Air Quality Q&A: Bingham Canyon Mine Air Permit Controls
May 2012

On June 27, 2011 the Utah Division of Air Quality (UDAQ) issued an amended Approval Order (AO) for the Bingham Canyon Mine, allowing Kennecott Utah Copper LLC (KUC) to increase the material moved limitation from 197 million tons per year of ore and waste rock combined to 260 million tons per year.

Regulators rigorously reviewed the application documents to ensure that health based air quality requirements would be protected under the conditions of the new AO. Public comments were submitted on the draft permit and public hearings were held on February 22, 2011 and March 7, 2011. As a result of this rigorous regulatory and public review process, the final amended AO contained enhanced control and monitoring requirements to ensure ongoing compliance under the new permit.

The amended AO requires that KUC reduce its potential (that is, its worst case) emissions from the Bingham Canyon Mine by at least 2,600 tons per year of PM10 and precursors (26% reduction) and over 1,900 tons per year of PM2.5 and precursors (24% reduction).


The increase in material moved will result in a decrease in emissions for four primary reasons:

1. While KUC may increase the amount of material moved at the Bingham Canyon Mine, it may not increase the total miles driven by haul trucks per day. This daily miles traveled limit has remained fixed since 1999.

2. KUC will purchase larger haul trucks. Larger trucks allow the same amount of material to be moved in fewer miles, reducing the amount of dust from roads thereby reducing emissions.

3. KUC will purchase more efficient haul trucks thereby decreasing vehicle tailpipe emissions.

4. KUC will continue to implement a series of aggressive measures to reduce fugitive dust. In addition to the watering program, these measures include the required application of roadbase material and commercial dust suppressants on haul roads.

The amended AO also requires measures to ensure that air quality is protected:

5. For the first time, the AO includes enforceable caps on emissions of PM10 and PM2.5 and their precursors. Total actual emissions from the Bingham Canyon Mine shall not exceed 7,350 tons per year of PM10 and precursors, and 6,205 tons per year of PM2.5 and precursors. The caps on emissions are enforced on a 12-month rolling basis, meaning that KUC must calculate the mine’s emissions each month for a new rolling average.

6. Historic monitoring data from Copperton and Herriman, Utah shows that air quality near the mine has the lowest levels of particulate matter in the Salt Lake Valley (http://www.airmonitoring.utah.gov/network/review.htm). Still, the AO requires KUC to install a new air monitoring station to the south of the mine, to upgrade an existing monitoring station to the north of the mine in Copperton, and to report the results quarterly from both monitors. The monitors have been sited to ensure that mining activity is not causing or contributing to an exceedance of national air quality standards.
If monitored concentrations are measured at 90% of the air quality standard at either station, a review of mine activities and other sources will be required. As a result of the review, UDAQ may require modifications to control practices to avoid future elevated concentrations.

7. Even though KUC reduced potential emissions from the mine, 5,485 tons per year of banked emission credits were relinquished, which credits could otherwise be used to offset future emission increases either at KUC’s operations or at other operations in the valley.