

# Federal-Mogul

CASE  
SUMMARY

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## FEDERAL-MOGUL

Burlington, Iowa  
Des Moines County

Intern: Katie Waterman  
Major: Manufacturing Technology  
School: The University of Northern Iowa



### The Company

Federal-Mogul is a large organization with 130 manufacturing facilities in 24 countries and more than \$4 billion in annual sales. The Burlington facility is part of the Ignition Products branch of Federal-Mogul, and produces approximately 600,000 spark plugs a day for numerous types of vehicles.

### Project Background

Federal-Mogul has a pollution prevention policy and is also ISO 14000 certified. Recycling programs for paper, soda cans and bottles, cardboard, metal shavings, scrap metal, and scrap parts are already in place.

### Incentives to Change

Federal-Mogul desires to minimize production of solid waste, hazardous waste and oil waste, and reduce disposal costs. Waste minimization is included as objectives and targets within the ISO 14000 management programs.

### Results

Twelve opportunities for potential annual saving are:

1. **Centrifuge** - \$24,565. During the process of making the shells, the parts go through an industrial washer. This system produces roughly 67,200 gallons of oily water waste a year. By adding a centrifuge before the washer, a minimum of one-third the waste, or 22,400 gallons of oily wastewater, should be reduced a year. This should produce an annual savings of \$24,565 or greater.
2. **Recycling Fiberglass Parts Pans** - \$215. The pans used to transport parts are made of fiberglass with a steel rim. Instead of sending the damaged pans to the landfill, they can be collected and recycled, reused, or repaired. This would divert approximately 3.3 tons from the landfill annually, and the company would see minimum annual savings of \$215. Additional savings may be realized through the repair of damaged pans versus the purchase of new pans.
3. **Increased Recycling Program** - \$1,070. Paper, cardboard, soda bottle and can recycle programs are already in place. With an expanded program and education, an additional ton could be diverted from the landfill annually, with



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savings of \$30 a year. To help expand the program and the company's involvement with the community, the local Boy Scouts have been asked to collect the cans and bottles and return them, providing approximately \$1,040 a year to the troop.

4. **New Parts Washers (3) - \$6,000.** Replacing three current parts washers with the same number of Mantek washers will give a reduction of 1,980 gallons of hazardous waste annually. The new washers will provide the company with \$6,000 annual savings.

5. **Reduce the Number of Parts Washers - \$9,465.** After evaluating the amount of use for each washer, eight washers were recommended for elimination. The elimination of the washers provides a reduction of 3,065 gallons of hazardous waste and savings of \$9,465 annually.

6. **Fewer Dust Hopper Pick-ups & New Waste Removal Company - \$7,080.** The savings from fewer pick-ups of the dust hoppers and switching to service provided by a local company will be \$7,080 annually. There will be no reduction in waste or raw materials.

7. **Reuse of Sillment Lab Scrap In-house - \$16,000.** With the reuse of the Sillment lab scrap, 72 tons could be diverted from the landfill, as well as eliminating 72 tons of raw materials purchase. This would give an annual saving of \$16,000 in raw material costs, tonnage fees and hauling fees.

8. **Reuse/recycle Production Sillment Scrap - \$1,800.** Through the Iowa Waste Exchange, 60 tons of production-floor Sillment scrap waste could be diverted from the landfill annually if an outlet is secured. Based solely on tonnage fees, more than \$1,800 in savings could be achieved annually, with the potential for greater savings.



9. **Reuse of Scrap Terminals - \$2,800.** About 280,000 useable terminals are scrapped annually, and could be salvaged at essentially no additional costs. Salvaging the terminals will decrease landfill wastes and raw materials purchasing costs. This would be a savings of \$2,800 a year.

10. **Reusable Absorbent Mats for Non-oil Applications - \$960.** Reusing absorbent mats would divert approximately 38 drums of waste, at approximately 50 pounds per drum, from the landfill as well as conserve 38 drums of raw material. A savings of \$960 annually will be realized by switching to the absorbent mat.

11. **Reusable Absorbent Mats for Oil - \$1,920.** Reusing absorbent mats for oil would divert approximately 86 drums of waste from the landfill, as well as conserve 86 drums of raw material. Savings of \$1,920 will be realized annually by switching to the absorbent mat.

12. **Disposable Shop Towels Replace Cloth Towels - \$58,000.** Currently, approximately \$99,900 is spent on cloth shop towels annually. These towels could be replaced by less expensive paper disposable towels, which can be sent to BFC in Cedar Rapids and burned for energy following use. Thus, there would be approximately 6 tons of towels diverted from the landfill and 35,000 cloth shop towels saved annually. This could be an annual saving of \$58,000.

Total opportunities for Federal-Mogul include 143.3 tons of solid waste diverted from the landfill, 5,045 gallons of hazardous waste eliminated, and 27,130 gallons of non-hazardous waste eliminated. A total saving of \$126,835 may be realized.