

USDA \ ARS Tifton, GA
Environmental Management System FY10 Management Review

The foundation of the EMS program is established by the location specific EMS manual and policy statement. The EMS program serves three separate research units: Crop Protection and Management Research Unit, Crop Genetics and Breeding Research Unit, and Southeast Watershed Research Unit. The EMS committee developed objectives and targets for FY10 based on our activities, aspects, and impacts. The objectives were to establish heating and cooling limits for our federal buildings, inventory all federal buildings for the type and number of exit signs in use, and to determine fuel efficiency for previous and current fleets after the massive fleet overhaul in FY09. All targets set for FY10 were achieved.

I. Significant Environmental Aspect: Energy Conservation

Objective: Reduce energy consumption in federal facilities.

Target: Establish heating and cooling limits for all federal facilities.

Summary: It was discovered during initial research for this target that ARS has already established policy on this topic. Guidelines can be found in ARS P&P 134.2, "Energy, Water, and Sustainability Policy."

II. Significant Environmental Aspect: Energy Conservation

Objective: Replace incandescent exit signs with energy efficient LED exit signs.

Target: Inventory federal facilities for the type and number of exit signs in use.

Summary: The exit sign inventory was completed on 2/24/10. See the table below.

| USDA Tifton Facilities Incandescent Exit Sign Inventory | | | | | 2/24/2010 |
|---|--------------------------|-------|---------|------------------------|-----------|
| FY10 EMS Goal | | | | | |
| KEY: LED = Light-emitting Diode, INC = Incandescent, NE = Non-Electrical, NM = Not Marked | | | | | |
| Bld # | CPAIS Description | Unit | # Exits | Notes | |
| 1 | Main Lab & Offices | CPMRU | 5 | 8 LED | |
| 2 | Shop/Shed | CPMRU | 3 | 2 NE | |
| 2c | Storage | CPMRU | 2 | 2 NE | |
| 3 | Headhouse/Greenhouse | CPMRU | 5 | NM | |
| 4 | Insect Rearing Annex | CPMRU | 3 | 3 NE | |
| 6 | Seed/ Cold Storage | CPMRU | 1 | NM | |
| 7 | Volatile Solvent Storage | CPMRU | n/a | n/a | |
| 8 | Insectary / Field Lab | CPMRU | 5 | 1 NE | |
| 13 | Insect Storage | CPMRU | 1 | 1 NE | |
| 15 | Insect Rearing | CPMRU | 3 | 2 INC | |
| 16 | Admin/ Offices/ Shop | SEWRU | 6 | 3 LED IN OFFICES, 3 NE | |
| 17 | Hydraulics Lab | SEWRU | 3 | 2 NE | |
| 18 | Drying Shed | SEWRU | n/a | n/a | |
| 19 | Greenhouse/Headhouse | CGBRU | 3 | NM | |
| 20 | Greenhouse | CGBRU | 4 | NM | |
| 21 | Quonset Hut | | n/a | n/a | |
| 22 | Storage Shed | CGBRU | n/a | n/a | |

| | | | | |
|----|--------------------------|-------|-----|---------------------|
| 23 | Potting Soil Storage | | n/a | n/a |
| 24 | Pathology Building | CGBRU | 2 | NM |
| 25 | Tractor Shed | CPMRU | n/a | n/a |
| 26 | Shop/Shed | CPMRU | 2 | NM |
| 27 | Greenhouse | CPMRU | 2 | NM |
| 28 | Greenhouse | CGBRU | 4 | NM |
| 30 | Greenhouse | CGBRU | 6 | NM |
| 31 | Peanut Residue Lab | CPMRU | 6 | NM |
| 32 | Biological Control Lab | CPMRU | 4 | 2 NE |
| 33 | Office Building | SEWRU | 3 | 1 NE |
| 34 | Rainfall Simulation Bld | SEWRU | 1 | NM |
| 35 | Office Building | SEWRU | 3 | 3 NE |
| 36 | Soil Processing Lab | SEWRU | 1 | NM |
| 37 | Storage Shed | SEWRU | n/a | n/a |
| 39 | Greenhouse | CPMRU | 2 | NM |
| 40 | Storage Building (Gibbs) | CGBRU | 1 | NM |
| 41 | Peanut Greenhouse | CGBRU | 2 | NM |
| 42 | Pathology Greenhouse | CGBRU | 2 | NM |
| 43 | Water Quality Lab | SEWRU | 3 | 2 NE |
| 44 | Storage Shed | SEWRU | n/a | n/a |
| 49 | Implement Shelter | CPMRU | 1 | NM |
| 50 | Shop/Shed | CPMRU | 1 | NM |
| 53 | Storage | SEWRU | 1 | NM |
| 54 | Pesticide Lab | SEWRU | 2 | 2 LED |
| 55 | Pesticide Lab | SEWRU | 3 | 3 LED |
| 56 | Shelter at RDC | CGBRU | n/a | n/a |
| 57 | Pesticide Storage Bld | CPMRU | 2 | <u>2 INC</u> |
| 58 | Shop/Shed -Belflower | CPMRU | 1 | NM |
| 59 | Hazardous Waste Bld | CPMRU | 3 | n/a |
| 60 | Storage/ Potting | CGBRU | 3 | NM |
| 61 | Cold Storage at RDC | CGBRU | 1 | NM |
| 62 | Forage Turf Shop RDC | CGBRU | 1 | NM |
| 65 | Equipment Shed | CPMRU | n/a | n/a |
| 66 | Equipment Shed | CPMRU | 1 | NM |
| 67 | Equipment Shed | CGBRU | 1 | NM |
| 68 | Cold Storage (S049) | CPMRU | 2 | NM |
| 84 | Solvent Storage Bldg | CPMRU | 2 | NM |
| 85 | Grain & Seed Processing | CGBRU | | UNDER CONSTRUCTION |
| 86 | Peanut shelling shed | CPMRU | 1 | NM |

