

DRAFT

State of California Water Resources Control Board: An Act to Create Temporary Waivers for Exceedance of Water Quality Objectives Associated with Urban Area and Highway Stormwater (Wet-weather) Runoff

Background and Need

Urban area and highway stormwater runoff contains chemical constituents at concentrations that exceed US EPA water quality criteria and state standards/objectives based on these criteria. While the presence of heavy metals and other constituents at concentrations above water quality standards/objectives represent a violation of US EPA Clean Water Act and state of California water pollution control regulatory requirements, numerous studies by various urban area NPDES-permitted stormwater runoff management agencies and others have shown that the exceedances of the water quality standards/objectives do not represent a real impairment of the designated beneficial uses of the receiving waters for the runoff. These exceedances are best characterized as "administrative" exceedances that reflect the overly-protective nature of using US EPA criteria as the basis for regulating chemical constituents in urban area and highway stormwater runoff.

Currently, the US EPA urban area and highway stormwater runoff management program requires that NPDES-permitted dischargers control **pollution** of the receiving waters for the stormwater discharges to the maximum extent practicable using best management practices (BMPs). It is becoming increasingly recognized that the Clean Water Act requirement of attainment of water quality standards/objectives in the receiving waters for the discharge so that there is no more than one exceedance of a standard/objective every three years will be expensive and generally represents overly-protective approaches for regulating urban area and highway stormwater runoff. Pollution is defined in the Clean Water Act as an impairment of the designated beneficial uses of a waterbody. It is known that many of the forms of the regulated chemical constituents in urban area and highway stormwater runoff are non-toxic and non-available to impact the designated beneficial uses of the receiving waters for runoff. Further, for the stormwater runoff associated constituents that are in toxic-available forms, the duration of exposure that aquatic organisms can experience during a runoff event is short compared to the time-concentration of toxic chemicals relationship that the organisms can experience without adverse impacts to them. Therefore, the exceedances of water quality standards/objectives associated with urban area and highway stormwater runoff for potentially toxic chemicals do not necessarily represent pollution-use-impairment of the receiving waters by the runoff-associated constituents.

Under the proposed approach for implementing the California Toxics Rule, the maximum period of time that the NPDES-permitted urban and highway stormwater discharges will be allowed to cause violations of Clean Water Act requirements of attaining water quality standards/objectives in the receiving waters, will be 10 years. During this ten-year period the regional boards will be issuing two NPDES permit revisions where the stormwater discharger will be required to ratchet down the BMPs toward achieving the goal of only one violation of a water quality standard due to the discharge associated constituents, every three years. Environmental groups are already taking action against regional boards and stormwater dischargers, claiming that the current NPDES permits and associated BMPs do not represent adequate progress toward achieving water quality standards. This situation could readily result in litigation against urban area and highway stormwater runoff water quality managers and state agencies.

Compliance with the requirement of no exceedances of water quality standards/objectives for more than once in three years by urban area and highway stormwater runoff, will mean that the public in those areas regulated by stormwater runoff NPDES permits will be spending at least \$1 to \$2 per person per day forever for the construction, operation and maintenance of the advanced treatment processes/facilities needed to address the administrative exceedances of water quality criteria/standards caused by urban area and highway stormwater runoff. In some communities, such as Alameda County in the San Francisco Bay region, it is estimated that over several billion dollars will have to be spent in the acquisition of property for the construction of storage and treatment facilities to treat a two-inch in one day precipitation event in order to comply with proposed California Toxics Rule water quality criteria/state of California objectives. From the information available such expenditures will not likely result in an improvement in the designated beneficial uses of the receiving waters for the stormwater runoff.

Urban area and highway stormwater runoff water quality managers face significant problems associated with environmental groups and others attempting to utilize the violation of water quality standards associated with stormwater runoff-associated constituents as the basis for legal action against the stormwater quality managers which results in settlement agreements that provide support for the environmental groups' activities. While if violation of water quality standards/objectives represented a real water quality use impairment in the receiving waters for the urban area and highway stormwater runoff, it could be appropriate to consider that the best management practices for controlling the exceedances of the water quality criteria/standards included the development of advanced (beyond tertiary treatment) technology for removal of trace concentrations of heavy metals and organics to concentrations less than those required by US EPA criteria/standards under worst-case conditions for protection of receiving water beneficial uses. However, under the conditions that exist today where real water quality use impairments associated with the exceedances of water quality criteria and standards in urban area and highway stormwater runoff have not been found to cause impairment of the designated beneficial uses of the receiving waters in terms of altered numbers, types and characteristics of desirable forms of aquatic life in these waters for potentially toxic chemicals, then it should be concluded that appropriate modification of the current regulatory approach should be implemented to protect public agencies and others from having to "settle" lawsuits which provide support for the activities of those filing the suit.

