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Storm Water Panel Report
Deadline: 9/1/06 5pm

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SEP 2006
SWRCB
Executive Ofc.

State Water Resources Control Board
Executive Office
Attn: Song Her, Clerk to the Board
Sacramento, CA

Dear Song Her:

I am writing to provide my comments on the SWRCB's "Feasibility of Numeric Limits Applicable to Storm Water Discharges" and ideas on how to improve the storm water program, including the possible use of any numerical goals.

NEST Environmental Services runs an Industrial Group Monitoring Program (GMP) for vehicle dismantlers statewide for ten years. NEST also provides individual monitoring programs for operators in several other light industries including ready mix concrete manufacturers, scrap metal salvage yards, paper and cardboard recyclers, structural and metal roofing fabricators, and vehicle fleet maintenance (schools, municipalities and commercial) operators.

The ideas and opinions expressed below are my own as a result of studying storm water sampling results from NEST's GMP for vehicle dismantlers over nine years (1997-2005), and our individual program members, and does not represent the collective opinion of members in our GMP or of those the other serviced industries. All of the tabular data provided in my comments below have been provided in NEST's latest Annual Group Evaluation Report (AGER) 2005-2006, to the SWRCB earlier this summer.

Most permittees are opposed to numerical limits because it would increase their risk of exposure to law suits from third parties. However, numerics are useful to operators because many of them actually use the EPA benchmarks to evaluate the effectiveness of their BMPs, and to improve BMP implementation. Over the years, permittees see which parameters their operations typically exceed and have a reasonable understanding of the reasons for exceedances.

Our collected data from storm water sampling, as imprecise as that is, indicates that achieving benchmark values in storm water samples for the four standard parameters: pH, specific conductance, TOC and TSS, in some industries is a realistic goal. For example over the past eight years, the percent of samples

achieving the EPA benchmarks in our fluxuating group of vehicle dismantlers for those four parameters are:

- pH: 80% of samples were within the EPA benchmark window for eight of the nine yeas, and over 90% for four of the nine years. From questioning those few samplers outside of the benchmark, We have concluded that the those not meeting the benchmark typically use incorrect sampling techniques, resulting in low pH and high specific conductance

- Specific conductance: 80% of samples were over the EPA benchmark for eight of the past nine years and over 85% for six of the eight years
- TOC: 80% of samples were over the EPA benchmark for all nine years, and over 90% for seven of the nine years
- TSS: less impressive results, but 70% of samples were over the EPA benchmark for five of the eight years and over 88% for three of the eight years.

This data is provided in a Table 1 below:

Table 1. Percent of Samples Within Parameter Benchmarks Over 9-Year Period

	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05	**05-06**	EPA Benchmarks
pH:	84%	76%	83%	92%	90.5%	86.8%	98%	81.8%	**93%**	6-9
SC:	82%	92%	85%	95%	79.2%	88.5%	90%	80%	**89.8%**	300-500 µmhos
TOC:	93%	90%	92%	95%	88.7%	90.2%	80%	96.3%	**93%**	100-110 ppm
TSS:	66%	71%	73%	67%	88.7%	96.7%	92%	67.3%	**95%**	100 ppm

In addition we have performed some statistical analyses (means, medians, standard errors, standard deviations, ranges, highs and low values and number of samples per year), for the sample results for each of the nine years, and then regrouped each year's parameter analysis by parameter, for example, all nine years of pH analysis, all nine years of TOC, etc. for comparison purposes to find trends. Those table are attached for information. What we see are the ranges between high and low values getting tighter, and the means and medians trending lower, and is some parameters, going below the benchmarks.

This data leads me to conclude that using numeric goals or objectives is useful for some industries, and coupled with an emphasis on improving specific BMP implementation, can result in gradual improvement in controlling pollutants, and in the quality of storm water discharges, without waiting for more precise scientific studies, as others have recommended. Other studies, including back-ground analyses can be useful, but we already know enough information to see that using numerics as objectives for specific industries improves discharges.

Here are some ideas for using numerics in storm water monitoring programs. Keep BMPs as the way to achieve compliance, and establish numerics as targets, goals, or objectives. B ut, I think we are past the "one size" of EPA benchmarks fits all industries. Numeric goals or targets need to be tied to the specific Water Basin plans or ultimate receiving water of a facility's discharge. The General Permit can task the Regional Water Boards with providing those specific numerical goals or objectives to permittees, taking into account any natural occurring differences between their area's or basin's water bodies.

I also see usefulness in setting increasing, challenging steps, of say 25%, 50%, 75% reductions over a specific time periods, to attain numerical goals for each parameter of concern, for specific industries, in each Regional Water Board area or Water Basin Plan. That would enable facility operators in collaboration with their trade associations and BMP developers to focus on a specific parameter or similar parameters, develop and test effective BMPs to achieve those goals. For example, copper is present in levels above the EPA benchmark value in at least 40% of the samples in our dismantler group in each of the nine years; lead is present in elevated levels in about 25% of the samples and zinc in elevated levels in about 80%. In the next five years, this industry could have challenging goals set by the General Permit and Regional Boards of reducing the industry level by 50% over today's numbers. Then industry operators and their associations can focus resources to determine very specific sources of those pollutants, find and implement in collaboration with BMP developers, effective BMPs to reduce those elevated levels to natural occurring levels in water bodies in Regional Water Board areas or Water Basin plans or affected water bodies.

