



The next level of your facility's storm water game unlocked.

Did your facility unlock the next level of your storm water game this year? Not liking those results and wishing you could return to the baseline level? With the holiday season arriving it means January 1st is quickly approaching, and with that comes the deadline for Level 1 and 2 ERA Reports. This month, **The Rain Events** is going to focus on getting back to Baseline for those who have had their storm water program elevated to a Level 1 or Level 2 Exceedance Response Action (ERA). We will give you some tips for effective strategies and a best management practice (BMP) installation example that might help get your facility back to Baseline.

Every facility started at Baseline in the beginning of Industrial General Permit (IGP) coverage for each pollutant in their monitoring program which has a numeric action level (NAL). Only 21 of the possible dozens of monitoring parameters have NALs specified on Table 2 of the IGP. For some of these testing parameters dischargers have no choice but to sample and analyze, such as for pH, total suspended solids (TSS), and oil &

grease. Everyone has to sample for these "Big 3" parameters, all of which have NALs on Table 2. In addition, facilities with SIC codes which appear on Table 1 of the Permit are given other mandatory parameters for their business sector. Please note that all of these Table 1 parameters also have NALs listed on Table 2. Other mandatory testing analytes may also need to be added to your monitoring program because of [Clean Water Act Section 303\(d\)](#) impaired waters listed sampling parameters found in IGP Appendix 3, and [total maximum daily load \(TMDL\)](#) listed sampling parameters found in IGP Attachment E. Some of the 303(d) sampling parameters and TMDL sampling parameters may be listed on Table 2 having NALs as well as TMDL based NALS (TNALS) and numeric effluent limits (NELs). Check out the [April/May 2014 edition of The Rain Events](#) if you're curious about 303(d) listed items. But there is also one more criteria for selecting monitoring parameters of storm water runoff from industrial activities—the Pollutant Source Assessment (as described in Section X.G.2 of the IGP). Additional parameters may need to be

included in your monitoring program to serve as indicators of the presence of all industrial pollutants identified in the Pollutant Source Assessment. In this case, a strategic baseline play is to select testing parameters that indicate the presence or absence of the industrial pollutants but do not have NALs listed on Table 2. This could prevent your facility from moving up into Level 1 ERA, but still provide insight on the effectiveness of your pollution prevention program.

A discharger's Baseline status changes to Level 1 for any given parameter that has exceeded the instantaneous or annual NAL for that reporting year. The continuance of a NAL exceedance for that same parameter in a subsequent year will move the facility to a Level 2 ERA status. A return to Baseline status happens when Level 1 dischargers submit the required Level 1 ERA Report, implement all of the identified additional BMPs, and obtain results from four consecutive Qualifying Storm Events (QSEs) that indicate no additional NAL exceedance for that parameter. The rules for returning to Baseline for a Level 2 discharger are little more complicated. First, the only Level 2 dischargers that are eligible to return to

NAL REFERENCE SHEET
(Taken from Table 2 on Page 43 of the Industrial General Permit - 2014-0037-DWG)

PARAMETER	TEST METHOD	REPORTING UNITS	ANNUAL NAL	INSTANTANEOUS MAXIMUM NAL
pH*	See Section X.G.2 of the IGP	pH units	N/A	
Suspended Solids (TSS)*, Total	SM 2540-D	mg/L	100	400
Oil & Grease (O&G)*, Total	EPA 1664A	mg/L	15	25
Zinc, Total (H)	EPA 200.8	mg/L	0.26**	
Copper, Total (H)	EPA 200.8	mg/L	0.1032**	
Cyanide, Total	SM 4500-CN	mg/L	0.022	
Iron, Total (H)	EPA 200.8	mg/L	0.2627**	
Chemical Oxygen Demand (COD)	SM 5220C	mg/L	120	
Aluminum, Total	EPA 200.8	mg/L	0.25	
Iron, Total	EPA 200.7	mg/L	0.3	
Nitrate + Nitrite Nitrogen	SM 4500-NO3-P	mg/L	0.88	
Total Phosphorus	SM 4500-P total	mg/L	2.0	
Ammonia (as N)	SM 4500-NH3	mg/L	2.14	
Magnesium, Total	EPA 200.7	mg/L	0.044	
Arsenic, Total (H)	EPA 200.8	mg/L	0.15	
Cadmium, Total (H)	EPA 200.8	mg/L	0.0053**	
Nickel, Total (H)	EPA 200.8	mg/L	1.027**	
Mercury, Total	EPA 245.1	mg/L	0.0114	
Selenium, Total	EPA 200.8	mg/L	0.005	
Silver, Total (H)	EPA 200.8	mg/L	0.0183**	
Biochemical Oxygen Demand (BOD)	SM 5210B	mg/L	30	

