

WATER QUALITY PERMITS

Policies & Procedures

Policy No.: WQP-2
Initiated By: RC-9
Approved By: Ronald J. Kumpke
Effective Date: 1/7/87
Revision No.: _____
Revision Date: _____

SIGNIFICANT DIGITS IN PERMIT LIMITATIONS

Purpose: To standardize the format and calculation procedures for permit limits.

Policy/
Procedure: Numerical permit limits will be specified to two significant digits at most. The following standard number rounding procedure will be used to accomplish this: Any number ending in 1-5 will be rounded down while any number ending in 6-9 will be rounded up. For example: A calculated fecal coliform limit of 3436 would end up as a 3400 limit while 3463 would give 3500 as a limit; a calculated ammonia value of 10.1 would go to 10.0 while a 9.9 value would result in a 9.9 limit; a zinc of 0.0526431 would result in a limit of 0.053.

Background: The accuracy and precision of biological, physical, and chemical test procedures are not 100% and the inherent analytical error or field deviation does not allow for exact numbers. In addition, the calculated number should never be accurate to more digits than the number of least digit accuracy used in the calculation. This translates to one- or two-digit accuracy most often in general water quality work. While one digit could lead to large differences from actual, two-digit accuracy will usually give reproducible results.