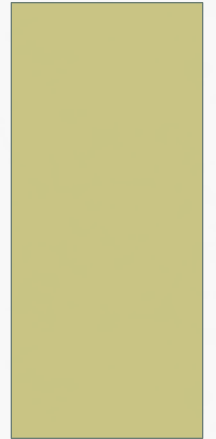


RECYCLING & ENERGY CONSERVATION

SCOTT SUTKOWSKI
SCHICK WILKINSON SWORD
MILFORD CONNECTICUT



MILFORD FACILITY



SCHICK BACKGROUND



- Schick merged with Wilkinson Sword in 1993. We have been part of Energizer since 2003.
- With the acquisition of Playtex in 2007, Energizer Holdings Inc formed the Energizer Personal Care (EPC) Division
- Since that time, EPC has expanded its presence in the wet shaving business by purchasing Edge/Skintimate and Personna/American Safety Razor

2000

Listed NYSE
spin off from
Ralston
Purina

2003

Energizer
acquired
Schick-Wilkinson
Sword

2007

Energizer
acquired
Playtex

2009

Energizer
acquires US
Edge* and
Skintimate

2010

Energizer
acquires ASR
private Label

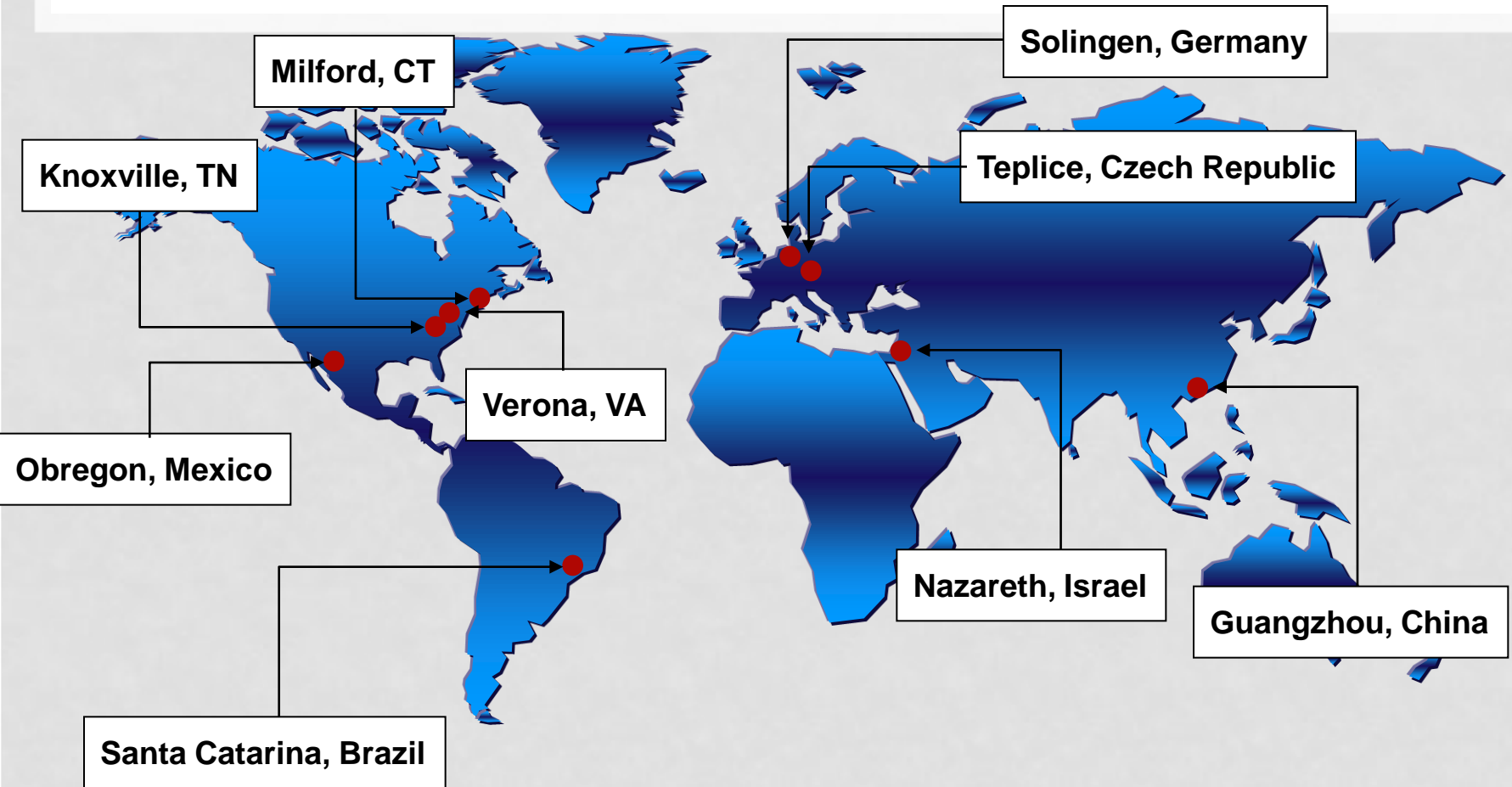
EPC BRANDS



- EPC offers a diversified range of consumer products in the wet shave, skin care, feminine care and infant care categories under several brand names



EPC WET SHAVING MANUFACTURING SITES



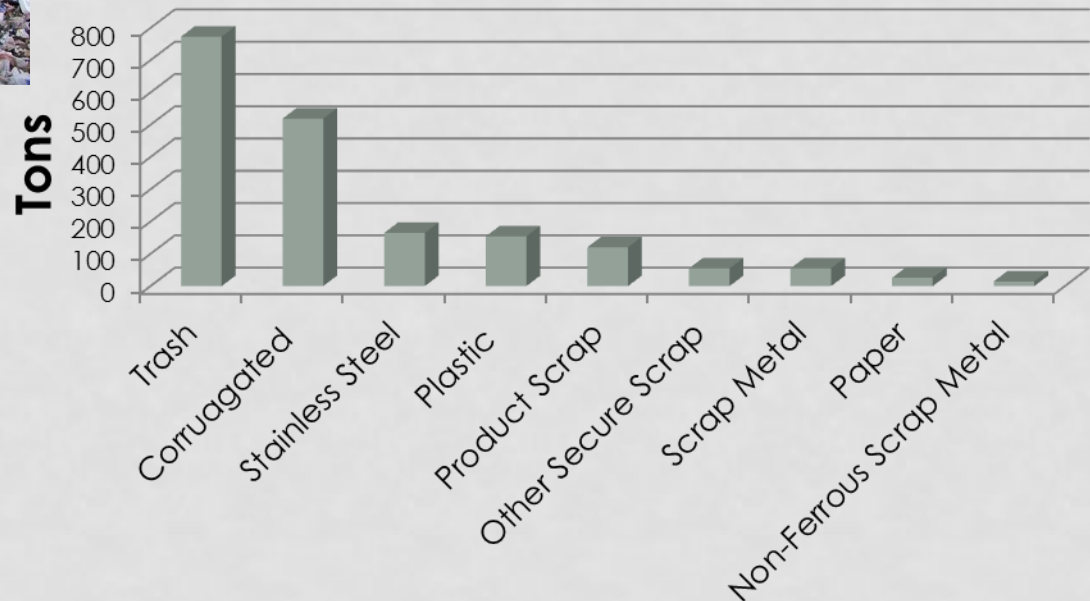
EPC Wet Shaving operates manufacturing facilities worldwide and its products are sold in more than 140 countries.

IN THE BEGINNING...



2008 Recycling Rate = 39%

Type of Waste Generated Tons Per Year (TPY)



2008
1880 TPY Total
(3.7 Million Pounds)
Generated

WASTE MANAGEMENT PAST PRACTICES



- Waste streams such as trash, cardboard, and metal were managed by a variety of vendors.
- No system was in place for waste tracking, rebates received or for price tracking (market price, etc.).
- 5-6 loading dock spaces utilized for management of these wastes.



Trash Compactor



Product Compactor

WASTE MANAGEMENT PAST PRACTICES



Scrap Metal Dumpsters



Trailer full of Baled OCC

IMPROVEMENT SOUGHT



- Schick solicited vendors for waste management quotes and recycling improvement suggestions.
 - We found that most trash haulers just wanted to haul trash and were not that interested in recycling.
- Eventually, we met with *A Greener Solution (AGS)* regarding our program
 - Schick visited an AGS run program in Dover DE.
 - AGS came in and conducted trash audits across all shifts and multiple times.
 - AGS formed a team with Schick management to determine the best approaches to run a new program.
 - AGS partnered with Schick to train all employees on the new program.