SM - Standard Methods for the Examination of Water and Wastewater, 19th edition
 EPA - U.S. EPA methods
 (H) - Hazardous dependent
 * Mandatory parameters required by the Industrial General Permit
 ** The NALs are the highest values used by the EPA based on their lowest values in the 2008 M3GP.

Baseline are those who chose the Industrial Activity BMP Demonstration as described in *Section XII.D.2.a.* paragraphs *i.* through *iii* of the IGP. In addition, in order to return to Baseline, these Level 2 facilities must have implemented all of the BMPs specified in their Action Plan and Technical Report and obtain results from four consecutive QSEs that indicate no additional NAL exceedance for that parameter. However, anytime in the future if the instantaneous or annual NAL is again exceeded for that same parameter, the facility will immediately return to a Level 2 status and will need to update and resubmit their Level 2 ERA Technical Report.

Unfortunately, facilities with an ERA status of Level 2 are not eligible to return to Baseline if they chose any of the following demonstrations in their Technical Report:

1. An Industrial Activity BMP Demonstration but specified that the addition of BMPs is not expected to eliminate NAL exceedances,

2. The Non-industrial Pollutant Source Demonstration (meaning that the NAL exceedances are caused by things like run-on, aerial deposition, or on-site non-industrial sources), or

3. The Natural Background Pollutant Source Demonstration (meaning that the NAL exceedance is attributable solely to the presence of the pollutant in natural background that has not been disturbed by industrial activities. For this demonstration, the IGP makes an allowance for the pollutant to be present due to industrial activities, but the Discharger must prove in their Technical Report that the

pollutant contribution from industrial activity by itself would not result in a NAL exceedance.)

Now What? Once a facility claims one of these ineligible demonstrations for a return to Baseline for a particular NAL exceedance parameter are they stuck there? Well, the Permit is not extremely clear on this point. However, in discussing this with Water Board staff, they acknowledged that a facility could decide to install a treatment process (perhaps for a different pollutant) and if it successfully addresses the pollutant that was claimed to be at one of these ineligible demonstrations, the discharger could then switch to the first industrial activity BMP demonstration for that original pollutant and return to Baseline. In other words, you can't return to Baseline from certain demonstrations, but you can change your demonstration.

Baseline is a good place to be and there are ways to get there. The advantages of Baseline include less exposure to Clean Water Act violations or third-party lawsuits, monitoring reduction opportunities, and no QISP oversight requirements. Baseline strategies are important starting points for achieving Permit compliance. First, you want to make sure that a thorough pollutant source assessment was made to identify and address all potential pollutant sources. Many times, we find that because the pollutant sources are not completely understood by the facility personnel or the person performing the evaluation, that wrong BMPs were selected, or they were implemented in the wrong locations.

Second, pay attention to details. A WGR QISP performed a supplemental source identification inspection for zinc at an industrial site and found that although compost socks were installed for treating the runoff, and from a distance looked good; a closer inspection revealed that runoff was predominately flowing over and under them and not being treated. Compost socks (8" dia.) will treat about 7 gpm/linear foot. These socks were receiving well over 21 gpm, for the 2 - 3 foot length that was in the drainage swale, causing them to be overwhelmed and undermined. The flow should be spread out to come into contact with 6 feet of the sock and it would be better to stack them 2 or 3 high to accommodate treatment up to 126 gpm.

