Comments to the CGI Order 2009-XX-DWQ

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Mr. Sachse's background includes State approved storm water group program manager for over 250 auto recyclers under the Industrial Permit for over 10 years and served as a storm water consultant for close to 80 construction sites. I have an M.S. in Environmental and Industrial Engineering, a State Licensed Professional Engineer, CPSWQ, CPESC, CESSWI, and a CPSWQ instructor.

Blue Ribbon panel states that NELs are <u>not</u> feasible.

The implementation of NELs is based upon the results of the Blue Ribbon Panel whose charge was to determine, "... technical feasibility to establish numeric effluent limitation or some other quantifiable limit.....

The term Feasible means "reasonable enough to be believed or accepted" does not convey practicality.

The Fact sheet quotes extensively from the Blue Ribbon Panel, section C, D, and E. But there is some interesting phrase selection as critical conclusions seemed to have not been transported to the Permit's Fact sheet.

Statements of, "If chemical addictions is not permitted, then Numeric Limits are not likely feasible."

"Whether the use of Numeric Limits is prudent, practical or necessary to more effectively

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achieve nonpoint pollution control is a separate question that needs to be answered, but is out side the scope of the Panel." To note a few disclaimers.

The fact is that if NELs are to be used in the Permit, the Blue Ribbon Panel findings should not be the basis for their implementation. Quite the contrary, the Panel's findings concluded that NELs were not feasible or outside the scope of the panel.

One technical point that seems to be totally overlooked is the findings addressing natural background turbidity and or TSS levels. "Therefore, it is important to consider natural background levels of turbidity or TSS in setting Numerical Limits or Action Levels for construction activities."
This has not been done.

Panel conclusions state:
"The difficulty in determining natural background concentrations/levels for all areas of the state could make the setting of Numeric Limits or Action Levels impractical from an agency resource perspective."

And, "The Board should set different Action Levels that consider the sites's climate region, soil condition, and slopes, and natural background conditions."

" ...active treatment systems could result in turbidity and TSS level well below natural levels, which can also be a problem for receiving waters."

By cleaning water to an arbitrary, one size fits all standard, we could in actuality be doing more damage to the watershed than good.

Perhaps a practical NAL solution would be to establish a reference NAL and if an exceedance occurs then the results should be compared with the background turbidity with some per centage, 20-30% allowance over the background levels of turbidity.

"Whether the use of Numeric Limits is prudent, practical or necessary to more effectively achieve nonpoint pollution control is a separate question that needs to be answered, but is outside the scope of this Panel. However, Action Levels are likely to be more commonly feasible." The Blue Ribbon Panel's conclusions do not appear to support NELs but does encourage NALs.

"The Panel is concerned that the monitoring of discharges to meet the action Levels or Numeric Limits may be costly. The Panel recommends that the Board consider this aspect."

Was there a true cost analysis other than for instrumentation?

Turbidity NAL of 500 NTU is not consistent with the data.

The data presented in the Draft Fact sheet shows that naturally occurring turbidity falls in the range of 500 to 1650 NTU. The fact sheet states that typical turbidity meters range between 0-1000 NTU and by best Professional Judgement 500 NTU was selected. Which is the low end of the range studied. It is never stated whether the turbidity measurements are taken during storm flows or during periods of non storm run off.

In reality the current Cole Palmer catalog offers 5 hand held turbidity meters. Two have a range of 0-1000 (Hach $965, Oakton $795), three have a range from 0-4000 NTU (LaMotte $849, Orion $1399, LaMotte Tri Meter $1095) , and one has a range from 0–1,100 NTU (HF Micro TPW $790). All withing the same price range. On this basis of measurement BPJ could well conclude that meters are available to recognize the middle value of the NTU range of 1000 NTU.

Making the 1000 NTU value a realistic NAL.

NAL/NEL

NELs exceedance violates the Permit, which exposes the violator to fines penalties and litigation. The violator is to report his own exceedance and then wait for sentencing for the violation, whether it is to be a fine, a law suit, or a penalty. Are the purposes of the NELs to raise money for the Government or the environmental litigators, acquire data for further study, or punish violators? Having worked with several hundred industrial sites for over 10 years it is clear that there is an inverse relationship between the quality of the data and the magnitude of potential penalty. After submitting reams of data to the RWB it has never been put to use. It usually is considered invalid, not scientifically reliable, compromised, etc. If the data is to be considered unscientific then why should resources be directed to accumulating data that will have no significant usage.

