



## Chairman's "Corner"

We're On The Web  
[www.asq-akron-canton.org](http://www.asq-akron-canton.org)

### Conferences

As a new Member in 1998, I quickly found the Akron-Canton Section as my "preferred supplier". I can also reach other Sections from my home. One of my first "positives" for Section 810 was attending a conference on Lean Manufacturing. It was well done, professional, and instructive.

Section 810 has, for many years (since the mid-60's, shortly after founding), held conferences in the Spring and Fall of each year. The most recent conference conducted two (2) tracks. One track was planned for an audience from the industrial and business Members, which is a majority of our Membership. However, many Members work in other sectors including financial, not-for-profit, service, government, education, and health care. The Section Leadership desires to reach into the community in an attempt to both provide QUALITY resources to the community and to expand the Section's base.

The Leadership Team turned their focus to Health Care. A number of things are contributing to make the Health Care area successful for the community and the Section. First is the outstanding guidance and support by Gayle O'Brien, RN, MSN, CPHQ; Director, QI, Patient Safety Officer, Akron General Medical Center. Second is the combined efforts of our Current Team; they are Jill Cochran (Conference Chair), Dilip Shah (Past Conference Chair, ASQ CQE, CCT), Jeff Pfouts (ASQ CQT), Cheryl Buxton, RN, and Mary Schultz. The recent March 18<sup>th</sup> conference was a great start in the Health Care area with respect to both presentations and attendance.

The immediate question before the Conference Team is the planning for the coming Fall-2005 Conference on October 20<sup>th</sup>. However, it is a constant effort to bring the appropriate topics and adequate content in each one. Questions include theme, topics, speakers, number of tracks, location, and conference length. Mark Holdrege (ASQ CQE, CQA, CQM), Section Chair for the 2005-2006 Program Year, is leading us back to extending the conference to include the Thursday meeting, as has been done as recently as 2002.

One of the challenges is to be "in sync" with the current needs of our Membership and the larger quality community. The Section can be proud of its conference record. We wish to build on the past and continually improve. If any one reading this wishes to make a suggestion or become part of the Team, please contact Jill Cochran ([jill\\_cochran@ashulman.com](mailto:jill_cochran@ashulman.com)), a Team Member, or myself.

Respectfully, Ed Russell, Chair (ASQ CQA, CQM)  
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### May-2005 Technical Clinic ... Topic Abstract and Speaker Bio.

#### "Effective Response to Variation in Uncertain Processes"

When assigned processes are not established relative to stability and capability (as when new products are brought on line - or in job shops), correct evaluation of variance is critical for effective response measures. Case studies will be shared to demonstrate that how we look at variance can make or break a project, company culture, or business.

Gordon Macdowell's education is in the liberal arts at Hiram College, and he found a niche in the quality discipline after leaving self-employment in manufacturing. He wants to add that his attendance and participation in ASQ functions has been an important component to his job performance as Quality Director at AKRO and New Berlin Plastics.

#### RABQSA-Approved Lead Auditor Class : \$500 : 1.6 CEU's.

May 16, 2005 7:30am - 7:00pm, AND May 17, 2005 7:30am - 5:00pm.  
Monroeville, PA, Holiday Inn. Price includes a continental breakfast and lunch.

Sponsored by the Education Committee of the ASQ Pittsburg Section.  
Class size limited. To register, contact Jeff Otte at "[jeffotte@comcast.net](mailto:jeffotte@comcast.net)".

For information, visit "[www.aqsperformance.com](http://www.aqsperformance.com)".  
Certified in the RABQSA Certification Program.

### Section Officers For 2005-2006

The Following Members Were Elected To Fill The Respective Positions Of The Section For The 2005-2006 Program Year, During The April-2005 Dinner Meeting.

Mark Holdrege .... Chair  
Jeffrey Pfouts ..... 1<sup>st</sup> Vice Chair  
Michael Marley ..... Secretary  
Lawrence Tobey ... Treasurer

Please Help To Support These Individuals By Supporting Your Akron-Canton Section.

### Tally Sheet Articles

The June-2005 Edition Deadline Is  
05/17/2005.

Articles For Publication In The Section's Monthly Newsletter Can Be Forwarded To The Editor For Consideration. It Should Be Pertinent To Aspects Of Quality And Reliability, And Can Be Either Business Related Or A Personal 'Lessons Learned' That Might Benefit The Membership.  
Forward Articles To  
["michael\\_marley@goodyear.com"](mailto:michael_marley@goodyear.com).

