MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Office of Water Resources Management

4900 Cox Road P. O. Box 11143 Richmond, Virginia 23230

SUBJECT: OWRM GUIDANCE MEMO NO. 94 -003
Classification of Effluent/Water Quality Limiting Segments and Relationship with Antidegradation Tiers

TO: Regional Directors

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INTRODUCTION:

The purpose of this guidance is to clarify the procedure for classification WQL segments and the relationship between WQL/EL segments and the tier 1, 2, and 3 designations for antidegradation.

There are similarities and differences in the criteria used for tier designations and segment classifications, however, **there is no definite relationship between the two** criteria. Because of the differences, a particular tier designation does not indicate a particular segment classification for a stream, nor does a particular classification of stream segment indicate a particular tier designation. Tier designations and segment classifications must be based only on the definitions for each concept and must be done separately on a case by case basis.

DEFINITIONS:

Water Quality Limited (WQL) Segments:

1. Any segment where it is known that water quality does not meet all water quality standards, and/or is not expected to meet all water quality standards (WQS), even after the application of technology based effluent limitations.

2. Any segment where limitations more stringent than technology based effluent limitations are required to meet the water quality standards or to comply with antidegradation. Note that antidegradation is a water quality standard.

Effluent Limited (EL) Segments:

Any segment where it is known that water quality currently meets and will continue to meet applicable water quality standards (including antidegradation), even after the application of technology based effluent limitations.

Tier 1:

Water quality information indicates that the water quality is **less than or equal** to the standards (standard just barely met) for one or more parameters for which standards exist with the exception of fecal coliform.

Tier 2:

Water quality information indicates that the water quality is **better** than standards for all parameters for which standards exist. If no information exists, the waters are assumed to be tier 2. Public water supplies and natural trout streams are also tier 2 waters regardless of existing quality.

Tier 3:

Waters which have been **designated** by the Board are in accordance with VR680-21-01.3.C.3. If it has not been so designated then it is not a tier 3 water!

Basis for Tier Designation and Segment Classification:

Water quality data collected from the stream segment, existing permit limits, water quality models, effluent data, etc. may be used to provide the information to determine if WQS are violated, are just barely being met or are being violated in a stream segment. Data used to make these determinations should be collected by the agency or approved by the agency.

The procedures to determine WQS violations for toxic parameters are found in OWRM Guidance Memorandum # 93-015 and violations for conventional parameters in the procedures manual for water quality assessment report (OWRM Guidance memorandum # 93-025.)

Segments with a violation of the fecal coliform standard should be classified WQL. However, fecal coliform information alone cannot be used as the basis for designating waters as tier 1 or 2 (see OWRM Guidance memorandum #93-015).

Antidegradation tier 1 waters (existing quality less than or just equal to WQS for one or more parameters, fecal coliform excluded):

When permit evaluation shows that water quality based limits are needed to maintain WQS, the segment should be classified WQL for those parameters with water quality based limits. The WQL classification is triggered when the decision is made that water quality based limits are needed. The fact that the permit is in draft, or the limits are in total recoverable, or the effective date of the limits is 3 or 4 years in the future do not alter the WQL classification.

If the permitting process shows that technology based limits are going to applied, then the segment should be classified EL.

Antidegradation tier 2 waters (existing quality better than WQS for all parameters, fecal coliform excluded):

These segments can be classified either as WQL or EL in the WQMP based on the following conditions:

1. If existing WQS or the antidegradation requirements can be maintained with effluent based limits, the segment classification should be EL.
2. If water quality based limits are needed to maintain existing WQS or to comply with antidegradation, the segment classification should be WQL.
3. If there is a violation of the fecal coliform standard, the segment should be classified WQL.

Related Concepts:

In the past, a number of WQL segment classifications were based on stringent BOD limits for application of antidegradation for DO sag. New information sometimes shows that some other WQS is violated which would make the stream tier 1 and limits more stringent than technology guidelines for BOD may no longer be needed. In these cases anti-backsliding would apply, the stringent BOD limits should be retained, the segment should be designated tier 1 and classified WQL because of the water quality based limits that must be maintained in the permit.

From OWRM Guidance Memorandum #92-015, **waters which are tier 1 for any parameter are be tier 1 for all parameters** in the effluent. Effluents to waters which are tier 1 need only meet the standards for all parameters regardless of the current situation (but note antibacksliding). They should not have tier 2 requirements applied for any parameter in the effluent!