



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
WATER

MEMORANDUM

SUBJECT: EPA Guidance on Application of State **Mixing** Zone Policies in EPA-Issued NPDES Permits

FROM: Robert Perciasepe
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TO: Water **Program** Directors
Regions I-X

The purpose of this memorandum is to transmit the Office of Water's "**Guidance on Application of State Mixing Zone Policies in EPA-Issued NPDES Permits.**" The attached guidance discusses **the circumstances** under which **the Environmental Protection Agency (EPA)**, when it is the National Pollutant Discharge Elimination System (**NPDES**) **permitting authority**, **may** include mixing zones in **NPDES** permits. The guidance also provides legal **analyses** of its **key** provisions.

EPA's Water **Quality** Standards (WQS) regulation **allows** states to adopt provisions authorizing **mixing** zones. **Thus**, individual **state** law and policy determine whether or not a **mixing** zone **is** permitted. EPA recommends that states make a definitive statement **in their WQS** or implementing regulations on whether **mixing** zones **are** allowed and how they **will be defined**. State regulations addressing **mixing** zones generally **fall** into one of **two** categories. Some **states** have regulations that generically authorize **mixing** zones without specifying who **may** exercise that authority. Other states' regulations **specifically** confer discretionary authority to allow **mixing** zones **only on the** state agency. The guidance explains the legal **authority** and procedures for inclusion of **mixing** zones under both **types** of state regulations. The key provisions of the **guidance** are summarized **as follows**:

1 If mixing zones are not authorized by state WQS or implementing regulations

EPA is not authorized to include mixing zones in NPDES permits.

Exhibit 1

2. **If *mixing* zones are authorized by state WQS or implementing regulations and the state approves EPA's decision to include a *mixing* zone in the NPDES permit in question through a Clean Water Act (CWA) §401 certification**

EPA is authorized to include a *mixing* zone in that specific NPDES permit.

3. **If *mixing* zones are authorized by state WQS or implementing regulations, but the state does not provide a CWA §401 certification for the NPDES permit in question**

EPA is authorized to include *mixing* zones in NPDES permits only if such action is a "reasonable" interpretation of state WQS or implementing regulations.

- 3a. If state WQS or implementing regulations generically authorize *mixing* zones without specifying who may exercise that authority, it is a reasonable interpretation of state WQS to include *mixing* zones in EPA-issued permits at EPA's discretion.
- 3b. If state WQS confer authority to include *mixing* zones specifically on the state, it is reasonable to include *mixing* zones in EPA-issued permits only when there is a written interpretation of WQS or implementing regulations by the state confirming that EPA may exercise that discretionary authority as well. The state's written interpretation may be in the form of a memorandum of understanding between EPA and the state, an Attorney General statement from the state, an exchange of letters between the state and EPA, or through other appropriate supporting materials.

Please note that the same approach outlined in the attached guidance for *mixing* zones would apply to schedules of compliance for water quality-based effluent *limits*. Also, you should be aware that the guidance is prospective only. To the extent that EPA may have issued permits with *mixing* zones in the past in states where the authority to grant a *mixing* zone remains with the state, these permits should remain in effect as written until expiration.

If you have any questions regarding the attached guidance, please call James Pendergast, Acting Director, Permits Division at (202) 260-9545 or Elizabeth Southerland, Acting Director, Standards and Applied Science Division at (202) 260-7301.

Attachment

**Guidance on Application of State Mixing Zone Policies
in EPA-Issued NPDES Permits
August 1996**

This guidance discusses the circumstances under which EPA, when it is the National Pollutant Discharge Elimination System (NPDES) permitting authority, may, in its discretion, specify mixing zones in NPDES permits. Specifically, this guidance addresses the ability to include mixing zones in EPA-issued permits in the absence of a permit-specific authorization from the state through the Clean Water Act (CWA) §401 certification process. The guidance is divided into five sections. The first section provides an overview of the importance of mixing zones in establishing water quality-based effluent limits and the role of EPA and states in setting mixing zone policy. The second section discusses the types of mixing zone provisions commonly found in state water quality standards. Section three discusses the legal authority for EPA to establish a mixing zone in a permit based upon such provisions. Section four provides guidance regarding when to include a mixing zone in an NPDES permit where an EPA Region is the permitting authority. The final section discusses implications of this guidance on inclusion of schedules of compliance in EPA-issued permits.

