



# Quality Connection

Official Newsletter of the Baltimore Section, ASQ

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Voice Mail: (410) 347-1453

E-mail: [asq0502@quality.org](mailto:asq0502@quality.org)

Internet: [http://www.quality.org/ASQC\\_Sections/Section\\_0502/index.html](http://www.quality.org/ASQC_Sections/Section_0502/index.html)

## 2001-2002 EXECUTIVE BOARD

Frank Vojik Chair  
[FVojik@yahoo.com](mailto:FVojik@yahoo.com)

Gil Cuffari Vice Chair / Program  
[GCuffari@AOL.com](mailto:GCuffari@AOL.com)

Treasurer

Scott Fairchild Secretary  
410-993-5432 (W)  
[Scott\\_H\\_Fairchild@md.northgrum.com](mailto:Scott_H_Fairchild@md.northgrum.com)

Larry Jenkins Arrangements  
410-833-2272 (W) [Ljenkins@raloid.com](mailto:Ljenkins@raloid.com)

Mel Alexander Database / Home Page  
[MelvinAlexander@compuserve.com](mailto:MelvinAlexander@compuserve.com)

Lloyd Dixon Education  
410-765-3153 (W)  
[Lloyd\\_M\\_Dixon@md.northgrum.com](mailto:Lloyd_M_Dixon@md.northgrum.com)

Mike Rothmeier Employment  
410 357 5601 (W) 410 357 4946 (Fax)

Howard Swartz Examining  
410-628-3278 W [swartzhc@aicorp.com](mailto:swartzhc@aicorp.com)

Bob Rayme Financial Audit  
410-557-7432 [BobMRayme@aol.com](mailto:BobMRayme@aol.com)

Kevin Gilson Koalaty Kid / NQM  
410-864-2428 [kgilson@sierramilitary.com](mailto:kgilson@sierramilitary.com)

Bev Earman Membership  
410-636-7651 (W)  
[bearman@erachem-comilog.com](mailto:bearman@erachem-comilog.com)

Craig Carpenter Membership  
410-764-5256 [Ccarpenter@polkaudio.com](mailto:Ccarpenter@polkaudio.com)

Jim Cooper Newsletter  
410-765-2934 (W) 410-765-0165 (Fax)  
[james\\_e\\_cooper@md.northgrum.com](mailto:james_e_cooper@md.northgrum.com)

Sara Parker Publicity / AQP Liaison  
410-436-4737 410-436-3665 (Fax)

Don Jacoby Past Chair / Nominating  
410-825-4414 (W) [DonJacoby@aol.com](mailto:DonJacoby@aol.com)

Beth Reigel SMP / BWPLC  
410-993-3373  
[Elizabeth\\_E\\_Reigel@md.northgrum.com](mailto:Elizabeth_E_Reigel@md.northgrum.com)

Joel Glazer Software Quality  
410-765-4567 (W)  
[Joel\\_Glazer@md.northgrum.com](mailto:Joel_Glazer@md.northgrum.com)

David Little Regional Director  
717-653-3720 717-653-3718 (Fax)

*Support your local Section this year.  
Attend monthly Section meetings.*

## Chairman's Corner

Frank Vojik

### Turning the Page

As I complete my second (and last) year as Chair for the Section, I wish to use this column to thank my fellow board members for their support in making Baltimore the finest ASQ Section in Region 5. No one can do it all, and over the past two years, I have been supported by a superb cast of subcommittee chairs. It is entirely appropriate that I acknowledge here their contributions to the board and the section as a whole.

Gil Cuffari served as Vice Chair in 2001-2002 and his contributions to the section cannot be overstated. There were times in the past year when I could not execute my duties to the fullest, and Gil was always there to step and lend his expertise and experience to the operation of the section. In addition to his Vice Chair duties, he also served as Program Chair and the Section liaison in the planning of Region 5 Quality Conference. It's unfortunate that the conference did not take place, as it would have further highlighted Gil's abilities as an organizer and planner. Gil will move to **Section Chair** next year where I know he will use his organizational and interpersonal skills in an effective manner to lead the section.

Although he has left the Section and the area, I wish to briefly acknowledge and thank **Bill Barton** for his contributions as

Section Treasurer during 2001-2002. In February, Bill accepted a position in Wisconsin. We wish him the best in his future endeavors.

**Scott Fairchild** served as Board Secretary this year and also assisted in the arrangements of our section meetings. He was responsible for setting the board meeting agendas and preparing the meeting minutes. In addition, he could always be found at the sign-in table for section meetings. His organizational skills will serve him well as he moves to **Vice Chair** for the 2002-2003 year.

**Ray Cress** served as Membership Chair for the first part of the year and was instrumental in implementing new ideas for the management of our membership base. Ray had to resign in mid-year, and his duties were assumed by **Bev Earman** and **Craig Carpenter**. I thank Bev and Craig for stepping up to manage a board function that is not as easy as it might seem. Craig was also responsible for preparing our speakers gifts. In addition to serving as co-Membership Chairs, Bev and Craig will also serve the section as **Advisors** in 2002-2003.

**Sid Lewis** brings his expertise as an industrial statistician and an **ASQ Fellow** to the position of Tutorial Chair. Sid is responsible for the development and planning of our section tutorials, a position he has held for some years and will continue to do in the New Year. Thanks Sid, for all your help.  
*(Continued on Page 2)*

### *Chairman's Corner (continued)*

**Larry Jenkins** served his first year on the board as Arrangements Chair. In addition he was involved in the planning for the Regional Quality Conference. Larry, thanks for all your help in the past year.

**Bob Rayme** performs an under-appreciated but absolutely critical function as the Financial Auditor for the section. One of the absolutes for maintaining our section in good standing is the preparation and conduct of an internal financial audit of our books for ASQ National. Bob has ably performed these duties for the past several years and will continue in this position for 2002-2003.

The next three board members have duties that interconnect in a unique and important way. **Lloyd Dixon** has served the section as Education Chair for several years now. Lloyd is responsible for preparing the section certification refresher courses (CQA, CQE, etc.) and also plans section seminars for the members. **Maria Burness** serves the section as the Chief Proctor for the ASQ certification examination process. Maria selects the exam sites, selects the assistant proctors, and manages the overall exam process. **Howard Swartz** is the section Recertification Chair. If you have an ASQ certification, then you know Howard! He contacts members regarding their impending recert dates, and prepares valuable data for the board to evaluate. The Section is fortunate that all three will return next year in the same positions. My personal thanks and appreciation to all of you.

**Kevin Gilson** wears two hats. As the Koalaty Kid Chair, he is responsible for the section liaison with local schools. As the Science Fair Chair, he serves as main judge for the annual science fair that the section holds for various education levels in the Baltimore area. I thank Kevin for his support and management of these two important community outreach programs.

**Mel Alexander** brought his experience and expertise to the section by serving as the Database and Home Page Chair for the section. He manages the section web page and is an important section liaison to National Headquarters. Mel is also an *ASQ Fellow*.

**Beth Reigel and Kathy Free** served the section as the co-SMP Chairs for the section. This position is responsible for ensuring that we meet all requirements for maintaining our section in good standing by conducting elections and holding the financial audit. In addition, they are responsible for the development of the section business plan and strategic planning which takes place every year. Kathy brings additional expertise from her position as *AQP Chesapeake*

*Chapter President* and by the distribution of the *Baltimore/Washington Partnership Newsletter*. I want to thank Beth for all her help in the past year, and look forward to working with Kathy in the development of a section business plan.

