

**7052.0210 MIXING ZONES.**

Subpart 1. **Applicability and standards for acute and chronic mixing zones.** General provisions pertaining to mixing zones are located in part 7050.0210, subpart 5. For acute and chronic mixing zones, the conditions in items A to C apply.

A. At the edge of an acute mixing zone approved under subpart 2, acute aquatic life toxicity must not exceed the maximum standard or criterion, or 0.3 TUa for WET. If the discharger does not have an approved acute mixing zone demonstration, the agency must apply the FAV, or 1.0 TUa for WET, directly to the discharge. If acute mixing zones from two or more proximate sources interact or overlap, the combined effect must be evaluated to ensure that applicable standards and criteria will be met in the area of overlap.

B. At the edge of a chronic mixing zone, chronic toxicity must not exceed the chronic standard or criterion, or 1.0 TUC for WET. A chronic mixing zone must equal:

(1) not more than 25 percent of the applicable stream design flows listed in part 7052.0200, subpart 3, item A, unless an alternate chronic mixing zone demonstration is approved under subpart 2; or

(2) for lakes, the area of 10:1 dilution of receiving water volume to effluent volume, unless a chronic mixing zone demonstration approved under subpart 2 identifies an alternate dilution ratio in which case the chronic mixing zone must equal the area corresponding to the alternate dilution ratio. The mixing zone in lakes must not exceed the area of discharge-induced mixing.

C. Acute and chronic mixing zones must not jeopardize the continued existence of endangered or threatened species listed or proposed under chapter 6134 or section 4 of the Endangered Species Act, United States Code, title 16, section 1533, or result in the destruction or adverse modification of such species' critical habitat.

Subp. 2. **Mixing zone demonstration requirements for lakes and tributaries.** The agency shall approve an acute or chronic mixing zone demonstration if the discharger proposing a mixing zone completes a demonstration that complies with items A to N.

A. Define the mixing zone size, shape, location of the area of mixing, manner of diffusion and dispersion, and amount of dilution at the boundaries.

B. Determine the discharge-induced mixing area for lake discharges.

C. For discharge to a lake, determine the dilution ratio of receiving water volume to effluent volume. If this dilution ratio is other than 10 to 1 and results in a mixing zone that is no greater than the area of discharge-induced mixing, the calculated ratio must be used in the WLA calculation for lakes in part 7052.0200, subpart 3, item B; in the WET reasonable potential determination for lakes in part 7052.0240, subpart 5, items B, subitem (2), and C, subitem (2); and in the WET WQBEL calculation in part 7052.0240, subpart 6, items A, subitem (2), and C.

D. Document the substrate character and geomorphology of the mixing zone.

E. Ensure that the mixing zone will maintain a zone of passage for mobile aquatic life; protect spawning, nursery areas, and migratory routes; and not intersect river mouths.

F. Ensure the mixing zone will protect the existence of threatened or endangered species.

G. Document that the mixing zone does not affect drinking water intakes.

H. Document background water quality.

I. Show that the mixing zone does not promote undesirable aquatic life or dominance of nuisance species.

J. Ensure that the mixing zone will not result in the following:

- (1) objectionable deposits formed by settling;
- (2) floating debris, oil, or scums;
- (3) objectionable taste, odor, color, or turbidity; or
- (4) attraction of organisms to the area of discharge.

K. Prevent or minimize overlapping mixing zones.

L. Document the ability of the habitat to support endemic or naturally occurring species.

M. Assume no GLI pollutant degradation unless the conditions of part 7052.0200, subpart 2, item H, are met.

N. Show that the mixing zone will not interfere with the designated or existing uses of the receiving water or downstream surface waters of the state.

Subp. 3. **Mixing zones for BCCs.** After March 9, 1998, acute and chronic mixing zones shall not be allowed for new and expanded discharges of BCCs to the Lake Superior basin. Acute and chronic mixing zones for existing discharges of BCCs must be phased out by March 23, 2007, except under the provisions in items A to E. After March 9, 1998, for new and expanded discharges and March 23, 2007, for existing discharges, WLAs developed under part 7052.0200, subparts 2 and 3, for discharges of BCCs must be set equal to the most stringent applicable water quality standard or site-specific criterion for the BCC in question. The provisions for exceptions to the acute and chronic mixing zone phase-out for existing discharges of BCCs are in items A to E.

A. Mixing zones for BCCs shall be allowed for existing discharges after March 23, 2007, if the discharger demonstrates that the failure to maintain an existing mixing zone would preclude water conservation measures that would lead to overall load reductions in BCCs discharged.

B. Mixing zones shall be allowed for existing discharges after March 23, 2007, upon the request of the discharger if the agency determines that:

(1) the discharger is in compliance with and will continue to implement technology-based treatment and pretreatment requirements under sections 301, 302, 304, 306, 307, 401, and 402 of the Clean Water Act, United States Code, title 33, sections 1311, 1312, 1314, 1316, 1317, 1341,

and 1342, and is in compliance with its existing permit WQBELs, including those based on a mixing zone; and

(2) the discharger has reduced and will continue to reduce the loading of the BCC for which a mixing zone is requested to the maximum extent possible by the use of cost-effective controls or pollution prevention alternatives that have been adequately demonstrated and are reasonably available to the discharger.

C. In making the determination in item B, the agency must consider:

(1) the availability and feasibility, including cost-effectiveness, of additional controls or pollution prevention measures for reducing and ultimately eliminating BCCs for that discharger, including those used by similar dischargers;

(2) whether the discharger or affected communities will incur unreasonable economic effects if the mixing zone is eliminated; and

(3) the extent to which the discharger will implement an ambient monitoring plan to ensure compliance with water quality standards and criteria at the edge of any authorized mixing zone or to ensure consistency with any applicable TMDL or assessment and remediation plan consistent with part 7052.0200.

D. Any exceptions to the mixing zone phase-out provision for existing discharges of BCCs granted under this subpart must:

(1) not result in any less stringent effluent limitations than those existing on March 9, 1998, in the previous permit;

(2) not jeopardize the continued existence of any endangered or threatened species listed under chapter 6134 or section 4 of the Endangered Species Act, United States Code, title 16, section 1533, or result in the destruction or adverse modification of such species' critical habitat;

(3) be limited to one permit term unless the agency makes a new determination in accordance with this subpart for each successive permit application in which a mixing zone for the BCCs is sought;

(4) reflect all information pertaining to the size of the mixing zone considered by the agency under subpart 2;

(5) protect all designated and existing uses of the receiving water;

(6) meet all applicable aquatic life, wildlife, and human health standards and criteria at the edge of the mixing zone for a WLA in the absence of a TMDL, or, if a TMDL has been established, be consistent with any TMDL or such other strategy consistent with part 7052.0200;

(7) ensure the discharger has developed and conducted a GLI pollutant minimization program for the BCCs if required to do so under part 7052.0250, subpart 4; and

(8) ensure that alternative means for reducing BCCs elsewhere in the watershed are evaluated.

E. For each draft permit that would allow a mixing zone for one or more BCCs after March 23, 2007, the fact sheet or statement of basis for the draft permit, required to be made available through public notice under Code of Federal Regulations, title 40, section 124.6, paragraph (e), must:

- (1) specify the mixing provisions used in calculating the effluent limitations; and
- (2) identify each BCC for which a mixing zone is proposed.

**Statutory Authority:** *MS s 115.03; 115.44*

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