



# MTC NEWS

Issue 7 June 2007



1000 East Main Street, Wytheville, Virginia 24382

## Editor's Corner



Summer at last! Although the winter was not that bad, it is wonderful to have the warm weather!

I would like to invite MTC readers to submit an article for publication in our newsletter. If you have a topic you believe others would be interested in or benefit from, we would love to hear from you. If you want to hear more from our engineers on a particular topic, just let us know. Email that article to me! We are always looking for ways to engage our readers and network. You are very important to our success and the more we interact, the stronger we all become in that connection. Have a wonderful summer and fall. God Bless, *Linda Newman*

Linda Newman

## From the Director



Keith Thompson, Executive Director

As some of you may be aware, I assumed the position of MTC Director in January 2007. Although I have been an MTC Project Engineer since 1999, this is a new and challenging role for me. My goals as Director are to promote MTC services throughout our service region, and continue to develop and deliver world class services to our clients. Our marketing efforts will focus on pro-

moting process improvement assistance to business and industry. We will be expanding our web site to better promote our services and events. My vision for the MTC is to be the premier local provider of engineering and management extension services.

This fiscal year ending on June 30 has been a busy and successful year for the Manufacturing Technology Center. Our dedicated staff has worked hard to expand our client base and deliver high impact, high value services. Year-to-date, the MTC Direct Service Program has delivered 36 projects. We have provided services to 23 clients, of which 10 were first time clients.

Within the last 12 months, we have expanded our services to the healthcare in-

dustry. We have conducted process improvement training and implementation projects to two local hospitals. We are continuing to adapt the manufacturing process improvement tools of Lean and Six Sigma to address the transactional nature of the healthcare environment. There are also applications for our Lean/Six Sigma skills in the banking and distribution industries.

The economy of southwestern Virginia is dependent on having a world-class workforce, and being a world-class workplace. The MTC stands ready to contribute to the success of our region.

*Keith Thompson*

### UPCOMING EVENTS:

- June 26—NRCC: Lean Six Sigma Industry Peer Group Event
- July 30—Smyth Ed. Center: Certified Mechanical Inspector Certification
- August 14—MECC: Office VSM

For more information or to register for any of the above, contact Linda Newman (276) 223-4709.

### Inside This Issue

Upcoming Events	1
Editor's Corner	1
From the Director	1
Environmental Services	2
Tech Quest Academy	3
Engineering Corner-Efficiency	3
Mobile Learning Unit	3
Engineering Corner-Workplace Organization...	4
College Advisory Board	4
MTC Advisory Board	4

We're on the web!

[www.mtcofswva.org](http://www.mtcofswva.org)

SERVING BUSINESS AND INDUSTRY

## ENVIRONMENTAL SERVICES

### The Hazard

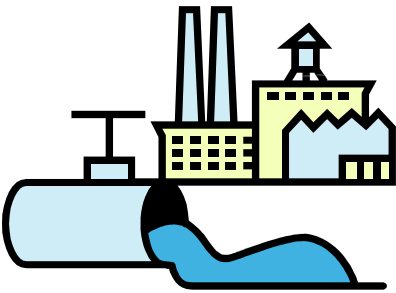
There is probably no other single point of environmental concern at industrial facilities that has resulted in more expensive cleanups and penalties than that of buried tanks! For the purpose of this article, buried tanks of potential hazard include floor drains, sumps, certain wells, storage tanks, and process tanks if located below the floor or ground surface. I have been involved with many Superfund and other cleanups that originated from precisely this hidden enemy. Is your facility doing all it can to ensure that your tanks are in compliance and not potentially contaminating soil and groundwater? Let's take a quick look at the questions you need to ask.



Joanne Chance

### The Overriding Regulatory Factor

There are three major environmental regulatory areas that control the construction, installation, and management of underground tanks. These regulations also spend a great deal of print and page space defining exactly what an underground tank is for the purpose of the particular regulation in question. But, before we look at this detail, let's examine the big picture.



What big picture, you ask? The big picture is that of antidegradation of the groundwater (found in 9VAC 25-280-30). This very powerful and far-reaching regulation states that the natural quality of groundwater must be maintained for all constituents except for those few that have already had a groundwater standard set for them (such as nitrates). For example, the allowable concentration of a man-made chemical, not naturally found in groundwater, would be zero (or essentially below the level of detection for that chemical). If a certain chemical is found naturally in groundwater, such as arsenic, then the natural background level cannot be exceeded by manmade inputs. What's this mean to your facility and its underground tank, sump, or floor drain? It means that if your plant has a leak of a manmade chemical that is detectable in the groundwater, even if it is not designated as hazardous, your company can be required to implement an expensive cleanup or be subject to fines and penalties. This is also true if you increase the concentration of naturally occurring substances such as arsenic, lead, or mercury, to name just a few.

