).

The frequency of monitoring depends on which of these two types of monitoring applies to each permitted facility. If any of these monitoring requirements overlap, operators may use a single sample to comply with those overlapping requirements. The Department clarifies however that benchmark thresholds are not effluent limitations.

Note: EPA is considering a tiered approach to monitoring in the proposed 2020 MSGP as suggested by the NRC study. The proposed approach would include:

- A possible "inspection-only" option in lieu of benchmark monitoring available to low-risk facilities;
- A new category of benchmark monitoring parameters called universal benchmark monitoring (pH, TSS, and COD) that applies to all sectors; and
- Existing sector-specific benchmark monitoring parameters in the 2015 MSGP and any additionally proposed sector-specific benchmark monitoring parameters that are finalized.

The Department may implement the "inspection-only" or universal benchmark in a future renewal, but the process needs to be established and the process needs to be validated prior to the State following suit. The proposed changes to established sectors is discussed in this fact sheet, as the Department is including most benchmarks consistent with the EPA, including fresh and salt water criteria's.

Benchmark Monitoring Background

This permit requires benchmark monitoring as an indicator of the performance of facilities' stormwater control measures. Since first issuance of EPA's MSGP in 1995, benchmark monitoring has been employed as a means by which to measure the concentration of a pollutant in a facility's industrial stormwater discharges. See 60 FR 50804. It was only in 2014, with the advent of the 12-SW that Maryland followed EPA's example. Analytical results from benchmark monitoring are quantitative and therefore can be used to compare results from discharge to discharge and to quantify any improvement in stormwater quality attributable to the stormwater control measures, or to identify a pollutant that is not being adequately controlled. The benchmark thresholds are the pollutant concentrations above which represent a level of concern. The level of concern is a concentration at which a stormwater discharge could potentially impair or contribute to impairing water quality or affect human health from ingestion of water or fish. The benchmarks are also set at a level, that if below, a facility's discharges pose less potential for a water quality concern. As such, the benchmarks provide an appropriate level to determine whether a facility's stormwater control measures are successfully implemented. See 60 FR 50804 for a discussion on the origin of the MSGP's benchmarks.

The 2019 NRC Study on industrial stormwater noted that some stakeholders have described benchmark monitoring as overly burdensome to industries and producing data that go unutilized. On the other hand, other stakeholders have expressed concern that if stormwater problems are observed through benchmark monitoring, the mechanisms to ensure issues are effectively addressed are lacking. EPA notes that they are aware that some stakeholders have also suggested that EPA completely discontinue benchmark monitoring and that operators, and EPA, should rely on annual reporting and quarterly visual assessments as the main mechanisms to assess stormwater control effectiveness at industrial facilities. Benchmark monitoring, annual reports, and visual assessments are all complementary, but ultimately serve different purposes for the operator, and for the regulator.

Annual reporting only occurs once per year during the permit term, and thus limits the number of opportunities and delays the time the operator must assess and react to potential problems at their facility. Additionally, while annual reports contain valuable information on

facility inspections, visual assessments, corrective actions, and Additional Implementation Measures, the data is subjective, anecdotal, and qualitative. In Maryland, the annual reports have only been maintained onsite, which further points to the need for reporting of Benchmarks from those industries considered higher risk Visual assessments are also an important component of a facility's stormwater program, which requires the operator to observe water quality characteristics, such as color, clarity, solids, and oil sheen and can indicate issues from pollutants that are not required to be monitored for. Although quarterly visual assessments and quarterly benchmark monitoring occur at the same frequency, visual assessments again result in narrative descriptions of stormwater pollution and may not provide the precision necessary for the operator to address a specific pollutant problem.

Compiling and evaluating information from either annual reports or visual assessments in a systemic, meaningful way is more challenging than quantitative benchmark data. Annual reports tell an overall story of what happened with stormwater discharges at the facility for a given year, and visual assessments give a general, observed indication of discharge quality for a given quarter, appropriate for lower risk facilities. Benchmark monitoring data, however, provides numerical indicators of stormwater control effectiveness, what pollutants are being discharged, and at what magnitude, which can be addressed in near real-time and compared over time.

Both EPA and the Department has always tried to balance the burden to the regulated community with its obligation under the CWA to ensure industrial stormwater discharges meet all provisions of CWA §301, including applicable water quality standards (CWA §402(p)(3)(A)). To date, EPA has not received adequate information or data suggesting a viable alternative approach to benchmark monitoring for characterizing industrial sites' stormwater discharges, quantifying pollutant concentrations, and assessing stormwater control measure effectiveness, however they are requesting input on this with the issuance of the latest MSGP.

Benchmark monitoring requirements described in Part V.B require operators to collect stormwater samples for laboratory chemical analyses. For clarity, the Department continues to emphasize that the benchmark thresholds in the 20-SW are not, and have never been, effluent limits themselves. Therefore, an exceedance of the benchmark threshold is not a violation of the permit. At the same time, the permit contains a narrative effluent limitation to protect water quality.

Part V.B.1 Applicability of Benchmark Monitoring

The 2015 MSGP required benchmark monitoring for around 55 percent of MSGP facilities; the other 45 percent of facilities did not have any chemical-specific benchmark monitoring. More specifically, in the 2015 MSGP, 19 subsectors were not subject to any benchmark monitoring requirements (B2, C5, D2, E3, F5, I1, J3, N2, P1, R1, T1, U3, V1, W1, X1, Y2, Z1, AB1, and AC1) while the remaining 34 subsectors did have required benchmark monitoring. Maryland had implemented a portion of those in the 12-SW, however expands to be nearly compatible with the 2015 MSGP, as well as adopting changes from EPA's proposed renewal. The benchmarks are included in Appendix D, and are specific to each industrial sector. In addition the benchmarks are hardness dependent. The hardness dependency information is found in Appendix C.

Comparison to 12-SW: The following Sectors have benchmarks added in the 20-SW, consistent with the 2015 MSGP.