**Sara Parker** joined the board this year as the Publicity Chair. Her main responsibility was to ensure that notification of Section events were sent to local publications and news outlets. Next year, Sara will bring her experience as an AQP Chesapeake Chapter Executive Committee Member to the newly developed position of **Section AQP Liaison Chair**. In this position she will serve as a liaison to local AQP members wishing to join our Section.

**Mike Rothmeier** has ably managed the Section's Employment Database for the last few years. Mike maintains a list of job seekers and companies that is sent to section members seeking new employment opportunities. Mike has done a great job and will move up to Section Treasurer next year.

**Joel Glazer** has brought his expertise as a software expert to the Board by serving as the Software Quality Chair and Board Advisor. Joel is responsible for developing the annual Section meeting and tutorial on software topics. Thanks, Joel.

For the past several years, **John Yeager** has quietly but efficiently maintained the section Voice Mail system for registering for Section meetings. In the past year, he, along with Bev Earman, Beth Reigel, and Kathy Free, has helped initiate an e-mail response system that makes registering for meetings even easier. John has done a great job and will continue in this position next year.

In his position as Past Chair, **Don Jacoby** has proved to be a font of information and support to me as Section Chair. I thank Don for his wisdom, advice, and support.

**Jo McLaughlin and Morgan Hall** served the section as Board Advisors over the past year. I thank them for their contributions to the management of the section. In addition, Jo brings additional expertise to the Board through her position on the AQP Chesapeake Chapter committee. Next year, she will make a further contribution to the section by serving as the Co-Chair – Arrangements.

A word of thanks to **Regional Director Dave Little** for his support and advice. He visited the Section at the May meeting and was very complimentary about our Section management

programs. We look forward to working with him in 2002-2003.

**Pete Kosmidis** serves the board and the Section as *Advisor – Emeritus*, the only person in the Section to hold such a distinction. As a past Section Chair and Education Chair, he has proved to be a source of information and support to me and to others on the board. The board and the section are fortunate to have this *ASQ Fellow* as a resource.

The last is certainly not the least! **Jim Cooper** has served as the Section's Newsletter Editor for the past several years. His editing and formatting skills have enabled this newsletter to grow into one of the finest section newsletters, not only in Region 5, but also in the ENTIRE SOCIETY. Believe me, as Section Chair I get to see a lot of section newsletters, and ours is the best by far. I thank Jim for his gentle prodding when deadlines approached, his editorial skills, and his dogged determination to make the *Quality Connection* a source of news and information for Quality Professionals in the Maryland area. The ASQ Board of Directors has recognized his contributions to the Society as a whole, and the Section is indeed fortunate to have this newly minted *ASQ Fellow* serve us as Newsletter Chair in the future.

Finally, a word of thanks to all members who have supported the Section over my two years as Chair. I thank you for your support, attendance, feedback, and participation in Section activities as we continue to strive to be the Baltimore area's recognized resource on issues related to Quality. I look forward to seeing you at a section event next year.

My best to you all.

#### *Section Supports 47<sup>th</sup> Baltimore Science Fair*

As in past years, the Baltimore Section again provided awards to students at the Baltimore Science Fair. The Fair, sponsored by the Kiwanis and Towson University, attracts winners of school and county-based science fairs from all over Maryland. Students represent public and private, middle (Division 1) and high (Division 2) schools. We award first and second place in each Division for the use of statistical methods in the science fair project. We also recognize teams of students for effectively working together to solve their chosen problem. Two overall winners of the science fair go on to the international competition.

This year, the Section fielded 9 people to judge the projects: **Kevin Gilson, Alan Lane, Chuck Mooney, David Saunders, Jim Elliott, Karen Gentle, Terri Childs, Margaret Weinmiller** and **Linda Rosenberg**.

Statistical techniques seen this year included normal statistics, Monte Carlo techniques, and analysis of variance.

The following students received awards from the Section:

#### Division 1 (High School)

- First Place: **Adrienne Cress**, River Hill High School, *A Technique for Passive Object Location Using Sound*
- Second Place: **Genevieve Jacobs**, Glenelg High School, *Magnetic Resonance Imaging and Food Safety*
- Honorable Mention: **Daniel Fu**, Centennial High School, *The Pascal Pyramid: Patterns and Application*

#### Division 2 (Middle School)

- First Place: **Erin Geller**, Pikesville Middle School, *Air Care: Which Octane of Gas Causes the Least Amount of Carbon Monoxide Production?*
- Second Place: **Arjun Shah**, Clarksville Middle School, *Soaking Soils*

#### Teamwork Recognition:

#### Division 1 (High School)

- **Ena vanden Berg** and **Emily Vitrano**, Maryvale Prep, *Rain, Rain Go Away*
- **Carrie Holland, Celestine Blue** and **Marissa Trotman**, Randallstown High School, *What is the Effectiveness of Antibacterial Liquid Soap vs. Liquid Soap on Everyday Bacteria*

#### Division 2 (Middle School)

- **Nicholas Weishorn, Emanuel Ziegler** and **Michael Dietz**, Ascension School, *Is Our Water Safe*
- **Ravi Vaswani** and **Samuel Balcom**, Burleigh Manor Middle School, *The Effect of Hot and Cold Foods on the Oral Body Temperature for Adults*

In anticipation of next year's Baltimore Science Fair, if you are interested in judging for the Section, please contact **Kevin Gilson** at 410-864-2428 or [kgilson@sierramilitary.com](mailto:kgilson@sierramilitary.com). Also, if your organization would like to provide recognition pieces, such as copies of the Memory Jogger II or similar materials used in your TQM programs, please contact Kevin.

*All things will be produced in superior quantity and quality, and with greater ease, when each man works at a single occupation, in accordance with his natural gifts, and at the right moment, without meddling with anything else.*

- *Plato, Greek philosopher, c. 427-347 B.C.*

## ***Integrating Cost of Quality Into Performance Improvement Plans.***

### ***How to Align and Integrate With a Balanced Scorecard.***

Nick A. Shepherd, President – EduVision Inc.  
Oakville, ON. L6L 1A4 Canada

#### **Summary:**

This paper outlines how an effective approach to the identification and measurement of quality failure costs can be integrated into a balanced scorecard. Using this approach, the benefits and return on investment from adoption of effective quality management approaches can be demonstrated to have a positive impact on performance results of any organization, and become part of the mainstream of management performance metrics.

#### **Introduction**

The Quality Cost Committee is constantly asked “How do I get management support for my cost of quality initiative?” We know that a lack of quality creates both waste and significant other side effects yet we often fail to link the impact of these issues to the ability of an organization to achieve its’ desired business goals and objectives. In this paper we show how to link quality costs into a rapidly evolving performance management tool called “The Balanced Scorecard.”

#### **Some Basic Terms and Definitions**

The Cost of Quality that we talk about comprises all of the costs relating to compliance and noncompliance using whatever model may seem appropriate – the Quality Costs Committee has traditionally used the PAF (Prevention, Appraisal, Failure model).

The Balanced Scorecard is a tool that expands business unit objectives beyond summary financial measurements, into measures that assess the organizations ability to satisfy anticipated and future expectations in all aspects of its activity. While most organizations have probably thought this way, many have not managed this way. Planning, performing and monitoring are the core management processes through which an organization builds its capacity to deliver on the anticipated and planned outcomes and it is these aspects of management effectiveness that quality results can be linked to.