NEW PROGRAM CHANGES



- New program with “A Greener Solution” was implemented in July of 2009
 - During July 4th shutdown – compactors removed
 - 200 new “blue” bins purchased
- Two trailers on back dock replaced dumpsters and compactors
 - Waste materials now go directly into trailer (in containers) and empty containers will be stored in the second trailer



RECYCLING PROGRAM BENEFITS



- Cardboard trailer, large waste compactors, and scrap metal dumpsters were eliminated.
 - Three dock spaces freed up.
 - Energy Savings realized by elimination of large compactors
 - Reduced potential safety hazards
 - Reduced potential for spill of hydraulic oil from compactors to storm drain.
 - Secure destruction of non-saleable product
- **MOST IMPORTANTLY** - Schick will receive rebates for virtually all scrap materials and these materials will be recycled.



RECYCLING PROGRAM BENEFITS



- So far, Schick has been averaging about 110,000 lbs per week of material being recycled.
- This equates to an average of 90% of non-hazardous waste generated by Schick being recycled!
- The rebates received from the sale of the recyclable materials pay for the cost of the program, however, Schick currently receives rebates that exceed management costs.



PROGRAM CHALLENGES



- Generation of >10,000 lbs/day
 - If program did not work material would pile up
- Much of the packaging materials generated took up much volume but little weight.
- Schick was transporting two full trailer loads to AGS daily.
 - Due to increases in production, we were facing three trips per day.
- Mixing of materials
 - Reduced or no rebate for some mixed materials
- Using blue bins for “trash” and sending to recycler

SOLUTIONS



Mini-bailers were identified which compacted light loose packaging material to an approximate 5:1 volume reduction. 5 of these were purchased.