- Subsector A1 Benchmarks (General Sawmills and Planing Mills for SIC 2421)
- Subsector A2 Benchmarks (Wood Preserving for SIC 2491)
- Subsector A3 Benchmarks (Log Storage and Handling for SIC 2411)
- Subsector A4 Benchmarks (Special Products Sawmills, not elsewhere classified and Wood Products Facilities not elsewhere classified for SIC 2426 and 2499)
- Subsector D1 Benchmarks (Asphalt Paving and Roofing Materials SIC 2951, 2952)
- Subsector E1 Benchmarks (Clay Product Manufacturers SIC 3251-3259, 3261-3269)
- Subsector E2 Benchmarks (Concrete and Gypsum Product Manufacturers SIC 3271-3275)
- Subsector F1 Benchmarks (Steel Works, Blast Furnaces, and Rolling and Finishing Mills for SIC 3312-3317)
- Subsector F2 Benchmarks (Iron and Steel Foundries for SIC 3321-3325)
- Subsector F3 Benchmarks (Rolling, Drawing, and Extruding of Nonferrous Metals for SIC 3351-3357)
- Subsector F4 Benchmarks (Nonferrous Foundries (SIC 3363-3369)
- Subsector K1 Benchmarks (ALL - Industrial Activity Code "HZ". Benchmarks only applicable to discharges not subject to effluent limitations in 40 CFR Part 445 Subpart A)
- Subsector Q1 Benchmarks (Water Transportation Facilities SIC 4412-4499)
- Subsector S1 Benchmarks (Airports using more than 100,000 gallons of deicing glycols based fluids or 100 tons of urea, on an annual basis for SIC 4512 - 4581)

The other changes made to the benchmarks and applicable controls were Adding Sector AD Maryland Specific Monitoring, Benchmarks and Controls associated with

- Subsector AD.a1 Benchmarks required for stormwater that has come into contact with street sweeping or stormdrain inlet cleaning debris for Nitrate plus Nitrite Nitrogen, Phosphorus and TSS.
- Sector AD.d includes specific controls for the larger salt piles (salt terminals) within Maryland. This was developed in 2017 with the salt industry and now being added officially. Also includes specific Reporting Flow, Chloride, Free Amenable Cyanide, and Iron.
- Moved landfill subsector L3 to Sector AD. These are closed landfills that only apply when required.

Proposed Monitoring Requirements for Sectors I, P, and R

The NRC study recommended that EPA require benchmark monitoring for Sectors I, P, and R. None of these sectors currently have benchmark monitoring in the 2015 MSGP. EPA proposes to require specific benchmark monitoring for these three sectors. The proposed benchmark values are based on existing benchmark thresholds for the proposed parameters.

Facilities in Sector I (Oil and Gas Extraction) use many types of chemicals that could become sources of pollutants in stormwater discharges. These include diesel fuel, oil, solvents, drilling fluid, acids, and various chemical additives. The NRC study listed ammonia, lead, nickel, nitrate, zinc, and polycyclic aromatic hydrocarbons (PAHs) as pollutants associated with oil and gas extraction facilities. The Department proposes to follow suit with the MSGP, to include in Sector I benchmark monitoring for ammonia, nickel, total recoverable lead, nitrate-nitrogen, total recoverable zinc, and hardness.

Facilities in Sector P (Land Transportation and Warehousing) typically have areas for vehicle and equipment storage, cleaning, and maintenance, fueling, material storage, and locomotive sanding areas. They can use on-site chemicals like solvents, diesel fuel, gasoline, hydraulic fluids, antifreeze, and transmission fluids. Leaks and spills from petroleum-based products and chemicals can also contain PAHs. Given that background the Department is confused over the selection of benchmark monitoring for lead, mercury, and hardness. This sector may be updated with benchmarks in future renewals, as data and experience are gained through the MSGP.

Facilities in Sector R (Ship and Boat Building and Repair Yards) perform activities like fluid changes, mechanical repairs, engine maintenance and repair, parts cleaning, refinishing, paint removal, painting, fueling, metal working, welding, cutting, and grinding. These sorts of activities can include using solvents, oils, fuel, antifreeze, acid and alkaline wastes, abrasives, and paints and can create dust. EPA proposes that facilities in Sector R have benchmark monitoring for total recoverable chromium, total recoverable copper, total recoverable lead, total recoverable nickel, total recoverable zinc, and hardness. However Sector Q (Water Transportation Facilities SIC 4412-4499), very similar to this sector, had pre-established benchmarks. The selection of chromium, copper and nickel caused enough questions, that the Department chose to borrow the Sector Q benchmarks of aluminum, lead and zinc. This sector may be updated in future renewals, as data and experience are gained through the MSGP.

Comparison to 12-SW: The following Sectors have benchmarks added in the 20-SW.

- Subsector I1 Benchmarks (Crude Petroleum and Natural Gas; Natural Gas Liquids; Oil and Gas Field Services (SIC 1311, 1321, 1381-1389)
- Subsector R1 Benchmarks (Ship and Boat Building or Repairing Yards for SIC 3731, 3732), however used Q1 benchmarks vs EPA's modified ones.

Benchmark Monitoring Schedule (Part V.B.2)

For all sector-specific benchmark monitoring parameters, the Department proposes that the monitoring schedule remains unchanged from the 12-SW. For all sector-specific benchmark monitoring parameters, operators would be required to conduct quarterly benchmark monitoring, as identified in Part V.B.2, starting the first full monitoring period (found in Part V.C.7) that occurs, six (6) months after registering under this permit. The requirement to continue monitoring for exceedances has been moved to the Corrective Action (Part IV).

Derivation of the Benchmark Levels

The Department evaluated changes made by the EPA in their 2020 MSGP, whic retains some of the same benchmark monitoring thresholds from the 2015 MSGP, but proposes to modify and add some benchmark thresholds based on the NRC study recommendations. The process that EPA followed in selecting the benchmark parameter thresholds for the permit was as follows: Step 1: Use EPA's final CWA section 304(a) recommended acute criterion value; Step 2: If no EPA acute criterion exists, use the chronic EPA criterion; Step 3: If neither acute nor chronic criteria exist, use data from discharge studies or technology-based standards to establish a benchmark. In general, the freshwater acute criteria are less restrictive than chronic water quality criteria. Because of the intermittent nature of wet weather (i.e., stormwater) discharges and the high and variable ambient flows that generally result from precipitation events, EPA views acute criteria as generally more appropriate than chronic criteria in this context. The Department has followed this approach when the 12-SW was issued. Since benchmarks are usually set equal to recommended ambient water quality criteria for the receiving waters, with no allowance for dilution during storm events, they are conservative values. Exceedance of a benchmark threshold does not necessarily indicate that a discharge is not meeting an applicable water quality standard, but does require the facility to evaluate the effectiveness of its control measures, with follow-up Additional implementation Measures (AIM) response where required per Part IV. For a full discussion of EPA's approach for the derivation of the benchmarks, see the Fact Sheet for the 1995 MSGP (60 Fed. Reg. 50825, September 29, 1995),2000 MSGP (65 Fed. Reg. 64746), and the 2008 MSGP (73 Fed. Reg. 56572).

The Department identifies waters considered salt or saline in COMAR 26.08.02.03-1. These benchmarks represent the available acute ambient water quality criteria for priority toxic and non-priority pollutants in saltwater.

The NRC study recommended that EPA update information related to aluminum, selenium, arsenic, cadmium, magnesium, iron, copper, and PAHs. EPA proposes some permit changes related to these recommendations.

