**Section 366.205 A4 Factor (Assessment of Existing Facilities)**

A4 is a factor that evaluates the need for the project in terms of its importance to the treatment works. It is calculated as the product of three elements: (the objective assessment of the existing facilities) x (the degree of utilization) x (frequency of permit violations) = A4.

a) The objective assessment will be completed based on the approved facility planning and the Agency's verification of the facilities planning's finding in terms of the adequacy, age, structural and/or mechanical reliability of the existing treatment units. The objective assessment for the particular project will be completed by the Agency prior to the completion of the facility planning. (See Appendix B.)

b) The degree of utilization will be calculated as follows:

1) For wastewater treatment facilities, ratio of the existing load to the design load will be calculated for both hydraulic and organic load as follows:

|  |  |  |
| --- | --- | --- |
| average organic load | or | 3 months low flow average |
| organic design |  | hydraulic design |

The larger of the two ratios will be used in the A4 calculation.

|  |  |  |
| --- | --- | --- |
| 2) | For wastewater transportation facilities: | existing peak flow |
|  |  | design peak |

3) Where relief sewer capacity is proposed, the degree of utilization will be calculated at the point in the treatment works where the greatest reserve capacity exists.

c) The permit exceedance element will be calculated as follows:

1) For wastewater treatment facilities, the permit exceedance element shall be based on monitoring report data for the previous calendar year as follows:

|  |  |
| --- | --- |
| number of months with a permit exceedance event | +1 |
| number of months reported |

Where:

A) BOD, suspended solids or phosphorus exceed the monthly limits or;

B) Ammonia nitrogen, chlorine or toxics exceed the monthly or maximum limit as specified in the permit.

The permit exceedance element shall be based on the single parameter that is addressed by the project with the greatest ratio of permit exceedance; or

2) For sewer system improvements an alternate calculation will be utilized as follows based on the information in the approved facility planning:

For overflow and/or bypass events, number of occurrences in last year:

|  |  |  |
| --- | --- | --- |
| 0-5 | = | 1.2; |
| 6-10 | = | 1.4; |
| 11-15 | = | 1.6; |
| 16-20 | = | 1.8; |
| >20 | = | 2.0; |

or

3) For basement back-ups the frequency and the number of affected basements will be used (number x frequency).

A) Average number of basements affected per occurrence:

|  |  |  |
| --- | --- | --- |
| 0-10 | = | 1.1; |
| 11-20 | = | 1.2; |
| 21-50 | = | 1.3; |
| 51-100 | = | 1.4; |
| >100 | = | 1.5. |

B) Annual frequency of occurrence of basement backups:

|  |  |  |
| --- | --- | --- |
| 0-5 times | = | 1.1; |
| 6-10 times | = | 1.2; |
| 11-15 times | = | 1.3; |
| 16-20 times | = | 1.4; |
| >20 times | = | 1.5. |