### The Three Major Regulatory Areas

As I mentioned above, there are three major environmental regulatory areas that deal with underground tanks. The well-known Underground Storage Tank regulations of 40 CFR 280 regulate petroleum products and listed hazardous substances. Underground tanks that store hazardous waste are carefully regulated under the federal hazardous waste management rules of 40 CFR 260. The lesser known Underground Injection Control Program of 40 CFR 144 regulates wells, which are defined as a bored, drilled, or driven shaft or a dug hole with a depth that is greater than its largest surface dimension, where the principal function of the hole is the placement of liquids. A typical Class V well includes septic systems and sumps used in various types of industrial/commercial businesses.

### Concerned?

If you would like assurance that your facility does not contain any 'buried' potential environmental hazards, such as a leaking underground storage tank, sump, or floor drain, please contact me at [wccchanj@wcc.vccs.edu](mailto:wccchanj@wcc.vccs.edu) or by calling 276-223-4858. I would be happy to provide your company or small business with free and confidential advice on this matter.

*Got a story on how your company has grown and expanded? We would like to hear from you!*



All information provided to the MTC by the company is held in strict and complete confidence at all times and bound by a signed disclosure agreement.

## TECH QUEST ACADEMY IN ITS 7TH YEAR

Wytheville Community College and the Crossroads Institute hosted the 7th Annual Tech Quest Academy to rising 9th graders in WCC's service region June 11-21, 2007.

2007 TQA at WCC



WCC offered the new Construction Technology module at the Wytheville Technology Center at George Wythe High School. Crime Scene Investigation was conducted once again due to popularity, along with 3D Gaming, a new course offered at WCC. Courses taught at the Crossroads Institute were: Construction Technology, Digital Photography, and Nursing.

Sponsorship for the camp was provided by the Crossroads Tech Prep Educational Consortium, the Manufacturing Technology Center, and WCC's Workforce Development. Team members organizing the Tech Quest Academy were: Vicki Delp, Linda Newman, Jane Mitchell, and Keith Thompson.

Scheduled classes and activities/instructors were: GeoCaching—Todd Catron, Crime Scene Investigation—"Doc" Weiss, 3D Gaming—Valerie Bird, Construction Technology—Vance Leggett and Rusty Warren, Digital Photography—Lee Ogle, and Nursing—Crystal Goad. Career coaches — Pat Burkeholder and Linda Amburn were Camp assistants.

A nutritious snack was provided each day, along with a free lunch. Classes began at 9:00 and the students were loaded on the buses at 1:30 for home. On the last day of camp at 6 p.m., a small reception was held for the students and family. The students were presented with a certificate, technology gift, and each class gave a demonstration of what was learned for the week.

2007 TQA at the Crossroads



## THE NAME OF THE GAME IS EFFICIENCY



Herb Bird

Today more and more manufacturers are facing the challenge of developing more products with increasing complexity on smaller budgets. Yet, how can you be expected to develop more products of greater complexity with less money? The answer is to increase efficiency. The two tried and proven methods of accomplishing this are increased throughput and streamlined product development process.

We can make significant improvement by utilizing our 3D modeler design tools better. How? According to a study by the Aberdeen Group [The Digital Product Development Benchmark Report] **"Companies with higher rates of part and design reuse realize lower product development costs and hit their product launch dates more frequently"**. The 3D modeler allows us to leverage the initial model to easily create new models that are similar yet different. We do not have to re-create the models, merely take advantage of the parametric nature of 3D modeling. Whole families of parts can be created from one basic model. The 3D modeler then can go and create the actual part models for us. According to Mike Easter, Manager of Engineering Services, Thomas Built Buses, Inc. **"Almost all of our designs start with an existing model so we can leverage change of that model to create new designs. By leveraging the family table functionality through our CAD tool, we have been able to reuse generic designs with different design parameters. There is reuse in nearly everything we do. If it we did not reuse we really wouldn't be able to meet our performance targets."** Another method of reducing product development time and costs is digital prototyping. We'll discuss that in our next newsletter.

**"One of my biggest problems is that only a few people are trained in our CAD application and I need to get more people up and running on those software applications."** [Marvin Straight, Design Engineering Manager, Anchor Industries].