Orwak mini-baler



Bales of plastic

SOLUTIONS



Multi-plastic collection points implemented in Molding area

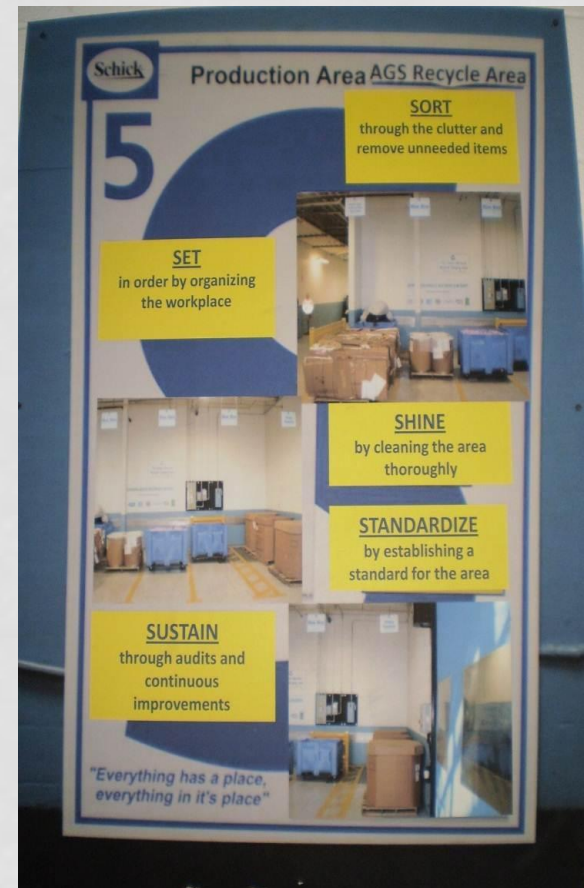


Blue bin "corrals" for easy & efficient material separation

SOLUTIONS



Recycling staging area reorganization and labeling improvements



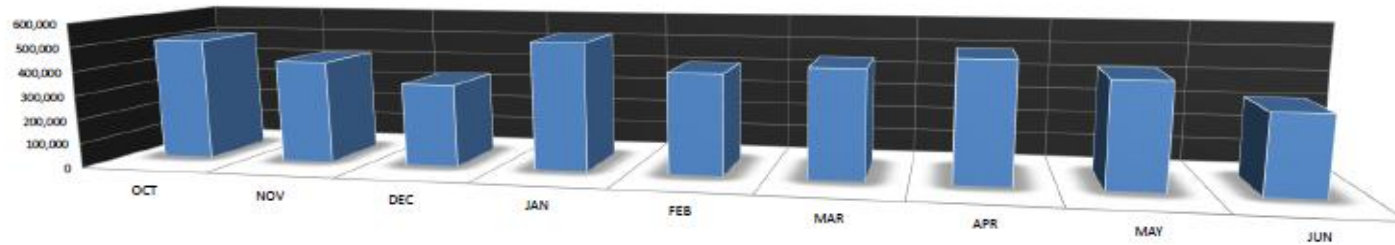
5S implemented for staging area

METRICS



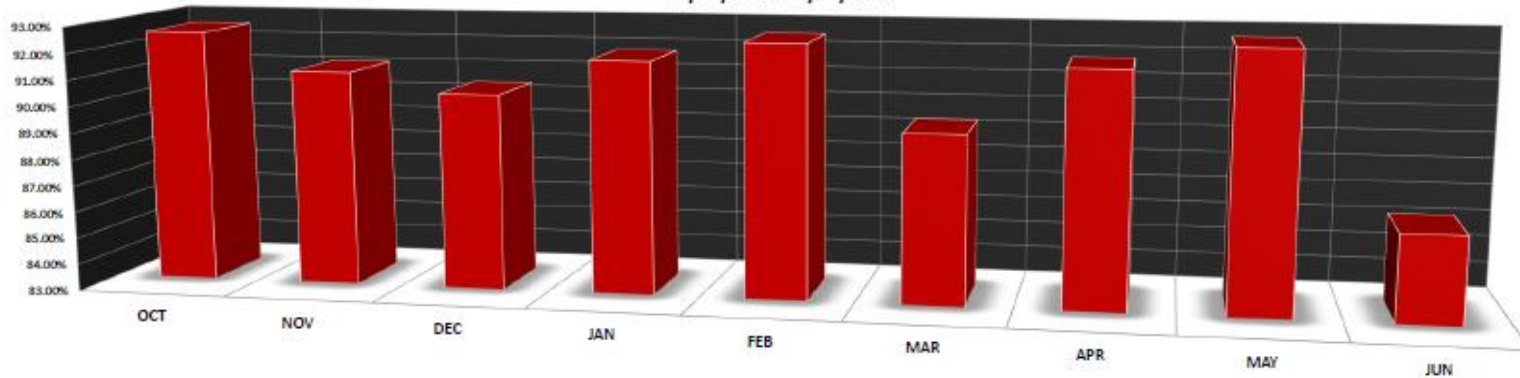
- Metrics are extremely important to track progress and program performance.
- Positive metrics keep the program in the spotlight and help identify when there is an issue or change.
- Metrics can also identify opportunities for continual improvement.
 - While it is important to have a high recycle rate it is more important and beneficial to reduce generation of scrap
 - ABS purchase cost = \$2.00/lb Recycling rebate = \$0.07/lb
 - PVC purchase cost = \$1.25/lb Recycling rebate = \$0.16/lb
- Metrics can also be used to drive annual goals

**EPC GREEN MACHINE - SCHICK
POUNDS RECYCLED
10/1/2012 - 09/30/2013**



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
Total Recycled Pounds	505,390	425,910	341,365	527,855	414,917	447,545	495,100	428,440	320,755

**EPC GREEN MACHINE - SCHICK
RECYCLING RATE
10/01/2012- 09/30/2013**



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
Recycle Rate	92.6%	91.2%	90.4%	91.8%	92.6%	89.4%	91.9%	92.7%	86.3%

The Green Sheet



115,483
gallons of oil



529,410
gallons of water



1,805,652
kw hours of electricity



A Greener Solution LLC
1817 KENOSHA RD.
ZION, IL 60099
(PH) 847.379.9133
(E) INFO@AGREENERSOLUTION.COM
www.AGreenerSolution.com



