

WRAP *sheet*

Waste Reduction Assistance Program

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DENSO MANUFACTURING INITIATES ENVIRONMENTAL CAMPAIGN, ECO VISION 2005

DENSO Manufacturing Tennessee, which has headquarters in Maryville, has entered into an environmental partnership with The University of Tennessee to assist DENSO's environmental campaign, ECO Vision 2005. Announced in conjunction with Earth Day, the partnership also includes two Keep America Beautiful chapters.

At DENSO Tennessee's request, the TMEP (Tennessee Manufacturing Extension Program) at The University of Tennessee's Center for Industrial Services (CIS) will begin an immediate waste-reduction survey at the DENSO plants in Maryville and Athens. Meanwhile, DENSO's Environment Department is working with Blount and McMinn county chapters of Keep America Beautiful to develop other projects, especially those involving recycling programs.

Bill Hicks from TMEP said the new alliance offers TMEP "an additional avenue to educate and serve Tennessee manufacturing facilities on a variety of environmental issues." He added, "Partnering with DENSO also helps to demonstrate to other manufacturers that being proactive on environmental issues is both the

right thing to do and good for the overall business situation."

DENSO Tennessee President Neal Ozeki commented that "preserving the environment for our future generations is a key part of DENSO being a good corporate citizen." He stated that DENSO also appreciated the support and technical guidance received from the Tennessee Department of Environment and Conservation (TDEC) and personnel from the cities of Maryville and Athens.

The fourth largest automotive supplier in the world, parent company DENSO Corporation, Kariya, Japan, initiated Eco Vision 2005 in 2000 in an effort to continue DENSO as a leading corporate environmental steward.

DENSO companies in North America have developed specific reduction targets as part of the North American Region ECO Vision Plan. Using 1999 figures as the baseline numbers, the reduction targets by the year 2005 are):

- 50 percent landfill disposal
- 50 percent volatile organic compound air emissions
- 30 percent prohibited/reduced use substance emissions

- 20 percent incoming one-time use packaging
- 10 percent water usage
- 5 percent carbon dioxide emissions
- Implementation of Green Purchasing.

Jim Woroniecki, Senior Vice President of Human Resources and Administration added: "It will take much effort from all members of the DENSO Tennessee team to reach these very aggressive goals. We have never attempted an environmental project of this magnitude." Woroniecki further added "I think this is the only way for responsible corporations to conduct themselves in the future."

Wayne Brown, DENSO Tennessee's Senior Manager for Corporate Services, said, "A key to the new campaign is increased recycling. The plants have sent more than 3,000 tons of waste to local landfills in 1999. We must work very hard at waste reduction and recycling to reach our 50 percent goal by 2005." In addition, energy savings will be another key component of the campaign.

EPA NEWS

EFFLUENT GUIDELINES PROPOSED FOR IRON AND STEEL MANUFACTURING

On December 27, 2000, EPA proposed to revise guidelines and standards for wastewater discharges into waterways from the iron and steel manufacturing industry, potentially reducing annual discharge of toxic and nonconventional pollutants by 210 million pounds. The proposal would establish technology-based effluent limitations guidelines for discharges into waterways and into publicly-owned treatment works from the operation of new and existing iron and steel mills. The action reflects many recent advances in water conservation practices, waste management and wastewater treatment. Additional information is available at www.epa.gov/ost/guide. ■

EPA PROMOTES AUDIT POLICY

The U.S. Environmental Protection Agency is showing that disclosures under their Audit Policy have resulted in the annual reduction of 2,021 tons of volatile organics and carbon monoxide reduced by 644 tons. Analysis from 2000 show that 425 companies participated in the Audit Policy Program and disclosed potential violations at 2,200 facilities. Nine environmental audit protocol manuals to perform voluntary environmental audits and disclose violations have been developed by EPA's Office of Compliance. The audit protocols also provide technical guidance to those conducting the environmental audits. The protocols are available on-line at <http://www.epa.gov/oeca/ccsmd/profile.html>. ■

METAL PRODUCTS AND MACHINERY EFFLUENT DISCHARGE GUIDELINES PROPOSED

The U.S. Environmental Protection Agency (EPA) has proposed effluent limitation guidelines for wastewater discharges into waterways from the metal products and machinery industry. When implemented, the proposals are expected to reduce the discharge of 20 pollutants by 170 million pounds per year, improving water quality in more than 1,100 streams. EPA's proposal for the metal products and machinery industry would establish technology-based effluent limitations and pretreatment standards for wastewater discharges in a number of industries, including aerospace, electronic equipment, hardware, railroad, ship, and stationary industrial equipment.

