

1992 Process and Product Quality Conference explores quality issues

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The 1992 Process and Product Quality Division Conference, held in Appleton, WI, the week of Oct. 25–29, 1992, attracted 120 participants with 22 participants from nine countries.

The Division committee meetings, held Oct. 24 and 25, were well attended and drew active participation. Much progress was made in the review and development of Test Methods and quality measurement issues. Two special committee meetings were held to discuss the Parker Print-Surf and the optical methods for automatic dirt counting. The Division Steering Committee decided to undertake a study of the Division vision statement and redefine the mission statement.

Lucille D. Hahn, Division chairman, opened the main conference Tuesday with an outline of the Division's recent progress. The Division has moved from a group focused on the TAPPI Test Methods to a group that looks at broad quality issues. The goal of the Division is to become the focal point for all TAPPI divisions on issues concerning quality matters, particularly issues connected with ISO 9000.

The highlight of the conference opening session was the presentation to James C. Abbott of the Division's Technical Award by Hahn and the Richard S. Hunter Prize, presented by the founder's son, Phil Hunter. Abbott, a longstanding supporter and sometime critic of the Division, has always taken a leadership role in the direction of committee or Division activities. In addition, Abbott is an innovator in the use of robotics in the testing laboratory. Many will remember his videotape of an automated tensile test presented at a Division meeting a few years ago. He is also a world-respected expert in the evaluation of absorbent materials used in incontinence aids who truly deserves the recognition of the Division.

The keynote speaker was Dean Russell from the Charleston Navy Shipyard. Russell used a blend of music, comedy, and magic tricks to discuss important topics in a quality management system. In one case he used four volunteers tearing a piece of paper to demonstrate that problems will result in an industrial environment where one-way communication exists. He also demonstrated that quality is based on perception, not necessarily reality.

The first technical session, chaired by Abbott, addressed the issues of Test Method development. Charles Bohanan, Technical Division Administrator at TAPPI, reviewed Test Method devel-

Lucille D. Hahn presents the P&PQ Division Technical Award to James C. Abbott.



opment at TAPPI. Bohanan used slides of major world events to add significance to the progression of Test Method development since they were begun in 1915.

The American Society for Testing and Materials (ASTM) also develops standards based on a consensus from volunteer ballots, noted Roland Aubey. Additionally, all test methods are reviewed on a five-year cycle. TAPPI, however, sets no standards for product specifications on the performance of materials while ASTM does. At present the major activity in the D-6 division responsible for pulp, paper, and paperboard, is Committee D-6.40, which is trying to develop terminology and specifications of recycled papers. The impetus for the D-6.4 action was prompted by NASPO's (National Association of State Purchasing Offices) need for uniform standards associated with paper and paperboard that contain recycled fibers.

The international forum for test method development is the International Standards Organization. John Schulz of Champion International traced the United States' participation in ISO TC6, the technical committee dealing with pulp, paper, and

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paperboard through a Technical Advisory Group sponsored by the American Paper Institute (API) through the American National Standards Institute (ANSI). Subcommittees within TC6 that are important to the development of testing standards are SC2 for paper and paperboard and SC5 for pulp. Progress on ISO standards can take five to eight years to complete; however, the existing standards are reviewed on a five-year basis. Other technical committee activities that need watching by the paper industry are TC176, which is responsible for the ISO 9000 series of standards, and TC200 on solid waste. One item to watch in the development of ISO standards is that they now do not contain repeatability and reproducibility information in the method. That may change. Schulz indicated that ISO standards are not available in a bound set, but they can be purchased individually from ANSI in New York City.

The Canadian perspective on test method development was provided by W. Robert Wood from the Canadian Pulp and Paper Association. In addition to a review of the Canadian approach to test method development, Wood discussed a situation that could have major consequences to international trade; namely, a growing number of countries are enacting legislation through the adoption of standards to protect and promote domestic industry. He further noted that these regulations may be "thinly disguised as environmental initiatives."

The morning session ended with a presentation by Roger Van Eperen on activities at the Institute of Paper Science and Technology related to testing activities. Van Eperen used the example of burst testing reported in Collaborative Testing Service data to indicate the trend of increased variance. The major concern expressed was that there may be more laboratories not using prescribed methods.

A roundtable discussion on the "How To" of ISO 9000, led by Sue F. Jakubsen of the Herty Foundation, covered a full range of questions from the audience. The panelists were Richard Kleckner from Quality Systems Registrars Inc., Mike Hayes of Mainmast—Quality Leadership, Lee Binz from Valmet—Appleton, John Rabbitt of Foxboro Company, and Dennis Brunt from Fletcher Challenge Ltd. The goal of this session was to provide help to companies which may be or are in the process of obtaining ISO 9000 certification. Based on the success of the session, the panel will reconvene for a session at the 1993 Process Control Conference in Nashville, TN.

The ISO 9000 theme and the common concerns of process control and quality control filled the Wednesday morning session. This session was organized by Robert Kirsch, ABB Process Automation Inc., of the Process Control Committee of TAPPI as part of a joint effort to look at common issues between the two groups. In today's expanded millwide information systems there exists the opportunity to combine process information from on-line paper machine gauges and test information from laboratory automation. This session was organized to provide the audience with the logical development of the process and the benefits that can be derived from the implementation of ISO 9000. The corporate benefits of certification were presented by Rabbitt. Lars Ingman, from Valmet Automation (USA) Inc., followed. He outlined ISO 9000 concepts to bridge the gap between process control and quality control.