Aluminum

Just like the 2015 MSGP, the Department proposes that facilities in subsectors C2, E1, F1, F2, M1, N1, Q1, and AA1 perform benchmark monitoring for aluminum. The NRC study recommended that EPA update the aluminum benchmark value in the 2020 MSGP but the information that NRC relied upon is based on criteria still in draft form and not yet issued. This draft 2017 aquatic life criteria for aluminum uses a multiple linear regression method that considers total hardness, pH, and dissolved organic carbon (DOC). The 2015 MSGP and 12-SW freshwater aluminum benchmark is 0.75 mg/L (same as 750 ug/L); the 2017

draft update recommends increasing the acute criteria to 1,400 µg/L based on a pH value of 7, hardness value of 100 mg/L, and DOC value of 1 mg/L. Given the criteria is still in draft form, EPA proposes to use the same benchmark value for aluminum as listed in the 2015 MSGP, but may update it if the criteria is issued before EPA finalizes the 2020 MSGP. If EPA does make this change, the Department would follow that lead and evaluate making the changes.

Selenium

As in the 2015 MSGP, facilities in subsector K1 is required to monitor for selenium in the 2020 MSGP, and now in the 20-SW. The NRC study also recommended that EPA allow facilities that repeatedly exceed the benchmark values for selenium to use the EPA-developed aquatic life criteria to evaluate water quality risk on a site-specific basis and discontinue comparisons to national benchmarks. In 2016, EPA updated ambient aquatic life criteria recommendations for selenium that included new chronic freshwater criteria of 1.5 ug/L for still waters and 3.1 µg/L for flowing waters (EPA, 2016a). EPA did not develop concentration based acute criteria. EPA based these updated selenium criteria on the bioaccumulation of selenium and reproductive effects on fish species and translated the chronic criteria for short term or intermittent exposure instead of developing a specific acute criterion.

Allowing permittees who have repeatedly exceeded benchmarks to perform facility specific analyses could provide additional information on any potential adverse effects that could occur based on specific facility conditions. However, 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. At this time, given the extra data collection associated with implementing the new criteria, EPA is not proposing to use the latest aquatic life criteria. The Department is following this lead.

Arsenic

EPA proposes that subsectors A2 and K1 perform benchmark monitoring for arsenic. The benchmark value in the 2015 MSGP is 0.15 mg/L (=150 µg/L) for freshwater and 0.069 mg/L (=69 µg/L) for saltwater. These values were selected based on concerns about near coastal freshwater discharges flowing quickly into sensitive saline waters, which have a saltwater acute aquatic criteria value of 0.069 mg/L. The NRC recommended that EPA base the value on the acute aquatic life criterion of 340 ug/L unless EPA can justify why arsenic in stormwater from freshwater in near-coastal setting is of concern or until it develops a criterion based on intermittent exposure. EPA proposes to continue using the chronic freshwater criteria for setting the arsenic benchmark given that it prefers not to weaken a discharge requirement unless good scientific evidence exists that a pollutant is less toxic than previously believed. This is not the case with arsenic. Furthermore, arsenic toxicity increases substantially in saline waters. Since many permitted facilities are located in coastal states, and their discharge may reach saline waters quickly, EPA proposes to use the chronic criteria for arsenic to protect these estuarine environments. The Department will follow this lead.

Cadmium

The 2015 MSGP required subsector K1 to perform benchmark monitoring for cadmium. EPA based the 2015 MSGP benchmark threshold on the 2001 acute aquatic life criterion that was hardness-dependent for freshwater and 0.04 mg/L for saltwater. Since then, EPA updated this criterion in 2016 to 1.8 ug/L to represent the best science available by accounting for new laboratory tests, including the effects of total hardness on cadmium toxicity and included 75 new species and 40 new genera in the testing process. EPA proposes to update this benchmark value to match the new criterion. This isn't a significant change for Maryland, as the 20-SW is the first time we are adopting Benchmarks for this subsector. The Department is adopting the benchmarks at the new concentration.

Magnesium

The 2015 MSGP required subsector K1 to monitor for magnesium and included a benchmark value of 0.064 mg/L. The NRC study recommended that EPA remove the magnesium benchmark from the 2020 MSGP since it is a "natural component of surface and groundwater and does not appear to be toxic to a majority of aquatic organisms at concentrations likely to be encountered in most waters" (NAS, 41). Significant evidence does not exist to indicate adverse impacts of aquatic organism and EPA does not provide an aquatic life criterion for magnesium. Magnesium concentrations present in stormwater are not anticipated to be toxic to most aquatic organisms6. EPA could not find any information to support continuing to require this benchmark parameter and therefore proposes to remove magnesium as a benchmark parameter in the 2020 MSGP. Similar to cadmium, this isn't a significant change for Maryland, as the 20-SW is the first time we are adopting Benchmarks for this subsector. The Department will not be including magnesium.

Iron

In the 2015 MSGP, EPA required subsectors C1, C2, E2, F2, L2, M1, N1, O1, Q1, and AA1 to monitor for iron. The NRC study found few studies on the acute effects of iron on aquatic organisms and recommended that EPA no longer require an iron benchmark. EPA proposes to remove this benchmark. The Department prefers to use the BPJ concentration of 3 mg/L for iron to establish a benchmark. This is a concentration that is considered a treatable standard for daily maximum. Iron is an indication of groundwater seeps in landfills. Iron does produce deposits of iron oxide, which stains concrete or stream beds. This coloration is considered pollution. These subsectors have either removed iron if there is no source or increased from 1 mg/L to 3 mg/L.

Copper

The 2015 MSGP and 12-SW required subsectors A2, F2, F3, F4, and N1 to monitor for copper. The NRC recognized EPA's previous decision to not update the copper benchmark value because the 2007 aquatic ambient water quality criterion was based on the Biotic Ligand Model (BLM) and would place extra sampling burden on facilities because the facility would need to do additional sampling to acquire the site-specific water quality data needed by the BLM, such as hardness, pH, and dissolved organic carbon. The NRC study recommended that EPA allow facilities that repeatedly exceed the benchmark threshold to use the latest aquatic life criteria to evaluate water quality risk on a site-specific basis and discontinue comparisons to national benchmarks.

EPA has requested comments on whether the benchmark should change in the 2020 MSGP to 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. Site specific analysis would discontinue comparison to national benchmarks and use the latest recommended criteria equations for calculating toxicity criteria based on short-term exposure using additional water chemistry and/or flow data. The Department is willing to accept this, however there is risk in the potential workload associated with processing these requests.