## May Technical Clinic & Dinner Meeting

Thursday, May 19<sup>th</sup>

### **356<sup>th</sup> Fighter Group Restaurant**

4919 MT. PLEASANT ROAD - NORTH CANTON, OHIO 44720

Make Reservations To Attend Through Either Your PACT CONTACT Or The Section Web Site.

## Technical Clinic

5:30PM —> 6:30PM

Free Admission

### “Effective Response to Variation in Uncertain Processes”

Gordon Macdowell  
Akro-Plastics

## Dinner Meeting

6:30PM —> 8:30PM

Dinner ... 6:30PM Start ... \$20  
Meeting ... 7:30PM Start ... Free

### “Science Fair Night”

‘Audit Checklist’ ... continued from page #3.

#### Machine(s):

Scheduling is done by work center and as machines become available, the next order is setup.

#### Monitoring/Measurement:

Order processing is accomplished in 3 days or less tracked by the date of receipt to closure. Delivery is measured in “On-Time” terms. Tool, gage and material availability at the time of setup is not measured. First pass acceptance is measured internally and a Quality metric is provided by the Customers. SPC on pertinent characteristics is accomplished. Parts are counted on first shift only and order status is updated once daily.

#### Identify Findings & Opportunities for Improvement:

There were no findings, but opportunities for improvement are now listed. Orders accumulate for data entry. Order processing should be measured in hours rather than dates or days. There is no reason the orders cannot be processed within hours of receipt. Availability should be measured for gages, tooling and material with Mondays being the day of the week materials are ordered and preparations made for setup. Confirmation of receipt to the scheduling process will avoid setup on parts that are not fully staged. Part history, troubleshooting records and type written layouts should be available with two-way communications established. A job packet book with internal drawings, layouts, part history, troubleshooting records and an inspection checklist should be assembled and made available at the end of the order processing stage. Downtime and reasons should be measured, assuring optimum machine utilization takes place and staffing considerations are made. Parts could be cleaned, counted and inspected twice/shift, providing real time information for data entry, risk management and troubleshooting.

#### Process Effectiveness in Meeting Stated Objectives:

The process is effective in meeting the stated objectives. Minor, infrequent infractions in Quality and Delivery are experienced with assignable causes addressed individually through the corrective action system. Root cause analysis and corrective measures are effective in preventing reoccurrence of infractions.

#### Address Core Elements:

Document Control: 4.2.3 : The documented work instructions exist and are controlled adequately.

Records: 4.2.4 : Records are maintained indicating the performance of the process.

Quality Policy: 5.3 : Alignment with the “Quality Policy” is evidenced within the stated objectives of this process.

Training/Competence: 6.2.2 : Associates involved in this process have been trained and records of training are maintained.

Customer Complaints: 8.2.1 : There are no Customer complaints to report at this time.

Corrective Actions: 8.5.2 : Corrective actions are evidenced when Customer Complaints are received.

Preventive Actions: 8.5.3 : Preventive action takes place within part families when appropriate.

Product Traceability: 7.5.3 : Traceability is maintained in accordance with Customer Specifications.

Gages/Instruments: 7.6 : Gages at three machines were traced through the Gage Metrology software. All gages were calibrated within the allotted time frames.

Suppliers/Purchasing: 7.4 : The suppliers of three orders were identified on the Supplier Master List.

Non-Conforming Product: 8.3 : Nonconforming product encountered on the manufacturing floor is kept separate and identified appropriately.

Continual Improvement: 8.5.1 : Continual Improvement is evidenced in daily activities with communications between Associates and by projects opened during Management Review to improve specific processes within the Quality Management System.

#### Performance & Value:

Utilizing ISO 9001:2000 internal audit techniques provided significant value to Mansfield Screw Machine Products Company, Inc (MSM). The first fruits realized were in the quote & order entry process. The management team took the audit seriously and made the process a one-piece flow. Rather than accumulating orders and performing order entry in bulk, each order has the opportunity to be entered one at a time. Order entry feeds the value system downstream. Visualizing an order through your system is like looking at a funnel. There is time at the top of the funnel to assure success. The further down the funnel, the less time there is to accomplish product realization and ultimately delivery. MSM order entry is accomplished in hours rather than days now. This provides everyone downstream an opportunity to prepare in advance.

Taking a survey of the associates and operators, we discovered what they viewed as essential and of value during set-up and manufacturing. Our documentation was inconsistent among part numbers so we developed a job packet book assuring we supplied the manufacturing associates with everything needed. Further development led to use of software that prints all the necessary documentation at one time. Repeat orders required less time to prepare than ever before. Layouts and instructions have been computerized assuring legible documents are distributed for every order.

