Summary of Changes from Draft June 2012 Toxicity Policy to Draft October 2018 Toxicity Provisions

November 19, 2018

1. Policy vs. Plan

- The draft 2012 Toxicity Policy was proposed as a water quality control policy. A policy does not directly supersede portions of Basin Plans that conflict with the policy. Therefore, the Regional Board may be given direction or required to take some action, such as amending the Basin Plan.

- The draft 2018 Toxicity Provisions is proposed as a water quality control plan. The contents of a statewide plan supersede those portions of a Basin Plan that conflict with the plan.

- The draft 2012 Toxicity Policy would have:
  - Established statewide numeric water quality objectives for both chronic and acute toxicity;
  - Not superseded the narrative water quality objectives in the regional Basin Plans;
  - Superseded Section 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, referred to as the Statewide Implementation Plan (SIP); and
  - Established a program of implementation.

- The draft 2018 Toxicity Provisions propose to:
  - Also establish statewide numeric water quality objectives for both chronic and acute toxicity;
  - Also not supersede the narrative water quality objectives in the Regional Basin Plans.
  - Also supersede Section 4 of the SIP; and
  - Establish a statewide program of implementation, which supersedes those portions of the Basin Plans that are in conflict with the statewide plan.

2. Chronic and Acute Toxicity Water Quality Objectives

- Both the draft 2012 Toxicity Policy and the draft 2018 Toxicity Provisions include similar numeric water quality objectives that are expressed with similar null hypotheses.

- The numeric water quality objectives in the draft 2012 Toxicity Policy were expressed only with the null hypothesis for chronic and acute toxicity (and not an alternative hypothesis).

- The numeric water quality objectives in the draft 2018 Toxicity Provisions are expressed with both the null hypotheses for chronic and acute toxicity and the alternative hypotheses.

3. Species Sensitivity Screening

- Both the draft 2012 Toxicity Policy and the draft 2018 Toxicity Provisions require the chronic species sensitivity screening to include four sets of tests with one vertebrate, one invertebrate, and one plant species. They also require the acute species sensitivity screening to include four sets of tests with one vertebrate and one invertebrate.

- The draft 2012 Toxicity Policy would have:
  - Indicated that the species sensitivity screening occur concurrently with the reasonable potential; and
  - Not indicated the time period in which the species sensitivity screening must be conducted and completed; and
  - Required the species with the highest percent effect at the IWC during species sensitivity screening be used for routine monitoring during the permit cycle.

- The draft 2018 Toxicity Provisions would:
  - Specify that species sensitivity screening should occur prior to or within 18 months of the first issuance, reissuance, renewal, or reopening (to address toxicity requirements) after the effective date of the Toxicity Provisions, and may be required prior to every subsequent issuance, reissuance, renewal or reopening. Species sensitive screening should be conducted no less than once every ten years;
  - Specify that the four sets of tests must be spaced out over a year or season of discharge with one set of testing per quarter if possible; and
  - Require that the species demonstrating the highest percent effect should generally be selected as the most sensitive species, but gives the permitting authority discretion to determine how the most sensitive species is selected.

4. Reasonable Potential Analysis – Applicability

- The draft 2012 Toxicity Policy would have:
  - Assigned reasonable potential to all POTWs that discharge 1 million gallons a day (MGD) or more;
  - Required all other NPDES dischargers (including POTWs and other non-stormwater water NPDES dischargers) to conduct a reasonable potential analysis for chronic toxicity; and
  - Allowed the permitting authority to determine if dischargers (including POTWs and other NPDES dischargers) would need to conduct a reasonable potential analysis for acute toxicity.

- The draft 2018 Toxicity Provisions would:
  - Require routine monitoring and effluent limitations (reasonable potential is not assigned) for chronic toxicity to all POTW dischargers that are authorized to discharge at least 5 MGD. Therefore, those dischargers are not required to conduct a reasonable potential analysis for chronic toxicity;
  - Require all other POTW dischargers to conduct a reasonable potential analysis for chronic toxicity;
  - Allow the permitting authority to determine if POTW dischargers must conduct a reasonable potential analysis for acute toxicity; and
  - Require all other non-storm water NPDES dischargers to conduct a reasonable potential analysis for both chronic and acute toxicity.

