

Waste Discharge Program Guidance

TO: Water Licensing & Compliance Staff

FR: Brian Kavanah, DWRR Director

DA: 06/13/2001 **FINAL**

RE: **Antidegradation**

The purpose of this memo is to provide guidance in implementing the provisions of the State's antidegradation policy with respect to the licensing of point source discharges of waste water (either an existing discharge or a new or expanded discharge). This memo has been prepared in consultation with EPA, the DEP Division of Environmental Assessment, and the Maine Attorney General's Office.

This program guidance supercedes all previous memos and draft rulemaking proposals dealing with this topic.

Meeting the requirements of antidegradation is usually easy, because most licensing actions involve receiving waters that meet their assigned classification standards and that do not meet any higher standards. It is only infrequently—where a new or expanded discharge will lower water quality or where a receiving water meets the standards of a higher classification—that determining compliance with antidegradation becomes more involved.

WATER CLASSIFICATION PROGRAM

The objectives of Maine's water classification program, of which the State's antidegradation policy is a part, are set forth in State law at 38 MRSA § 464(1) as follows:

The Legislature declares that it is the State's objective to restore and maintain the chemical, physical and biological integrity of the State's waters and to preserve certain pristine state waters. The Legislature further declares that in order to achieve this objective the State's goals are:

- A. That the discharge of pollutants into the waters of the State be eliminated where appropriate;
- B. That no pollutants be discharged into any waters of the State without first being given the degree of treatment necessary to allow those waters to attain their classification; and
- C. That water quality be sufficient to provide for the protection and propagation of fish, shellfish and wildlife and provide for recreation in and on the water.

ANTIDegradation Policy

The State's antidegradation policy is set forth in State law at 38 MRSA § 464(4)(F). In summary, the provisions of the antidegradation policy are as follows:

- (1) Existing in-stream uses and the level of water quality necessary to protect those existing uses must be maintained and protected. [NOTE: 38 MRSA § 464(4)(F)(1) provides that existing uses are those uses which have actually occurred in or on a water body on or after November 28, 1975, whether or not the uses are included in the standards of the assigned classification.]
- (2) The existing water quality of outstanding national resource waters must be maintained and protected. [NOTE: 38 MRSA § 464(4)(F)(2) designates the following as outstanding national resource waters in Maine: waters in national and state parks and wildlife refuges; waters in public reserved lands; and waters classified as Class AA or Class SA.]
- (3) The DEP may only issue a discharge license or approve water quality certification if the standards of classification of the water body and all provisions of the antidegradation policy are met. [NOTE: 38 MRSA § 464(4)(F)(3) provides that a license may be issued where the discharge does not cause or contribute to the failure of the water body to meet standards.]
- (4) When the actual quality of any classified water exceeds the minimum standards of the next highest classification, that higher water quality must be maintained and protected. [NOTE: 38 MRSA § 464(4)(F)(4) provides that, when this provision is met, the Board of Environmental Protection shall recommend to the Legislature that the water body be reclassified.]

- (5) The DEP may only issue a discharge license or approve water quality certification which would result in lowering the existing quality of any water body after making the finding, following opportunity for public participation, that the action is necessary to achieve important economic or social benefits to the State. [NOTE: 38 MRS § 464(4)(F)(5) provides that, in approving any lowering of existing water quality, the DEP must still find that the standards of classification of the water body and all other provisions of the antidegradation policy are met.]

The State's antidegradation policy has been duly and fully approved by EPA (letters dated July 16, 1986; May 21, 1987; and December 20, 1990) as being in conformance with the requirements of the Clean Water Act and EPA's Water Quality Standards regulation (40 CFR Section 131.12).

ANTIDEGRADATION PROCEDURES AND CONSIDERATIONS

When issuing any discharge license, the DEP will include appropriate findings and conclusions regarding antidegradation. In cases involving a new or increased discharge, the DEP will include specific findings and determinations with respect to whether the discharge will result in a significant lowering of existing water quality and whether the lowering of water quality is necessary to achieve important economic or social benefits to the State.