Background

In developing water quality-based effluent limits in NPDES permits, states and EPA Regions must consider an array of factors including, for example, effluent variability, critical receiving water flows, downstream uses, appropriate water quality models, and mixing zones. Briefly stated, a mixing zone is an allocated impact zone in the receiving water which may include a small area or volume where acute criteria can be exceeded provided there is no lethality (zone of initial dilution), and a larger area or volume where chronic water quality criteria can be exceeded if the designated use of the water segment as a whole is not impaired as a result of the mixing zone. Mixing zones are sized to cover areas where effluent undergoes initial dilution and may be extended to cover secondary mixing in the ambient water body. The decision on mixing zones (e.g., whether to conduct a mixing zone analysis, to assume rapid and complete mixing, or to require that a point source discharge meet water quality criteria at the end of the pipe) is a key factor in setting water quality-based effluent limits.

EPA's Water Quality Standards regulation allows states to adopt provisions authorizing mixing zones. 40 CFR § 131.13. Thus, individual state law and policy determine whether or not a mixing zone is permitted. EPA has recommended that states make a definitive statement in their water quality standards or implementing regulations on whether or not mixing zones are allowed and how they will be defined. EPA has provided guidance on when to conduct a mixing zone analysis and how to determine the boundaries and size of a mixing zone. See EPA's *Water Quality Standards Handbook* (2nd Edition, 1994) and *Technical Support Document for Water Quality-based Toxics Control* (1991).

State Water Quality Standards and Mixing Zones

A review of the water **quality** standards regulations of most states across the country reveals **two** major categories of **mixing** zone authorizations. First, some states, such **as** New Mexico, have **regulations** and policies that generically authorize a **mixing** zone without specifying who may exercise that authority. For example, New Mexico's water **quality** standards allow a ". . . limited **mixing** zone, contiguous to a point source wastewater discharge . . . in any **stream** receiving such a discharge." 20 New Mexico Regulations 6-1-1 105.D

Other states' regulations and policies confer discretionary authority to allow **mixing** zones **on** the state agency. For example, in Massachusetts, ". . . **the Division may recognize a limited** area or volume of a waterbody **as a mixing** zone. . ." (emphasis added). 314 Code of Massachusetts Regulations 4.03(2). Alaska's regulations are even more restrictive; **they specify** that ". . . in applying the water quality criteria set out in **this** chapter, **the Department** will, upon application and in its discretion, prescribe **in its permits or certifications** a volume of dilution for **an** effluent or substance within a receiving water unless [the environmental impact would be adverse] . . ." (emphasis added). 18 Alaska Administrative Code 70.032.'

Neither of the two major categories of state **mixing zone** regulations explicitly **confers authority** on **EPA** to include a **mixing zone** in **NPDES permits** where **EPA is** the permitting **authority**. In some instances, the state may approve **EPA's** decision to include a **mixing zone** in a specific permit **through** the **CWA § 401** certification process. But, for other permits, the state might not provide permit-specific approval of a **mixing zone**. **This circumstance raises** two important questions:

- 1) Where state water quality **standards** (or implementing regulations) authorize **mixing zones**, **may EPA** exercise the discretion to include a **mixing zone** in an **NPDES** permit in the absence of a **specific** state **authorization** of a **mixing zone** for that permit?
- 2) **If** the answer to question one is "yes," how and when should **EPA** exercise that discretion?

The remainder of **this** guidance answers these two questions-

¹ State statutes and regulations **also** vary in the level of detail **defining how** a **mixing zone** **is** to be determined, regardless of whether the provisions specify which entity will determine whether to authorize a **mixing zone**. **Some states** provide very specific **narrative** or numeric criteria and standards for determining the **size** of a mixing zone. Other states' statutes **and** regulations, by **contrast**, are very general. For instance, Georgia allows for "a reasonable and limited **mixing zone**" **if** it is demonstrated that a **mixing zone** "**is** necessary and. . . will not create an objectionable or damaging pollution condition." 391 Rules and Regulations of the State of Georgia 3-6-.03(10).