If the data is to be utilized then a non enforcement exemption should be created to encourage the submission of accurate data.

pH

We have evaluated pH on numerous construction sites and industrial sites as well and never found and out of range pH. Admittedly concrete has a high pH, but that is in the concretes pore structure. It concrete wash water combine readily with CO2 to reduce the pH below 8.5. It is a simple test but not a particularly significant scientifically for impacts on the environment.

SSC Turbidity Correlation

The blue ribbon Panel never mentions SSC nor 3:1 correlation between SSC and Turbidity. And there is no scientific data in the field to support the hypothesis. It appears to be a waste of

resources and should be eliminated until further bench testing has been performed to establish a scientific basis for the theory's existence.

Additional Comments

1. Page 15, Table 1

   Typo JTU should be NTU

2. Page 15 and 17

   The 500 NTU NEL appears to be derived without full regard of the data.

   The calculated data utilizing a 1:3 ratio between SSC and turbidity is 544 (Table 1). The actual back ground turbidity as calculated by the Regional 5 Water Board Staff is 1625 NTU.

   The data contrasting SSC and turbidity as a 1:3 ratio appears tenuous.

   A further justification for a 500 NTU is based upon the fact that most filed NTU meters full scale range is 1000 NTU. Page 17 states the results of the Simon et. al dataset and construction site civil liability (ACL) data suggest that an appropriate turbidity numeric effluent limit may fall in the range of 500 to 1650 NTU. Were the turbidity measurements made during a storm of prior to a storm event?

   The statement that, "to keep this parameter and the costs of compliance as low as possible, staff has determined, using its BPJ, that it is most cost effective to set the numeric effluent limitation for turbidity at 500 NTU." BPJ from sources different than State Water Board staff feel that a more appropriate turbidity NEL would be 1000 NTUs instead of the 500 NTU NEL.

3. **Page 22 Receiving Water**

   Receiving Water sampling appears to not be of scientific benefit and is punitive.

Unless the discharge water enters the receiving water without commingling with other discharge water site specific contributions to receiving water water quality cannot be established. Receiving water impacts from construction sites with direct discharges could be meaningful, where a direct discharge is defined as no other discharge water is commingled with the site's discharge water.

Receiving water sampling, other than where a direct discharge occurs, could be costly, involve safety and trespass issues, and has little scientific value in isolating the impacts from a construction site's discharge water on a receiving water.

4. **Page 25, 3.a.**

   NEL Violation Report states that storm water sampling results are to be reported to the State and Regional Water Boards via the electronic data system, no later than 5 days after the conclusion of the storm event. What if the samples are sent for laboratory analysis which during the wet season can require up to three weeks for unexpedited processing.

5. Clarification is required to define the differences between exceedance information entered into the Storm database contrast to the NAL Exceedance Report. Is the NAL Exceedance Report printed out from the SMARTS database or is it a separate document?

6. **Page 26, 3.b**

   Method detection limit(s) (MDLs) are required in the NAL Exceedance Report but field instruments rarely have MDL information.

7. Please develop an alternate term for the phrase: "Less than the method detection limit" as it will not fit in most data reporting forms.

8. **Page 26, 1.a.**

   The RUSLE equation variable of C = Cover factor (erosion controls) and P = Support Practices (sediment controls) have been set to 1, an assumption of no application of erosion and sediment controls. This is an in appropriate application of these RUSLE variables. If erosion and sediment control BMPs are correctly deployed the amount of

sheet and rill erosion (tons/acre) will be significantly reduced, which should result in a lower risk classification.

9. The use of the RUSLE equation does not take into account the sediment that is redeposited on the site. It only accounts for the soil that is erodable, and therefore does not accurately reflect the amount of soil discharged off site.

10. **Page 35, K.1**

A statement is made that there are two general types of ATS systems. "Both types are considered reliable, can consistently produce a discharge less than 10 NTU and have been used successfully at many sites in several states since 1995 to reduce turbidity to very low levels." Although not named specifically if the second ATS system is electro coagulation it does not fit into the foregoing description. 1) no chemical additive is used, 2) no data has been located that demonstrates electro coagulation as a cost effective ATS for turbidity in California.