#### **Understanding Management's Issues – Business 101**

In order to position quality on management’s agenda, and as a primary driver for organizational improvement we have first to understand business 101. There are typically 3 major aspects of any

organizations activity – these are “the top line” (Revenue and sales which exist if we are an organization that makes and sells things); expenses, and an investment base. Managers are faced with working these 3 aspects in order to deliver better results than the competition (or if there is no competition, in a way that compares to benchmarked best practice). So what absorbs management’s attention?

- How can I optimize my top line?
- How can I minimize my expenses?
- How can I continually get a better return from my investment base?

If any professional in the quality area wishes to be seen as a value added contributor to their organization, they must be able to show how the costs that they incur actually add value in achieving some or all of the above objectives. While compliance is a requirement, it must be linked to its ability to create a return on investment. So the first task is to define what linkages there are between organizational quality and organizational performance.

#### **The Scorecard Concept**

A Balanced Scorecard – the term made well known by Kaplan and Norton, is a tool that has been created to allow organizations to take a more holistic approach to managing their activities.

Traditional measurement systems, especially at the high level in any organization, have focused on financial outcomes. Although this has worked well as eventually all activity can be translated and reported in terms of dollars and cents, in recent years it has become evident that looking at just financial measures masks many of the important performance activity that is taking place behind the scenes. This fact, coupled with the reality that most financial measures look at historical performance, means that management often has either inadequate or misleading information upon which to make decisions. Sound familiar?

While there are still financial measures within the balanced scorecard approach, there are other key aspects. These include customer / client focus, internal process focus and learning and growth focus. The opportunity that this presents us with is the ability to look at the possible inter-reaction between aspects of a business. As an example, many organizations, especially in service areas, have reacted to increased competitive pressures by cutting costs. While this may have a short-term improvement in bottom line results, it often creates or worsens internal process problems, as well as creating a growing level of client dissatisfaction. We may intuitively know these things

but the major area of attention will continue to be on business result in financial terms.

Finally, in addition to measuring the financial outcomes, the Scorecard approach focuses on looking at the other three areas as “enablers” of corporate performance. In effect, managing performance in these areas should in time result in the achievement of the targeted financial results. Why?

1. Customers provide us with income based on selling our products and services. Satisfied customers usually result in sales growth and the ability to charge market prices, and reduce discounts and credits. In addition satisfied clients will probably repurchase, enhance brand loyalty, recommend your organization to others and reduce selling and service expenses.

2. Processes are the enablers of everything an organization does; they also consume the organizational resources. Effective processes, that have been designed to perform at an acceptable level of quality, consume the lowest optimal level of resources and are predictable, resulting in improved planning, reduced cycle times. This lowers both expenses as well as fixed capital usage (equipment time) and working capital (areas such as on hand inventories). This applies to processes that are within an organizations supply chain boundaries as well as outside, such as those of suppliers.

3. Learning and growth are the enablers to create innovation and effectiveness of operations. People ultimately drive innovation and creativity. Providing them with both the opportunity to learn internally (the learning organization) as well as learning from other sources of education, training and skills experience creates this reservoir of talent that ultimately improved product offerings (sales growth), service capacity (satisfied customers) and process innovation (lower costs).

By now it will start to be apparent that every one of these aspects related to the work that quality contributes to. If an organization is operating at an optimum performance level, each of these three aspects will; have a zero “poor quality” costs (in terms of failures). In addition, the costs of prevention and appraisal will also be operating at their lowest optimal level. Our task therefore is to attempt to develop metrics that allow managers to measure the performance levels of each of these aspects.

Metrics can come in one of (usually) four categories; cost (in terms of \$), quantity (in terms of

units / volumes), time (hours, minutes seconds elapsed from start to finish), and quality (whatever additional criteria that may be relevant such as defects, variations from specifications and others). Although poor quality can impact each of these metrics, the cost of quality fits effectively into the \$ cost impact. This is what we will discuss.

### **Client Aspect of Quality Costs**

Failure to achieve optimum performance in the client area has significant financial impacts to an organization. Although this area is often seen as difficult to quantify, there are several examples of how poor quality costs could be identified, tracked and reported.

- Measure the level of client turnover against a best practice benchmark, and convert this into an excess cost of both selling and margin.
- Evaluate the levels of repurchase intentions of existing clients, based on levels of satisfaction and identify the potential lost margin due to satisfaction levels being less than optimum (using a benchmark or other industry best practice).
- Evaluate the time breakdown of sales staff on addressing and responding to quality problems (both product / service as well as administration) and assess both the excess “non productive” selling costs, as well as the productivity impact of lower sales growth.
- Calculate the current levels of warranty expenses, credits issued, returns, liability costs and other “external failures” as an aspect of sales reporting

The sum cost impact of all of these items can be then used to identify profit and performance improvement opportunities. These can drive future investments in strategically critical areas, as well as the decision as to where to assign scarce resources for competing benefits. In addition, focusing these decisions around the SWOT analysis can also bring the greatest benefits. A good example of this would be as follows:

Over a number of years, a sportswear maker has created a quality brand differentiation for their product that has resulted in them obtaining a premium in the market of \$10 per pair. The organization sells of 50M pairs a year generating a brand premium of \$500M in earnings. To maintain this it spend \$100M / year on product improvement. As part of cost cutting, management reduces the product improvement expenses to \$20M / year, but this results in the competition closing the gap between the quality of the

premium brand maker and themselves, resulting in a decline in brand premium of \$2 / pair. Net poor cost of quality is \$100M / year, caused by a \$20M cost reduction.

### **Process Aspects of Quality Costs**

This is an area more familiar to quality practitioners as it includes the areas where most of their work takes place. Processes must be designed to be capable in terms of both process and product or service compliance. Poor quality costs occur in most organizations in the process area, and this is fertile ground for using the scorecard to demonstrate performance opportunity. Examples of poor quality costs related to processes (which in most cases are internal failures) include the following:

- Excess costs related to materials, as well as the accumulated value added to products that are scrapped or services that have to be repeated;
- Excess costs related to additional expenses that must be incurred to deal with poor quality; these may include areas such as repairs, rework, replacements, resorting, the use of added materials, overtime costs because of problems, and many others.
- Excess costs related to unplanned failures in the process – such as equipment downtime and additional expenses incurred because of poor maintenance
- Excess costs due to poor health, safety or environmental performance;
- Excess costs due to supplier problems – such as expediting costs, visits to suppliers to correct problems, the use of premium materials from a substitute supplier because the preferred supplier did not perform,
- Costs related to redesign of product or processes where they were not planned correctly the first time.

All of these issues occur in an organization's processes, and all of them cause excess costs (as well as slower or unpredictable processes, and in some cases problems after delivery to the customer). In addition, as the proponents of 6 Sigma so clearly explain, poor processes also increase the costs of appraisal (we do more checking because of unpredictability). As a final point on process costs, we need to remember that processes occur in ALL areas so there are usually impacts of poor quality costs also in support processes related to sales, marketing, accounting, information technology, human resources, facilities management and every other area. These are usually significant in most organizations and must be

include (one of the reasons that applying ISO 9000 to just the operations process is only creating an illusion of improved quality in many situations).