At the risk of sounding like we are contradicting ourselves, while being at or returning to Baseline is optimal, at times being at Level 1 or Level 2 ERA status for a sampling parameter or parameters is not necessarily a "black mark" on your IGP compliance program depending on your ERA response.

For example, if you install a BMP or combination of BMPs like a storm water retention pond or storm water capture and reuse system or both and you stop having storm water discharges your NAL/TNAL exceeded sampling parameter or parameters will remain at their current ERA status (Level 1 or Level 2). As we referenced earlier, a facility's Level 1 or Level 2 status for a parameter will return to Baseline ERA status if all compliance requirements are met and results from four consecutive QSEs that were sampled following BMP or BMPs implementation indicate no additional NAL/TNAL exceedances for the parameter or parameters. For more details on how to return to Baseline ERA status check out [the February 2020 Rain Events Newsletter titled, "Back to Baseline."](#)

Look to future Rain Events Newsletters for a look at IGP Attachment E TMDLs and NELs water quality based corrective actions.

The Rain Events

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During your source identification, look for things like this, where your BMPs might be short circuited.

numbers 6: 24-26

THANKFUL. GRATEFUL. BLESSED.

Wishing you a Happy Thanksgiving from The Rain Events.

psalm 118:1

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- c. The Discharger shall provide the analytical result from samples taken that is reported by the laboratory as below the minimum level (often referred to as the reporting limit) but above the method detection limit.

Reported analytical results derived from sufficiently sensitive testing methods will be averaged automatically by SMARTS. For any calculations required by this General Permit, SMARTS will assign a value of zero (0) for all results less than the minimum level as reported by the laboratory after verifying the use of a sufficiently sensitive testing method (as evidenced by reported MDL and ML).

TABLE 1: Additional Analytical Parameters

SIC code	SIC code Description	Parameters*
102X	Copper Ores	COD; N+N
12XX	Coal Mines	Al; Fe
144X	Sand and Gravel	N+N
207X	Fats and Oils	BOD; COD; N+N
2421	Sawmills & Planning Mills	COD; Zn
2426	Hardwood Dimension	COD
2429	Special Product Sawmills	COD
243X	Millwork, Veneer, Plywood	COD
244X	Wood Containers	COD
245X	Wood Buildings & Mobile Homes	COD
2491	Wood Preserving	As; Cu
2493	Reconstituted Wood Products	COD
263X	Paperboard Mills	COD
281X	Industrial Inorganic Chemicals	Al; Fe; N+N
282X	Plastic Materials, Synthetics	Zn
284X	Soaps, Detergents, Cosmetics	N+N; Zn
287X	Fertilizers, Pesticides, etc.	Fe; N+N; Pb; Zn; P
301X	Tires, Inner Tubes	Zn
302X	Rubber and Plastic Footwear	Zn
305X	Rubber & Plastic Sealers & Hoses	Zn
306X	Misc. Fabricated Rubber Products	Zn
325X	Structural Clay Products	Al
326X	Pottery & Related Products	Al
3297	Non-Clay Refractories	Al
327X	Concrete, Gypsum, Plaster Products (Except 3274)	Fe
3295	Minerals & Earths	Fe
331X	Steel Works, Blast Furnaces, Rolling and Finishing Mills	Al; Zn
332X	Iron and Steel Foundries	Al; Cu; Fe; Zn
335X	Metal Rolling, Drawing, Extruding	Cu; Zn
336X	Nonferrous Foundries (Castings)	Cu; Zn
34XX	Fabricated Metal Products (Except 3479)	Zn; N+N; Fe; Al
3479	Coating and Engraving	Zn; N+N
4953	Hazardous Waste Facilities	NH ₃ ; Mg; COD; As; Cn; Pb; HG; Se; Ag
44XX	Water Transportation	Al; Fe; Pb; Zn

45XX	Air Transportation Facilities ¹⁸	BOD; COD; NH3
4911	Steam Electric Power Generating Facilities	Fe
4953	Landfills and Land Application Facilities	Fe
5015	Dismantling or Wrecking Yards	Fe; Pb; Al
5093	Scrap and Waste Materials (not including source-separated recycling)	Fe; Pb; Al; Zn; COD