Polycyclic Aromatic Hydrocarbons (PAHs)

Several PAHs have been shown to be extremely toxic to and bioaccumulate in fish and aquatic invertebrates, and are known or probable human carcinogens. See Part 1.1.8 of the EPA MSGP Fact Sheet for a detailed discussion of PAH toxicity. Although EPA does not have national recommended aquatic life criteria for individual or total PAHs, some states have developed criteria for certain individual PAHs (for example, Illinois, Kansas, Colorado, and Arizona). In addition, EPA does not have any PAH benchmark monitoring requirements for any sector under the MSGP. The NRC study recommended that EPA collect data or require monitoring related to PAHs in the MSGP to determine an adequate surrogate or if additional PAH monitoring is warranted (NRC, 33).

Some facilities covered under the MSGP use, handle, or generate chemicals and products in the course of their industrial activity that could release PAHs into the environment that will be exposed to stormwater. For example, facilities may pave loading dock areas and other surfaces used for industrial activities with coal-tar sealcoat that contains PAHs. Some facilities that process or use timber products may use creosote that contains PAHs to preserve or protect wood. Many facilities may use or handle petroleum or have vehicles or equipment that could spill or leak oils and grease that contain PAHs.

EPA conducted an industry analysis that looked at sectors/subsectors included in the 2015 MSGP that may have petroleum hydrocarbons at their facilities that could be exposed to stormwater. The analysis looked at industrial process wastewater discharges as a proxy to identify industries that may use, handle, or generate PAHs. EPA identified the following subsectors and related activities that have total PAH loadings of greater than 1 kg/year:

1. Applicable SIC codes with reported total PAH loadings used in calculating the total annual pollutant load.
2. Petroleum refining (SIC code 2911); and industrial organic chemicals, not elsewhere classified (SIC code 2869) accounts for most of the loading identified in this sector (130,571 kg/year and 496 kg/year, respectively).
3. Marinas (SIC code 4491) account for most of the loading identified in this sector (6,379 kg/year).
4. Plastics materials, synthetic resins, and nonvulcanizable elastomers (SIC code 2821) accounts for most of the loading identified in this sector (3,265 kg/year).
5. Steel works, blast furnaces (including coke ovens), and rolling mills (SIC code 3312); and electrometallurgical products, except steel (SIC code 3313) account for most of the loading identified in this sector (589 kg/year and 39 kg/year, respectively).

6. Industrial inorganic chemicals, not elsewhere classified (SIC code 2819); and alkalies and chlorine (SIC code 2812) account for most of the loading identified in this sector (440 kg/year and 51 kg/year, respectively).
7. Petroleum bulk stations and terminals (SIC code 5171); railroads, line-haul operating (SIC code 4011); and special warehousing and storage, not elsewhere classified (SIC code 4226) account for most of the loading identified in this sector (146 kg/year, 85 kg/year, and 22 kg/year, respectively).
8. Oil and gas field services, not elsewhere classified (SIC code 1389); and crude petroleum and natural gas (SIC code 1311) account for most of the loading identified in this sector (9 kg/year and 2 kg/year, respectively).
9. Primary production of aluminum (SIC code 3334) accounts for most of the loading identified in this sector (3 kg/year).
10. Aircraft engines and engine parts (SIC code 3724) account for most of the loading identified in this sector (0.9 kg/year).

Implementing standard pollution prevention/source control methods and stormwater control measures as required by other parts of the permit could reduce PAHs in stormwater, but facilities may not design those controls to specifically address PAHs and without some type of PAH-related monitoring, it may be difficult to determine the effectiveness of those measures on minimizing PAHs in stormwater.

Therefore, EPA could consider requiring monitoring for PAHs or surrogates if information and/or preliminary monitoring shared with EPA indicates it is warranted. However, EPA does not have recommended aquatic life criteria for either individual or total PAHs at this time. The 1995 and 2000 MSGPs included a benchmark for pyrene of 0.01 mg/L based on the laboratory derived minimum level (ML). The NRC study stated that COD could be a possible surrogate, but that more data could help to correlate PAH concentrations to COD. However, NRC noted that COD may not be specific or sensitive enough to detect moderate/low concentrations of PAHs. EPA proposes that all facilities conduct universal benchmark monitoring for pH, TSS, and COD. These parameters can be used as indicators of stormwater pollution and stormwater control effectiveness. See discussion above in this Part. At this point, the Department prefers to see what EPA finds during their implementation. Since there is no study that ties PAH to COD, the connection is not certain. COD could be a result of iron, or nutrients, or any number of oxygen scavangers used at industrial sites. What may distinguish Maryland from the other states, is how aggressive the state has been in limiting coal tar sealants, one of the prevalent sources of PAH.

The following table presents the permit's freshwater and saltwater benchmark values, and the source of those values. In most cases, benchmarks have not been revised since they were first published in the 1995 MSGP. However, EPA updated the benchmark thresholds to match the units that appear in the source documents as indicated. In these cases, the benchmark thresholds are not identified as being different than the final 2015 MSGP.

Pollutant	EPA MSGP Source (see footnotes)		Benchmark			
	201	202	2015 MSGP	12-SW	2020	20-SW

	5	0			MSGP	
Aluminum [a] (T)	1	1	0.75 mg/L	0.75 mg/L	750 µg/L [b]	0.75 mg/L
Iron (T)	3	16	1.0 mg/L	1.0 mg/L	Removed	3.0 mg/L
Biochemical Oxygen Demand (5-day)	4	4	30 mg/L	30 mg/L	30 mg/L	30 mg/L
Chemical Oxygen Demand	5	5	120 mg/L	120 mg/L	120 mg/L	120 mg/L
Total Phosphorus	6	6	2.0 mg/L	2.0 mg/L	2.0 mg/L	2.0 mg/L
Total Suspended Solids (TSS)	7	7	100 mg/L	100 mg/L	100 mg/L	100 mg/L
Nitrate and Nitrite Nitrogen	7	7	0.68 mg/L	0.68 mg/L	0.68 mg/L	0.68 mg/L
Ammonia	13	1	2.14 mg/L	Not Included	2.14 mg/L	2.14 mg/L
Cadmium (T)						
Freshwater[c]	1	15 [d]	0.0021 mg/L	Not Included	1.8 µg/L [b]	1.8 µg/L
Saltwater	14	15 [d]	0.04 mg/L	Not Included	33 µg/L [b]	33 µg/L
Copper (T)						
Freshwater[c]	1	1	0.014 mg/L	0.014 mg/L	14 µg/L [b]	14 µg/L
Saltwater	14	14	0.0048 mg/L	Not Included	48 µg/L [b]	4.8 µg/L
Cyanide (T)						
Freshwater	1	1	0.022 mg/L	Not Included	22 µg/L [b]	22 µg/L
Saltwater	14	14	0.001 mg/L	Not Included	1 µg/L [b]	1 µg/L
Mercury (T)						
Freshwater	1	1	0.0014 mg/L	Not Included	1.4 µg/L [b]	1.4 µg/L
Saltwater	14	14	0.0018 mg/L	Not Included	1.8 µg/L [b]	1.8 µg/L
Nickel (T)						
Freshwater[c]	1	1	0.47 mg/L	Not Included	47 µg/L [b]	520 µg/L
Saltwater	14	14	0.074 mg/L	Not Included	74 µg/L [b]	74 µg/L
Selenium[e] (T)						
Freshwater	3	3	0.005 mg/L	Not Included	5 µg/L [b]	5 µg/L
Saltwater	14	14	0.29 mg/L	Not Included	290 µg/L [b]	290 µg/L
Silver (T)						
Freshwater[c]	1	1	0.0038 mg/L	Not Included	3.8 µg/L [b]	4.6 µg/L
Saltwater	14	14	0.0019 mg/L	Not Included	1.9 µg/L [b]	1.9 µg/L
Zinc (T)						
Freshwater[c]	1	1	0.12 mg/L	0.12 mg/L	120 µg/L [b]	0.12 mg/L
Saltwater	14	14	0.09 mg/L	Not Included	90 µg/L [b]	0.09 mg/L
Arsenic (T)						
Freshwater	3	3	0.15 mg/L	Not Included	150 µg/L [b]	150 µg/L
Saltwater	14	14	0.069 mg/L	Not Included	69 µg/L [b]	69 µg/L
Lead (T)						

