

DRAFT
ISPAT INLAND MINING MERCURY VOLUNTARY
REDUCTION AGREEMENT

Introduction

Ispat Inland Mining Company is located approximately 3 miles north of the City of Virginia. It is the smallest of the seven Minnesota taconite plants producing about 2.8 million long tons of fully fluxed pellets annually. The process utilizes conventional ore crushing, wet grinding, magnetic separation and flotation to liberate the magnetite. In addition, limestone/dolomite (flux) is crushed, wet ground and added to the iron concentrate slurry at a rate of about 12%. Pellet balling is done in balling discs and the green fluxed pellets are indurated in a Dravo Straight Traveling Grate Furnace. Pellets are shipped to Ispat Inland's Indiana Harbor Works where they are the main feed stock for Ispat Inland's # 7 Blast Furnace.

Proposed Voluntary Agreement Activities

Stack Emissions

The primary process fuel for the indurating process is natural gas, with #2 fuel oil as the back up fuel in the event of a natural gas curtailment. Natural gas emits the least amount of mercury of all the process fuels available.

Process gas emissions are cleaned by passing them through multiclones and then venturi rod wet scrubbers. (This technology is expected to be MACT for Taconite). Currently no technology exists to remove low levels of elemental mercury taconite process exhaust gas.

Ispat Inland Mining Company proposes to perform stack testing on its process stacks to quantify mercury emissions. Mercury emissions will be speciated and quantified. Pre and Post scrubber samples will be analyzed. Pellet green ball and fired pellets will also be tested for mercury as well as scrubber and tailings basin water. This testing is expected to be conducted by 2002.

Laboratory Mercury Emissions

Ispat Inland Mining Company is in the process of changing its method of doing iron assays. The new process will eliminate mercuric chloride from the test. The change should be completed by 2001.

Elements Related to Mercury Containing Products

Ispat Inland Mining Company began replacing mercury containing products with non-mercury or low mercury containing products back in the late 1980's. Ispat will continue with this practice which includes:

- Mercury containing products currently in use will be identified and inventoried by reviewing the MSDS files. Mercury containing products will be replaced with non-mercury containing products if available.
- Purchasing department will flag products or equipment containing mercury. Non-mercury containing products and equipment will be purchased if possible.
- Mercury containing equipment in use at the mine will be inventoried and labeled. When the equipment needs replacing, it will be replaced by non-mercury containing equipment if available.
- Mercury vapor lights will be replaced with low mercury high pressure sodium lights.
- All fluorescent bulbs will continue to be recycled.
- All thermometers and thermostats containing mercury will be replaced with non-mercury thermometers and thermostats.

These efforts should be completed by 2005. Reductions will be quantified and documented.

Mercury Reductions Since 1990

Purchase orders, recycling records, manifests will be researched for reductions since 1990. Reductions will be quantified and documented.