



STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Jim Gibbons, Governor

Allen Biaggi, Director

Leo M. Drozdoff, P.E., Administrator

For Immediate Release:
April 12, 2007

NEWS RELEASE

Contact: Dante Pistone
775.687.9395

Mercury Fugitive Emissions Contract Awarded

CARSON CITY – A University of Nevada researcher has been awarded a \$250,000 contract to conduct a two-year research project to characterize mercury emissions to the atmosphere from areas of mining waste, the Nevada Division of Environmental Protection (NDEP) announced today.

“Mercury emissions from mine waste rock, heap leach and tailings areas have been the subject of much speculation and concern over the past few years,” said Leo Drozdoff, administrator of NDEP. “We believe this research will provide sound scientific data to help answer many of the questions surrounding this issue.”

The project will be conducted by world-class researcher Dr. Mae Gustin, associate professor in the University of Nevada, Reno’s Department of Natural Resources and Environmental Sciences. Gustin will partner with Dr. Frank Marsik of the University of Michigan Air Quality Laboratory in Ann Arbor, one of the premiere research facilities in the world with respect to air quality issues.

“This project will allow us to begin to understand the significance of fugitive mercury emissions from mining disturbed areas relative to those occurring from anthropogenic point sources and natural sources in the state,” said Gustin. “In addition, we will develop a dataset of atmospheric mercury concentrations for mining disturbed areas.”

The research will:

- Determine mercury emissions from active and reclaimed waste rock, heap leach and tailings facilities from two different mining operations in Nevada;
- Develop data that will provide a framework for comparing emissions from mining disturbed areas to undisturbed naturally mercury enriched areas in the state;
- Be conducted in a manner that ensures statistically valid sampling, and a scientifically sound basis for comparison of emissions from undisturbed and disturbed areas;
- Be designed to take into account daily, seasonal, geologic and weather-related variations that might affect mercury emissions rates.

“There’s a serious lack of solid scientific information on this subject, and, as a result, there’s a lot of misinformation floating around in the media and on various websites,” said Colleen Cripps, Ph.D., deputy administrator for NDEP in charge of air programs. “This research will help fill that information void.”

Cripps noted that NDEP is already involved with UNR in two other research initiatives relating to mercury
(more)

Mercury Research
Add 1-1-1-1

emissions. In March of last year, UNR and NDEP received a \$364,000 National EPA Air Toxics grant for the development of an economical, easily deployable sampling system to detect mercury in the air. Such a system could be widely deployed in the remote areas of rural Nevada. Last September, NDEP also partnered with the U.S. Environmental Protection Agency (EPA) to provide partial funding for two Mercury Deposition Network (MDN) sites in rural Nevada that were in danger of closing due to lack of funding. In addition, a third site is now located on the UNR farm on east McCarran Blvd. near Mill St. as part of the Air Toxics grant. The MDN sites are part of a national network of sites that provide a consistent survey of mercury deposition in precipitation, with the goals of identifying long-term pattern changes in deposition rates over time and space; providing high-quality data for use in estimating deposition rates locally and between sites, and providing sound scientific data to assist in the development of future mercury policy and modeling efforts.

Mercury is a naturally occurring metal that is geologically concentrated in areas with volcanic, geothermal and past hydrothermal activity (responsible for forming metal deposits). It is naturally associated with gold and silver deposits, and can take different forms. Mercury is emitted to the air from naturally enriched soils and metal deposits as elemental or metallic mercury. Metallic mercury is a shiny, silver-white odorless liquid. Like water, liquid elemental mercury evaporates and enters the atmosphere where it is a colorless, odorless gas. Once emitted, elemental mercury is transported and deposited globally, regionally and locally. Because of Nevada's highly mineralized geology, the state is home to large areas of naturally occurring mercury. Volcanoes, geothermal areas and forest fires are also natural sources of mercury.

Known anthropogenic (human caused) sources of mercury include: thermal units in precious metal mining operations; coal combustion primarily from electric generating plants; medical waste incinerators, scrap metal recycling; geothermal heat recovery; and historical mining releases. Given the Silver State's history of gold and silver mining, its present-day boom in precious metal mining, along with its continued popularity as a site for coal-fired electric generating plants and geothermal operations, anthropogenic mercury emissions are a growing environmental concern in the state, according to Cripps.

The EPA estimates that more than 6,000 tons of mercury is emitted into the atmosphere each year. Anthropogenic sources in the U.S. contribute an estimated 123 tons per year to the atmosphere, and Nevada's contribution is estimated at two tons. Once mercury is released from natural and anthropogenic sources, it mixes into the atmosphere, and scientists cannot predict where the emissions will ultimately be deposited.

In 2006, NDEP adopted regulations mandating mercury emission controls on precious metal mining facilities and coal-fired electric generating plants in Nevada.

The primary pathway to exposure for humans is through the consumption of fish in which mercury has bio-accumulated. As a result, state governments have issued health advisories cautioning those who are most vulnerable to limit their consumption of certain fish. Mercury is a neurotoxin. Exposure to too much mercury can impact unborn and young children. It can harm development of their brains and their ability to think and learn. It can also harm the heart, kidneys, lungs, and immune system of children and adults.

More information on mercury in Nevada can be obtained by visiting NDEP's website at:
<http://www.ndep.nv.gov/mercury/index.htm>