The guidelines would apply to both new and existing facilities that manufacture, rebuild, or maintain finished metal products, parts or machines. Under the Clean Water Act, EPA develops effluent guidelines specific to individual industries in order to control discharge of pollutants into surface waters and publicly-owned treatment facilities. The effluent guidelines program has reduced the public health and environmental impacts of pollutant discharges from more than 50 industrial categories since the program's inception in 1974. Additional information on the metal products and machinery industry effluent guidelines are available at <http://www.epa.gov/ost/guide/mpm>. ■

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The WRAPsheet welcomes your comments, submissions and suggestions for future articles, particularly those highlighting outstanding or innovative examples of voluntary waste management in Tennessee. You are welcome to reprint, excerpt or adapt any materials from these pages; we ask only that you notify the editor of your intentions.

WRAPsheet is available online at www.cis.utk.edu

HOW CAN YOUR COMPANY BENEFIT WITH ISO 14001 USER GROUPS?

As the automotive supply chain is now aware, there is a mandate by automobile majors for suppliers to become ISO 14001 certified within three years. Industries across Tennessee (automotive and non-automotive alike) are considering this move with perhaps equal amounts of concern and doubt that any standard can do anything worthwhile for them. More than a few organizations experienced great pain and anxiety as the ISO 9000 quality system swept our nation. It resulted in considerable financial expenditures (internal, consultant, training, and certification) costs. It now appears that ISO 14001 environmental management systems is headed for a repeat performance in the not too distant future.

WHAT EXACTLY IS ISO 14001?

Simply stated – it is:

- a worldwide accepted standard for Environmental Management Systems (EMS)
- a framework to ensure sound environmental practices and improvement in an organization's EMS
- a strategy to balance a company's environmental management with internal business requirements
- a mechanism to promote greater interaction between an organization and outside interested parties

So, should companies consider implementation of this standard? Is there any benefit? Can it pay for itself? Is there any reason to consider this standard in the year 2001? The TMEP thinks these answers are yes. There are a multitude of reasons that make sound business and economic sense to build a compliant EMS.

REDUCE PERIOD/PRODUCTION COSTS— “COMMITMENT TO POLLUTION PREVENTION”

- Reduce life cycle costs being borne by companies.

- Reduce raw material use and/or elimination of waste.
- Change from hazardous to non-hazardous waste status.
- Reduce amount generated through better process control.
- Reduce packaging used/received.
- Reduce waste disposal costs.
- Reduce energy usage/costs.

AVOID LITIGATION AND ENFORCEMENT DISRUPTIONS— “COMPLIANCE WITH REGULATORY ISSUES”

- Facilitate improvement in organization's environmental management system.
- Provide a structured process to address environmental issues.
- Document your environmental management process.
- Improve flexibility and internal management.
- Control environmental issues.
- Possible future regulatory incentives to be compliant.

REDUCE COSTS AND IMPROVE THE BOTTOM LINE – “CONTINUAL IMPROVEMENT”

- Avoid elimination from bidding – requirement of doing business with others.
- Stabilize rapidly changing organizations – document your system.
- Reduce time to marketplace.
- Change marketing strategy: want to be perceived as a “Green Company” Profit from “green products”.
- Implement “Good Citizen” or “Good Neighbor” strategy.
- Improve resale value.

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HOW CAN YOUR COMPANY BENEFIT WITH ISO 14001 USER GROUPS?

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- Provide favorable insurance rates.
- Maintain a “high quality” workforce

These are just a few of the reasons you should consider making this move toward ISO 14001. Although an ISO environmental management system generally requires less monetary resource to implement than an ISO 9000 or QS 9000 quality system, it is not without cost. Depending on the size and complexity of your organization, implementation costs can range from \$5,000 to \$30,000 in consulting and registrar costs and \$20,000 to \$35,000 in internal development costs.

