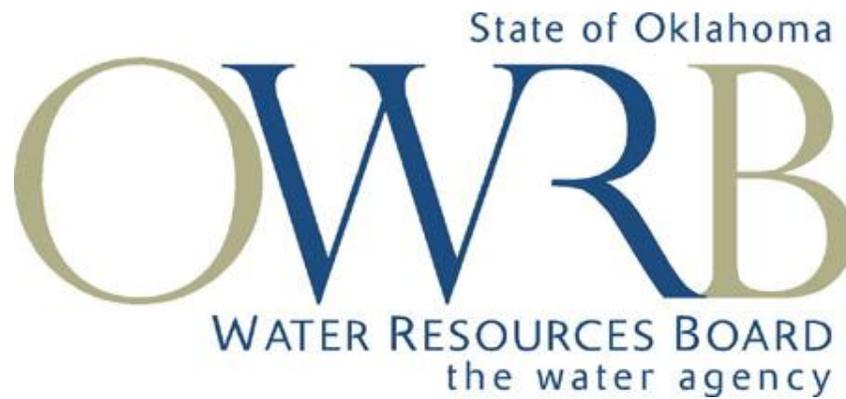


PROPOSED REVISIONS TO
OKLAHOMA ADMINISTRATIVE CODE
OAC 785:45 and 46



October 11, 2012

- 1. REVISIONS TO CLARIFY APPLICABILITY OF SEASONAL TEMPERATURES PRESCRIBED IN TABLE 1 OF APPENDIX G OF OAC 785:45**
- 2. REVISION TO OAC 784:45 TABLE 1 APPENDIX G TO RESTORE NOTE "1"**
- 3. REVISION TO THE USE SUPPORT ASSESSMENT PROTOCOL FOR LANGUAGE CONSISTENCY**
- 4. REVISIONS TO METHODS FOR DETERMINATION OF REGULATORY LOW FLOW**

1. REVISIONS TO CLARIFY APPLICABILITY OF SEASONAL TEMPERATURES PRESCRIBED IN TABLE 1 OF APPENDIX G OF OKLAHOMA ADMINISTRATIVE CODE (OAC) 785:45

The Oklahoma Department of Environmental Quality (ODEQ) has identified a problem with implementation of the dissolved oxygen (DO) criteria in discharge permits. The ODEQ has encountered some confusion regarding the applicability of the seasonal temperatures prescribed in Table 1 of Appendix G. These temperatures are used in the various models to determine allowable loading for oxygen demanding substances. The following edits in both the Oklahoma Water Quality Standards (OWQS) and the Implementation Rules are proposed to eliminate the ambiguity.

Chapter 45, OWQS Revision:

785:45-5-12. Fish and wildlife propagation

(Text omitted for brevity)

(f) Criteria used in protection of fish and wildlife propagation. The narrative and numerical criteria to maintain and protect the use of "Fish and Wildlife Propagation" and its subcategories shall include:

(1) Dissolved oxygen.

(A) Dissolved oxygen (DO) criteria are designed to protect the diverse aquatic communities of Oklahoma.

(B) Allowable loadings designed to attain these dissolved oxygen criteria are provided as follows:

(i) For streams with sufficient historical data, the allowable load shall be based on meeting the dissolved oxygen concentration standard at the seven-day, two-year low flow and the appropriate seasonal temperatures **prescribed in Table 1 of Appendix G of this Chapter.**

(ii) For streams lacking sufficient historical data, or when the appropriate flow is less than one (1) cubic foot per second (cfs), the allowable load shall be based on meeting the dissolved oxygen concentration standard at one (1) cfs and the appropriate seasonal temperature.

(iii) Provided, for streams designated in OAC 785:45 Appendix A as HLAC or WWAC which have sufficient historical data as determined by the permitting authority, the allowable BOD load may be based upon meeting the dissolved oxygen concentration standard at the applicable seasonal temperature and corresponding seasonal seven-day, two-year low flow.

(iv) Provided further, stream segments where dams or other structures have substantially affected the historic flow regime of the stream segment, including but not limited to the portions of the Verdigris and Arkansas Rivers constituting the McClellan-Kerr Arkansas River Navigation System, a properly designed and implemented site-specific hydrologic study approved by the permitting authority and the Board may be used to determine the appropriate regulatory low flow. In such circumstances, the allowable BOD load may be

based upon meeting the dissolved oxygen concentration standard at the applicable seasonal temperature and the site-specific regulatory low flow.