Handwritten notes were removed from drawings, utilizing a cad system recently acquired. MSM purchased EDM equipment and makes tooling previously purchased outside. This purchase helped us adapt to tooling change improvements faster. Our manufacturing manager began tracking tooling, gage and material availability. This became part of our monthly process flow and performance report. Annual goals are recorded with monthly performance reporting. This process change enabled MSM to reduce our lead-time to 22 working days, a significant competitive advantage. Level scheduling and associate training on multiple types of equipment enables the opportunity to accomplish more with less. A diverse work force prevents over staffing while maintaining, on average, 99% on time delivery and quality metrics. After an internal audit of the inspection process, redundant inspections and documentation were removed. The quality technician suggested an inspection process change that enabled each inspector to do approximately 50% more than before. As a result of the combined process improvements in our operation, MSM was able to improve our average inventory turns from 6 to over 20. This indicates that MSM has less than 19 days of inventory on the manufacturing floor at any given time. This has had a significant effect on profitability and cash flow. It has also provided MSM with additional quick turnaround business that is lead-time sensitive.

The MSM staff is deeply rooted in the precision machined products association (PMPA). The President & CEO, Rick Witchey III, is the first vice-president of the association, the manufacturing manager, Ken Tomecko, is on the technical conference committee and the quality manager, Jeff Massoni, recently became chairman of the quality committee.

Acknowledgement: A special ‘thank you’ to John Sedlak and Smithers Quality Assessments, Inc, Akron, Ohio, for use of their auditing checklist format, and input into this ISO-9001:2000 article.

## ISO-9001:2000 Internal Audit Checklist Example and Comparison to ISO-9002: 1994

Jeff Massoni (ASQ CQT) ... Akron-Canton Section

The ISO 9002, 1994 & QS-9000, 1998 standards were introduced while I was employed in a different industry. Being an automotive supplier, we decided to become registered to QS-9000 to assure there would be no hindrance to our ability to bid on automotive work. As a corporate quality engineer, I was called upon to implement a quality management system (QMS) in (4) of (6) plants, and did it in a 13 month time frame. What I remember about creating those systems was the difficulty maintaining a basic flow from 'quote' to 'shipment'. Linking the documentation in the responsibility, authority and accountability section of the documents was difficult. It remained difficult up to the time of the second surveillance audit by the third-party registrar.

### **Background:**

ISO 9002, 1994 provided both a basic structure and minimum requirements for operating a QMS spanning across 20 elements. The QS-9000 standard added a requirement to deploy 'continuous improvement' philosophy, directed primarily at the manufacturing process. The philosophy *should* extend to all business and support processes but it is not mandated with the word *shall*. The 20-element approach and associated audit, however, created a "silo" affect within organizations. Each element / department and the document owner was responsible for their area, but interactions with other elements was foggy. If found compliant in the audit there was no more activity toward improvement necessary. After the first year, the documentation / records became a burden on the organization without adding much value. Being QS-9000 registered, improvement efforts were required but were driven mainly to provide proof of the improvement activity to an external auditor. Internal auditing became a drudge. If the minimum standard was maintained, auditing the same thing the same way and seeing nothing change over time was commonplace.

### **Old Style:**

Auditing elements 4.2 (**Quality System**), 4.6 (**Purchasing**) and 4.9 (**Process Control**) of the ISO-9002 (1994) standard helped move companies to do a better job with quality planning, formalizing the purchasing procedures and creating a good foundation for manufacturing. However, the interactions with purchasing and manufacturing are not observed / required, and interaction with tooling and set-up associates was not referenced. Audited individually, there were no issues with this portion of their QMS and no opportunities for improvement were identified. The goal, it seemed, was just to **pass the audit for the department instead of improving the entire system**. This audit style leads us to complacency.

### **The New Standard:**

The ISO-9001:2000 standard is based on these 8 management principles: A. Customer focus, B. Leadership, C. Involvement of people, D. Process approach, E. System approach to Management, F. Continual improvement, G. Factual approach to decision-making, and H. Mutually beneficial supplier relationships.

**The intent of the standard is not to imply uniformity in the structure of your QMS nor the documentation.** This means that every quality management system is unique, even within the same industry. With that in mind, systems should be developed from the culture and methods in place, and by participation of the people that make up the system. Continual improvement of the process becomes an integral part of the quality management process. The ISO 9000: 2000 standard links the processes together and observes the interaction of processes within companies. Instead of a system of silos within the business, the newly revised standard uses a "plan, do, check and act" (PDCA) process approach to business encompassing the entire QMS. This is what makes ISO-9000:2000 superior to its ISO-9001, 1994 predecessor.