It is a common situation within organizations that implement ISO 14001 to see cost savings ranging from \$35,000 to \$250,000 annually and not unusual to see savings top \$250,000 annually. Most organizations can realize their return on investment within the first two years of implementation and the savings continue through the life of their organization.

TMEP is trying to ease the financial burden on industry. We are currently working on a strategy to assist industry in lowering cost associated with external consulting and training and, to some extent, internal costs associated with ISO implementation.

TMEP is currently recruiting manufacturing sites in

East, Middle and West Tennessee to become part of a Tennessee Regional Industrial User Group for ISO 14001. Interested organizations should contact Lynn Reed at UTCIS (615-532-8883) or send an email to lreed@utk.edu if you have an internet mail system. We are currently organizing a group in your area and are planning the opening session in the third quarter of this year.

WHAT IS THE REGIONAL USER GROUP?

A group of five to 10 industrial facilities (two to three persons from each facility) plus TMEP and other resource personnel meeting at a central location in each major division (East, Middle, and West) of our state.

HOW DOES IT WORK?

The group will meet on a monthly basis to learn about part of the ISO 14001 standard and then return to their facility to create and implement those sections. We regularly invite registrars to talk about best practices, pitfalls in the registration process, and the best ways to integrate quality and environmental management systems together. One session is devoted to training your internal audit team. You even have access to a User Group Intranet site containing templates that can be used as starting points for your documentation.

WHAT DOES THE PROGRAM REQUIRE?

It requires commitment on the part of an organization to stay in an eight-month training and indoctrination course in the ISO 14001 standard, held in your region, at a central location, usually within a couple of hours driving distance. This reduces your travel costs and spreads the learning process over several months.

WHAT DO I GET FROM THIS COURSE?

You will have the opportunity to build an ISO 14001 environmental management system at your own pace ahead of mandated deadlines with access to experienced consultants assisting your organization at a substantially reduced cost.

HOW MUCH DOES IT COST?

TMEP has estimated the costs of participation in this User Group to be \$2,500 to \$5,000 per company depending on the number of participants (this projection assumes five to 10 companies per group in each area).

This strategy could result in substantial savings associated with documentation and implementation. Let TMEP show you how. Sign up today. Let us help you deal with this standard on your terms – give us a call or email if you are interested or just want to know more about our approach. We look forward to hearing from you. ■

DU PONT, FORD PARTNER ON CARPET RECYCLING PROJECT

DuPont Automotive has partnered with Ford Motor Co., Detroit to integrate used carpet into engine air cleaner housings. Ford takes nylon from carpet, grinds it up into pellets, and then makes black parts with it, such as battery covers, says, Chris Johnson, President, Underfoot Recycling, Cape Coral, Fl.

The deal is one of the first large contracts for DuPont's Chattanooga, Tennessee carpet recycling plan. DuPont's "Partnership for Carpet Recycling" program is the largest carpet recycling project of its kind, the company says in a press release. The program can collect up to 30 million pounds of used carpet each year from its 49 collection sites throughout the U.S.

According to Mark C. Ryan of DuPont, they started collecting and looking for ways to recycle used carpet in 1991. Ford showed an interest in getting recycled content in automobile parts on their cars but of course did not want to compromise quality. In 1994, DuPont worked together with Ford to develop the first system to recover the nylon from used carpet and make it into a resin for automobile parts. Ford first qualified it for use in their fans and fan shrouds and later for use in their air cleaner housing. Today, millions of pounds of nylon recovered from used carpet are being recycled back into automobile parts of various types

by DuPont and other companies.

DuPont originally developed this technology at the plant in Old Hickory, Tennessee. The engineers who did the most work on it lived in Chattanooga, so in 1995 they started up the first commercial plant in Chattanooga, Tennessee, near their Chattanooga fiber plant. Recently they have moved the equipment from Chattanooga to a facility in Calhoun, Georgia.

This move consolidated the sorting and processing of the used carpet material in an economically preferable situation. (Recycling is always economically challenging.) Mark says there are three used carpet collection centers in Tennessee—one each in Memphis, Nashville, and Chattanooga. DuPont is currently looking at potential sites in Knoxville, Tennessee. The site address and phone numbers can be found at <http://flooring.dupont.com>.