Freshwater[c]	3	3	0.082 mg/L	0.082 mg/L	8.2 µg/L [b]	0.082 mg/L
Saltwater	14	14	0.21 mg/L	Not Included	210 µg/L [b]	0.21 mg/L

Footnotes:

(T) Total recoverable

[a] New criteria for these parameters are currently under development. If criteria are finalized prior to the finalization of the 2020 MSGP EPA may revise these values based on the new criteria,
[b] Values have been updated to match original units found in source documents.
[c] These pollutants are dependent on water hardness where discharged into freshwaters. The freshwater benchmark value listed is based on a hardness of 100 mg/L. When a facility analyzes receiving water samples for hardness, the permittee must use the hardness ranges provided in Table 1 in Appendix J of the 2015 MSGP and in the appropriate tables in Part 8 of the 2015 MSGP to determine applicable benchmark values for that facility. Benchmark values for discharges of these pollutants into saline waters are not dependent on receiving water hardness and do not need to be adjusted.
[d] The values for these pollutants are based on water quality criteria, but EPA updated to reflect 2016 "National Recommended Water Quality Criteria."
[e] New criteria developed in 2016, but values are currently based on previous criteria.

Sources:

1. "National Recommended Water Quality Criteria." Acute Aquatic Life Freshwater (EPA-822-F-04-010 2006-CMC)
3. "National Recommended Water Quality Criteria." Chronic Aquatic Life Freshwater (EPA-822-F-04- 010 2006-CCC)
4. Secondary Treatment Regulations (40 CFR 133)
5. Factor of 4 times BOD5 (5-day biochemical oxygen demand) concentration - North Carolina Benchmark
6. North Carolina stormwater Benchmark derived from NC Water Quality Standards
7. National Urban Runoff Program (NURP) median concentration
13. "Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses." USEPA Office of Water (PB85-227049 January1985)
14. "National Recommended Water Quality Criteria." Acute Aquatic Life Saltwater (CMC) available at: [HYPERLINK "http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm" \l "altable" \h]
15. "Aquatic Life Ambient Water Quality Criteria: Cadmium, 2016" (EPA 820-R-16-002)
16. Improving the EPA Multi-Sector General Permit for Industrial Stormwater Discharges, 2019. Available at: [HYPERLINK "https://www.nap.edu/catalog/25355/improving-the-epa-multi-sector-generalpermit-for-industrial-stormwater-discharges" \h]

The other result of the comparison between EPA's MSGP draft benchmarks and the 12-SW benchmarks was the lack of saltwater criteria. The differences in the criteria are substantial and based on where the facility is, the ability to consider the receiving water may be

important consideration. The following benchmarks where modified to be consistent with MSGP:

- Subsector C1 Benchmarks (Agricultural Chemicals for SIC 2873-2879) - Removed Iron, Added Saltwater criteria
- Subsector L2 Benchmarks - Landfills and Land Application Sites, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60, Changed iron to 3 mg/L
- Sector M Benchmarks (Automobile Salvage Yards) Added Saltwater criteria, Changed Iron to 3 mg/L
- Subsector N1 Benchmarks (Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling), Changed Iron to 3mg/L, Added saltwater criteria for Lead, Copper and Zinc
- Subsector Y1 Benchmarks (Tires and Inner Tubes, Rubber and Plastics Footwear, Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting, Fabricated Rubber Products, Not Elsewhere Classified for SIC 3011, 3021, 3052, 3053, 3061, 3069) Added saltwater criteria.
- Sector AA Benchmarks (Fabricated Metal Products, Fabricated Metal Coating and Engraving, and Allied Services, Jewelry, Silverware, and Plated Ware) Added saltwater criteria.

Part V.B.3 Impaired Waters Monitoring

This Part contains provisions for monitoring discharges to water quality impaired receiving waters. The following is a step-by-step discussion on how an operator should determine appropriate monitoring requirements.

Operators must indicate in their NOI whether they discharge to an impaired water, and, if so, the pollutants causing the impairment, or any pollutants for which there is a TMDL. To assist operators in determining their receiving waters' information, the Department does provide mapping resources including receiving waters' information and their impairment status based on the address of stormwater discharge points the operator provides on the NOI form. This information is also readily accessible at [HYPERLINK "https://mdewin64.mde.state.md.us/WSA/IR-TMDL/index.html" \h].

If the discharge is to an impaired water, the monitoring requirements under Part V.B.3.a are triggered; otherwise, a facility has no obligations under Part V.B.3. The Department specifies that facilities will be considered to discharge to an impaired water if the first Water of this State to which they discharge is identified by the state or EPA pursuant to Section 303(d) of the CWA as not meeting an applicable water quality standard, or has been removed from the 303(d) list because the impairments are addressed in an EPA-approved or established TMDL, or is covered by pollution control requirements that meet the requirements of 40 CFR 130.7(b)(1). For discharges that enter a separate storm sewer

system prior to discharge, the first Water of this State discharged to is the waterbody that receives the stormwater discharge from the storm sewer system.

