



**Media Contact:**

Sue Markgraf  
GreenMark Public Relations  
847-970-9160, office  
smarkigraf@greenmarkpr.com

**For Immediate Release**

**Earthwise Environmental Case Study: Injection Molding Facility Clean Room**

**BENSENVILLE, Ill.** – A clean room medical injection molding facility invested more than \$1 million to install five new molding machines, as well as a new packaged pumping and filtration system designed to increase production speed of manufactured parts.

The facility was experiencing challenges. Filters were plugging with deposits and funneling cloudy water into the system, creating corrosion issues and lost production time. The overall cost of constant filter changes by employees was calculated in excess of \$200,000 annually.

The Earthwise Environmental Inc.™ engineering survey and inspection process found that while the new equipment was top-notch, the equipment upgrade did not include proper sanitation and anti-corrosion treatment of long sections of newly-installed black iron piping. The Earthwise Environmental engineering survey also found the overall system contained numerous ‘dead legs’ in piping runs as well as galvanic couples throughout the plant - factors contributing to system bacteria build-up.

Other trouble spots in the review by the Earthwise team of Certified Water Technologists determined the system contained high iron and copper levels and a low pH. The survey also discovered possible cross connection/contamination between the cooling tower and the chilled water loop feeding water into the injection process.

To solve the multiple issues and reduce unnecessary production downtime, Earthwise confirmed the need for sulfate-reducing bacteria (SRB) from the tower cross-connection and implemented on-line sterilization with a bio-dispersant and SRB biocide. Existing nitrite treatment procedures in place were replaced with silica treatment. Once the system was sterilized, Earthwise developed a program to automate the feed of biocide and likewise perform routine system water biological testing.

- more -

## **Earthwise Environmental Overview//Add One**

The facility review also resulted in equipment adjustments to improve overall efficiency and water quality. New dual filters were installed for the five new machines to eliminate downtime during changes as well as labor costs. The existing 125 micron filtration system with a screen-type backwash filter was eliminated in favor of 10 micron, bag-type full-flow filter vessel. The galvanized series couples were replaced with stainless steel manifolds, and a color-coded hose system was put in place to eliminate cross-contamination of the water tower and chilled loop system.

The facility reaped immediate and long-term benefits through implementation of the Earthwise recommendations, including:

- Immediate labor cost reductions through elimination of injection molding machine filter changes. Prior to implementation of Earthwise recommendations, facility employees spent an average of 20 minutes per filter change three times a week on five machines, totaling six hours of labor weekly at a cost of \$750 per hour. New filtration translates to labor savings of more than \$200,000 annually and a 60-day return-on-investment, plus additional production time.
- The changeover from galvanic couples to stainless steel manifolds saves labor and capital costs associated with corrosion and piping replacement.
- Long-term protection of the chilled piping system eliminates the future replacement need, a costly capital expenditure.
- Reduced energy costs through increased efficiencies at heat transfer by elimination of the bio fouling through the SRB biocide program.

###

**Earthwise Environmental Inc.™** provides environmentally-sound water management options to clients including hospitals, schools, hotels, food processing plants, light industrial and commercial buildings. The company offers proactive programs designed to reduce water consumption while helping clients understand the real energy impact of poorly managed water programs and the potential for energy savings. Earthwise also provides programs that manage and prevent waterborne diseases and is an established leader in the field of proactive control and education to prevent Legionnaires' disease created by the waterborne *Legionella* organism. Earthwise recommendations for Legionnaires' disease prevention exceed new industry standards set by ASHRAE. Chicago-area clients include Northwestern Memorial Hospitals, University of Chicago Hospitals, Soldier Field Stadium and Hamilton Partners' entire portfolio of commercial office buildings. For more about Earthwise Environmental, visit the company's newly redesigned website at [www.EarthwiseEnvironmental.com](http://www.EarthwiseEnvironmental.com).

**Attention Editors:** Robert Miller, founder and president of Bensenville, Ill.-based Earthwise Environmental Inc., is available for interviews on a wide variety of water management topics. To arrange an interview, contact Sue Markgraf, GreenMark Public Relations, at 847-970-9160 or [smarkgraf@greenmarkpr.com](mailto:smarkgraf@greenmarkpr.com).