

# CUSTOMER SERVICE NOTE

## ENVIRONMENTAL PROGRAMS

### Introduction

Micron Technology, Inc., is certified to the ISO 14001:1996 Environmental Management standard. Micron believes that environmental protection is a fundamental and integral part of doing business in the world today. Our environmental policy reflects this commitment:

*The mission of Micron Technology, Inc., is to become the most efficient and innovative global provider of semiconductor solutions. An integral part of this mission is a proactive approach to environmental compliance and protection that serves our team members, our customers, and the communities in which we operate.*

*Compliance with applicable environmental regulations is considered a minimum standard. Micron implements additional programs where appropriate to provide greater environmental protection. In developing environmental programs that go beyond legal compliance, Micron continually demonstrates the responsibility it feels toward its local and global communities.*

*An environmental team, which includes executive management and key operations personnel, is responsible for setting the goals of Micron's environmental effort and measuring our progress. The team implements our environmental goals and serves as a catalyst for all compliance and pollution prevention activities.*

*Micron has an active program for continuous reduction of chemicals in the manufacturing process. A chemical approval system is in place to review chemicals and their effects on associated waste streams prior to purchase and use. Micron identifies at the earliest stages those potential waste streams that should be eliminated or targeted for recycling.*

*Micron's pollution prevention, reclamation, and recycling efforts not only benefit the environment but reduce material, energy, and waste disposal costs. A significant part of Micron's recycling effort is the early evaluation of chemicals and equipment used in manufacturing. Micron has implemented aggressive,*

*self-funded reclamation programs and continues to explore new ideas and technology as they emerge.*

*Micron strives to reduce the burden on air, water, and land resources. Continuous improvement of our environmental performance is a long-term commitment of Micron's business mission and helps protect the future community.*

### Air Quality

Fugitive emissions represent one of the larger components of Micron's volatile organic compound (VOC) air emissions. Fugitive emissions result when a source material freely evaporates without being collected by an exhaust. At Micron, fugitive VOCs result primarily from solvents used to clean and to wipe down equipment.

Recognizing the problems posed by fugitive emissions, we explored measures to cut down on their release. An interdepartmental team, including members of our chemistry lab, contamination control group, production support, and garment support services worked to find a solution. In implementing an alternative cleaner, we succeeded in reducing our fugitive VOC emissions by 70 percent.

Over the years, Micron's ongoing effort to reduce air pollution has led to the evaluation of several different pollution prevention and control methods. We have completely eliminated Class I chlorofluorocarbons from our manufacturing process and have substituted a solvent that is approximately 80 percent less volatile. Micron has installed VOC abatement systems that are capable of achieving approximately 99 percent removal of process solvent VOC emissions.

Micron is continuing to look for innovative and effective means of eliminating air pollution. Over the past several years, prior to any established standards or proposed emission guidelines, we have spent several million dollars to reduce air pollutant emissions.

## Water Conservation

Semiconductor manufacturing requires pure water to clean semiconductor chips between production steps. However, it is costly to remove sufficiently the natural impurities in water. Therefore, it is environmentally and economically sound for Micron to look for innovative ways to reduce its dependence on outside water supplies. We now reclaim a large portion of the water needed for production processes and are conducting research and development in additional water reclamation processes. At one of our manufacturing facilities, we have spent more than US\$13 million on water recycling and conservation.

Micron's reclamation system is a model for change in the water use habits of the semiconductor manufacturing industry and earned Micron an award from the Pacific Northwest section of the American Water Works Association for innovation and commitment to water conservation.

## Pollution Prevention

Micron's pollution prevention efforts include identification of those chemicals that are the largest contributors to emissions and hazardous waste. A team evaluates possible solutions for reduction, elimination, or substitution of the chemicals. Substitution of a photolithography chemical has resulted in an 80 percent reduction in emissions.

All new chemicals must pass Micron's chemical review process before being introduced into the workplace. The process ensures compliance with regulatory requirements, evaluates potential environmental effects, and determines whether there is an alternative to its use.

## Reclamation and Reuse

Each of Micron's manufacturing facilities worldwide has various reclamation and reuse programs underway including waste collection systems that recover used phosphoric and sulfuric acids from our fabrication areas. The acids are either used by other companies to produce new products or are treated off-site.

The result of these reclamation and reuse projects is a reduction in the amount of materials that may be discharged or disposed of, and a reduction in manufacturing costs.

## Waste Recycling and Reduction

Among the materials included in Micron's existing recycling program are scrap metal, plastics, paper, cardboard, wafer boats, printer cartridges, copier toner, and other scrap components. In addition, Micron is continuously searching for other waste reduction opportunities.

NOTE: See CSN-08 for Micron's compliance with the ISO 14001:1996 standard.



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