If an organization wishes to reduce costs then it first must know where the opportunities are (the hidden gold). To do this, quality managers must work with their financial counterparts to clearly understand where excess resources are being used. While ABC (Activity Based Costing) may help illuminate this area it is not mandatory to start the identification, measurement and reporting of process cost issues within the scorecard.

A word here about traditional accounting. Typically costs are identified either as direct costs (where they relate directly to the product or service) or indirect costs (where they are typically managed by department and allocated in some way to other areas. Typically these indirect costs are referred to as overheads, and managers see overheads as bad; not only this but the excess costs buried in both the direct cost categories, as well as within the overhead costs are not usually clearly identified. In quality management terms, most prevention and appraisal costs (the “good guys” that we invest to avoid problems) are seen as overhead, and are therefore bad and must be reduced. So a real dilemma emerges – management is usually not aware of the significant negative impact of poor quality in its operating costs, and wants to reduce prevention and appraisal costs to reduce overhead. It is therefore CRITICAL that the impact on operating costs of poor quality is clearly identified and reported if quality managers are to have ANY chance of justifying a realistic level of prevention and appraisal costs.

### **Quality Costs in Learning and Growth**

Accountants often see training costs as an obvious area to cut to save money; many managers have also been heard to say “training is expensive” – yet what is the cost to an organization of ignorance? While this area of the scorecard is often harder to evaluate and assess, it does start to challenge the organization to think about the quality issues related to the “people side” of the organization. What are examples of cost of poor quality related to people? One could argue that some of these could be added to the process category, however we feel they are more related to the learning and growth impact.

- Excess hiring costs because of greater than benchmarked turnover and losses (and possibly also linked to the effect of employee satisfaction),
- Costs of penalties paid to release staff who are not performing (usually a failure in the hiring process)

- Impact on efficiency through higher than planned turnover (in many organizations a lower level of output is seen as employees train for jobs; excess turnover means that there are an inbuilt lower level of efficiency on a continuing basis);
  - Impact on level of suggestions and ideas for improvement that are submitted based on employees expectations of them being accepted
  - Excess costs of absenteeism because of staff dissatisfaction (including call in costs and overtime costs)
  - Costs of handling customer complaints, that were related to people skills of staff,
  - Failure costs caused by lack of skilling of staff (examples may be late release of a new product because of inadequate skills or other issues).
  - Cost of delays caused by number of open positions due to lack of candidates and / or inability of process to meet cycle time goals,
  - Costs related to handling employee harassment claims or similar (Equal Employment etc.) caused by poorly trained employees.
  - Cost of savings created by effective application of learning and improvement projects.
- The costs related to the target processes where reduction is anticipated are established as the reporting priorities (as they will link to cost improvement work plans)
  - Management sets a scorecard level target for process cost reduction, with an objectives of \$X
  - This goals is decomposed into responsible project leaders whose individual goals add up to the composite goal
  - These manager / team leader goals become the scorecard for their own personal reporting (i.e. the individual scorecards add up to the organizations objective).

In this way not only are the objectives and work improvement plans aligned; they are also clearly targeted to those areas where cost opportunities are greatest. Senior management can track overall progress against the process cost improvement goals and only if there are gaps between actual performance and the objective, will they need to drill down and look at individual processes.

### Results

Using this approach will allow quality managers to bring their contributions into the mainstream of reporting for the business. Opportunities to work on quality improvement projects will be clearly linked to corporate improvement goals and the measures required to support progress against these goals will be both identified as part of the scorecard as well as being aligned through the organization. Cost of Quality would now become more recognized as being a source of improvement so that cost reduction targets can be more of a “rifle shot” than a “scatter gun” approach.

The importance of both failure costs as well as the prevention and appraisal costs would start to be seen as a framework for overall cost improvement. Investments in areas such as effective design control or process control through FMEA as well as 6 Sigma techniques in those areas where such levels of performance are required can now be linked to return on investment. In addition, investments in areas such as effective interview, testing and hiring processes can be assessed, as can the impact of effective Manager and supervisor training.

Quality management now becomes an intrinsic element of managing the organization rather than focusing on compliance and responding to problems.

### Conclusions

Quality strives to become relevant to management and be on the corporate agenda. Senior management is faced with challenges everyday to improve customer performance, reduce costs and optimize returns on

While this category of metric is most used to assess, monitor and measure progress in areas such as skilling levels (progress against competency plans) and issues such as morale and motivation, it is not usually clear how to link poor motivation with cost performance. This however is an area that could be researched within the organization and metrics developed.

### Bring It Together in the Scorecard

Once all of the aspects of the customer, process and learning / HR dimensions have been considered, these can then be added to the portfolio of measures within the organization. However a key question will be “does management need to know about ALL of these financial cost of quality metrics?” The answer will clearly be “no” as this is too much low level detail. However in an effective scorecard we build a hierarchy of measures that together build a picture of the health of the organization. The way in which this may work would be as follows:

- Management sets its’ high level objectives (such as cost reduction)
- This is “decomposed” into cost control targets in core processes (where the costs are consumed – it is at this stage where the visibility of excess costs caused by poor quality needs to be known);



investment. Using quality costs to position quality management as a key part of the organizations planning agenda, and integrating such costs as improvement opportunities within the scorecard can move the quality agenda into the mainstream.

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*This paper was published in the Transactions of the 56<sup>th</sup> Annual Quality Congress. It is reprinted here with the permission of the author. He may be contacted at [shepherdni@cs.com](mailto:shepherdni@cs.com) or at [www.eduvision.on.ca](http://www.eduvision.on.ca)*

***Newly Certified Quality Personnel***

The Baltimore Section recognizes the following newly certified individuals who have passed the October and December 2001 ASQ examinations.

**Certified Quality Manager**

- David Wunsch                      Logistics Mgmt. Institute
- Ramprasad Venkatraman
- Stephan Stearns                      General Motors
- Dr. Christina Huang                      McCormick
- Craig Ross                      Teledyne Energy Systems
- Iona Harris

**Certified Quality Technician**

- Jeffrey Stromer                      Ward Machinery

**Six Sigma Black Belt**

- Gerald Jordan                      Millennium Inorganic Chemicals
- John Zagorski                      Wartsila North America

We commend each of these individuals that have met ASQ on the Certification battlefield and emerged victorious. They have reached a new level in their professional growth.

***Section Pass Rates - October and December, 2001***

<b>Exam</b>	<b>Total</b>	<b>Pass</b>	<b>Per Cent</b>
Manager	9	6	66.7%
CMI	1	1	100.0%
6 Sigma	2	2	100.0%
CRE	2	0	0.0%
CQT	2	1	50.0 %

***Comments on the Certification Process***

**Iona Harris, CQ Manager** - I was very pleased, no, elated when I learned that I had passed. I shared my joy in the accomplishment with my co-workers and

Quality Management Peers. I am with the Federal Highway Administration, Eastern Resource Center here in downtown Baltimore.

I have served as a Quality Manager or coordinator with FHWA for nearly ten years, and have been active in the growth of this field in my agency. To prepare for the exam I took the CQM exam prep course in Arlington, VA, completing it on October 3, 2001. **Frank Hutchinson** was the instructor.

I was originally scheduled to take the exam in October, but because my sister became terminally ill, I had to postpone. Naturally, I was concerned that I no longer had the timeliness of having taken the course on my side, so I pulled all the blue sheets from the CQM Primer, and took that as a practice test all in one sitting. Then I reviewed the areas in which I felt I needed to strengthen myself. My greatest insight: Trust your knowledge and experience. Reference books are great, but using them can take up too much time during the exam. When unsure, choose your best answer and come back to check it, if there is time.

