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Long Island Metro NY
Chapter 86
Events Calendar

Wed., June 24, 2009
Tour of Wrap-N-Pack
Farmingdale, NY

June Meeting Announcement

Wednesday, June 24, 2009

Tour of Wrap-N-Pack (Facility / Warehouse)

Host: Paul Pileggi, Shipping Supply Consultant

Time: **6:00pm - Dinner and networking**
6:30pm - Presentation / Tour

Place: Farmingdale, NY

Directions: Directions to Wrap-N-Pack will be sent once your reservation is received.

Meeting Fee: no charge, Complementary buffet/dinner/refreshments will be provided by the host.

Reservations: Required - RSVP by Monday June 22, 2009 to Tom Fiorella 516 214 5588 or email at tfior9651@msn.com. Please indicate: Name, Organization/Company, Day Time Phone, Member Affiliation (IIE / SME)

Wrap-N-Pack, established in 1977, redefines the packaging industry by making customer service and satisfaction their highest priority. On the presentation / tour you will learn how their green initiative relates to your shipping supplies. The company has revolutionized the industry by distributing standardized price lists and by offering guaranteed next day delivery service. Come and have dinner and tour this newly renovated warehouse.

Besides saving you money on your shipping supplies, reducing your damages, and delivering to you on demand, their products offering includes:



- Corrugated boxes
- Protective packaging
- Shipping room supplies
- Tapes
- Stretch films
- Protective mailing bags
- Poly bags
- Mailing tubes
- Washroom supplies
- Strapping

Professional
Events Calendar

AIAA - Long Island Section
Thursday, June 18, 2009
6pm Social Time, 6:30pm
Dinner, 7:15pm Presentation

Topic: **Space Tourism,
Moon - Mars and Beyond**

Location: The 56th Fighter
Group Restaurant, 7180
Republic Airport Grumman
Lane
off Route 110,
East Farmingdale, NY
11735

RSVP by June 17
See details on the back page
flyer and online at
[www.aiaa.org/portal/index.cfm?
GetComm=145](http://www.aiaa.org/portal/index.cfm?GetComm=145)

SME - Long Island Chapter
Friday, June 26, 2009
1pm - Tour / Presentation

Topic: **Tour of CapsysCorp**
www.capsyscorp.com

Location: Brooklyn Navy
Yard Building 2

For more information
Contact: Tom Bussi –
tbussi@optonline.net or
Mohammed Asid –
mohammed.asim@itt.com

President's Message



The tour of Sulzer Metco was a joint event with APICS, which was a tremendous opportunity for members to network and share ideas and experience with one another. Ed Sottile, Manager - Manufacturing Engineering and staff did a commendable job in presenting the company's LEAN manufacturing

achievements, which were many. Please read Carolyn's review further down in the newsletter.

The last meeting before the summer break will be a tour of Wrap-N-Pack in Farmingdale, NY. This will be another opportunity to network with your fellow IE's, be treated to light dinner provided by the host, and see the improvements at their newly renovated warehouse facility.

During the summer months the Chapter Board will be busy planning the program year which will begin in September. I welcome your recommendations for future tours and program presentations. Please send me a email if your company would like to provide a tour and/or presentation.

Last week John Corliss, IIE NE Regional VP on the bi-monthly conference call / update mentioned that the NE region Chapters have achieved 8 of the 24 Chapter recognition awards, which was an indication that the NE region is one of the strongest regions in all of IIE. Some of the other topics discussed were: the effects of the economy on IE's, which apparently is not as bad as it was in the early 90's, we need to focus more on student Chapters / members, additional webcasts to be conducted by Chapters in the NE region, and planning the next NE region conference.

Chapter 86 President

Tom Fiorella

Review of the May Meeting

By Carolyn Chen

The May meeting was held at Sulzer Metco, in Westbury. Sulzer is a Swiss company that provides engineering solutions with its global industrial groups; Sulzer Pumps, Sulzer Metco surface technology solutions and services, Sulzer Chemtech separation columns for mixing, and Sulzer Turbo Services. This is the 175th anniversary of Sulzer, and they owe their longevity to the core business values: Customer Partnerships, Operational Excellence and Committed People. The staff at Sulzer Metco have shown their commitment to Lean Principles by implementing many improvement projects since the last IIE tour in 2006.

Sulzer Metco needs to constantly improve to maintain their leadership in surface technology. They can alter surface mechanisms to control wear, oxidation, corrosion, clearance, electrical insulation and conductance. Other treatments are thermal protection and cosmetic enhancement. The technical goals are achieved by Ed Sottile, Manager - Manufacturing Engineering using different techniques. (1) A layer of materials can be added to the component. Depending on the thickness needed, the layer can be added by Plasma Transferred Arc / welding, Thermal Spraying, or thin film application. (2) The surface chemistry can be altered by nitriding. Sulzer Metco's specialty is powder technology. They design, manufacture powders, manufacture thermal spraying equipment as well as provide coating services. (Continued on next page)

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Job Opportunities

Local job opportunities that may be of interest to IIE members are posted on the Chapter's website at www.iienet.org/long_island

Current job postings include:
Mid Level Quality Engineer
Jarvik Heart
Location: New York, NY
Source of Posting: monster.com

The company recognized that it needed to invest in Lean techniques to maintain leadership in the industry. They focus on metrics that relate to Customer Service such as a target of 95% for Deliver to Promise (DTP) and a target of 85% for Delivery to Service (DTS). Their goal for Make to Stock is to leave the factory within 24 hours.