(C) Except for naturally occurring conditions and as modified in (D) of this paragraph, the dissolved oxygen criteria are as set forth in Table 1 of Appendix G of this Chapter.

(D) For purposes of assessment, listing and reporting under sections 303(d) and 305(b) of the federal Clean Water Act as amended, the procedure for determining use support of the Fish and Wildlife Propagation beneficial use or any subcategory thereof with respect to dissolved oxygen shall be as follows:...

(Subsequent text omitted for brevity, see 785:45-5-12)

Chapter 46, Implementation Rule Revision:

785:46-19-3. Reasonable potential determination

(a) A permit limit for oxygen demanding substances is required if there is a reasonable potential that the dissolved oxygen criteria will not be satisfied. Such a reasonable potential is demonstrated whenever an existing discharger proposes to increase the concentration or load of oxygen demanding substances, a new discharge of oxygen demanding substances is created, or a receiving waterbody is reclassified to a subcategory of the Fish and Wildlife Propagation beneficial use with a more stringent dissolved oxygen criterion.

(b) The permitting authority may base its determination of the reasonable potential upon meeting the dissolved oxygen standard at the applicable regulatory low flow and at the applicable seasonal temperatures prescribed in Table 1 of Appendix G of OAC 785:45.

2. REVISION TO OAC 784:45 TABLE 1 APPENDIX G TO RESTORE NOTE “1”

Prior to 2002 when Appendix G was created to provide convenient access to all criteria in the OWQS, the title to the dissolved oxygen criteria in Table 1 had the following note applied: “¹ For use in calculation of the allowable load”. In subsequent revisions of the OWQS the superscript “¹” was inadvertently dropped. This proposed revision will restore the missing note reference.

Table 1.

Dissolved Oxygen Criteria to Protect Fish and Wildlife Propagation
and All Subcategories Thereof  ←

SUBCATEGORY OF FISH AND WILDLIFE PROPAGATION (FISHERY CLASS)	DATES APPLICABLE	D.O. CRITERIA (MINIMUM) (mg/L)	SEASONAL TEMP. (°C)
Habitat Limited Aquatic Community			
Early Life Stages	4/1 - 6/15	4.0	25 ³
Other Life Stages			
Summer Conditions	6/16 - 10/15	3.0	32
Winter Conditions	10/16 - 3/31	3.0	18
Warm Water Aquatic Community			
Early Life Stages	4/1 - 6/15	6.0 ²	25 ³
Other Life Stages			
Summer Conditions	6/16 - 10/15	5.0 ²	32
Winter Conditions	10/16 - 3/31	5.0	18
Cool Water Aquatic Community And Trout			
Early Life Stages	3/1 - 5/31	7.0 ²	22
Other Life Stages			
Summer Conditions	6/1 - 10/15	6.0 ²	29
Winter Conditions	10/16 - 2/28	6.0	18

¹ For use in calculation of the allowable load.

² Because of natural diurnal dissolved oxygen fluctuation, a 1.0 mg/l dissolved oxygen concentration deficit shall be allowed for not more than eight (8) hours during any twenty-four (24) hour period.

³ Discharge limits necessary to meet summer conditions will apply from June 1 of each year. However, where discharge limits based on Early Life Stage (spring) conditions are more restrictive, those limits may be extended to July 1.

3. REVISION TO THE OAC 785:46-15 USE SUPPORT ASSESSMENT PROTOCOL (USAP) FOR LANGUAGE CONSISTENCY

The following revision is proposed to provide consistent language between clauses of 785:46-15-7:

785:46-15-7. Assessment of Public and Private Water Supply support

(a) **Scope.** The provisions of this Section shall be used to determine whether the beneficial use of Public and Private Water Supply or any subcategory thereof designated in OAC 785:45 for a waterbody is supported.

(b) **Toxicants.**

(1) The Public and Private Water Supply beneficial use designated for a waterbody shall be deemed to be fully supported with respect to any substance with criteria for such use listed in OAC 785:45 Appendix G if the sample concentrations from that waterbody do not exceed the criterion for that substance prescribed in OAC 785:45 Appendix G more than **10% of the measurements** or drinking water use restrictions are not in effect.