**Gerald Jordan, Six Sigma Black Belt** - The exam process was fine. The seating in the room used to administer the exam was a bit cramped. I would have preferred tables with a bit more room to spread out materials. The personnel administering the exam were excellent, very cordial, professional, and helpful.

The test was fair and covered the body of knowledge. I was surprised at some of the test questions. It seems to me that Latin square and Greco Latin Square designs are somewhat outdated.

My preparation was limited to a review of the body of knowledge purchased from the Quality Council of Indiana. I spent 4 or 5 evenings during the 2 weeks prior to the exam reviewing the material and taking practice exams. I have a reasonable educational background for taking the exam and didn't need much additional work.

I must admit, I felt comfortable taking the exam, but seemed to have some doubts about whether or not I passed following the exam. I've always had trouble with multiple-choice questions - sometime they seem more tricky than difficult. I was happy to receive the notice that I passed.

**Craig Ross, CQ Manager** - I found the exam to be a very comprehensive exam and a very fair exam with regard to covering the BOK requirements. I did feel though, that the choices of situational questions could have varied a little more from one another with respect to the situations that were presented.



The process by which I prepared for the exam was not as originally planned. I had registered for the preparation course being offered at BCCC. On the first Saturday morning of the class, I showed up to find that it was cancelled due to "insufficient enrollment" with no notification. After contacting the registration office of the college and giving them the proverbial piece of my mind about how wonderful they are to compromise the educational requirements of students based upon the almighty buck (Deming would have loved this one), I contacted ASQ, and they recommended the Quality Managers Handbook as a study reference, which I ordered and read cover-to-cover. I then ordered the CQM Primer Solution Text from the Quality Council of Indiana and did every question (twice). In a nutshell, I worked/studied very diligently on my own which just added to the high feeling of accomplishment in passing a 4+ hour exam and becoming an ASQ Certified Quality Manager.

**David Wunsch, CQ Manager** - At first, the preparation process was a bit daunting because of the amount and variety of information with which you have to familiarize yourself and - as anyone who works knows - no spare time in which to cover it all. However, finding a good preparation course (thanks to the Northern VA section) and exam materials helped tremendously with studying. The prep course aided in: (1) getting my head around the "Big Q" picture - thinking from the quality perspective, (2) organizing my thoughts and study materials for the test - Quality Council of Indiana (QCI) primer, and (3) sorting the "wheat from the chaff" regarding all the information. An important tool, in preparation for test taking, was the QCI test question software, which allowed for personalizing examinations, instantaneous grading and explanations for each incorrect answer.

I usually know how well I do on exams, but this exam has questions with answers that are "more correct" than other right answers. I knew if I did well on those I would pass. I was happy, and a bit relieved, at the outcome.

**John Zagorski, Six Sigma Black Belt** - I saw that Six Sigma was becoming increasingly visible on potential position requirements. I had a lot of previous experience in SPC and had completed a Master of Quality Management degree at Loyola University New Orleans' College of Business in 1999, so I applied for the black belt exam in February, and basically self studied from there.

I used three reference books for the exam. I already had a great book titled "*Introduction to Statistical Quality Control*" by Douglas C. Montgomery, John

Wiley and Sons, Inc. New York, 3rd edition, 1996 (there's at least one more recent edition), the "*Certified Quality Engineer Primer*" by Pam Anderson and Bill Wortman, Quality Council of Indiana" Terre Haute, Indiana (I used this for my CQE exam and recommend it highly), and bought a new book, "*The Six Sigma Handbook*" by Thomas Pyzdek, McGraw-Hill, New York, 2001 (I would also recommend this highly) as a final refresher.

The exam was on a very high level, and involved a minimum of calculations. It was slanted heavily towards DOE, and while fairly straightforward, left me feeling about 50-50 as I left the examination. I used the full four hours (I mean right to the last second), and must say that the proctors did a very good job administering the exam. The facility in Catonsville also was very satisfactory. Of course, I was very excited to get the good news. I have been eager to update my resume to reflect the new certificate.

***An Approach to Harmonizing ISO 9001: 2000; AS9100: 2001; and ISO 9000-3 for Software***

By Michael P. Kress, Boeing Commercial Airplanes

**Abstract:** *ISO 9000:2000 defines a strong focus on process, quality improvement, infrastructure, measurement, and the customer. Some will say that more is required in the 1994 version; others will say it is just "repackaging" of existing good practices expected of any ISO certified enterprise. Whatever your perspective, the impact on software development is frequently ignored. This report addresses the often-misunderstood impact of ISO on software development and, in particular, on aerospace software.*

**ISO in the Software Environment**

How many times have we visited an ISO certified facility, with its ISO banner or plaque proudly displayed in the lobby, only to find that the software maturity rating of the company is no better than SEI CMM level 1 or 2?

Why is this?

Most often it is because the ISO auditor / assessor has neither the expertise, nor the interest in evaluating the software environment. In theory, the software environment should be evaluated under Section 4, Design Control. But does it? By and large, it does not.

Most auditors say they do not focus on the software environment because it is not in the factory, implying that software production is not a quality assurance function per se, but rather an engineering function. Most fail to realize that software is a product, just like a wing or body section, a landing

gear, an autopilot, etc. Most think of software, especially in aerospace applications, as a “part of the product”, not as a product itself. Somehow, the belief goes, the software gets inserted into the “real” product, which is then inspected and acceptance tested, and if it doesn’t work, “...we’ll catch it during the product acceptance testing”.

For moderately complex to highly complex equipment, nothing could be further from the truth. Production acceptance testing is mostly a hardware integrity test, designed to assure that all the parts are in place, all solder joints are sound, no opens or shorts exist, that proper relay closure sequences are complied with all gates toggle on and off correctly, and that the hardware will pass certain reliability tests designed to cull out infant part mortality.

The functionality of the software is not verified during acceptance tests, but a comprehensive suite of life cycle tests and inspections. These include requirements design and code inspections, module level tests, hardware/software integration tests, and system level tests. The vast number of failure possibilities that could occur due to different combinations of input conditions and decisions, is usually not completely testable. These failures occur due to missing or incomplete requirements definitions, missing or incompletely specified interfaces, logic or compilation errors, coding & syntax errors, nesting errors, rare or obscure combinations of input conditions, or “corner conditions”, inspection and or testing errors. While enterprises know and appreciate the value of hardware quality assurance, few from the hardware arena seem to realize the importance of software quality assurance to the software lifecycle.

Software Quality Assurance (SQA) was given a credibility boost during the mid to late ‘80’s with the creation of the Software Engineering Institute’s Capability Maturity Model. This model specified SQA as a “Key Process Area” needed for level 2 and beyond. Today newer models such as the CMMi and SPICE (ISO 15504) continue to postulate that SQA is a discipline integral to the software life cycle.

So, given that presumption, how does ISO 9001: 2000 (or the 1997 version) apply to the software environment? Some have suggested that it be applied as is, without guidance. That somehow, the auditor should know what to look for in satisfying the objectives. Since software is product, it should have drawings, build instructions, change control, nonconforming material control, inspection and tests. These folks feel that software can be audited using just ISO 9001 and a lot of imagination. History has proven

this to be infeasible mostly because most ISO auditors have had a hardware focus.