1,288
mature trees



1,920
cubic yards of landfill



¹ Each ton of fiber recycled conserves: 17 mature trees; 463 gallons of oil; 24 gallons of gasoline; 4,100 kw-hrs of electricity; 7,000 gallons of water; 3.5 cubic yards of landfill airspace. Each ton of aluminum recycled conserves 12,700 kw-hrs of electricity and 4.5 cubic yards of landfill airspace. Each ton of plastics recycled conserves 7,027 kw-hrs of electricity and 7.4 cubic yards of landfill airspace. Each ton of glass recycled conserves 2 cubic yards of landfill airspace. Sources: U.S. Environmental Protection Agency, International Aluminum Institute, National Association for PET Container Resources, Earth Works Group Recycler's Handbook, and Waste Management. Copyright ©2008, A Greener Solution

OTHER WASTES



- Schick also generates other types of wastes outside of the AGS program that are recycled:
 - Batteries
 - Alkaline, NiMH, *Lead Acid, *NiCad, etc.
 - Light Bulbs
 - Fluorescent, Compact Fluorescent, HPS, HID
 - *Used Oil
 - Grinding and Splitting Sludge/Cake
 - *Plastic & Metal Food & Beverage Containers/Bottles
 - Ink & Toner Cartridges (ink jet, laser, copier, etc.)
 - Cell Phones
 - Electronic Wastes (computer, monitors, etc.)

* Denotes Materials Required to be Recycled in CT

OTHER WASTES



Batteries & Ink Cartridges



Grinding Cake



Bulbs



Bottles & Cans



Paper

REUSABLE BOTTLES



- Schick implemented a new program for spray bottles of cleaners. Over 3500 bottles of glass cleaner and degreasers are used per year at a cost of \$8600.
- The *Safe 2 Dose* unit dispenses Degreaser & Glass Cleaner concentrate diluted with water into a pump spray bottle. The bottles are then reused.
- A department will pay for the first bottle (\$1.92 ea.) and when returning with empty bottle the chemical re-fill is Free.
- The program encourages colleagues to Re-Use the bottle for cost savings and protecting our Environment by staying Green



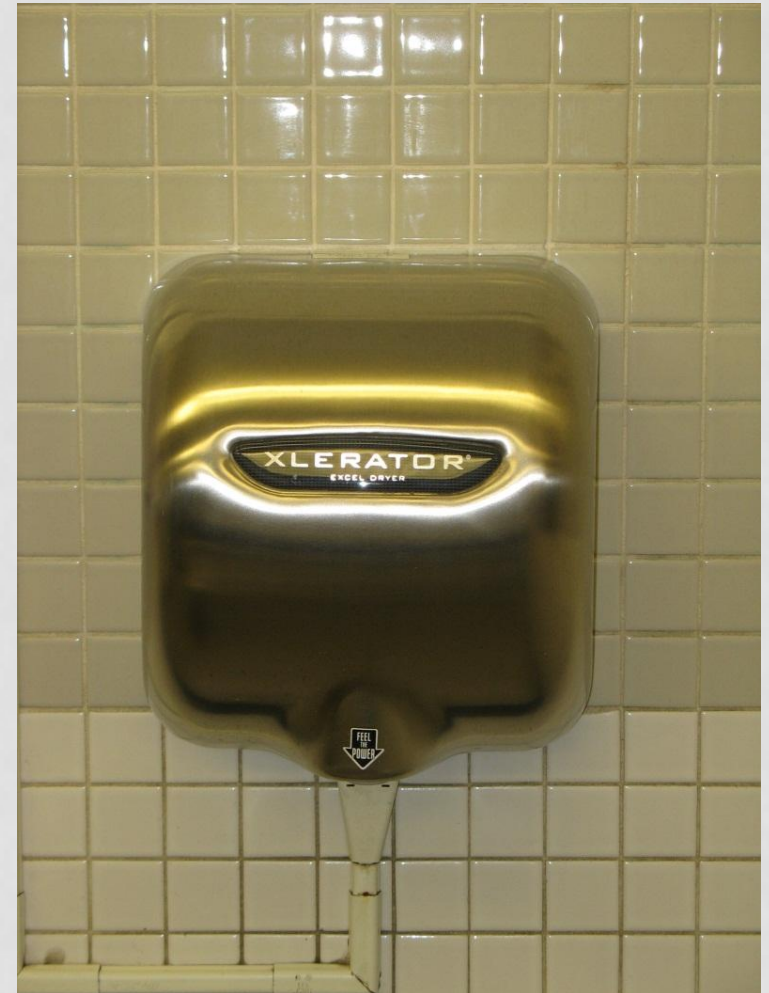
Each gallon of concentrate makes approximately 150 bottles. Cost of chemical per bottle is \$0.06 - \$0.07