The DuPont Carpet Reclamation Program is still the only award winning carpet reclamation program with over 100 permanent active collection sites nationwide that take all types of used carpet, and certify that it is being reclaimed at the highest value level. ■

Article information, used by permission from Recycling Today Magazine, February 2001 issue and Mark C. Ryan of DuPont.

DENSO MANUFACTURING INITIATES ENVIRONMENTAL CAMPAIGN, ECO VISION 2005

Continued from page 1

DENSO's Eco Vision 2005 principles are defined as follows:

- 1) Global ecological management
- 2) Environmentally sound products
- 3) Reduced environmental impact
- 4) External environmental partners

DENSO Manufacturing in Tennessee, Inc., is a leading global producer of advanced technology components and systems to all major automobile manufacturers. Part of an international network, the company was established in Maryville, Tennessee, in 1988. Expansions followed in Athens in 1995.

With high-tech, state-of-the-art facilities, the company employs more than 2,800 people within its two East Tennessee locations.

DENSO already has one of the area's more aggressive environmental programs, including watering its lawn with the company's recycled wastewater.

The corporation has a global network of 74 subsidiaries in 27 countries. DENSO Manufacturing Tennessee represents the largest operation outside of Japan and is the largest employer in Blount County. ■

STOP THE WRAPSHEET—HERE'S WHY AND HOW!

Most publications spend lots of time and energy trying to increase the number of copies that are distributed.

In contrast, I am trying to reduce the amount of mail that I receive. It is becoming too difficult to sort out the treasure from the trash. If you share this desire to reduce the items flowing into your "IN" box and you are interested in furthering the goal of waste reduction, I am asking you to consider not receiving the WRAPsheet—on paper.

The WRAPsheet is available on the web at www.tnep.utk.edu. Afraid you will forget to go look? TMEP

will be happy to send you an email reminder that the latest edition is available.

If you wish to be removed from our mail list and added to the Weblist, please email Jac'Que Gordon at jgordon2@utk.edu. Our purpose is to provide education and information about waste reduction and environmental issues in Tennessee. I hope that you will see this as another step in our efforts to constantly improve the usefulness of the WRAPsheet.



SOLID/HAZARDOUS WASTE CONFERENCE

This year was the 30th Annual Solid and Hazardous Waste Conference. The primary goal of this conference is to provide a forum where industry, consultants, local officials, and citizens can interact with state regulators on a professional yet personal basis. Promotion of the exchange of ideas and new technology, discussions of common issues and presentation of regulatory updates on rules and policies are all a basic segment of the conference. The agenda is divided into concurrent sessions of hazardous waste, solid waste, special community projects, and environmental law. Most sessions are supplemented with informative visual aids and question and answer times are especially informative. In addition to sessions

an exhibit hall is made available where companies can inform attendees of their products and services. This area is especially informative in making people aware of innovations in equipment and processes pertaining to waste management and site remediation. Over seventy booths were occupied by organizations involved in waste management. Although the formal presentations are the basis for the conference, the small group discussions between sessions and at the luncheons may be the most valuable asset to the conference participants. Participants are from as far away as California and New England and generally over twenty states are represented. Federal EPA and all state environmental agencies are represented and

participate in all phases of the program. The bottom line is that the conference provides an annual gathering of the most concerned professionals and citizens to discuss the management of solid waste in Tennessee and the nation. The average attendance of almost a thousand people attests to the strength of the program and the value of this forum to the participants. Planning for next year's conference begins next week with an evaluation of this year and review of individuals requesting to present papers next year. ■

Updated information submitted by Mike Apple. Look for more information in the next WRAPsheet.

SAWDUST CAN PREVENT SOIL CRUSTING, A MAJOR PROBLEM FOR FARMERS

Sawdust is routinely dismissed by farmers as “making soil acids.” While the origin of this 80-year-old wife’s tale is uncertain, the notion is certainly well-entrenched in farming circles. We can easily demonstrate how a 6” layer of sawdust spread on a small vegetable patch will turn leaves yellow and severely stunt the growth of plants. This is caused by nitrogen stress, not an acid effect, and there is a big difference between the two! The key point is that an extra dose of nitrogen fertilizer, applied before spreading sawdust, would have prevented the problem.