Following, observe the internal audit checklist in ISO-9001: 2000 format. Notice the upstream and downstream processes associated with the manufacturing manager's (process owner) responsibilities? Viewing the next process owners as customers, it becomes clear that managers take on a role

of *supplier*. This assures manufacturing has everything necessary to be successful. ISO-9004: 2000 is a QMS guideline for performance improvement. Section 4.2 of that standard says evaluation of documentation with respect to effectiveness and efficiency of the organization should be made against criterion such as speed of processing, user friendliness and resources needed, policies and objectives, managing knowledge, benchmarking documentation systems, and interfaces used by customers, suppliers and other interested parties. These strategies should be employed during Internal Audits.

### **ISO-9000: 2000 Internal Audit Checklist (PLANNING):**

#### **Upstream Processes:**

Quoting, Order Entry, Purchasing and Production Planning.

#### **Process Name:**

Scheduling, Tooling, Setup, and Production (Product Realization).

#### **Process Owner and Objective of the Process:**

Manufacturing Manager – To manufacture product in accordance with Customer Specifications, delivering on time, every time while making a profit.

#### **List the Inputs to this Process:**

Quoting and Order Entry Production Planning.

Quality Planning Purchasing.

Outside Process Planning.

#### **List the Steps (in order of basic flow) to this Process:**

1 Requests for quote are received.

2 Machine availability and schedule dates are verified to date of request.

3 Material availability is verified, gage availability is verified, and tool availability is verified.

4 Outside process pricing and capacity are verified.

5 Order receipt processing, and entry onto the master schedule.

6 Purchasing obtains material, gages are obtained if not already available, and tools are ordered if not already available.

7 Drawing copies, specifications, engineering documentation, equipment settings, outside processing specifications are assembled with a traveler to direct the parts through the manufacturing process.

8 Machine setup takes place.

9 Product is manufactured, inspected (in-process) and counted.

#### **List the Output(s) to this Process:**

1 Product that meets all specifications has been produced.

2 The entire order quantity is available for on-time delivery as quoted.

3 Lead times less than 25 days.

4 Items 1 through 3 each and every order.

5 Parts are made at the rate quoted or better.

#### **Customer Process Name (Downstream Process):**

Cleaning, Counting, Inspection, Packing and Shipping.

#### **Associates Interviewed:**

Engineering Manager, Purchasing Manager, Quality Manager, Manufacturing Manager, Data Entry Associate, Manufacturing Associates, Tool Room Associate, Inspection Technician, Receiving Associate, and Manufacturing Engineers.

#### **Methods:**

Orders are processed using documentation that flows from one entity to the next listed in succession on an order-processing document. Dates are recorded next to initials indicating the task is complete. Materials are ordered, gages are made ready, and tools are made available for set-up. Pertinent information is provided to Manufacturing with a traveler outlining the manufacturing steps and machines. Material is available on Mondays from the supplier, gages are available within 36 hours maximum, and tooling is made available when the set-up is scheduled. Engineering and Manufacturing documentation are provided at the time of setup. Inspection takes place at the machine in accordance with the drawing specifications. There are no handwritten notes on drawings and a formal deviation system is employed.

See 'Audit Checklist' on page #2 ...



**The Tally Sheet**  
**Newsletter**

**AKRON-CANTON**  
**SECTION 810**

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## Science Fair Winners @ May Dinner Meeting

### ASQ Akron/Canton New Members

March—2005



Tina Benson	Techni Graphic Systems
George W Bush	The Timken Company
Shereefa A Cameron	Akron Porcelain & Plastics
Peter P Ishimaru	Colfor Manufacturing
Michael D King	The Timken Company
Ruby A Kinney	Plastipak Packaging
Anthony J Lenarz	The Timken Company
Todd A Lochner	Morgan Precision Instruments
Loretta A Mooney	Coltene Whaledent

Section "Special Activities"

### "Golf Outing at The Pines"

==> Friday, June 17 <==  
(The Friday Before Father's Day)

\$65 Pre-Registration ... \$70 At The Door

Contact Les Heckeler (ASQ CQE)  
330.796.7847  
les.heckeler@lmco.com

### ONE FINAL REMINDER TO THOSE FAMILY BASEBALL LOVERS OF THE SOCIETY, AND THEIR FRIENDS !!!

Section "Special Activities"

### "Akron Aeros Baseball"

Two Dates Scheduled For This 2005  
Season:

==> Friday, May 20 <==  
(Fireworks Night)

==> Friday, June 03 <==  
(Fireworks Night)

Picnic Included In Ticket Price Of  
\$10 Per Person

Contact Les Heckeler (ASQ CQE)  
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