I think samplers do need to provide specific information to the Water Boards' staff about specific BMPs they are to reduce the elevated pollutants of concern in their storm water samples. That information can be provided along with the lab results, when obtained, to the Regional Water Board staff after sampling and analyses, or at some specific line in the Annual Report. A follow-on testing and analysis of that parameter(s) should occur in the same season /next storm event to prove the effectiveness of the BMP.

Next, I think that continued sampling for parameters proven over several samplings to not exceed benchmarks is a waste of industries' resources. The General Permit needs to provide a facility an opportunity to file an exemption from sampling a parameter, if its sample analyses for a particular parameter meets objectives over three or four consecutive sampling and analysis cycles. At least one other State, Oregon, allows that in its state-wide permit. This will

provide an incentive to operators to reduce sampling costs, and maybe result in a future reduction in annual fees paid to the SWRCB?

Lastly, the quarterly, non-storm water discharge observations reporting can be combined with the SWRCB's proposed quarterly evaluations reporting to reduce paper.

Thanks for the opportunity to provide comments on this subject.

Sincerely,

Don Reh
NEST

Attachments

Attachment.

Statistical Analyses of Storm Water Samples for Four Parameters Over Nine Years Shows Improving Trends.

pH	Mean	Std. Error	Median	Std Dev	variance	Range	Minimum	Maximum	Count
2005-06	6.67		6.7	0.88		6.5	2.0	8.5	59
2004-05	6.1684	0.2066	6.4	1.532	2.3472	6.8	1.9	8.7	55
2003-04	6.88		6.9	0.95		6.9	2.0	8.9	51
2002-03	6.918	0.145	6.90	1.131		7.00	2.60	9.60	61
2001-02	6.9068	0.1884	7.10	1.3714		7.50	2.10	9.60	53
2000-01	6.9249	0.1332	6.72			3.39	5.82	9.21	37
1999-00	6.5392	-	6.70	1.1144	1.2419	6.86	2.60	9.46	52
1998-99	6.6973	0.213	6.82	1.5362	2.3598	9.00	1.70	10.70	52
1997-98	6.52	0.12	6.50	1.01		7.80	2.20	10.00	66
1996-97	-	-	6.75	-	-	2.85	6.00	8.85	62
3-yr consol	6.5059	-	6.64	1.0500	1.102539	7.80	2.20	10.00	119

Cond	Mean	Std. Error	Median	Std Dev	Variance	Range	Minimum	Maximum	Count
2005-06	430.03		150.00	1551.85		11990	10.00	12000.00	59
2004-05	798.6	341.514	100.00	2532.74	6414758	11990	10.00	12000.00	55
2003-04	358.10		200.00	821.1		5585	15.00	5600.00	51
2002-03	222.48	32.14	140.00	251.02		1289.00	11.00	1300.00	61
2001-02	392.04	102.808	230.00	748.4515		5398.80	12.00	5400.00	53
2000-01	1324.9	1157.79	148.00			42987.70	12.30	43000.00	37
1999-00	192.48	-	132.00	204.78	41934.00	1087.00	13.00	1100.00	52
1998-99	382.73	170.765	170.00	1231.4	1516358.00	8991.00	9.00	9000.00	52
1997-98	299.62	87.55	160.00	711.27		5778.00	22.00	5800.00	66
1996-97	-	-	235.00	-	-	1176.00	24.00	1200.00	
3-yr consol	251.4	-	140.00	547.4955	299751.3	5787.00	13.00	5800.00	119

TOC	Mean	Std. Error	Median	Std Dev	Variance	Range	Minimum	Maximum	Count
2005-06	38.49		24.00	38.95		189.00	1.00	190.00	59
2004-05	30.478	5.4646	17.00	40.526	1642.4	268.00	2.00	270.00	55
2003-04	58.70		36.00	63.8		310.00	0.20	310.00	51
2002-03	63.20	16.03	26.00	125.17		739.00	1.00	740.00	61
2001-02	61.179	8.8949	40	64.7554		305.9	4.1	310.00	53
2000-01	32.75	5.6743	21.00			178.86	1.14	180.00	39
1999-00	47.358	-	24.90	106.89	11424.00	769.00	1.00	1900.00	52
1998-99	70.405	26.059	27.50	187.91	35310.00	1300.00	0.05	1300.00	52
1997-98	57.51	18.82	17.00	154.02		1096.80	3.20	1100.00	67
1996-97	-	-	25.50	-	-	239.95	0.05	240.00	62
3-yr consol	53.063	-	21.00	135.03	18233.2	1099.50	0.50	1100.00	119

TSS	Mean	Std. Error	Median	Std Dev	Variance	Range	Minimum	Maximum	Count
2005-06	22.76		6.00	56.46		339.00	1.00	340.00	59
2004-05	182.8	82.3308	44.00	610.581	372810	4496.00	4.00	4500.00	55
2003-04	49.42		10.00	133.4		689.50	0.50	690.00	51
2002-03	41.15	27.83	5.00	217.36		1698.00	2.00	1700.00	61
2001-02	105.66	59.417	13	432.5634		3097	3	3100.00	53
2000-01	147.6	46.302	33.00			1223.90	0.10	1224.00	38
1999-00	119.02	-	31543.50	279.45	78092.1	1899.00	1.00	1900.00	52
1998-99	139.62	37.2807	69.00	268.835	72272.2	1399.90	0.10	1400.00	52
1997-98	257.76	51.12	92.00	418.4		2199.90	0.01	2200.00	67
1996-97	-	-	76.00	-	-	7599.95	0.05	7600.00	62
3-yr consol	197.14	-	56.00	369.3802	136441.7	2199.90	0.10	2200.00	119