My tour group started with Equipment Operation in the machine shop cells and Assembly area. The Lean team measured the average travel distances. By re-organizing the busiest cell, they were able to reduce the travel distance from 1976 feet / day to 550 feet / day. DTP improved from 89% to 95%. A chart of continuous improvement projects is posted, for information, recognition and merit purposes. Every employee sees who the requester is and when the project is completed. The Lean managers stressed that it is imperative to get input from the team members so they feel that they own the changes. Over time, the employees have become more comfortable, eager to participate and suggest new ideas. Their planning and maintenance is reliable enough so that they can run "Lights Out" on the 3rd shift and on weekends.

The Hose and Cable assembly area was reorganized from 9 rows of stationary racking, to two sets of circular, vertical rotating racks. Employees rotate the rack to get the correct hose, pull the length off the reel onto the cutting station, then assemble with all the hardware needed close at hand. This is one of the many areas that have converted to a Two-bin vendor managed stock program. Hardware vendors stop in twice a week to check on what needs replenishment. Another change made was in the work flow of the assembly. The staff was re-trained so that each person completes a job from beginning to end. They used to each have a specific task then hand it off to the next person. The outcome of the lean improvements was that they were able to sell 15 tons of excess equipment, and gained enough space to build an additional (and sorely needed) testing station.

The team has to think creatively and be willing to accept change. Observing other successful businesses give them additional ideas. One example is working with suppliers to custom design packaging materials to reduce waste. Transport packaging is re-cycled and sent back to the supplier for future shipments. Sulzer Metco used to wait for vendors for service work. They decided to purchase their own equipment for tasks that they used to wait for. Be willing to re-design your product to reduce Non Value Added time.

The Analytical laboratory tests all incoming materials. Sulzer Metco has discerning customers in aerospace and automotive industries where integrity of the material is critical. Among the tests they conduct are phase determination, chemical composition, particle size, and flowability. The post-process lab is the Metallographic Laboratory. They determine if the coating is good and met the requirements. They have the technology to enhance any property needed, by carefully analyzing and balancing the tradeoffs of each property. For example, a coating that increases porosity is good for providing a surface that lubricants can cling to. However, porosity reduces resistance to corrosion. They achieve the different properties by varying the temperature, spraying distance and amount of powder. The coating is analyzed by encasing a sample in an epoxy, using vacuum impregnation to completely fill the surface. The Metallographic lab also checks the effects of powder morphology, which is impacted by the manufacturing process. Under high power magnification, you would want to see cracks in the coatings to allow for expansion and contraction. Think of this like expansion joints in bridges.

The metals manufacturing area is where the Thermal Barrier Coating (TBC) powders are made. Metals are mixed into a slurry, then the spray drying process produces composite powders to the size and composition requirements. These powders must be used with a high heat thermal process, to extend the life and add thermal protection to parts.

The Coating Solutions department develops the thermal spray processes, collaborating with other global units, to support new customers and new applications. Three techniques were demonstrated for the group. The HVOF, High Velocity Oxygen Fuel, method depends on kinetic energy generated by high flow, and high pressure. Speeds of the particle are in excess of Mach II, on the order of 600 meters / second. The Plasma Spray uses energy and gas to accelerate the spray material towards the substrate. It is the impact of the particles on the surface that forms the coating. The spray is heated to 30,000 C°, it exits the sprayer at 12,000 C° and hits the substrate at 3000 C°. The Wire combustion technology has been used for 100 years. A metal wire is fed into the plasma and the operating temperature is about 1700 C°. This is a hand held technique, most commonly used for bridge repair or corrosion resistance treatment.

The SumeBore Technology group develops custom applications for cylinder bore coating services. It is most commonly used in automotive applications. The RotaPlasma® technology is proprietary to Sulzer Metco. Wear resistant coatings with excellent frictional characteristics (or any desired property) can be applied to cylinder bores in engine blocks. Many of the clients are race car owners, but truck engine manufacturers can realize benefits as well. A truck can burn 7 - 8 gallons of oil a day. The effect of polishing the cylinder bores can reduce oil waste by 90%. Thus, there are cost benefits and environmental benefits to using this technology.

For more information about the company's technology, call 516-334-1300, or see the website, www.suzermetco.com.