The authors of ISO 9001 prudently realized that software was sufficiently different from hardware to warrant its own guidance document. Accordingly, ISO 9000-3:1997 was created as guidance for interpreting 9001 for software. The European TickIT initiative attempts to address this, but did not catch on in the United States due to significant opposition from major organizations who felt it went overboard thereby creating a cottage industry for auditors without attendant value to the organization or the organization’s suppliers.

### **ISO vs. Aerospace ISO**

While ISO, (both hardware and software guidance) is quite good, the aerospace community found it lacked certain provisions. Accordingly AS9100:1999 was created by the American Aerospace Quality Group (AAQG) and eventually adopted by the International Aerospace Quality Group (IAQG). While ISO touches most of these areas, some of the areas of ISO needed enhancements for aerospace. A partial list of control elements includes:

- Identification of key characteristics
- Ready accessibility of QA procedures
- In process verification points
- Decision criteria for phase transition
- Provision for customer and regulatory oversight
- Use of special process sources
- Control of digital data
- Control of sub tier process sources
- Right of access to sub tiers
- List of approved subcontractors,
- Stronger traceability requirements.
- First Article Inspection
- Approval of personnel for Material Review
- Statistical sampling rules
- Training for internal auditors.
- Collection of in-service data.

With the recent publication of AS9100: 2001, which is framed around ISO 9001:2000, there emerged a need for a revision to ISO 9000-3. ISO/IEC JTC1 SC7 WG 18 is creating this revision. It has currently completed the Working Draft stage and is at Committee Draft. It is forecast as availability sometime in mid-2002.

### **Deliverable vs. Non-deliverable Software**

The aerospace community makes a distinction between deliverable and non-deliverable software.

While ISO is generally silent on this distinction, deliverable software needs a higher caliber of software to meet, safety, mission performance, and maintenance objectives. Accordingly the AAQG has created two working groups to address these two software sectors.

AAQG Project # 19 is addressing deliverable software. An international standard for software quality based on AS9100: 2001 interpreted for software, much like ISO 9000-3 is framed on ISO 9001, is envisioned. This includes product such as:

- Avionics & Engine controls
- Flight Controls, Displays
- Cabin temperature/pressure systems
- In Flight Entertainment systems
- Weapons armament
- Mobile/Ground based Defense Systems
- Communication Navigation Surveillance/Air Traffic Management (CNS/ATM)
- Ground based systems- simulators, trainers,

AAQG Project # 021 is addressing non-deliverable software. While the direction here is not total clear, it is currently intended to build on the draft of non-deliverable software created by an AIA/GAMA subcommittee. This includes:

- CAD sets & SW
- MFG SW
- Executive SW (OS)
- Test SW
- Inspection SW
- Data Acquisition SW
- Process Software

Both projects are sponsored by the AAQG.

*About the author:* Michael Kress is an Associate Technical Fellow for the Boeing Commercial Airplane Group in Seattle. He is a Senior Member of ASQ and Chair-Elect of ASQ's Software Division. He is a software process improvement facilitator and inter-divisional leader for common software quality standards across Boeing. He is the author of "D1-9001, Advanced Quality System for Software Development and Maintenance", a supplier initiative dealing with an adaptation of the SEI-CMM for Boeing suppliers. Mr. Kress holds a BSEE, and CQE and CSQE certifications and is a Registered Professional Engineer. He has over 25 years experience in military and commercial avionics systems.

### **Malcolm Baldrige Examiners**

Congratulations to the following Marylanders selected to serve on the 2002 Malcolm Baldrige National Quality Award Board of Examiners. The Baldrige National Quality Program annually seeks a

board of experts capable of evaluating organizations eligible for the Malcolm Baldrige National Quality Award, and willing to serve as representatives of the Award Program. The Award Program includes five eligibility categories: manufacturing, service, small business, health care, and education. Category coverage and balance are important factors in selecting the Board of Examiners' members. The goal is to ensure broad representation from many industries, companies, and organizations including those from for-profit, not-for-profit, and public sectors.

<b>John O Aje.</b>	Univ. of MD Univ. College
<b>LaWanda G. Burwell</b>	Baltimore Co. Public Schools
<b>James A. Dolan</b>	Corvis Corporation
<b>Harry Y. Furukawa</b>	U. of MD Center for Quality & Productivity
<b>Tamela H. Hawley</b>	Prince George's CC
<b>Jeffrey P. Lucas</b>	MD State Dept. of Education
<b>Sara A. Parker</b>	US Army Center for Health Promotion & Preventive Medicine
<b>Catherine Y. Spong</b>	PPB, CRMC, NICHD, NIH
<b>J. M. Travillian</b>	
<b>Phyllis H. Utterback</b>	Loyola College
<b>Lee W. Williamson</b>	Maryland Dept. of Health & Mental Hygiene

### **Maryland Quality Awards**

The following was extracted from the tutorial presentation from the Section's May 2002 meeting. It provides an overview of the US Senate Productivity and Maryland Quality Awards.

#### **Purpose of the Awards Process**

- An evaluation process that encourages organizations to learn and improve.
- A recognition process that salutes organizations for performance excellence.

#### **Why Should You Apply?**

- Benchmarking
- Identify gaps and linkages
- Improved Business Results through:
  - Self Assessment
  - External Evaluation
  - A Blueprint for Improvement
- An external evaluation based on validated criteria
- Over 140 hours of dedicated evaluation by Baldrige- based trained examiners with comparisons to world-class
- Site Visit by Trained team of Examiners\*
- Feedback Report

- Recognition at Awards Event sponsored by our U.S. Senators from Maryland

AAI, Cockeysville MD is a past winner of the US Senate Productivity Award. According to CEO **Dick Erkeneff**, the benefits to AAI included:

- Pushed AAI to become more competitive
- Let AAI see itself as customers do
- Opened doors to new business
- Lowered customers' perceived risk in doing business with AAI

#### Schedule

- August 2 – Eligibility Determination Forms due
- August 30 – Application due
- December 2-6 – Site Visits
- February 17 – Feedback Reports
- March 3 – Awards Event

#### How Can You Get Started

- Request copies of the criteria
- Request information on our Entry Level Process
- Meet with UMCQP representatives
- Talk with Award Examiners
- Talk with other organizational applicants
- Visit [www.umcqp.umd.edu](http://www.umcqp.umd.edu)
- Call the University of Maryland Center for Quality and Productivity at 301-403-4413

Be recognized as a benchmark organization, worthy of emulation like previous winners **U. S. Coast Guard Activities Baltimore, University of Maryland Medical Systems, Bushy Park Elementary School and Allied Signal - Honeywell.**

*...the first concern of a company is the happiness of the people connected to it. If the people do not feel happy... that company does not deserve to exist.*

- **Kaoru Ishikawa**

*In an ideal world, there would be no quality professionals because all employees would practice quality in their working lives as a matter of course.*

- **Helen Oldfield, UK**

*Progress comes from caring more about what needs to be done than about who gets the credit.*

- **Dorothy Height**

### ***The Soul of Facilitation***

*A Workshop For Trainers, OD Consultants and Facilitators.*

**July 29 - 30, 2002 CCRS Center, Falls Church, VA**

*Learn new facilitation skills and techniques to deepen the learning process, empower teams and be at your best with a group*

This workshop will enhance your effectiveness in:

- Setting up, facilitating and debriefing learning activities
- Helping a group discuss and deal with challenging issues
- Skillfully dealing with resistant/hostile individuals or groups
- Empowering people to take responsibility for their learning
- Helping make happen in a group what needs to happen

We will explore how to use our facilitation skills to:

- Discover and define the true issues in a group
- Inspire a shift in how a person or a group thinks and operates
- Capture that shift and implement change in a group
- Be centered, present and effective even when under intense pressure
- Create and capture *teachable moments* where true change is possible

Course participants will also have the opportunity to gain:

- Several icebreakers and exercises for a variety of learning objectives
- Coaching and feedback that will help increase your confidence and effectiveness
- Techniques that will help you more fully access your inner wisdom and knowing

#### **The Soul of Facilitation Approach**

In any training or facilitated session the “moments of truth” when the light bulbs go off and a shift occurs is wonderful to observe. Often these moments come when least expected. But “teachable moments” are more likely to arise if the facilitator is fully present to the moment and the group. Concerned and focused on not how he or she is doing but on how the group is doing. This approach goes beyond agendas and lesson plans to a place that responds to the true needs of the moment. In the inspiration of the present is the wisdom that will help the group move towards wholeness. This workshop is about how to facilitate from that place of inspiration and wisdom using both

practical techniques and the innate intuition we all have.

Helping groups open up to a new set of possibilities is one of the key jobs of the corporate trainer and facilitator. The skilled facilitator works strategically and soulfully by structuring experiences and asking questions that will help make happen what needs to happen. Instead of telling, the skilled facilitator asks the kind of inspired questions that allow the learners to discover for themselves what they need to learn. When people discover something through their own reflections they tend to believe it and act on it. New knowledge becomes wisdom through ownership and action. Yet it is not enough to ask a good question. The right question is needed. And the right question is the one that offers a new perspective. The level of facilitation required to do this kind of work comes from developing and blending our practical skills with our inner wisdom and guidance.

**Date:** July 29 and 30, 2002. 9 AM to 5PM.

**Materials:** A Soul of Facilitation workbook (more than 35 pages long) will be provided. The workbook describes facilitation models and concepts as well as methods for maintaining our center and accessing our inner wisdom.

**Format:** The course includes lectures, group discussions, demonstrations and practice and feedback exercises on facilitating a learning session. The flow will be informal, interactive and highly participatory. A video camera will be available. If desired and time permits a participant can take home a video of his or her practice facilitation session.

**Location:** CCRS Center, 2830 Graham Road, Falls Church, VA 22042. The center is near the intersection of Graham Road and Route 29 (Lee Hwy). It is also a short cab ride from the East Falls Church Metro on the Orange Line.

**Cost:** The cost the two-day program is \$450. (A 50% discount is available for independent, self-employed trainers and consultants). You can pay by Visa on our website at:

<http://www.teambuildingassociates.com/>

**Presenter:** The program is led by **Harrison Snow**. He has been facilitating team building, leadership development and strategic planning programs since 1988. He is the author of three well-received books in the field. His teaching is enlivened with a sense of humor and the experiences that come from working with dozens of different organizations in government, industry and overseas.

**For More Information:** call 703-241-2421, or email, [teambuilder@msn.com](mailto:teambuilder@msn.com)

*Software Safety and Reliability: Techniques, Approaches, and Standards of Key Industrial Sectors.*  
Debra S. Herrmann. 1999. Los Alamitos, CA.: IEEE Computer Society Press. 500 pages. ISBN 0-7695-0299-7

Reviewed by **Joel Glazer**

On the morning of June 6 2001 while driving to perform my duties as a Grand Juror, I was listening to WJHU and the NPR report about the cost of keeping “safe” arsenic levels in drinking water. Alarms went off in my head – what is a “safe level of arsenic”? Safe for whom? Does each person have a tolerance for a different level of arsenic? Do we test the safety levels on different people to see when mortality sets in? Who sets the “Safe Level”? How do you establish a safe level and at what cost do you maintain that level? Is one billion dollars per saved life a cut off point, as was suggested by the reporter? Do you use software to test the level of arsenic in the water? And if so, how would you validate such software? Is there a “Safe Enough” level? At the present time Safe Levels are such that only a few people might die each year from arsenic in the public drinking waters. To get the levels of arsenic down to zero would cost society at least \$1 Billion/resident/year. This figure is prohibitive to the society – so the government sets up a cutoff point based on \$\$.

This brings me to the book itself. The author dedicates the book to the “Concept of Pikuach Nefesh”. This Jewish concept in a nutshell states that *human life is sacred and is to be placed above all other values*, including the holiest values and ideals in the Jewish faith –the sanctification of the Sabbath. Thus, preserving or preventing the loss of human lives is paramount. But does that also mean at all cost to the individual or society? Based on the NPR report, and on many other situations, when the cost of providing the safety level is pitted against the potential loss of life - society does arrive at a cost model that society is willing to tolerate. Society allows this to occur daily – witness the transportation and automotive system, public health system – these systems have a risk level associated with them the society as a whole is willing to endure, and lives are lost daily. The author does not provide the answer to the cost question. On page 5 the author states that prior to 1993 – between 1000-3000 people have been killed by failures in computer systems. No figures or statistics are provided subsequent to 1993.

What Ms. Herrmann does provide in this book is a rich set of resources to guide the interested reader in finding the way through a host of standards, guidelines and regulations related to Software Safety and Reliability in general and in specific industries. However, because of potential misuse of the information, the author opens the book with a disclaimer clause – which points out the risks anyone takes in using information blindly. Many companies that provide systems containing software do the same. In this litigate-happy society, one must protect oneself from any information that can be misused,

The goal of the book is to raise the consciousness and sensitivities of engineers, managers, the public and any reader in the subject, and to provide practical information in one place. To provide one resource for “contemporary thinking of SW S&R. The book will not create experts in the field of Software Safety and Reliability, but will one enough food for thought and resources to look to the experts for help and to know when to call them in.

The book is organized into 4 sections with 12 chapters. The first section consists of two chapters that provide the reader with an overview and the basic understating of Safety and Reliability. It will not make the reader an instant expert in the subject matter, but will give the reader an appreciation for the task that those engineers face. Section II titled “Approaches Promoted by Key Industrial Sectors to Software Safety and Reliability” deals with five critical industries – Aerospace, Defense, Nuclear, and Biomedical. Section III titled “Approached Promoted by Non-Industry Specific Software Safety and Reliability” deals with international and national standards and guidelines that have been developed to date that address issues of S&R for software directly or by implication. All in all 19 standards are presented in one book, for quick reference. Section IV “Software Safety and Reliability Techniques, Approaches, and Standards: Observation and Conclusions” provides ten summary themes derived from the previous sections that:

1. Software safety is a component of system safety.
2. Software reliability is a component of system reliability.
3. High integrity, high consequence, mission critical systems need to be both safe and reliable.
4. A “good” software engineering process is insufficient by itself to produce safe and reliable software.

5. To achieve software safety and reliability certain planning, design, analysis, and verification activities must take place.
6. The achievement of software safety and reliability should be measured throughout the lifecycle by a combination of product, process, and people / resource metrics, both quantitative and qualitative.
7. Software safety and software reliability are engineering specialties, which require specialized knowledge, skills, and experience.
8. Some safety and reliability concerns are the same across industrial sectors and technologies, while some are unique.
9. Everyday examples should not be overlooked when classifying systems as safety critical or safety related.
10. A layered approach to standards is the most effective way to achieve both software and system safety and reliability.