It is proposed that **temporary waiver** of the water quality standards and use-attainability analysis/beneficial uses be allowed, associated with urban area and highway stormwater runoff (wet-weather flow conditions). This administrative relief from the overly-protective character of US EPA water quality criteria and state standards/objectives based on these criteria when applied to urban area and highway stormwater runoff, is designed to protect the public from unnecessary expenditures for chemical constituent and pathogenic indicator organism control in urban area and highway stormwater runoff that will protect the designated beneficial uses of the receiving waters for such runoff without significant, unnecessary expenditures for chemical constituent and pathogenic organism indicator control in the runoff.

Proposed Regulatory Requirements

It is proposed that **temporary waiver** of the water quality standards, designated beneficial uses and use-attainability analysis be granted to NPDES-permitted stormwater discharges under conditions where such a waiver will protect the designated beneficial uses of the waterbody from real

use impairment associated with chemical constituents and pathogenic organism indicators in NPDES-permitted urban area and highway stormwater runoff.

When the designated uses of a waterbody are not being met as a result of urban area and highway stormwater runoff causing an exceedance of a water quality standards/objectives, the Regional Board and State Board may consistent with this subsection and 40 Code of Federal Regulations, Part 131, temporarily remove designated uses that are not existing uses and create a temporary urban area and highway stormwater runoff subcategory. This subcategory shall be used to designate the uses that are maintained during stormwater runoff (wet weather) flow conditions.

This Act requires that the State Water Resources Control Board develop guidance that can enable NPDES-permitted stormwater dischargers to obtain a temporary waiver of water quality standards/objectives and the attainment of designated beneficial uses of a waterbody under the conditions where the NPDES-permitted discharger demonstrates to a reasonable degree of reliability, that the exceedance of water quality standards/objectives in the receiving waters associated with stormwater runoff events does not represent a significant adverse impact on the designated beneficial uses of the receiving waters. For the purpose of this Act, the exceedance of a US EPA water quality criterion/state standard/objective is not considered a significant, adverse impact on the designated beneficial uses of the receiving waters for urban area and highway stormwater runoff.

The State Water Resources Control Board shall develop guidelines that can be used by the regional boards to evaluate on a site specific basis, whether NPDES permitted urban area and highway stormwater runoff associated constituents discharged to a particular waterbody has the potential to, and in fact does, represent a significant adverse impact on the designated beneficial uses of the waterbody. These guidelines shall include the requirement for stormwater NPDES-permitted dischargers to demonstrate that the exceedance of water quality criteria/standards/objectives in the receiving waters for the runoff do not represent significantly altered numbers, types and characteristics of desirable forms of aquatic life within the receiving waters for the runoff, cause or significantly contribute to excessive bioaccumulation of hazardous chemicals within fish and other edible organism tissue that represent hazards to humans who use these organisms as food, significantly contribute to the excessive fertilization of a waterbody through the introduction of aquatic plant nutrients (nitrogen and phosphorous compounds) that would not occur to essentially the same degree if the urban area and highway stormwater runoff associated nutrients were not discharged to the waterbody of concern, impair the sanitary quality of the receiving waters for contact recreation and/or shellfish harvesting, adversely impact a domestic water supply water quality, significantly alter fish and other aquatic life and wildlife habitat, cause excessive siltation, oil and grease accumulation, or cause other adverse impacts on the designated beneficial uses of the waterbody.