EPA has provided guidance on the interpretation and implementation of state antidegradation policy. This guidance includes *Chapter 4 (Antidegradation) of EPA's Water Quality Standards Handbook (Second Edition, August 1994)*; "Questions and Answers on: Antidegradation" (August 1985), which has been published as Appendix G of EPA's Water Quality Standards Handbook; and "Region 1 Guidance for Antidegradation Policy Implementation for High Quality Waters" (March 10, 1987).

Drawing from the statutory language and EPA's guidance documents, the Department will base its implementation of the State's antidegradation policy in waste discharge licensing actions on the following considerations:

1. DETERMINATION OF EXISTING USES. In accordance with the provisions of 38 MRS § 464(4)(F)(1), existing in-stream uses are those uses which have actually occurred on or after November 28, 1975, in or on a water body whether or not the uses are included in the standards of classification of the particular water body. The determination of what constitutes an existing in-stream water use on a particular water body will be made by the DEP on a case-by-case basis. In making its determination of uses to be protected and maintained, the DEP shall consider designated uses for the water body and the following:

- (a) Aquatic, estuarine and marine life present in the water body;
- (b) Wildlife that utilize the water body;
- (c) Habitat, including significant wetlands, within a water body supporting existing populations of wildlife or aquatic, estuarine or marine life, or plant life that is maintained by the water body;
- (d) The use of the water body for recreation in and on the water, fishing, water supply, or commercial activity that depends directly on the preservation of an existing level of water quality. Use of the water body to receive or transport waste water discharges is not considered an existing use for purposes of this antidegradation policy; and
- (e) Any other evidence that, for considerations (a), (b) and (c) above, demonstrates their ecological significance because of their role or importance in the functioning of the ecosystem or their rarity (for example, threatened or endangered species) and, for consideration (d) above, demonstrates its historical or social significance.

2. EXISTING USES MAINTAINED AND PROTECTED. The determination of whether existing in-stream water uses and the level of water quality necessary to protect those existing uses is maintained and protected will be made by the DEP on a case-by-case basis. In accordance with the provisions of 38 MRSA § 464(4)(F)(1-A), the DEP may only issue a waste discharge license or approve water quality certification when it finds that:

- (a) The existing in-stream use involves use of the water body by a population of plant life, wildlife, or aquatic, estuarine or marine life, or as aquatic, estuarine, marine, wildlife, or plant habitat, and the applicant has demonstrated that the proposed activity would not have a significant impact on the existing use. "Significant impact" here means impairing the viability of the existing population, including significant impairment to growth and reproduction or an alteration of the habitat which impairs viability of the existing population; or
- (b) The existing in-stream use involves use of the water body for recreation in and on the water, fishing, water supply or commercial enterprises that depend directly on the preservation of an existing level of water quality and the applicant has demonstrated that the proposed activity would not result in significant degradation of the existing use.

In accordance with the provisions of 38 MRSA § 464(4)(F)(1-A), the DEP shall determine what constitutes a population of a particular species based upon the degree of geographic and reproductive isolation from other individuals of the same species.

3. OUTSTANDING NATIONAL RESOURCE WATERS. No license will be issued or renewed for any new, increased or existing point source discharge to outstanding national resource waters, as designated under 38 MRSA § 464(4)(F)(2).
4. STANDARDS OF CLASSIFICATION MET. In order to issue a discharge license, the DEP must find that (a) the standards of the assigned classification of the receiving water are met, or (b) where the standards of the assigned classification are not met, that the discharge does not cause or contribute to the failure of the receiving water to meet standards. The receiving water includes all waters, however distant, for which an effect from a discharge can be measured or modeled.
5. WATER QUALITY EXCEEDS CLASSIFICATION. Where any criterion of water quality (for example, dissolved oxygen, or bacteria, or aquatic life) exceeds the minimum standards of the next highest classification under critical water quality conditions, then that higher water quality criterion must be maintained and protected.

Critical water quality conditions include, but are not limited to, conditions of low flow, high water temperature, maximum loading from point source and non-point source discharges, and conditions of acute and chronic effluent toxicity.