Chapter 86 Membership Information

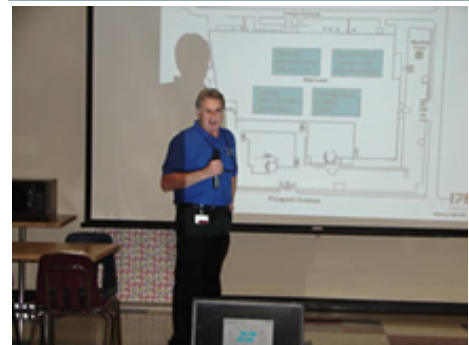
Current Active Membership
Long Island & Metro NY Chapter = 100

About IIE Founded in 1948, IIE is the premier society dedicated to serving the professional needs of industrial engineers and all individuals involved with improving quality and productivity. IIE has over 15,000 members and more than 280 chapters worldwide.

Who benefits from membership?

There are hundreds of job titles given to people, who manage, design, install, or maintain integrated systems of people, machinery, and information. No matter what your job title, if you are the person called upon for solutions when there is an issue that requires your attention, you belong in IIE.

To become a member of IIE call
1 800 494 0460
or log onto to
www.iienet.org & click on Join IIE



Ed Sottile, Mgr. – Manuf. Eng. Sulzer Metco



AIAA Annual Section MEETING

Thursday, June 18, 2009

Space Tourism, Moon – Mars and Beyond

Speaker: Gene Austin

*NASA Space Transportation Consultant,
NASA X-33 Program Manager, retired*



Location:
The 56th Fighter Group Restaurant
7180 Republic Airport
Grumman Lane off Route 110
East Farmingdale, NY 11735

Time: 6:00 PM Social Time
6:30 PM Dinner
7:15 PM Presentation
Cost: \$25 Members, Guests
\$15 Students

RESERVATIONS REQUIRED
RSVP BY June 15, 2009
to: Dave Paris
(516) 458-8593 or
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What are the requirements for and how are we going to achieve space travel for non-astronauts? Without a military space race, will the US establish commercial space flight before China, Russia and Europe beat us to it? To begin, we will need safe, reliable and low cost transportation to low Earth orbit. The Russians initiated commercial passenger space flight by selling a seat on Soyuz and a one week stay on the ISS for \$20M. After SpaceShipOne won the X-Prize, Sir Richard Branson formed “Virgin Galactic” to build a larger version of SpaceShipOne to carry six passengers to the edge of space for five minutes at zero G. Several thousand potential Astronauts have already signed up for only \$200K per passenger. Other companies are vying to capture a portion of this emerging market. Attention is now turning toward commercial flights to low Earth orbit and beyond. Currently the US plans to: finish assembly of the ISS in 2010; develop and test a new spacecraft, the crew exploration vehicle, and conduct the first manned mission by 2014; return to the moon by 2020; and ultimately to extend a human presence across our solar system. NASA has contracted work for: the Crew/Cargo Capsule, “Orion” to transport crews to the ISS following the retirement of the Space Shuttle; the Crew Launch Vehicle, Ares I; and a new orbit insertion stage. New propulsion technologies are being pursued such as nuclear, advanced chemical, solar sails, and Electromagnetic Propulsion.

Gene Austin wrote his High School senior theme paper on the subject of Mars missions after taking inspiration from Wernher von Braun’s articles and books in the 1950’s. As an Auburn University freshman in 1959, he became a Cooperative Education Student in von Braun’s Development Operations Division of the US Army Ballistic Missile Agency. This organization was transferred to NASA as the Marshall Space Flight Center (MSFC) in 1960. After receiving a BS in Aerospace Engineering from Auburn in 1963, Mr. Austin, now an engineer, returned to MSFC as a specialist performing mission analysis theoretical investigations and conceptual designs of nuclear rocket systems. Over his 42 year career at NASA, he held key positions including: Chief of MSFC’s Space Transportation Group; Manager of the MSFC Aeroassist Flight Experiment Project; Acting Chief, Advanced Transportation Branch, Advanced Program Development Division, NASA HQ Office of Space Flight; Director, Space Transportation and Exploration Office at MSFC; Deputy Manager, Space Transportation Study Team; Chairman, NASA Advanced Technology Option Team of the NASA Access to Space Study. Since retiring as NASA X-33 Program Manager, Gene has consulted with NASA on the National Launch System, Human Mars Mission approaches, and the ARES Launch Vehicle Program. Gene is an AIAA Associate Fellow and has served on the AIAA Electric Propulsion and Space Transportation Technical Committees.

Directions: Take the Northern State Parkway to Exit 40S, Route 110, or the LIE to Exit 49S, Route 110, or the Southern State Parkway to Exit 32N, also Route 110. At the traffic light at the south side of the Marriott Courtyard Hotel, turn East on Grumman Lane, which is about 3.9 miles south of the LIE and about 1.7 miles north of the Southern State Parkway. The restaurant is 0.2 miles ahead before the road turns right.