When developing TMDLs, the Department and EPA evaluate contributions from upstream segments and contributing waterbodies. As such, in some instances, upstream sources may be identified as a contributor to an impairment. Where the Department has reason to believe that permitted facilities have the potential to not meet applicable water quality standards, notwithstanding any indication in a facility's NOIs that it does not discharge to an impaired water, the Department may require the operator to perform additional monitoring and/or adopt additional control measures to address the potential contribution to the impairment, i.e., to ensure that the discharge is controlled as necessary to meet water quality standards. In these instances, the Department will notify the operator, in writing, of any additional obligations, including monitoring requirements, to meet such water quality-based effluent limit.

The permit requires facilities to monitor for all pollutants for which the receiving waterbody is impaired, with a few noteworthy exceptions as discussed below. For waters impaired by pollutants without an approved TMDL, monitoring is required where a standard analytical test method in 40 CFR Part 136 exists for the pollutant or surrogate parameter. If the pollutant for which the waterbody is impaired is suspended solids, turbidity or sediment/sedimentation, the parameter to be monitored is total suspended solids (TSS). If the pollutant of concern is an indicator or surrogate pollutant, then the pollutant indicator (e.g., dissolved oxygen) must be monitored. No monitoring is required when a waterbody's biological communities are impaired but no pollutant is specified as causing the impairment, or when a waterbody's impairment is related to hydrologic modification, impaired hydrology, or other non-pollutant (e.g., exotic species, habitat alterations, objectionable deposits). If a TMDL has been approved or established that applies to the discharge, the Department will notify the facility of any monitoring requirements based on any assumptions and requirements of the TMDL and any wasteload allocation for the discharge.

Part V.B.3.a Facilities Required to Monitor Discharges to Impaired Waters

The appropriate impaired waters monitoring frequency is determined based on whether there is an approved or established TMDL for the pollutant in the impaired water.

Discharges to impaired waters without an EPA-approved or established TMDL

For those facilities discharging to impaired waters without an approved or established TMDL, annual monitoring is required for each discharge point discharging to an impaired water. For the 20-SW, the Department proposes that operators compare the list of industrial pollutants identified in Part III.C.3 and any sector-specific benchmark monitoring pollutants to the list of pollutants for which the waterbody is impaired and for which a standard analytical method exists (see 40 CFR Part 136). The Department proposes that operators must monitor for pollutants that appear on both lists, including "indicator" or "surrogate" pollutants that clearly overlap those lists. This proposal potentially narrows the list of pollutants that operators must monitor for and ensures those pollutant parameters are associated with the industrial activity.

The Department proposes that following three consecutive years of monitoring, impaired waters monitoring is no longer required if the pollutant of concern is not detected and is not expected to be present in the discharge, or is detected but the operator determined that the pollutant's presence is caused solely by the natural background levels. The basis for discontinuing impaired waters monitoring under this Part must be documented and retained with the SWPPP.

Operators are advised to follow the same guidance provided in Part IV.B of this Fact Sheet in determining if the natural background exception is applicable. Operators should consult their the Department for help, if needed. The same exception may also be available to discharges of pollutants attributed solely to run-on sources. This exception is only available after discussing the situation and receiving guidance and approval from the Department's compliance program.

Any monitoring requirements associated with impaired waters without a TMDL will be automatically prepopulated on a facility's registration letter and the DMR forms in the electronic DMR tool based on the information provided on the NOI form.

The Department notes that, as with both types of monitoring in the 20-SW, operators can combine monitoring activities where requirements are duplicative (e.g., if effluent limitation guidelines- based limits and impaired water monitoring both require testing for the same parameter at the same discharge point).

Discharges to impaired waters with an EPA-approved or established TMDL

If a facility discharges to an impaired water with an approved or established TMDL, operators must monitor for the pollutant(s) for which the TMDL was written unless the Department informs the operator that they are not subject to such a requirement consistent with the assumptions and requirements of the TMDL and its wasteload allocation. The operator may contact the Department's permit program for monitoring parameters and frequency.

The monitoring requirements in Part V.B.3 are intended to provide the Department with further information on the impacts stormwater from permitted industrial facilities have on impaired waters, and to help ensure that the facilities are not causing or contributing to the impairment. For discharges to impaired waters that do not yet have an approved TMDL for pollutants of concern, these monitoring data are important for developing the TMDL to identify potential sources of the pollutants causing the impairment(s) as well as to identify sources that are not likely to contribute to the impairment(s) and thus may not be included in the TMDL or its wasteload allocation. They are also important for assessing whether additional water quality-based effluent limits, either numeric or qualitative, are necessary on a site-specific basis to ensure that facilities meet water quality standards. For discharges of pollutants to waters with an approved or established TMDL, monitoring data provides a means of ensuring that discharges are controlled consistent with the TMDL, as well as a useful tool to assess the facility's progress toward achieving necessary pollutant reductions consistent with any wasteload allocation.

Comparison to 12-SW: The 20-SW has been modified to ensure the Department collects appropriate information from industrial facilities when establishing TMDLs.

Part V.B.3.b Exception for Inactive and Unstaffed Sites

This Part of the permit includes an exception from impaired waters monitoring for facilities that are both inactive and unstaffed, when such facilities no longer have industrial activities or materials exposed to stormwater.

V.B.4 Monitoring Reports

This Part specifies that monitoring data must be reported using NetDMR, the electronic DMR tool (unless a waiver from electronic reporting has been granted from the Department, in which case a paper DMR form may be submitted.)

V.B.5 Benchmark Exception for Inactive and Unstaffed Sites

This Part allows for an exception from benchmark monitoring for facilities that are both inactive and unstaffed, when such facilities no longer have industrial activities or materials exposed to stormwater. The Department is retaining this exception because these facilities will not be contributing pollutants in stormwater discharges. These facilities could alternatively submit a No Exposure Certification terminating permit coverage. However, the Department realizes that some facilities plan to recommence industrial activity in the future and therefore may wish to keep active permit coverage. To qualify for this exception, a facility must maintain a signed certification with their SWPPP documentation (Part III.C.5.b.v of the permit) that indicates that the site is inactive and unstaffed, and that there are no industrial activities or materials exposed to stormwater.

The permit clarifies that if circumstances change and industrial materials or activities become exposed to stormwater or facilities become active and/or staffed, this exception no longer applies and operators must immediately begin complying with the applicable benchmark monitoring requirements as if they were in the first year of permit coverage, and notify the Department of the change in the NOI by submitting a “Change NOI” form. In the same way, if an operator does not qualify for this exception at the time it is authorized to discharge, but during the permit term the facility becomes inactive and unstaffed, and there are no industrial materials or activities that are exposed to stormwater, then the operator must notify EPA of this change in the “Change NOI” form. The operator may discontinue benchmark monitoring once they have done so, and have prepared and signed the statement described above concerning their qualification for this special exception.