Unfortunately, these kinds of experiences with sawdust have obscured its true value to row crop and commercial vegetable farmers. There are a number of benefits but a key one is prevention of soil crusting...therefore, less seedling death and easier cultivation. A “sawdust-to-farmlands” project was started with a few farmers in Hardeman County in December, 1999, in partnership with the Hardeman County Agricultural

Extension Leader, Bob Vickers. Approximately 50 yd³ of *green* sawdust from nearby sawmills was spread with a lime spreader on one-acre plots. Sawdust was disked into the soil and the sawdust rotted over winter.

The most graphic demonstration of a positive effect of this small amount of sawdust was seen on the Clover Creek Sod Farm in Toone, Tennessee. The land had severe crusting problems. Keith Marcum, farm manager, tilled acreage in June 2000 in preparation for planting Bermuda Grass. He said the acre of soil treated with sawdust the previous December was very loose. On the second pass, the cultivating equipment started to sink deep, pushing up soil in front of the rig. The untreated soil was harder and packed tighter. The equipment did not cut into the soil as well, turning up big chunks, which is the typical tilling problem with crusting soils. The difference was so dramatic, he said, “You could see a line clear across the field showing the effect of the sawdust on the soil.” He

now has added sawdust to an additional 25 acres.

If you are a wood products manufacturer and do not have a market for your sawdust or shavings, consider agricultural land application of this “waste” as an option that would benefit both you (eliminate or at least reduce a disposal problem) and farmers, both till and no-till. If you are interested in pursuing an agricultural land application option for wood wastes, contact: Richard Buggeln, The University of Tennessee, Center for Industrial Services, Knoxville, TN, (865-974-9058) or by e-mail: buggeln@utk.edu. Funding sources for the sawdust-to-farmlands pilot projects include: USDA Rural Development, TDEC Division of Community Assistance, and US-EPA Sustainable Community Development Program. ■

Article submitted by Dr. Richard Buggeln, CIS, Knoxville, TN.

NOTICE: CHANGE IN REGISTRATION PROCEDURES

The University of Tennessee Event Management Services, the organization that handles the registration for our workshops will be moving soon. At press time the moving dates and new fax numbers have not been finalized. Before you fax a registration, please call EMS (toll free 1-800-424-3905) or TMEP at 1-888-763-7439 to verify the correct fax number. Once the new address and phone numbers are in effect, the information will be posted on our web site - www.tnep.utk.edu - and included in the next WRAPsheet. Thank you!

C • A • L • E • N • D • A • R

July

8-Hour Site Worker Refresher
July 12 • Knoxville

ISO 14001 Internal Auditor
July 17 - 18 • Knoxville

Tennessee Safety and Health Congress
July 22 - 25 • Nashville

8-Hour Industrial Air Regulations
July 25 • Jackson

Aug

16-Hour DOT
August 7-8 • Knoxville

ISO 14001 Implementation
August 7 • Jackson
August 9 • Knoxville

8-Hour Site Worker Refresher
August 14 • Memphis

8-Hour ER Refresher
August 15 • Memphis

ISO 14001 Internal Auditor
August 22-23 • Nashville

24-Hour HazMat Chemistry
August 28-30 • Gatlinburg

Sept

8-Hour Site Worker Refresher
September 5 • Nashville

16-Hour DOT
September 6-7 • Nashville

40-Hour Site Worker
September 17-21 • Memphis

8-Hour Confined Space Entry
September 24 • Murfreesboro

5-Hour Excavation Competent Person
September 28 • Murfreesboro

8-Hour Hazardous & Special Waste
September 18 • Jackson
September 19 • Chattanooga

Oct

8-Hour Site Worker Refresher
October 10 • Knoxville

8-Hour DOT Refresher
October 11 • Knoxville

ISO 14001 Internal Auditor
October 17-18 • Memphis

8-Hour Industrial Air Regulations
October 18 • Nashville

8-Hour Accident Investigation
October 23 • Murfreesboro

8-Hour ER Refresher
October 24 • Murfreesboro

8-Hour TERO
October 30 • Chattanooga



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