RECOMMENDED PERCENT REDUCTIONS TO USE IN URBEMIS FOR BASIC AND ENHANCED CONSTRUCTION CONTROL PRACTICES

The fugitive PM dust emission level estimated by URBEMIS2007 consists of two separate source categories. Of the total fugitive PM dust emissions estimated by URBEMIS 79% results from soil disturbance activities and 21% results from entrained road dust. The percent reductions achieved by implementation of the Basic Construction Emission Control Practices have been quantified in URBEMIS2007 using mitigation measures that affect both source categories. The Water Exposed Surfaces 2x Daily mitigation measure results in a 55% reduction of fugitive PM dust emissions from soil disturbance activities, while the Reduce speed on unpaved roads to less than 15 mph mitigation measure results in a 44% reduction of fugitive PM dust emissions from entrained road dust. Therefore, the total reduction associated with implementation of the Basic Construction Emission Control Practices is approximately 53% (i.e., (79% × 55%) + (21% × 44%)).

The District considers 75% to be the total maximum quantifiable reduction of fugitive PM dust emissions reasonably assumed to be controlled by implementation of the Basic *and* Enhanced Construction Emission Control Practices. Therefore, implementation of the Enhanced Construction Emission Control Practices would reduce fugitive PM dust emissions by an additional 22% (i.e., from 53% to 75%). In order to quantify this additional percent reduction from the Enhanced Construction Emission Control Practices (i.e., 22%), the District suggests using the Equipment loading/unloading mitigation measure as a surrogate. The District recommends entering 63% in the Equipment loading/unloading mitigation of the construction phase in order to have URBEMIS show emission levels after the combined 75% reduction.

The following example outlines these calculations in greater detail. Assume a construction project that generates a total of 100 pounds (lb) of fugitive PM dust per day without any mitigation,

> 100 lbs × 79% = 79 lbs of fugitive PM dust generated by soil disturbance activities
>
> 100 lbs × 21% = 21 lbs of fugitive PM dust generated by entrained road dust

The fugitive PM dust emission level after implementation of Basic Construction Emission Control Practices, including a 55% reduction in fugitive PM dust emissions from soil disturbance activities and a 21% reduction in fugitive PM dust emissions from entrained road dust, would be:

(79 lbs × (1 – 55%)) + (21 lbs × (1 – 44%)) = 47 lbs

The above equation yields an approximate combined reduction of 53%.

The fugitive PM dust emission level after implementation of the Basic *and* Enhanced Construction Emission Control Practices

(79 lbs × (1 – 55%) × (1 – 63%)) + (21 lbs × (1 – 44%)) = 25 lbs

The above equation yields an approximate combined reduction of 75%.