Legal Authority to Include Mixing Zones in EPA-issued NPDES Permits

Section 301(b)(1)(C) of the CWA requires that **NPDES** permits include "any more stringent [effluent] limitation ... necessary to meet water **quality** standards[.]" The Environmental Appeals Board has interpreted this language to mean that, in the absence of a state certification under CWA § 401 (i.e., where certification is waived), EPA's interpretation of what constitutes a limitation necessary to meet the state's water quality standard will be upheld if it is "reasonable." In re American Cyanamid Co. Santa Rosa Plant. et al., 4 E.A.D. 790, **801 (EAB 1993)**. If the state does certify a permit under CWA § 401, its interpretation of its own water **quality** standards generally is controlling. If the state determines **that** a more stringent effluent limitation **is** necessary (e.g., by deleting a mixing zone) and so specifies in its CWA § 401 certification, EPA must include the more stringent limitation. 40 CFR 124.55(e). In addition, if the state informs EPA in its CWA § 401 certification that a less stringent effluent limitation is **all** that is necessary to meet **its** water **quality** standards (e.g., a **mixing** zone should be included), EPA must defer to the state's interpretation unless it is clearly wrong. In re Ina Road Water Pollution Control Facility, Pima County, Arizona, NPDES Appeal 84-12 (Nov. 6, 1985) at 3; see also, American Paper Inst. v. EPA, 996 F.2d 346, 352 (D.C. Cir. 1993).

As discussed above, states may include provisions for mixing **zones** as part of their water **quality** standards or implementing regulations. Thus, if the state provides for mixing zones in its water **quality** standards or implementing regulations, then inclusion of a mixing zone in an EPA-issued permit would **be** fully consistent with, and therefore "meet" the state's water **quality** standards, as required by CWA § 301(b)(1)(C), even in the absence of a state certification under CWA § 401, provided that such action is a "reasonable" interpretation of state water **quality** standards. (See section entitled "Proper Procedures for Inclusion of **Mixing Zones** in EPA-Issued **Permits**" below.) Cf. In re: Star-Kist Caribe, Inc., 3 E.A.D. 172, 175 (Adm'r 1990) (inclusion of a schedule of compliance for a water quality-based effluent limit consistent with CWA § 301(b)(1)(C) only if the state's water **quality** standards or implementing regulations provide for such a schedule). In such **cases**, the state has made a legislative or administrative determination that **mixing** zones are consistent with the state's water quality standards as a whole, and EPA **is** simply developing water quality-based effluent limits that are consistent with those standards.

If state water **quality** standards do **not** provide for **mixing** zones, then EPA **lacks** any authority under CWA § 301(b)(1)(C) to include a **mixing** zone in an NPDES permit. Star-Kist, 3 E.A.D. at **182** ("whether limited forms of relief such as ... **mixing** zones ... should be granted are purely matters of state law, which EPA has **no** authority to overrule").

Most states do provide for some **form** of **mixing** zone authority in their state water **quality** standards. Nonetheless, EPA's inclusion of a mixing zone in an NPDES permit constitutes an interpretation of the state water quality standards, which must **therefore be** "reasonable" if the state does not certify to the permit under CWA § 401. American Cyanamid, *supra*.

For state laws or regulations such as New Mexico's, which do not specify on their face that a particular entity will determine whether to grant a mixing zone, it is certainly reasonable to interpret such language as authorizing EPA to include a mixing zone in a permit to "meet" the state's water quality standards.

The more difficult legal question involves the extent of EPA's authority to grant a mixing zone when the state statute or regulation, on its face, reserves the power to determine whether to grant a mixing zone to the state itself. Such laws, like the more general mixing zone provisions discussed in the previous paragraph, do reflect a state legislative or administrative policy judgment that mixing zones generally are consistent with the state's water quality standards as a whole. Yet, such laws could be interpreted to limit the authority to establish mixing zones to the state.