The inventory identified four incandescent exit signs. LED retrofit kits were purchased for the incandescent signs found and they were installed on 4/9/10. The inventory also identified several exits that were unmarked. The Collateral Duty Safety Officer was notified of the findings on 4/14/10 so these could be investigated by the safety committee.

III. Significant Environmental Aspect: Motor Vehicle Activities

Objective: Improve overall fleet fuel efficiency.

Target: Determine fuel efficiency for previous and current fleets. Quantify the increased fuel efficiency after the massive fleet overhaul in FY09.

Summary: The complete Vehicle Comparison Study can be found at the location EMS website in EMS document TIF-EP-09; <http://www.ars.usda.gov/Services/docs.htm?docid=12538> . The data is summarized in the table below.

| | <i>Retired</i> | <i>Retired</i> | <i>Retired</i> | <i>Retired</i> | <i>Retired</i> | <i>New</i> | <i>New</i> | <i>New</i> | <i>New</i> | <i>New</i> |
|----|----------------|----------------|----------------|-----------------|----------------|-------------|--------------|----------------|-----------------|----------------|
| | <i>Make</i> | <i>Model</i> | <i>Year</i> | <i>City MPG</i> | <i>Hwy MPG</i> | <i>Make</i> | <i>Model</i> | <i>Year</i> | <i>City MPG</i> | <i>Hwy MPG</i> |
| 1 | Ford | Taurus | 2000 | 19 | 27 | Ford | Fusion | 2010 | 41 | 36 |
| 2 | Ford | Taurus | 2004 | 20 | 27 | Ford | Fusion | 2010 | 41 | 36 |
| 3 | Ford | F-150 | 1995 | 15 | 20 | Ford | Ranger | 2009 | 19 | 24 |
| 4 | Ford | F-250 | 1995 | 12 | 17 | Chevrolet | Silverado | 2009 | 14 | 18 |
| 5 | Dodge | RAM DR6L62 | 2002 | 13 | 18 | Chevrolet | Silverado | 2009 | 14 | 18 |
| 6 | Dodge | RAM 2500 | 2002 | 13 | 18 | Chevrolet | Silverado | 2009 | 14 | 18 |
| 7 | Ford | F-150 | 2001 | 14 | 19 | Ford | F-150 | 2009 | 15 | 19 |
| 8 | Ford | Ranger | 1997 | 15 | 21 | Chevrolet | HHR | 2009 | 22 | 30 |
| 9 | Chevrolet | Suburban | 1994 | 11 | 16 | Chevrolet | HHR | 2009 | 22 | 30 |
| 10 | Chevrolet | S-10 | 1998 | 17 | 22 | Jeep | Patriot | 2009 | 21 | 25 |
| 11 | Chevrolet | Astro | 2000 | 15 | 20 | Jeep | Patriot | 2009 | 20 | 22 |
| 12 | Dodge | Caravan SE | 2003 | 19 | 26 | Jeep | Patriot | 2009 | 21 | 25 |
| 13 | Dodge | Caravan SE | 2003 | 19 | 26 | Jeep | Patriot | 2009 | 21 | 25 |
| 14 | Ford | Aerostar | 1994 | 17 | 23 | Jeep | Patriot | 2009 | 20 | 22 |
| 15 | Ford | Expedition | 2000 | 12 | 16 | Jeep | Patriot | 2009 | 20 | 22 |
| 16 | Ford | F-250 | 1995 | 12 | 17 | Chevrolet | Silverado | 2009 | 14 | 18 |
| 17 | Chevrolet | Silverado | 1993 | 15 | 18 | Chevrolet | HHR | 2009 | 22 | 30 |
| 18 | Ford | F-150 | 1999 | 13 | 18 | Jeep | Patriot | 2009 | 21 | 25 |
| 19 | Ford | F-250 | 1999 | 12 | 16 | Jeep | Patriot | 2009 | 20 | 22 |
| 20 | Ford | F171 | 1999 | 13 | 18 | Jeep | Patriot | 2009 | 21 | 25 |
| 21 | Ford | Ranger | 2001 | 15 | 20 | Chevrolet | Silverado | 2009 | 14 | 18 |
| 22 | Dodge | Caravan | 1992 | 17 | 22 | Chevrolet | HHR | 2009 | 22 | 30 |
| 23 | Chevrolet | Truck CC10703 | 1994 | 14 | 19 | Chevrolet | HHR | 2009 | 22 | 30 |
| 24 | Chevrolet | Cheyenne 2500 | 1993 | 14 | 19 | Chevrolet | HHR | 2009 | 22 | 30 |
| 25 | Chevrolet | Truck CC10703 | 1994 | 14 | 19 | Chevrolet | HHR | 2009 | 22 | 30 |
| 26 | Chevrolet | Silverado | 1998 | 14 | 19 | Chevrolet | HHR | 2009 | 22 | 30 |
| 27 | Ford | Windstar GL | 1995 | 17 | 24 | Chevrolet | HHR | 2009 | 22 | 30 |
| | | | MPG | Retired | Vehicle | | | MPG | New | Vehicle |
| | | | Average | 14.85 | 20.19 | | | Average | 21.07 | 25.48 |