Let the MTC provide you with the training and assistance you require to maximize your use of your 3D modeling software so you, too,



## MOBILE LEARNING UNIT

By: Vicki Delp

The Mobile Learning Unit (MLU) will be very busy in June. It will be used during the week of June 11 at the Crossroads Institute in Galax, Virginia and during the week of the 18th at WCC for the Tech Quest Academy. Also, during the week of the 25th, it will be returning to SVCC for the 9th year to participate in the Tech Prep Camp.



Claire Pickrell

## ENGINEERING CORNER

### Workplace Organization and Standardization

Are you looking for a method that will help to reduce defects; reduce inventory; improve product flow; reduce downtime; improve safety and ergonomics; and/or reduce equipment set up times? Workplace organization and standardization is a simple but proven technique which when done properly will reap huge gains. A technique used to develop good workplace organization and standardization is **5S**. The first "**S**" stands for **Sort**. During this step you will go to the chosen area and remove items not needed in this area—this step is commonly referred to as **Red Tagging**. The second step is **Set in Order**. This step can be best described as "ensuring that there is a place for everything and that everything is in its place." The third step is **Shine**. Shine plays a larger role than just cleaning. During this step you will also inspect your equipment and area as you are cleaning. The fourth step is **Standardize**. With the first 3 steps you have created the workplace conditions, with Standardize you want to control those conditions. The fifth step and one that is often overlooked is **Sustain**. It is at this step that you determine how to maintain the standards you just developed. The fifth "**S**" is all about "sustaining the gains".

To get started choose an area in your plant that would benefit from workplace organization and standardization. Make sure you involve the right people. By including operators and supervisors you will not only get valuable input and information but also a stronger commitment to maintaining the area once the 5S is completed. Spend time understanding and documenting the current state of the area. Apply the 5 S's. Recognize and reward employees for maintaining their workplace area. Use workplace standardization and organization as a stepping stone for other continuous improvement efforts in the area.

The engineers at MTC have helped numerous companies in Southwest Virginia apply 5S in order to achieve the gains resulting from good workplace organization and standardization. I will be happy to discuss this article in more detail with you. Give me a call at (276) 223-4799.

1000 East Main Street

Wytheville, Virginia 24382



### MTC Advisory Board for 2006-2007

#### Consortium Presidents

Dr. Jack Lewis, President, NRCC  
 Dr. J. Mark Estep, President, SVCC  
 Dr. Terrance Suarez, President, MECC  
 Dr. Charlie White, President, WCC\*  
 Dr. F. David Wilkin, President, VHCC

#### At-Large Members

Mr. Dan Adams, Appalachian Power  
 Mrs. Shannon Blevins, Virginia Dept. of Bus. Assist.  
 Mr. Joseph Croce, Virginia Mfg. Assoc.  
 Dr. Alan Hawthorne, Executive Director, JIDA  
 Ms. Jody Keenan, VA Small Bus. Dev. Center  
 Mr. Jeff Kohler, VA's Philpott Mfg. Partnership  
 Mr. Carl Mitchell, Virginia Economic Bridge

#### Service Region Members

##### MECC:

Dr. Richard Phillips, Tech. Div., MECC  
 Mr. Bobby Tuck, Tuck Mapping Solutions, Inc.\*  
 (Vacancy)

##### NRCC:

Mr. Richard Holbrook, Aspen Motion Technologies  
 (Vacancy)

##### SVCC:

Mr. Mark Johnson, Pemco Corporation  
 Ms. Penny Quillen, Midpaco Papers, LLC  
 (Vacancy)

##### VHCC:

Mr. Keith McCall, Columbus McKinnon  
 Mr. Spike Tickle, Highlands Div. of Strongwell  
 (Vacancy)

##### WCC:

Mr. Harry Angstadt (Retired National Seating)  
 Mr. David Carpenter, SW Specialty Heat Treat, Inc. \*  
 Mr. Jon L. Sisti, Textron Fastening System

#### MTC Advisory Board Officers for 2006-07\*

Mr. David Carpenter – President  
 Mr. Bobby Tuck – Vice President  
 Dr. Charlie White – Secretary/Treasurer

### College Advisory Group 2006-2007

Dr. Richard Phillips, Dean-MECC  
 Ms. Sue Ella Boatwright Wells, Dean—MECC  
 Mr. Ronald Chaffin, Vice President WFD—NRCC  
 Ms. Angela Covey, Associate VP, WFD—NRCC  
 Ms. Alma Roland, Dean, VHCC  
 Mr. Robert May, Acting Dean, VHCC  
 Ms. Melinda Leland, Dean, VHCC  
 Mrs. Peggy Barber, Dean, SVCC  
 Mr. Frank Horton, Dean, SVCC  
 Vacant— Dean, WCC  
 Dr. Stacy Thomas, Dean, WCC