6. EXISTING DISCHARGE. Where a licensing action involves an existing discharge for which no increase is proposed, and where the DEP determines that (1) existing in-stream water uses will be maintained and protected, and (2) the discharge is not to an outstanding national resource water, and (3) the standards of the assigned classification will be met in all receiving waters affected by the discharge or that the discharge will not cause or contribute to the failure of the receiving waters to meet standards, and (4) actual water quality is maintained and protected where any criterion of water quality exceeds the minimum standards of the next highest classification, then the requirements of the State's antidegradation policy will be deemed to be met.

7. NEW OR INCREASED DISCHARGE. Water quality that exceeds the minimum applicable standards will be managed by the DEP for the environmental, economic and social benefit of the State. Where a new or increased discharge is proposed, the DEP will determine whether the discharge will result in a significant lowering of existing water quality. For purposes of antidegradation:

- "New discharge" means a discharge that does not now exist or that is not currently licensed.
- "Increased discharge" means a discharge that would add one or more new pollutants to an existing effluent, increase existing levels of pollutants in an effluent, or cause an effluent to exceed one or more of its current licensed discharge flow or effluent limits, after the application of applicable best practicable treatment technology, as defined at 38 MRSA § 414-A(1)(D), or new source performance standards to the discharge.
- "Existing water quality" means the water quality that would exist under critical water quality conditions. Critical water quality conditions include, but are not limited to, conditions of low flow, high water temperature, maximum loading from point source and non-point source discharges, and conditions of acute and chronic effluent toxicity.

8. DETERMINATION OF SIGNIFICANT LOWERING OF WATER QUALITY.

In making a determination as to whether a new or increased discharge will result in a significant lowering of existing water quality, the DEP shall consider the following:

- A. The predicted change in ambient water quality, concentrations of chemical pollutants, or mass loading of pollutants under critical water quality conditions.
- B. The predicted consumption of the remaining assimilative capacity of the receiving water. The remaining assimilative capacity is the increment of existing water quality above the minimum standards of the assigned classification under critical water quality conditions.
- C. The predicted change in the ability of the receiving water to support aquatic life and to meet applicable aquatic life and habitat criteria.

- D. The possible additive or synergistic effects of the discharge in combination with other existing discharges.
- E. The cumulative lowering over time of water quality resulting from the proposed discharge in combination with previously approved discharges.

Based on the above considerations, the DEP will make a case-by-case determination as to whether a new or increased discharge will result in a significant lowering of existing water quality. However, in any case where the new or increased discharge will consume 20% or more of the remaining assimilative capacity for dissolved oxygen or other water quality parameter, the resulting lowering of water quality will be determined to be significant.

9. NO SIGNIFICANT LOWERING OF WATER QUALITY. Where the DEP determines that a new or increased discharge will not result in a significant lowering of existing water quality, and where the DEP further determines that (1) existing in-stream water uses will be maintained and protected, and (2) the discharge is not to an outstanding national resource water, and (3) the standards of the assigned classification will be met in all receiving waters affected by the discharge or that the discharge will not cause or contribute to the failure of the receiving waters to meet standards, and (4) actual water quality is maintained and protected where any criterion of water quality exceeds the minimum standards of the next highest classification, then the requirements of the State's antidegradation policy will be deemed to be met.

The posting of public notice, the opportunity to request a public hearing, and the opportunity for public comment on an application or draft license in which a determination is made that a new or increased discharge will not result in a significant lowering of water quality shall be provided in accordance with existing DEP rules (see Chapter 2 "Rules Concerning the Processing of Applications" and Chapter 522 "Application Processing Procedures for Waste Discharge Licenses").