5. Reasonable Potential Analysis – Data Use

- The draft 2012 Toxicity Policy allowed data from the current permit term and the species sensitivity screening to be used for the reasonable potential analysis.
    - Four single-concentration tests at the IWC for each test species used for species sensitivity screening and analyzed using the TST approach would be included in the reasonable potential analysis

- The draft 2018 Toxicity Provisions require the permitting authority to use all toxicity test data generated within the past 5 years to be used for the reasonable potential analysis.
    - A minimum of four of the toxicity tests must use species in Table 1 of the Toxicity Provisions and be analyzed using the TST approach.

- Both the draft 2012 Toxicity Policy and the draft 2018 Toxicity Provisions state that a discharger has reasonable potential if the test results in a a "fail" at the instream waste concentration (IWC) using the Test of Significant Toxicity (TST) approach, or if they have a greater than a 10 percent effect at the IWC.

6. Routine Monitoring Frequency for Chronic Toxicity

- The draft 2012 Toxicity Policy would have introduced a definition of "continuous dischargers," which discharge throughout the hours of operation.
    - The draft 2012 Toxicity Policy would have required all continuous NPDES wastewater dischargers or point source WDR discharges that have reasonable potential and discharge at a rate of 1 MGD or greater to conduct a chronic toxicity test each calendar month; and
    - The draft 2012 Toxicity Policy would have required all continuous NPDES wastewater dischargers or point source WDR discharges that have reasonable potential and discharge at a rate of less than 1 MGD to conduct a chronic toxicity test each calendar quarter.

- The draft 2012 Toxicity Policy would have also introduced a definition of "non-continuous dischargers", which discharge periodically or seasonally.
    - The draft 2012 Toxicity Policy would have required all non-continuous NPDES wastewater dischargers or point source WDR discharges that have reasonable potential and discharge at a rate of 1 MGD or greater to conduct a chronic toxicity test each calendar month in which there is a discharge lasting more than two days; and
    - The draft 2012 Toxicity Policy would have required all non-continuous NPDES wastewater dischargers or point source WDR discharges that have reasonable potential and discharge at a rate of less than 1 MGD to conduct a chronic toxicity test each calendar quarter in which there is a discharge lasting seven or more days in a calendar month.

- The draft 2018 Toxicity Provisions does not distinguish between continuous and non-continuous dischargers when specifying the frequency of routine monitoring.
    - The draft 2018 Provisions would require all non-stormwater NPDES dischargers with reasonable potential that are authorized to discharge 5 MGD or greater and all POTWs authorized to discharge 5 MGD or greater to conduct monthly chronic

toxicity monitoring during every month in which there is expected to be at least 15 days of discharge; and

- The draft 2018 Provisions would require all POTWs and non-stormwater NPDES dischargers with reasonable potential that are authorized to discharge less than 5 MGD to conduct quarterly chronic toxicity monitoring during every quarter in which there is expected to be at least 15 days of discharge.

Draft 2012 Policy Routine Monitoring Frequencies for Chronic Toxicity

Discharger Type	Point Source Wastewater Dischargers ≥ 1 MGD with RP		Point Source Wastewater Dischargers < 1 MGD with RP	
	Continuous	Non-continuous	Continuous	Non-continuous
Frequency	Monthly	Monthly, in months with discharge lasting > 2 days	Quarterly	Quarterly, when there are ≥ 7 days of discharge in a calendar month

Draft 2018 Provisions Routine Monitoring Frequencies for Chronic Toxicity

Discharger Type	POTWs ≥ 5 MGD	Other NPDES Dischargers ≥ 5 MGD with RP	POTWs < 5 MGD with RP	Other NPDES Dischargers < 5 MGD with RP
Frequency	Monthly	Monthly	Quarterly	Quarterly

7. Routine Monitoring Frequency for Acute Toxicity

- The draft 2012 Toxicity Policy would have given the Regional Water Boards discretion to determine the monitoring frequency for acute toxicity testing. Acute toxicity monitoring frequencies are not discussed in the draft 2012 Toxicity Policy.