*Table 1 Parameter Reference	
Ag – Silver	Mg – Magnesium
Al – Aluminum	N+N - Nitrate & Nitrite Nitrogen
As – Arsenic	NH – Ammonia
BOD – Biochemical Oxygen Demand	Ni – Nickel
Cd - Cadmium	P – Phosphorus
Cn – Cyanide	Se – Selenium
COD – Chemical Oxygen Demand	TSS – Total Suspended Solids
Cu – Copper	Zn – Zinc
Fe – Iron	Pb – Lead
Hg – Mercury	

¹⁸ Only airports (SIC 4512-4581) where a single Discharger, or a combination of permitted facilities use more than 100,000 gallons of glycol-based deicing chemicals and/or 100 tons or more of urea on an average annual basis, are required to monitor these parameters for those outfalls that collect runoff from areas where deicing activities occur.

TABLE 2: Parameter NAL Values, Test Methods, and Reporting Units

PARAMETER	TEST METHOD	REPORTING UNITS	ANNUAL NAL	INSTANTANEOUS MAXIMUM NAL
pH*	See Section XI.C.2	pH units	N/A	Less than 6.0 Greater than 9.0
Suspended Solids (TSS)*, Total	SM 2540-D	mg/L	100	400
Oil & Grease (O&G)*, Total	EPA 1664A	mg/L	15	25
Zinc, Total (H)	EPA 200.8	mg/L	0.26**	
Copper, Total (H)	EPA 200.8	mg/L	0.0332**	
Cyanide, Total	SM 4500-CN C, D, or E	mg/L	0.022	
Lead, Total (H)	EPA 200.8	mg/L	0.262**	
Chemical Oxygen Demand (COD)	SM 5220C	mg/L	120	
Aluminum, Total	EPA 200.8	mg/L	0.75	
Iron, Total	EPA 200.7	mg/L	1.0	
Nitrate + Nitrite Nitrogen	SM 4500-NO3- E	mg/L as N	0.68	
Total Phosphorus	SM 4500-P B+E	mg/L as P	2.0	
Ammonia (as N)	SM 4500-NH3 B+ C or E	mg/L	2.14	
Magnesium, total	EPA 200.7	mg/L	0.064	
Arsenic, Total (c)	EPA 200.8	mg/L	0.15	
Cadmium, Total (H)	EPA 200.8	mg/L	0.0053**	
Nickel, Total (H)	EPA 200.8	mg/l	1.02**	
Mercury, Total	EPA 245.1	mg/L	0.0014	
Selenium, Total	EPA 200.8	mg/L	0.005	
Silver, Total (H)	EPA 200.8	mg/L	0.0183**	
Biochemical Oxygen Demand (BOD)	SM 5210B	mg/L	30	

SM – Standard Methods for the Examination of Water and Wastewater, 18th edition

EPA – U.S. EPA test methods

(H) – Hardness dependent

* Minimum parameters required by this General Permit

**The NAL is the highest value used by U.S. EPA based on their hardness table in the 2008 MSGP.

Storm Water Contest...

Each month, we invite our readers to participate in a contest to test their knowledge of the Industrial General Permit and show their storm water compliance program. We enter all submittals to our monthly newsletter question into a drawing and one person is selected at random to receive a \$25 gift card. Last month's contest question was:

What is a qualifying storm event?

Congratulations to Trieu who replied *"A Qualifying Storm event is when a storm produces a discharge from at least one drainage area at your facility.*

- 1.No discharge within 48 hrs between Qualifying Storm Events*
- 2.During business hours*
- 3.When discharge starts you have 4 hours to collect*

When is storm discharges off business hours – you can collect at the beginning of the day as long as 12 hours did not elapsed since discharge." Trieu, we hope you enjoy your next trip to Bass Pro!

...This Month's Contest

What are the Industrial Activity BMP Demonstrations listed in the IGP for dischargers?

We need industrial storm water sleuths to help us with this month's question. Submit your answers by Friday, December 9th. Email your answer to jteravskis@wgr-sw.com. One winner will be selected by a random drawing to receive a \$25 gift card to Amazon.

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