Part V.B.7 Additional Monitoring Required by the Department

The Department may determine that additional discharge monitoring is necessary to meet the permit’s effluent limits, specifically the permit’s water quality-based effluent limit. In this case, the Department will provide the appropriate facility with a brief description of why additional monitoring is needed, locations and parameters to be monitored, frequency and period of monitoring, sample types, and reporting requirements..

Comparison to 12-SW: The 20-SW has been modified to include this condition consistent with the MSGP, to provide for unforeseen circumstances where monitoring is determined to be necessary to evaluate potential impacts to receiving waters.

Monitoring Procedures (V.C)
The 20-SW requires certain facilities to sample and analyze their stormwater discharges as a way to assess the effectiveness of control measures in meeting the effluent limits contained in the permit. Analytical monitoring measures the concentration of a pollutant in a stormwater discharge. Analytical results are quantitative and therefore can be used to compare discharge results and to quantify the effectiveness of stormwater control measures, including identifying pollutants that are not being sufficiently controlled.

Part V.C identifies procedures for collecting samples and identifies where, when, and what to sample. These requirements are unchanged from those in the 120SW, with the addition of an explicit clarification that composite sampling is allowed for benchmark monitoring. These requirements are in addition to the standard permit conditions described in Part VI.

Part V.C.1 Monitored Outfalls

The monitoring requirements in the permit apply to each discharge point discharging stormwater associated with industrial activity, unless the operator qualifies for the substantially identical discharge point exemption as described in Part V.B. This provision provides facilities that have multiple stormwater discharge points with a means to reduce the number of discharge points that must be sampled and analyzed while still providing monitoring data that are indicative of discharges from each discharge point. This may result in a substantial reduction of resources required for a facility to comply with analytical monitoring requirements. To be considered a as substantially identical, the discharge point must have generally similar industrial activities, control measures, exposed materials that may significantly contribute pollutants to stormwater, and runoff coefficients of their drainage areas. When operators believe their facility has two or more discharge points that qualify as substantially identical, they may monitor only one of these discharge points and report that the quantitative data also apply to the other Oufalls. Operators must also document the location of each of the identical outfalls and explain why they are expected to discharge substantially identical stormwater, addressing each of the factors to be considered in this determination (industrial activities, control measures, exposed materials and runoff coefficients). Operators do not need advance Department approval for this determination; however, the Department may subsequently determine that discharge points are not substantially identical and require sampling of additional discharge points.

Part V.C.2 Commingled Discharges

This Part requires that if stormwater discharges associated with industrial activity commingle with discharges not authorized by the 20-SW (e.g., unregulated stormwater or other permitted wastewater), then the operator must sample the stormwater discharge before it mixes with the other discharges when practicable. This provision is intended to ensure that monitoring results are representative of discharges covered under the permit and not indicative of other discharges from the facility. The Department acknowledges that in certain instances, such as when

authorized stormwater discharges are commingled with other waste streams prior to on-site treatment, sampling only authorized stormwater may be impracticable.

Part V.C.3 Measurable Storm Events

This Part specifies the characteristics of a measurable storm event as an event that results in a discharge from the permitted facility. By defining a storm event as one that results in a discharge, it affords the operator flexibility to sample during any storm event that produces a discharge, rather than having to ensure that a minimum magnitude is reached. The permit requires that operators collect samples from the discharge resulting from a storm event that occurs at least 72 hours (3 days) after a previous measurable storm event. The 72-hour (3-day) period is included in an attempt to eliminate monitoring discharges soon after a previous storm event washed away residual pollutants; operators may waive this requirement where they document that less than a 72-hour (3-day) interval is representative for local storm events during the season when sampling is being conducted. The permit allows for sampling of snowmelt in addition to stormwater. The 72-hour (3-day) requirement does not apply to snowmelt as the actual discharge is not clearly tied to a specific snow event (i.e., may be the accumulation from multiple events). The permit also specifies the type of documentation required to show consistency with this requirement.

Part V.C.4 Sample Type

This Part specifies that operators must take a minimum of one grab sample from the measurable storm event being monitored. This will allow operators to make accurate comparisons of monitoring results to the corresponding benchmark threshold levels or effluent limitations. Operators must take the grab sample during the first 30 minutes of the discharge, except for snowmelt monitoring which has no 30-minute requirement since (1) runoff typically does not occur during a snow event (2) collecting a snowmelt sample within 30 minutes of commencement of discharge would very likely be impractical (because the snow will not have melted yet), and (3) the "first flush" effects of snowmelt are not as well defined (i.e., the time when the highest pollutant concentrations occur). If operators collect more than one grab sample, only those samples the operator collects during the first 30 minutes of discharge are to be used for performing any necessary analyses. If it is not possible to collect a grab sample during the first 30 minutes, facilities can take a grab sample as soon as possible, but the operator must document and keep with the SWPPP an explanation of why a grab sample during the first 30 minutes could not be done. The permit also allows for use of composite sampling.

Comparison to 12-SW: The Department, consistent with EPA's proposed 2020 MSGP, is proposing that operators also be allowed to use composite sampling for benchmark monitoring, as the NRC study recommended. The Department is not proposing that composite sampling be required. Composite samples can provide a more comprehensive characterization of the facility's discharge than grab samples but can be costlier in some ways. EPA had allowed facilities to use composite sampling in previous versions of the MSGP, but in this proposal, EPA is explicitly allowing composite sampling except for those parameters that require a short holding time before processing, such as pH and those parameters that can degrade or transform quickly. The Department is proposing to adopt the approach.

Composite sampling may be manual or automated. For manual sampling, a facility would collect multiple grab samples during a storm event and combine portions of each grab sample to form a single composite sample that is then analyzed. For automated sampling, a facility would install an automatic sampler at the end of a flume, weir, or other similar device to direct the stormwater to a collection point. The sampler could be set up to collect samples on some interval, and, depending on the equipment, may be able to combine individual samples automatically into a composite sample. Automated samplers can also collect either flow-weighted or time-weighted composites. Using automated samplers can eliminate the need for a person to physically collect samples, which can be helpful if a storm happens outside of normal business hours. These samplers can lower labor costs and mitigate any safety concerns but require maintenance which would not otherwise be required if done manually. Facilities may also find that electronic sensors and data loggers used in the field can be a cost-effective way to monitor parameters like turbidity, conductivity, dissolved oxygen, and pH.

Part V.C.5 Adverse Weather Conditions

When adverse weather conditions make sampling dangerous, storm event monitoring may be postponed until the next discharge event. This provision applies to serious weather conditions such as lightning, flash flooding, and high winds. This provision should not be used as an excuse for not conducting sampling under conditions associated with more typical storm events. Adverse weather conditions do not exempt operators from having to file a benchmark monitoring report in accordance with the corresponding reporting period. In many cases, sampling during a subsequent non-hazardous storm event may still be possible during the reporting period. Where this is not possible, operators are still required to report the inability to monitor as "no data" during the usual reporting period. This provision applies to all monitoring requirements of the permit.