In addition to demonstrating, on a site specific basis for representative stormwater discharge points of entry into a receiving waterbody which, because of the stormwater runoff, has exceedances of water quality standards/objectives at the point of runoff entry into the waterbody, the protocols for developing a temporary waiver of water quality standards shall include guidance on the approach that should be used to determine whether the exceedance of water quality standards/objectives in the receiving waters associated with urban area and highway stormwater runoff represent administrative exceedances related to the overly protective characteristics of the US EPA water quality criteria and state standards based on these criteria or represent water quality use impairments that are of significance to the public. For example, for potentially toxic constituents, such as heavy metals,

toxicity of the stormwater runoff should be measured using the standard US EPA three-species testing procedures or other suitable testing procedures approved by the regulatory agencies. If this testing shows that the ambient waters are non-toxic for both acute and chronic toxicity as evaluated by these procedures or that the magnitude, areal extent and duration of toxicity in the receiving waters is insufficient to be adverse to the aquatic life beneficial uses, then it can be concluded that the exceedance of the US EPA water quality criterion in the stormwater runoff from urban areas and highways is an administrative exceedance that does not represent a real water quality problem in the receiving waters for the runoff.

Similarly, if the chemical analysis of aquatic organism tissue for organisms obtained in the vicinity of the stormwater runoff does not show excessive concentrations of chlorinated hydrocarbon pesticides, PCBs, mercury or other constituents in the stormwater runoff that represent human health threats to those who use the organisms as food, then the exceedance of the water quality standards/objectives in the stormwater runoff for potentially bioaccumulatable chemicals, is an administrative exceedance that is not manifested in excessive bioaccumulation in edible organism tissue.

Similar approaches would be followed for determining whether the pathogenic organism indicators such as total and fecal coliforms, aquatic plant nutrients, oil and grease, silt, etc. present in urban area and highway stormwater runoff are significantly impacting the beneficial uses of the receiving uses for the runoff. In each case a site-specific evaluation of the relative contribution of these potential pollutants would be made to assess whether real water quality problems due to the total load of a constituent to a waterbody that is causing a real waterbody use impairment in the waterbody is occurring. The basic issue that would be addressed by the State Water Board guidance for obtaining a temporary waiver of achieving water quality standards during wet-weather conditions is whether the constituents in the runoff cause or significantly contribute to water quality use impairments that would potentially justify the treatment of the runoff waters to control the input of the constituents responsible for the impairment.

The temporary waiver from attaining water quality standards/objectives could be granted for a maximum of five years. The permittee that is granted such a waiver would be required to examine representative receiving waters for the stormwater runoff every five years to determine whether the conditions that served as a basis for granting this waiver which indicated that it would protect the designated beneficial uses of the receiving waters, were still applicable. At the time of the five year review, consideration would have to be given to whether there are new constituents in the urban area and highway stormwater runoff that are adversely impacting the beneficial uses of the runoff and/or whether the concentrations and forms of constituents previously considered had changed sufficiently during the five year period so that their impacts on the beneficial uses of the receiving waters were no longer insignificant. The State Water Resources Control Board would provide guidance for the stormwater NPDES permittees on the approach that should be followed for the renewal of the temporary waiver.

The State Water Resources Control Board's development of the guidance for initial granting and renewal of the temporary waiver would be done in a public review process which would enable all interested parties to participate in the development of this guidance and its implementation.

Value of the Temporary Waiver Approach

In addition to providing administrative relief for urban area and highway stormwater runoff water quality managers from having to implement ever-increasing more stringent/expensive BMPs through a ratcheting down process associated with NPDES permit renewal, the adoption of this temporary waiver approach would stimulate urban area and highway stormwater runoff water quality managers to focus their resources on determining what real, if any, significant adverse impacts on the beneficial uses of a water body are occurring due to urban area and highway stormwater runoff-associated constituents. While at this time, the urban area and highway stormwater water quality managers have demonstrated that the regulated chemical constituents in runoff waters that are of greatest concern such as some of the heavy metals, (copper, zinc, cadmium and lead) are in non-toxic, non-available forms, and therefore the exceedance of the water quality standards/objectives for these constituents is an administrative exceedance, this does not mean that there are no real water quality problems caused by the unregulated constituents in the runoff waters. Of particular concern in urban areas is the presence of organophosphate and other pesticides for which the US EPA has not yet developed or has not been implementing water quality criteria. Rather than devoting resources to copper, zinc and lead in urban area and highway stormwater runoff because they cause exceedance of water quality standards/objectives, the urban area and highway stormwater runoff water quality managers could devote their resources to evaluating whether other regulated and unregulated constituents in the runoff such as organophosphate pesticides are significantly adversely affecting the beneficial uses of the receiving waters for the runoff.

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