The Clean Water Act reserves primary authority to determine appropriate water quality requirements to the states, and explicitly authorizes states to be more stringent than federal standards. CWA §§ 101(b), 510. Respect for the state role under the Act to determine the appropriate water quality standards and necessary implementing regulations suggests that EPA should not assume that provisions specifically authorizing the state to grant a mixing zone also give EPA the authority to grant a mixing zone without some extrinsic evidence that the state intends EPA to exercise such authority. Therefore, as discussed below, EPA policy dictates that EPA will not grant a mixing zone in such states unless the state interprets its water quality standards or implementing regulations to provide EPA with this discretionary authority and confirms its interpretation in writing. Absent such a statement, and without a permit-specific authorization through the CWA § 401 certification process, it would not be reasonable, and therefore would not be within EPA's discretion under American Cyanamid, for EPA to grant a mixing zone.

Proper Procedures for Inclusion of Mixing Zones in EPA-issued Permits

As noted above, under water quality standards such as New Mexico's, which do not specify exactly which entity may determine whether to grant a mixing zone, EPA Regions may exercise their discretion to grant a mixing zone even without a permit-specific approval from the state (e.g., through CWA § 401 certification or other procedures). The Region should document in the fact sheet for the permit how the mixing zone reasonably satisfies the technical criteria in the state's standards or implementing regulations for determining mixing zones.

Under state laws such as Massachusetts', which authorize the state agency to grant mixing zones, EPA's discretion to act properly in the state's capacity is more circumscribed. EPA Regions may exercise their discretion to grant a mixing zone even in the absence of a permit-specific state authorization, but only if the state interprets its water quality standards or implementing regulations to provide EPA with this discretionary authority and confirms its interpretation in writing. The state's interpretation that its water quality standards give EPA this discretionary authority to include mixing zone provisions in future permits may be documented through a memorandum of understanding between EPA and the state, an Attorney General

statement from the state, **an** exchange of letters between the state and EPA, or through other appropriate supporting materials. If a state declines to interpret its water quality **standards or** implementing regulations in this manner, then it would not be reasonable for EPA to interpret the state law **as** authorizing EPA to grant a mixing zone; therefore, EPA Regions **will** not have the discretion to specify mixing zones in **NPDES** permits in the absence of permit-specific authorizations through the CWA § 401 certification process or other procedures.

If a state does confer this discretionary authority “up-front,” in writing, for future permits, the EPA Region issuing **NPDES** permits would have the **ability** to establish **mixing zones and** resulting permit **limits** without needing to rely on a specific state **certification as a basis** for including a **mixing zone**.² Thus, if the state waived CWA § 401 certification for a **specific permit**, EPA could retain the mixing zone and the associated permit limits. Of course, the **Region should** still document in the fact sheet for the permit how the mixing zone reasonably satisfies the technical criteria in the state’s standards or implementing regulations for determining **mixing zones**. Under all circumstances, however, the state would retain the authority to condition or deny certification of any **per** permit if it believed that EPA’s proposed **mixing zone and permit limits** were not sufficiently protective of water quality.

This guidance **is** prospective only. To the extent that EPA may have issued permits with **mixing zones** in the past in states where the authority to **grant a mixing zone** remains with the state, such permits should remain **in effect as** written until expiration. See Star-Kist, 3 E.A.D. at 185 n.23 (new interpretation of EPA authority to apply state water quality **standards** does **not** require modification of existing permits).

Schedules of Compliance

It should **also** be noted that the same approach outlined here for **mixing zones** would apply to schedules of compliance for water quality-based effluent limits. That **is**, if the state law **allows** for schedules of compliance, but does not specify who **has** the authority to grant a schedule of compliance, Regions **may** include a schedule if reasonable under the state’s water **quality** standards. If state law specifies that **only a state agency may** grant a schedule of compliance, the Region may not include the schedule absent an up-front authorization **from** the state or a permit-specific approval such **as** a CWA § 401 certification.

² The state **also** may “authorize” EPA to include a **mixing zone in a specific permit** without providing a CWA § 401 certification, e.g., through a statement in a letter such as “EPA’s permit complies with **our** water quality standards.” See *In re Boise-Cascade*, 4 E.A.D. 474, 483 n.7 (EAB 1993) (state letter which simply asserts that NPDES permit “will comply with” state water quality standards does not constitute a binding CWA § 401 certification). Regions **may** properly characterize such a letter **as** a state interpretation that EPA **may include mixing zones** in NPDES permits more generally. Thus, Regions need not seek additional letters authorizing EPA to include mixing zones in subsequent permits (although the Region must **still seek** certification under CWA § 401).