No cost analysis has been included in the Fact Sheet. Our calculations show that an ATS installation could increase the cost of a single family house by over $10,000.

Comments to the Order

11. **Page 7. F. 43**

To eliminate the concerns of those individuals that feel there is no need to take a one or two day class the inclusion of a qualifying exam that would be offered in the first year to those individuals with extensive field experience. In essence the final exam. Exams could be proctored at the RWB offices.

12. **Item 48**

Is the installation of gel floc logs considered an ATS system.

13. **Page 9, H. 51**

This General Permit includes an NEL for pH that applies only at projects that exhibit a "high risk of high pH discharge."

Please define a facility that has a high risk of high pH discharge. It is assumed that all sites are not required to sample for pH from the foregoing statement. Only those sites characterized as being a high risk of high pH discharge are required to sample/analyze for pH.

The items listed under article 51 in theory could cause elevated pH values in the runoff, but sampling data has shown that in reality there is not sufficient buffering in the pollutant sources to cause elevated levels of pH. Is there any scientific data to show that in the field storm water discharges have elevated pH values? The category of "High risk of high pH discharge" should be eliminated from the Permit unless data showing elevated pH values in the discharge can be provided.

14. **Page 10, H.55**

Is the NAL Exceedance Report generated from the SMARTS database or is it a separate report?

15. **Page 10, H. 56, 64**

Is the NEL Exceedance Report generated from the SMARTS database or is it a separate report? As self reporting of an NEL constitutes self reporting of a Permit violation, the self reporting entity is liable for prosecution under the clean water act citizen suit provisions. As the Permit requires mitigation of all NELs, will protection from litigation be provided if NEL mitigation is implemented?

16. **Page 11, K.**

Clarification of the discharge exemption from a Compliance Storm Event exceedance would be appreciated.

17. **Page 18, 3. b.**

The RUSLE2 equation is different than the RUSLE equation used for risk factor

calculations. Which is the correct equation to be used for NOT filing, RUSLE or RUSLE2.

18. **Page 25 L.**

This section indicates that a by pass is prohibited. Page 30 g. of the Fact sheet states that the installation of runoff diversions are accepted. Please clarify the difference between a runoff diversion and a bypass.

19. **Page 28 Table 1**

pH measurement with litmus paper is not calibrated and should be exempted.
Minimum detection limits for pH is typically expressed in % not MDL.
If the turbidity meter is to be calibrated, it should be so stated in the table.
Minimum detection limits for a turbidity meter should be replaced with either resolution or accuracy values.

20. **Page 29, V. B. 3. b.**

Page 29, V. B. 3. b. "high risk of pH discharge," see note Page 9, H. 51.

21. **Page 29, V. B. 4**

States NEL violation results are to be filed within 3 day of the results. Other statements indicate 5 days for filing. Which is correct?

22. **Page 29, V.** B.

Clarification of the Compliance Storm Event exemption would be helpful.

23. **Page 32.VII. B. e & f**

CPESC is now identified as EnviroCert International.

Attachment C

24. **Page 12, 9.g**

Quality assurance/quality control records are not available if field analysis is being performed.

Attachment D

25. **Page 16 10.a. ii**

Visual inspections are to be made during daylight hours. In other Permit sections inspections should be during working hours. Which is correct, day light or business hours?

26. **Page 19, 15. a.**

Requires report of results within in 10 days of exceedance. Laboratory turn around time, if used, would be 2 to 3 weeks. Please modify Permit to allow longer turn around times for lab usage.

Same comments on MDL and calibration, comment number 14, above.

Attachment E

27. **Page 4. C**.3

"....in such a manner as to prevent non-storm water discharges...

Insert the word "unauthorized" before non-storm water discharges.

28. **Page 13, 4. f.**

A 5 day notification required. If SSC and Bioassessment analysis is required results will require two to three weeks for lab analysis. Also see comment 17, above.

29. **Page 21, 16, a.**

A 24 hour notification is required. See 20 above. These notification are essentially the same, but slightly different. Perhaps the wording can be less confusing and more consistent.

Attachment F

30. **Page 5, 3.**

Electronic reporting is with 3 days. Ibid 21.