10. DETERMINATION OF ECONOMIC OR SOCIAL NECESSITY. Where the DEP determines that a new or increased discharge will result in a significant lowering of existing water quality, the DEP will then determine whether the lowering of water quality is necessary to achieve important economic or social benefits to the State. In making this determination, the DEP shall consider the following:

- A. Whether the lowering of water quality is necessary to accommodate new or increased commercial activity or industrial production while providing that (1) the discharge consistently complies with applicable effluent limitations requiring application of best practicable treatment or new source performance standards and (2) any existing treatment facility is appropriate and is optimally maintained.
- B. Whether the lowering of water quality is necessary to accommodate operation of a new publicly owned treatment works or increased loading to an existing publicly owned treatment works while providing that the discharge consistently complies with applicable effluent limitations requiring application of best practicable treatment, as defined at 38 MRSA § 414-A(1)(D), and that any existing treatment facility is appropriate and is optimally maintained. Evidence that increased loading to a POTW is necessary may include, but is not limited to, population growth projections from a municipal comprehensive plan, additional waste water treatment requirements based on a combined sewer overflow (CSO) master plan, and the extension of public sewers to previously unsewered areas.
- C. The economic and social benefits that would result from the lowering of water quality. These benefits may include, but are not limited to, increases in employment, increases in local or regional income or purchasing power, increases in the community tax base, correction of an environmental or public health problem or nuisance situation (e.g., removal of overboard discharges or failing or substandard septic systems) and improved community stability. In the case of a lowering of water quality due to community growth, benefits may include an assessment of the economic and social consequences that would result if the new or increased discharge and the resulting lowering of water quality were not approved.
- D. The technical availability, economic feasibility, and environmental effectiveness of alternatives that could reduce or eliminate the lowering of water quality. Alternatives may include, but are not limited to, alternative discharge locations, non-discharging alternatives, alternative methods of production, improved process controls, waste water minimization technologies, improved waste water treatment facility operation and maintenance, alternative waste water treatment methodologies, and advanced treatment beyond applicable technology requirements.

- E. Public comments received in response to the public notice of an application for a waste discharge license, or as part of the official record of any public hearing held by the DEP on the application, or in response to any draft waste discharge license prepared by the DEP.

The posting of public notice, the opportunity to request a public hearing, and the opportunity for public comment on an application or draft license in which a determination is made as to whether a lowering of water quality resulting from a new or increased discharge is necessary to achieve important economic or social benefits to the State shall be provided in accordance with the DEP's existing rules (see Chapter 2 "Rules Concerning the Processing of Applications" and Chapter 522 "Application Processing Procedures for Waste Discharge Licenses").

Based on the above considerations, the DEP will make a case-by-case determination as to whether the lowering of existing water quality resulting from a new or increased discharge is necessary to achieve important economic or social benefits to the State.

- 11. LOWERING OF WATER QUALITY NOT APPROVED. Where the DEP determines that the lowering of water quality resulting from a new or increased discharge is not necessary to achieve important economic or social benefits to the State, then this lowering of water quality will not be approved, and the new or increased discharge will be denied or conditioned to prevent any lowering of water quality.

Where the DEP denies or conditions a new or increased discharge to prevent any lowering of water quality, and where the DEP determines that (1) existing in-stream water uses will be maintained and protected, and (2) the discharge is not to an outstanding national resource water, and (3) the standards of the assigned classification will be met in all receiving waters affected by the discharge or that the discharge will not cause or contribute to the failure of the receiving waters to meet standards, and (4) actual water quality is maintained and protected where any criterion of water quality exceeds the minimum standards of the next highest classification, then the requirements of the State's antidegradation policy will be deemed to be met.

12. LOWERING OF WATER QUALITY APPROVED. Where the DEP determines that that the lowering of water quality resulting from a new or increased discharge is necessary to achieve important economic or social benefits to the State, and where the DEP further determines that (1) existing in-stream water uses will be maintained and protected, and (2) the discharge is not to an outstanding national resource water, and (3) the standards of the assigned classification will be met in all receiving waters affected by the discharge or that the discharge will not cause or contribute to the failure of the receiving waters to meet standards, and (4) actual water quality is maintained and protected where any criterion of water quality exceeds the minimum standards of the next highest classification, then the requirements of the State's antidegradation policy will be deemed to be met, and the lowering of water quality will be approved. In approving the lowering of water quality, the DEP will assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for non-point source control, as stipulated in 40 CFR 131.12(a)(2).

A flow chart for implementing antidegradation review in the waste discharge licensing process is attached to this guidance.

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