

Mitigation Measure 4.2-3a (Fugitive Emissions from Unpaved Areas)

No additional feasible mitigation measures are available for the control of fugitive dust.

Implementation of Policies DE 5.1e, 5.1h, 5.1g, 5.1i, 5.1h, 6.1b, 6.1a, 6.1d, 6.2c, and 7.1d, 6.1b of the Element would reduce and control PM₁₀ emissions from fugitive dust at future or expanded dairies. Implementation of Policy DE 5.1e (stabilization) could reduce PM₁₀ emissions from unpaved corrals at new and expanded dairies between 202 and 3,503 tons per year (Table 4.2-6). However, even after implementation of this mitigation measure, PM₁₀ emissions generated from a dairy may still exceed the SJVUAPCD PM₁₀ threshold of 15 tons per year. Therefore, PM₁₀ emissions from fugitive dust generated during project operations are conservatively considered to constitute a significant and unavoidable impact.

Mitigation Measure 4.2-3b (Secondary PM_{2.5})

No additional feasible mitigation measures are available.

Implementation of Policies DE 3.1a, 5.1c, 5.1e, 6.1a, 6.2d, 6.3a, and 6.1b would be expected to reduce ammonia generated from dairy facilities and would also reduce other air pollutants generated from cattle manure. As a result, PM_{2.5} emissions (as ammonium nitrate) would also be reduced. However, testing methods are not currently readily available to quantify the reduction in ammonia from advanced treatment technologies, although the VS removal efficiency level of a treatment system may be considered an appropriate indicator for determining the remaining potential for treated manure to emit air pollutants to the atmosphere. In addition, temporarily stockpiled manure would release ammonia. It is considered infeasible to immediately treat all manure generated at dairies operated in conformance with the Element. Therefore, the impact would remain significant and unavoidable.

Mitigation Measure 4.2-3c (Equipment Exhaust)

No additional feasible mitigation measures are available.

Implementation of Policy DE 5.1i would reduce the potential for PM₁₀ emissions from exhaust sources although the amount of the reduction is unknown. However, PM₁₀ emissions are already considered to constitute a significant and unavoidable impact due to fugitive dust sources from dairy operations.

Impact 4.2-4

Operation of new or expanded dairies could increase exhaust emissions from agricultural and dairy equipment. This is a less-than-significant impact.

Under existing conditions, approximately 245,300 acres subject to the Element are currently used for cropland and approximately 4,756 acres are occupied by existing dairies. Land preparation, planting, cultivation, harvesting, and postharvesting activities of the cropland would involve the use of diesel-fueled equipment, such as stalk cutters, cultivators, discing equipment, seeder, dressing- and mulch-related equipment, tractors, trucks, and miscellaneous equipment. Similarly, dairy operations would also involve the use of diesel-fueled equipment such as dairy diesel-fueled equipment such as feed trucks, tractors, and miscellaneous equipment. Ozone precursor (ROG and NO_x) and PM₁₀ emissions are generated from use of diesel-fueled equipment.

Based on the theoretical capacity of Kings County to host dairies, approximately 9,817 acres of existing crop land would be converted into new or expanded dairy facilities under the Element. The net increase of ROG, NO_x, and PM₁₀ emissions generated for an area converted from cropland to dairy facilities would depend on the specific types of equipment used, length of equipment operation, equipment rating, equipment annual operating hours, and crop type originally grown. For example, if approximately 100 acres of cropland growing corn and wheat is converted into a 5,000-milk cow dairy facility, a net increase of 0.4, 4.6, and 0.3 tons per year of ROG, NO_x, and PM₁₀ emissions could be generated from diesel exhaust used at the dairy facility. This estimate assumes that one tractor, one manure truck, and two pieces of miscellaneous equipment are used at the dairy on a daily basis.

Although the actual sizes of future dairies under the Element are currently unknown, it is unlikely that the net increase of exhaust emissions generated from the use of dairy farm equipment would generate a net increase of ROG, NO_x, and PM₁₀ emissions at concentrations greater than the SJVUAPCD threshold levels. The Element includes **Policy DE 5.1j** as a mechanism to ensure that the net increase in exhaust emissions would not exceed the SJVUAPCD threshold levels for ROG, NO_x, and PM₁₀. The policy requires that, as part of the technical report to be submitted with each application to either establish a new dairy or expand an existing dairy, dairy applicants shall be required to estimate the anticipated net increase in ROG, NO_x, and PM₁₀ emissions generated from anticipated dairy equipment (including cropland and dairy farm equipment) compared to existing conditions and demonstrate that the net increase will not exceed the SJVUAPCD threshold limits for ROG, NO_x, and PM₁₀. Implementation of this policy would reduce the impact of dairy equipment exhaust emissions to a less-than-significant level.

Mitigation Measure 4.2-4

None required.