Each line item in the table lists the vehicles that were taken out of service and the new vehicles that replaced them. When comparing the two sets of data, fuel economy for both city and highway usage increased with the new vehicle purchases. The average city fuel economy increased by 6.22 MPG and the average highway fuel economy increased by 5.29 MPG. In addition, there were two Hybrid vehicles and nine E85 FlexFuel vehicles that were purchased to replace older less fuel efficient models.

FY10 Highlights

- The United States EPA completed an inspection of the Underground Storage Tank on 1/27/10. The inspector observed no violations and the facility was in compliance with 40 CFR Part 280.
- The Tifton Location EMS Policy Statement was updated on 2/9/10.

- The Tifton EMS Manual was updated on 2/14/10.
- We recycled 18 cell phones/chargers on 3/4/10 through Project Hope Line sponsored by Verizon Wireless. The program provides free phones to victims of domestic violence.
- Tifton's Aspect/Impact list was reviewed by the committee in April 2010.
- On April 17, 2010, we recycled 12 computers, 17 monitors, 10 keyboards, 19 printers, 4 UPS/backup batteries, 2 speakers, 2 telephones, 2 typewriters, 2 mouse, 2 shredders, and 21 pieces of lab equipment as part of the Tifton Recycles Event. All these items were taken at no cost to the location.
- The EMS Annual Training was held this year on August 31, 2010. The presentation was location specific and was created in house. 90% of employees attended this training. Those that were not in attendance received on line training. All training was completed by 9/22/10.
- Three advanced electricity metering systems or SMART meters were installed for buildings 1, 3, 54/55. Smart meters provide an economical way of measuring consumption based on the time of day and the season.
- Spray-on foam insulation was used to increase energy efficiency in building 31 and the cold room in building 1.
- The thermostats that were ordered as an FY09 goal to replace mercury thermostats continue to be installed a few at a time.
- During the construction of building 85, green plumbing products such as low-flow faucets, waterless urinals, and low-flow toilets were used to increase water conservation.
- More efficient air conditioning units replaced older models in building 15 and 33. The SEER rating improved from 10 to 13 which is about a 30% improvement in energy efficiency.
- Energy efficiency improvements made to greenhouse building #20; upgraded evaporation cooling system, installed new cooling padwalls, exhaust fans, exterior automated side vents, and Wadsworth step 50A controller.
- We continue to find and dispose of mercury thermometers at the location.
- The EMS Newsletter continued to be produced with three new editions in FY10. The quarterly newsletter is intended to keep employees aware of that is happening or changing with the EMS.
- The EMS committee met four times during FY10; January 28, 2010, June 9, 2010, August 12, 2010, and September 28, 2010.

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Date

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Date