- The draft 2018 Toxicity Provisions would also give the Regional Water Boards discretion to determine the monitoring frequency for acute toxicity testing. However, for dischargers that have a reasonable potential for acute toxicity, the routine monitoring frequency cannot be less than once per calendar year.

8. Maximum Daily Effluent Limitations

- Both the draft 2012 Toxicity Policy and the draft 2018 Toxicity Provisions have similar MDELs for chronic toxicity (No test shall result in a “fail” with a percent effect greater than or equal to 50%)

- The draft 2012 Toxicity Policy set a MDEL for acute toxicity that included a percent effect limit of 40 percent.

- The draft 2018 Toxicity Provisions set a MDEL for acute toxicity that includes a percent effect limit of 50 percent.

Summary of MDELs

	Chronic Toxicity	Acute Toxicity
Draft 2012 Toxicity Policy	The toxicity test shall not result in a fail and a 50% effect	The toxicity test shall not result in a fail and a 40% effect
Draft 2018 Toxicity Provisions	The toxicity test shall not result in a fail and a 50% effect for the survival endpoint, or, if the test does not include a survival endpoint, then a fail and a 50% effect for a sublethal endpoint	The toxicity test shall not result in a fail and a 50% effect for the survival endpoint

9. Median Monthly Effluent Limitations

- Both the draft 2012 Toxicity Policy and the draft 2018 Toxicity Provisions have similar median monthly effluent limitations (MMELs) for both chronic and acute toxicity (no two test results shall result in a "fail" in a calendar month).

10. Toxicity Reduction Evaluation (TRE) Requirements

- The draft 2012 Toxicity Policy would have required accelerated monitoring to determine when a TRE would be required.
    - A violation of the MDEL or MMEL would have required the discharger to initiate accelerated monitoring;
    - Accelerated monitoring would have consisted of four toxicity tests, conducted at two-week intervals over an eight-week period; and
    - A chronic test result of "fail" and a 25 percent effect, or an acute test result of "fail" and a 20 percent effect, for any accelerated monitoring test would have resulted in requiring the discharger to initiate a TRE.

- The draft 2018 Toxicity Provisions would use violations to determine when a TRE would be required.
    - A TRE would be required whenever a discharger has any combination of two or more MMEL or MDEL violations in a single calendar month or within two consecutive calendar months.

11. Storm Water Dischargers

- The draft 2012 Toxicity Policy would have:
    - Required municipal separate storm sewer systems and individual stormwater dischargers that are required to conduct toxicity monitoring to use the TST approach to analyze toxicity data.
    - Recommended all Municipal Separate Storm Sewer System (MS4) dischargers and individual storm water dischargers implement a chronic toxicity monitoring program.

- The draft 2018 Toxicity Provisions would:
    - Require all storm water dischargers that are required to conduct toxicity monitoring using U.S. EPA test methods to use the TST approach to analyze toxicity data; and

- Not include a recommendation for requiring storm water dischargers to conduct chronic or acute toxicity testing.

12. Nonpoint Source Dischargers and Non-NPDES Dischargers

- The draft 2012 Toxicity Policy would have:
  - Required "channelized dischargers" that are required to conduct toxicity monitoring to use the TST approach to analyze toxicity data; and
  - recommended "channelized dischargers" to implement a chronic toxicity monitoring program.

- The draft 2018 Toxicity Provisions would:
  - Require all nonpoint source discharges and non-NPDES dischargers that are required to conduct toxicity monitoring using U.S. EPA test methods to use the TST approach to analyze toxicity data; and
  - Not include a recommendation for requiring nonpoint source discharges or non-NPDES dischargers to conduct chronic or acute toxicity testing.