

Heated Separator Insulation

Program Description

This strategy to reduce ambient ozone levels within the non-attainment area (NAA) involves modifying Colorado Air Quality Control Commission Regulation No. 7 (Reg. 7) by requiring that new and existing heated separator vessels located within the NAA be insulated.

Separators are used at exploration and production (E&P) sites to separate produced oil or gas into phases. For example, the separator will remove condensate from natural gas at a natural gas well-head. Insulating separators reduces fuel use and subsequently reduce combustion emissions.

Air Quality/Health and Welfare Benefits

Implementation of this strategy would reduce volatile organic compounds (VOCs), as well as combustion emissions (nitrogen oxides [NOx] and carbon monoxide [CO]). However, emissions from well-site production heated separators are low because the units are small, so insulation of separators would not lead to large emission reductions.

While health benefits are not quantified here, it is understood that reducing direct emissions of VOC, NOx, and CO will reduce air toxics and other criteria pollutants. This will reduce the incidence of human health impacts caused by pulmonary, cardiovascular, respiratory, and nervous system disease. Because ozone damages crops, forests, and other natural plant life, all would benefit if emissions are reduced. NOx reductions benefit wildlife by reducing contributions to nitrogen deposition. This strategy would also reduce emissions of methane and other greenhouse gases, which contribute to climate change.

Program Costs

It may not be economically feasible to insulate separators if the cost recovery factor from reduced fuel use over the anticipated life of the unit shows a negative return on investment. At this time, it is not clear how much insulation is needed to cut fuel consumption, thus reducing emissions. Because fuel consumption is reduced, additional natural gas can be put into the sales line. The cost basis and frequency of maintenance and ultimate replacement of insulation needs to be identified.

Implementation/Administration

To be determined.