Each of the 12 chapters concludes with a Summary, Discussion Problems and Additional Resources.

Two annexes provide the reader with a contact list of 20 organizations involved in Software Safety and Reliability Standards, and a list of 30 commercial Products available to assist in performing software safety and reliability analyses.

In chapter 2 the author provides a run down of the Safety and Reliability basics, differences between hardware and software issues, errors of Omission, Commission as well as Operational. In section 2.4 the author explains methodology that helps achieve and assess safety and reliability. Namely, design criteria, development and operational criteria, performance criteria, reuse and COTS, selection criteria, verification techniques. A key point Ms Herrmann makes is that “traditional testing and other dynamic analysis techniques are best for uncovering functional errors, whereas “static testing techniques are best for highlighting safety and reliability problems” (page 40). Also on page 40, the author quotes a Northern Telecom report from 1995 that says “one defect was found by traditional testing for every seven defects found by static analysis techniques” – however, not stated or known, is the efforts involved in either method – so we cannot conclude that this is a universal ration, or that one method is superior to another.

The author suggests, based on quotes, that there are no “latent defects” (page 23) – that all software failures



are “Systematic” not “Random. The “Time element” is not a factor in SW failures (24), unlike hardware – where the “Time Element” is a major contributor to hardware failures

The book is “A bag full” of references, quotes, and tools to be used wisely and appropriately. Reading the book will not rise as instant “reliability and safety engineers, but will have a good appreciation for the complexity of the task facing these engineers.

*Joel Glazer ([joelglazer@ieee.org](mailto:joelglazer@ieee.org)). Software Division Region 5 Councilor. He has over 30 years experience in the Aerospace Engineering, Software Engineering and Software Quality fields. He has Master degrees from Johns Hopkins in Computer Sciences and Management Sciences. He is member of IEEE and Senior Member of ASQ. He is a CSQE, CQA, and CQ Manager. Joel is a Fellow Engineer in the Software Quality Engineering Section at Northrop Grumman ES in Baltimore.*

### **AQC 2002**

By Joel Glazer, Region 5 Software Councilor

Attending an ASQ Annual Quality Congress and Exposition is an experience each member should have, if only once. There is a lot going on for those that are interested in learning, networking, and visiting interesting locations.

First and foremost, for me, it is a learning experience. I attended each Keynote session. Some may find this useless, however, I enjoy the early morning sessions. Not all keynote speakers are from the Quality field, but they sure are QUALITY personalities. This year the last keynote speaker, **Mr. Robert Swan** was the most enjoyable. He led a handful of people to both the South and North Poles on foot, without radio contact to the outside world. Talk about personnel commitment and teamwork!!!!

This year for the first time an entire track was devoted to Software Quality issues. Issued covered ranged from basic concepts to six sigma for software. The keynote speaker for the software track was **Mr. Watts Humphrey** from the Software Engineering Institute giving a talk titled “*What if Your Life Depended on Software?*” which nowadays it most likely is! Other presenters had topics such as; “*Economics of Software Quality and Consumers*”, “*Six Sigma for Software*”, “*Software Standards*”, “*Auditing Software*”, “*Dangers of Using Metrics to (Mis) Manage Organizations*”, “*An Overview of Software Verification & Validation*” and “*Software Testing Practices.*”

Of course one is not required to stick with a single track, even though her/his expertise is in that area. So I

wandered off to other tracks, and heard talks such as “*Reliability for Quality Professional*”, “*Measurements for Six Sigma*”, “*A Call to Revitalize the Quality Profession: An Examination of Issues Hurting the Effectiveness of the Quality Professional*”, and “*Applying Six Sigma to Business Processes*”.

A fun part of the congress is to visit the various hospitality suits that several of the divisions have established. I learned that if you are from Baltimore, you must stop by the Inspection Division Suite, and meet some of the folks from the Baltimore Section. Another learning and fun activity is to visit the Exposition and talk with the vendors, try the freebies they offer, and mingle with others with similar taste but from different parts of the country and the world.

If none of the above in of interest, join some of the organized tours that are setup for spouses and guests. The alternative is to stay back home and continue with your normal activities and never experience an AQC event.

### ***New Way to Earn RU's Coming***

**Bill Carr** reports that on ASQNET, there is a monthly 'chat event' with noted guest speakers and such where open forum discussions are conducted and members may present questions to the guest and facilitator for discussion, etc. For an overview, visit:  
[www.asqnet.org/members/interact/chat/nov.html](http://www.asqnet.org/members/interact/chat/nov.html)

The 'chat events' last an hour and a half and the topics typically are body of knowledge or job enhancing and increase knowledge in the quality arena. Participants would receive 0.15 RU credit per event. There would be a three question minimum requirement where the member would have to submit at least three questions to receive the 0.15 RU credit. The activity would go under the 'professional development' category. In the Interact channel of the ASQNET the participant must log in and fill out a member profile. Once the 'chat event' is completed, he/she would print out the transcripts of the event topic where their id name would be identified. The three question minimum would be highlighted by the recert applicant. If there would be a topic where it would not be acceptable/applicable for recertification purposes, a note would be posted to that specific 'chat event' date noting that no RU credits are being awarded for this event.

Please note that this is still being worked on, but I wanted to notify everyone of this new and great way of earning some additional RU credits for those who are in need of at no cost!

## Auditor Dos and Don'ts

By Rudy Hirzel

### Do--

- Learn as much as possible about the area being audited.
- Recognize that your presence may be an imposition.
- Be prepared—know the established requirements.
- Compliment the auditees for their time.
- Maintain control of the audit.
- Provide clarification in areas of misinterpretation.
- Be a good listener.
- Cultivate an attitude of support.
- Observe business and audit ethics.
- Be professional.
- Keep questions short and to the point.
- Write the summary results of the audit promptly after the audit.

### ASQ - Baltimore Section 0502

**THE VISION:** *To be the Baltimore Metropolitan Area recognized resource on issues related to Quality.*

**OUR MISSION:** *To create value for our members and business professionals at large by providing opportunities for professional development, serving as a resource for managing quality in the Maryland community.*

**Next Newsletter Due Date July 15, 2002**

### Don't--

- Be sarcastic.
- Get personal.
- Argue.
- Criticize an individual's efforts.
- Be late for interviews or scheduled meetings.
- Be negative.
- Question beyond your level of knowledge.
- Discuss findings associated with other areas you have audited.
- Discuss politics or organizational policy.
- Use yes or no questions exclusively.
- Use profane language.
- Allow disagreement between audit members in front of the auditee.
- Make the audit a secret.

*Reprinted from the Winter 2001-02 issue of the Quality Audit Division's newsletter Vista with the permission of the author.*

### Certification Exam Schedule

Examination	Application Date	Exam Date
CQT/CRE/CMI/ Six Sigma Black Belt/HACCP/ Quality Mgr.	August 23, 2002	October 19, 2002
CQE/CQA/ CSQE/CQIA	October 4, 2002	December 7, 2002
CQT/CRE/CMI/ Six Sigma Black Belt/HACCP/ Quality Mgr.	January 10, 2003	March 1, 2003



**American Society for Quality  
Baltimore Section - 0502  
2716 Baldwin Mill Road  
Baldwin, MD 21013-9140**

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