Part V.C.6 - Part V.C.8 Representative Sampling, Monitoring Periods, and Data Recording Requirements.

The requirements to take representative samples, definitions of what constitutes quarters, and the recording requirements are all provided in the permit. No changes were made to this section.

11. Hazardous Substances or Oil in Stormwater Discharge(s) Reporting (Part V.D)

Permittees must comply with a number of different reporting requirements described throughout this permit. Specific reporting requirements are included; however, additional reporting requirements are described in Part V.D for reporting of spills of especial concern.

12. Standard Permit Conditions (Part VI)

Standard Permit Conditions These standard permit conditions have been carried forward from our 12-SW. All terms are important for the permittee.

13. Appendices

Industry Sectors (Appendix A)

A detailed listing of SICs covered by this permit are provided in Appendix A, and are categorized by Sectors of Industry. These sectors are referred to in Appendix D with specific requirements for that industry.

Quarterly Visual Monitoring Form (Appendix B)

Dischargers are strongly encouraged in Part V.I to use the Annual Reporting Form provided in Appendix B. This form asks for general information on the facility, summary findings from the comprehensive site inspection, and a description of corrective actions taken and the status of follow-up repairs, maintenance activities, or new BMP installations.

Purpose: To establish a consistent reporting form for permittees to provide guideance in understanding the characteristics required to be monitored by the permit and to use for the annual report.

Calculating Hardness in Receiving Waters for Hardness-Dependent Metals (Appendix C)

Appendix C describes the alternatives for establishing the hardness level for an operator's receiving water.

Sector Specific Requirements (Appendix D)

Appendix D of the permit contain the specific requirements for the various industry sectors. The Appendix A contains a cross reference of SIC codes per industry and the Sectors as broken out in Appendix D (i.e. SIC code 2421 for General Sawmills and Planing Mills falls under Sector A – Timber Products). These requirements and breakdown of Sectors is consistent with the MSGP.

SECTOR A – TIMBER PRODUCTS.

SECTOR B – PAPER AND ALLIED PRODUCTS.

SECTOR C – CHEMICAL AND ALLIED PRODUCTS MANUFACTURING, AND REFINING.

SECTOR D – ASPHALT PAVING AND ROOFING MATERIALS AND LUBRICANT MANUFACTURING.

SECTOR E – GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCTS.

SECTOR F – PRIMARY METALS.

SECTOR I – OIL AND GAS EXTRACTION.

SECTOR K – HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES.

SECTOR L – LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS.

SECTOR M – AUTOMOBILE SALVAGE YARDS.

SECTOR N – SCRAP RECYCLING AND WASTE RECYCLING FACILITIES.

SECTOR O – STEAM ELECTRIC GENERATING FACILITIES.

SECTOR P – LAND TRANSPORTATION AND WAREHOUSING.

SECTOR Q – WATER TRANSPORTATION.

SECTOR R – SHIP AND BOAT BUILDING AND REPAIR YARDS.

SECTOR S – AIR TRANSPORTATION.

SECTOR T – TREATMENT WORKS.

SECTOR U – FOOD AND KINDRED PRODUCTS.

SECTOR V – TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCTS.

SECTOR W – FURNITURE AND FIXTURES.

SECTOR X – PRINTING AND PUBLISHING.

SECTOR Y – RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES.

SECTOR Z – LEATHER TANNING AND FINISHING.

SECTOR AA – FABRICATED METAL PRODUCTS.

SECTOR AB – TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY FACILITIES.

SECTOR AC –ELECTRONIC AND ELECTRICAL EQUIPMENT AND COMPONENTS, PHOTOGRAPHIC AND OPTICAL GOODS.

SECTOR AD – STORMWATER DISCHARGES DESIGNATED BY THE DEPARTMENT AS REQUIRING PERMITS.

Three industry sectors were excluded from 20-SW, because they have been issued more specific general permits. These are:

1. SECTOR G: METAL MINING (ORE MINING AND DRESSING) which is not currently covered by the General Permit for Discharges, but may be considered in renewal of mineral mining permit,
2. SECTOR H: COAL MINES AND COAL MINING-RELATED FACILITIES which is covered by the General Permit for Discharges from Surface Coal Mines and Related Facilities: (General Discharge Permit No. 06-CM or replacement),

3. and SECTOR J: MINERAL MINING AND DRESSING which is covered by the General Discharge Permit For Discharges from Mineral Quarries, Borrow Pits, and Concrete and Asphalt Plants: (General Permit No. 15-MM or replacement).

Several other SICs were excluded because they are included in specific general permits. These are:

1. SIC 4493 for Marinas, covered by the General Permit for General Permit for Discharges from Marinas including Boat Yards and Yacht Basins (Maryland General Permit No. 10-MA or replacement), and
2. those industries which produce bituminous concrete from SIC 2951/2952 (Asphalt Paving and Roofing Materials) which are also covered by the General Discharge Permit For Discharges from Mineral Quarries, Borrow Pits, and Concrete and Asphalt Plants: (General Permit No. 10-MM or replacement).

Specific ELGs were not included in this permit and would require an individual permit to be issued. This is consistent with the Departments policy and noted here as a departure from the MSGP.

Definitions and Acronyms (Appendix E)

Definitions (Appendix E). Appendix E of this permit provides definitions for permit-specific terms used in this permit.

Restoration of Impervious Surfaces Progress Report (Appendix F)

Provides a specific reporting form for providing the Department with updated status of restoration efforts.

Nutrient Trading (Appendix G)

This was added as part of the 12-SWA modification, and maintained in the 20-SW.

14. Notice of Intent (Maintained as a separate document)

The NOI form has been updated and expanded from previous versions. It now allows multiple outfalls to be entered. This paper form will at somepoint replaced by an on-line "eNOI".

If your facility is in the Chesapeake Bay Watershed you must quantify the property at the facility as follows and specified on the NOI:

a. acres in total,
b. square feet of impervious surfaces with current treatment (as defined in Appendix E), and
c. square feet of impervious surfaces without current treatment, which will be referred to as the untreated impervious surface.
d. square feet of untreated impervious surfaces that you will treat to meet the requirements for restoration of impervious surfaces per PART III.A.

• *Purpose:* The NOI form provides the Department with the information necessary to determine an industrial operator's eligibility to discharge under this permit, to record requirements for restoration of impervious surfaces and enables the Department to better match up permittees with their respective monitoring requirements and to prioritize oversight activities. 15. Notice of Termination (Maintained as separate document). Found on MDE's website.