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## Annual Report

For the period of January 1, 2012 through December 31, 2012

IM Flash Technologies, LLC

*Facility Name*

1550 East 3400 North  
*Facility Street Address*

Lehi  
*City*

84043  
*Zip*

## Project Status

On a separate sheet, summarize:

- your Clean Utah project commitments and accomplishments made to date,
- major indicators of environmental improvements (measurable ways that you are determining the environment is improving as the result of steps you are taking),
- public participation activities you have undertaken, and
- your project plans for next year, as they relate to this program.

## Certification Statement

*(to be signed by the senior facility manager)*

I certify that to the best of my knowledge the information outlined in the attached annual report is correct and that this facility continues to meet all program criteria and has an active EMS, as defined by the Clean Utah program. I further certify that this facility has conducted periodic assessments of compliance with legal requirements, has corrected all identified instances of noncompliance, and is currently in material compliance with all applicable federal, state, and local environmental rules and regulations.

Signed

February 7, 2013

Date

Brad Mortensen

Print Name

Facilities Manager

Title

REVIEWED  
IMFT LEGAL

## Project #1 - Reduce Hazardous Waste

IM Flash Technologies, LLC (IMFT) generates hazardous waste during the manufacture of semiconductor products. IMFT is committed to waste minimization and therefore, continuously strives to identify opportunities to reduce, reuse, or recycle chemicals used in the manufacturing process. A 20% reduction in hazardous waste generation over a two-year period was established as the target. The baseline period for this the reduction target is the year prior to the beginning of the project. Efforts to reduce hazardous waste have been economically beneficial to IMFT.

**Commitment:** Decrease hazardous waste generation by 20% from July 1, 2010 to June 30, 2012.

**Accomplishments:** Strategies to reduce hazardous waste by 20% and the current status of strategy are summarized in the following table.

Strategy	Description	Status
1	Install a more efficient waste collection system for arsenic waste	New waste collection system was installed. Waste stream was reduced by 85%
2	Segregate waste streams	Solvent waste streams were segregated using dedicated drain systems to increase waste solvent purity and ensure a desirable product.
3	Identify potential outlets that may reuse waste streams as useful products	Beginning 2012, an outlet was identified for one of the bulk solvent waste streams. This waste will now be recycled through reuse.

Indicators to demonstrate progress toward achieving this goal include: 1) mass of hazardous waste generated, and 2) Productivity Index (PI) based on manufactured product for the respective timeframe.

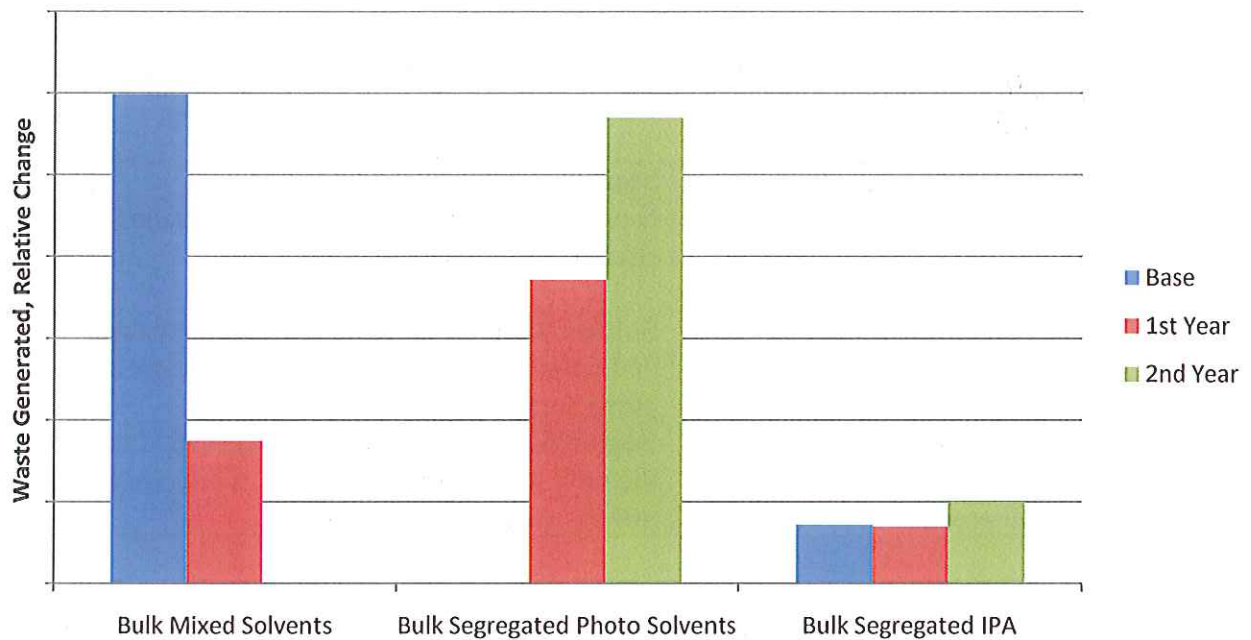
During the past two years, IMFT made significant improvements in the management of hazardous waste. The mixed solvent waste stream represented about 75% of the hazardous waste generated at IMFT. Figure 1. demonstrates the successful transition of segregating the solvent waste stream into two separate and more pure waste streams. The mixed solvent waste stream was reduced to zero during the 2<sup>nd</sup> year of this project. This effort created opportunity for additional disposal options which are environmentally beneficial. Rather than sending the photo solvents off-site for fuel blending and energy recovery, the solvents can now be reused through reclamation and distillation. The isopropyl alcohol (IPA) waste stream can now be reused as a product by another entity without treatment. This has eliminated the hazardous waste designation for the IPA waste stream.