HAND DRIERS



- Schick replaced paper towels in all restrooms with Xlerator hand driers
- This reduced the use and disposal of paper towels by 430 cases (5160 rolls) Benefits include:
 - **\$20,000** + savings
 - Cleaner restrooms
 - Reduced paper towel and waste towel management
 - Increased storage space
 - Saves natural resources (trees, fuel, paper manufacturing, etc.)



ENERGY



- Schick uses a four-tiered approach to energy management.
 - Energy analysis as part of new equipment sourcing
 - Re-engineering existing processes to reduce waste and energy
 - Re-engineering product or packaging to make more energy efficient
 - Utilizing an energy management system (currently implementing)
 1. Measure and Audit
 2. Set Goals
 3. Develop Projects
 4. Design Improvements
 5. Implement
 6. Re-measure

MEASURE & AUDIT



CONSERVATION PROJECT DEVELOPMENT



- System or equipment replacement
- New Technology
- New production equipment
- Identified inefficiency
- Incentivized activity

SAMPLE PROJECTS

ENERGY

PACKAGING GRINDERS AND DUST COLLECTION



- Schick utilized grinders on certain packaging machines to grind plastic film scrap and send via vacuum to a cyclone and dust collection system located in another area.
- Energy to run the grinders and associated dust collection system was over **\$22,000** per year.



ENERGY



- Schick purchased film re-winders for each machine eliminating the need for the grinders and cyclone
- Energy to run the re-winders is minimal and they do not generate dust like the old system did
- Valuable floor space was freed up.



VIBRATORY BOWLS



- A survey of all vibratory bowls in plant indicated an average bowl shut-off of 10 seconds per minute.
- During this time the bowl is not vibrating but the air nozzles are still blowing.
- Project focused on installing solenoid valves to shut off the air when bowl is not vibrating to save energy.



VIBRATORY BOWLS



- Cost of compressed air = \$0.028 per CFM per hour
- Quantities of Air Nozzles:
 - 589 Air Nozzles
- 589 nozzles x \$0.00466 (savings per nozzle per hour based on 10 second off time) = \$2.74 per hour
- Estimated savings per year over **\$20,000**



IPA INCINERATOR



Replacement of isopropyl alcohol (IPA) with aqueous based spray process

- Elimination of IPA incinerator
 - Eliminate use of **4000** gallons per year IPA - **\$24,000** savings
 - Eliminate **1000** pounds per year Hazardous Waste IPA
 - **8,000,000+** cubic feet natural gas - **\$114,000** savings
 - Revocation of air permit
 - Recordkeeping requirements
 - Maintenance requirements
 - Reporting requirements
 - Quality & performance tests showed water based formula gives a better shave



EFFICIENCY



Installed High Efficiency Magnetic Chillers

- Increased capacity
- Lowered energy use

225,000 kWh annual decrease
\$28,000 annual savings
\$50,000 Incentive



EFFICIENCY



- Maximize the use of free cooling (offset mechanical chilling)
 - Oversized Tower
 - VFD controlled fans
 - Non-chemical water treatment
 - Building management software to utilize wet bulb control
 - Wet bulb gives tighter control = more free cooling



CENTRIFUGAL COMPRESSOR



- Schick installed a new energy efficient centrifugal air compressor to replace outdated inefficient air screw and reciprocating compressors.
- In addition, waste heat from the compressor is utilized to remove moisture from the compressed air instead of electrical energy

>1,000,000 kWh savings
\$130,000 Annual savings
\$140,000 Utility Incentive



FUTURE CONSERVATION ACTIVITY



- Behavioral Based Conservation
 - Involvement from all employees to identify opportunities
- Distributed Generation Installation
 - Initial analysis ongoing.
- Renewable Energy Purchase

QUESTIONS?

SCOTT.SUTKOWSKI@ENERGIZER.COM
203-882-2540