(2) The Public and Private Water Supply beneficial use designated for a waterbody shall be deemed to be not supported with respect to any substance with criteria for such use listed in OAC 785:45 Appendix G if the sample concentrations from that waterbody exceed the criterion for that substance prescribed in OAC 785:45 Appendix G more than **10% of the time measurements**, or drinking water use restrictions imposed by an agency with jurisdiction in effect require closure of the water supply.

4. REVISIONS TO METHODS FOR DETERMINATION OF REGULATORY LOW FLOW

The following revisions are proposed for 785:46-1-6. *Determination of regulatory low flow* to update the USGS statistical summaries document and to enable updates of the 7Q2 or seasonal 7Q2 if additional daily flow data have been collected:

785:46-1-6. Determination of regulatory low flow

(a) General.

(1) **7Q2.** The 7Q2 is calculated as a moving average of seven consecutive days for each year in a given record. These seven-day low flow values are ranked in ascending order. An order number (m) is calculated based upon the number of years of record (n), with a recurrence interval (R) of two years, as $m = (n+1)/R$, where R = two years. A value of flow corresponding to the mth order is taken as the seven-day, two-year low flow for those historical data.

(2) **Seasonal 7Q2.** The seasonal 7Q2 is calculated as a moving average of seven consecutive days for the applicable dates specified in Table 1 of Appendix G of OAC 785:45 in a given period of record. These seven-day low flow values are ranked in ascending order. An order number (m) is calculated based upon the number of seasons (n) specified in Table 1 of OAC 785:45 Appendix G during the period of record, with a recurrence interval (R) of two years, as $m = (n+1)/R$, where R = two years. A value of flow corresponding to the mth order is taken as the seasonal seven-day, two-year low flow for those historical data.

(b) **Primary method for determination.** If the 7Q2 or seasonal 7Q2 for a given stream or stream segment is determinable from the "United States Geological Survey publications entitled "Statistical Summaries of Streamflow in Oklahoma through 2007", "Statistical Summaries of Streamflow in Oklahoma through 1999" or "Statistical Summaries of Streamflow Records in Oklahoma and Parts of Arkansas, Kansas, Missouri and Texas Through 1984", or the latest version of the Water Quality Management Plan published by the Department of Environmental Quality, then that 7Q2 and seasonal 7Q2 shall be conclusive except as provided otherwise in this section.

(c) Alternative methods for determination of 7Q2 or seasonal 7Q2.

(1) In lieu of determining the 7Q2 or seasonal 7Q2 as provided in (b) of this Section, the 7Q2 for a given stream or stream segment may be determined by an affected person or the permitting authority if all of the following conditions are satisfied:

(A) A hydrological modification affecting the flow in the stream is documented to the satisfaction of the Oklahoma Water Resources Board and permitting authority.

(B) At least 10 years of daily flow data comporting with the requirements of this section are available; and

(C) Data from the entire period of record for the stream, unless a different time frame of record is approved by the Board and the permitting authority, are used in the calculation.

(2) If the 7Q2 or seasonal 7Q2 for a given stream or stream segment is not determinable as provided in (b) or (c)(1) of this Section or if additional daily flow data have been collected, then the 7Q2 or seasonal 7Q2 for that stream or stream segment

may be determined by an affected person or the permitting authority using the calculations provided in (a) of this Section, provided at least 10 years of daily flow data are available for that stream.

(3) If the flow is affected by contributions from gauged tributaries or other permitted discharges, then the 7Q2 or seasonal 7Q2 for a given stream or stream segment may be determined taking those contributions at 7Q2 or seasonal 7Q2, or both, into account on a case-by-case basis if approved by either the Board or the permitting authority.

(4) If the 7Q2 or seasonal 7Q2 for a given stream or stream segment is not determinable as provided in (b), (c)(1), (c)(2) or (c)(3) of this Section, then the 7Q2 or seasonal 7Q2 for that stream or stream segment may be determined by an affected person or the permitting authority using an estimate based upon limited data only if both the method for estimating, and the estimate itself, are approved by both the Board and permitting authority.

(Subsequent text omitted for brevity, see 785: 46-1-6)