**Indicators:** After the two year period, the total mass of hazardous waste remained relatively constant. Although IMFT did not meet the target of reducing the quantity of hazardous waste generated by the target date, the fraction of hazardous waste compared to total chemical waste generated was reduced approximately 10%. Furthermore, hazardous waste reduction efforts

have reduced the cost of disposal by approximately \$80,000 per year. Other results from this project and current waste management practices are as follows:

1. IMFT currently recycles hazardous waste at a rate > 97%
2. During calendar year 2012, 334,000 pounds of IPA were recycled through reuse.
3. During calendar year 2012, over 5 million pounds of chemicals were reused for beneficial purposes.

**Figure 1. Transition to Segregated Waste Streams**



## Project #2 - Improve Waste Water Treatment System

IM Flash Technologies, LLC (IMFT) generates waste water during the manufacture of semiconductor products. IMFT is committed to waste minimization and therefore, continuously strives to identify opportunities to reduce, reuse, or recycle chemicals used in the manufacturing process. Currently, waste water containing residual copper is treated using ion-exchange technology. It is proposed that a new treatment system be installed and operated to reclaim copper from waste water.

**Commitment:** Install and operate a copper reclaim system in a waste water stream to enhance copper removal and generate a useful product.

**Accomplishments:** IMFT is near completion and startup of a new copper reclaim system. IMFT has experienced some delays in the project plans that were not anticipated. Delivery of equipment from the vendor was delayed. Once the equipment arrived and was installed, safety deficiencies were identified prior to startup. A modification to improve the safety of the facility was designed. After startup, IMFT will track impacts this project has on waste generation and water quality.

**Indicators:** This project will significantly reduce or eliminate the ion-exchange resin hazardous waste stream that is accumulated for off-site disposal. The copper reclaim system will generate copper metal that may be recycled. This project is consistent with IMFT's commitment to conserve natural resources and minimize waste.

### Project #3 (Proposed) – Improve Boiler Efficiency

IM Flash Technologies, LLC (IMFT) operates natural gas-fired boilers to generate steam for humidification, process and comfort heating. Natural gas combustion is a relatively clean burning fuel. However, IMFT identified an opportunity to improve the efficiency of the steam generation process through the installation of an economizer on the exhaust stack of the new boiler.

**Commitment:** Install an economizer and operate the system during calendar year 2013.

**Accomplishments:** IMFT installed an economizer on a boiler that was installed in calendar year 2012. The boiler operation began in December 2012.

**Indicators:** This project will likely reduce the quantity of fuel combusted to generate steam. This project is consistent with IMFT's commitment to conserve natural resources and minimize waste (air emissions).

Following the initial capital investment, IMFT expects that there will be a cost savings to the company. This project has the potential to reduce fuel costs and combustion related emissions (including greenhouse gas emissions).