Both Rabbitt and Ingman stressed the benefits that can be derived from a quality improvement program. Rabbitt used many examples from the Foxboro Company where the process has saved time, reduced waste, and minimized inventory. He included information from an independent survey sponsored by Foxboro of 30 randomly selected pulp and paper mills. Of the 30 mills contacted, two mills declined to participate, and four mills did not know what ISO was. The survey showed that of the 24 remaining mills interviewed, 83% intended to become certified. This is contrasted with the fact that only 39% of the survey mills reported that their customers were asking for ISO certification. Of the 12 mills that planned to become certified within one year, 29% were for ISO 9001, 57% for ISO 9002, and 14% for ISO 9003. (This last group may decrease as many companies are upgrading from 9003 to 9002 certification.) Of the 83% of mills that intended to become certified, 75% reported that they will be ready for an audit within one year.

Ingman ran a straw poll at the start of his presentation revealing that of the 90 session attendees, 8% of the group worked for companies that have certification and 50% indicated that they worked for companies that were in the process of certification.

The last two session speakers were Jonathan Llewellyn of Union Camp Corporation and Robert Pfeifer of ABB Process Automation Inc. who covered issues associated with the problems of comparing information from on-line gauging systems of different paper machines. In general, the technique used is based on fixing the width of the data boxes used to gather information in the cross-direction and using adjustment factors on the length of the data box to correct for machine speed. Pfeifer discussed the potential for the development of a method to determine a "standard" box width to allow for the comparison of any paper machine data.

Session 4 was organized by Helen Schuierer of H. R. Schuierer Inc. It opened with two excellent presentations dealing with the traceability aspects of ISO 9000 and paper testing equipment. The first presentation, by Mike Moore of Messmer Instruments Ltd., contrasted the costs and problems of in-mill calibration of instruments to outside vendor certification. Moore went on to stress that a laboratory should not overspecify testing or calibration intervals. As an example, try to delete unnecessary tests, especially a test like softness where verification would be difficult. In terms of calibration, the key words were "be realistic." A caliper gauge may need calibration daily, a color tile used to set up instrumentation may need calibration on a three- to five-year basis. Also, buy instrumentation that is easy to calibrate with built-in and accessible test points. A final point raised by Moore that brought a smile to all the Division officers was the need to "get involved" with the development process for methods and standards.

The second talk, by Herb Patschka of Noram Quality Control and Research Equipment Ltd., outlined the particular sections of ISO certification that are critical to laboratory instrumentation. This information is a requirement for anyone that will be involved with instrument certification.

The statistical side of the testing program was provided by Ann Timberlake of James River Corporation. Her talk stressed

the use of measurement/production relationships to compare measurement variation and production variation on the total sigma of the test results. Timberlake outlined the importance of gathering a large, carefully controlled sample, to minimize variation, for use as an internal control test sample. The use of this material at different mill locations and instruments, or both, and by different operators can be used to isolate a faulty test.

The last two papers covered the hardware side of testing equipment. First, George Hagerty, Hagerty Technologies, contrasted results of permeability measurements made on various instruments used in the industry. The presentation outlined the ability to use electronic flow and pressure measurements and to convert those readings into permeability numbers for a wide range of traditional instruments. The key is to know the operating characteristics of the original instrument. Sally Keil, of AcquiData, Inc., reviewed the installation of an automated laboratory data collection system and its integration into the millwide data base.

John Sullivan, of Testing Machines Inc., opened the last session of the conference with a discussion of quality as a system that identifies customer satisfaction and the production of a product that meets those needs. The session outlined the benefits that can be achieved through the application of a quality management process. Al Jaehn, a quality management consultant, discussed the corporate benefits of using the Baldrige Award evaluation procedure to benchmark the progress toward quality manufacturing. Persis Luke, Westvaco Corporation, reported on the evolution of thought on the advantage of ISO certification. At first, it was believed that the move would allow Westvaco to compete in Europe; instead, it was found to be an approach to develop a sound quality system.

Jim Pryor, Testing Machines Inc., and Tom Griffin, Asten Press Fabrics Inc., both discussed benefits realized through the

attainment of ISO certification. Griffin was able to show a quantification in benefits—quality up 162%, complaints down 64%—and an improvement in profits of 175%. Mark Royo of Albany International discussed the production improvements that led to Albany being the recipient of the State of New York's Excelsior Award. He discussed the adoption of the concepts of the "visual" factory and Just In Time manufacturing and the benefits derived. Royo cited that in 1989 it took 37 days from start to completion of a press felt; today it takes only 7 days for the same cycle.

The panel discussion that followed answered questions from the audience. The panel agreed on the need for training at all levels of the company. Train the trainer was a typical method used to reinforce the total commitment within the organization, rather than have an outside consultant teach all of the courses. One panel member commented that in order to teach a skill one has to learn the material thoroughly. This has promoted better understanding of the concepts by individuals at all levels within the organization. One comment made was that a change may be made such that a manufacturing company must go for certification under ISO 9001 or 9002 and that ISO 9003 would be closed to them. As of this point, there is no clear policy on this issue.

The planning committee for this year's conference, to be held in early November in Atlanta, GA, is already lining up minipanel discussions on Parker Print-Surf, Automated Optical Dirt Count, and Ultrasonic Testing of Paper. Two full panel discussions, on the "How-to" of ISO certification and where will ISO 9000 be in the year 2000, are also in the planning. A new venture for the Division will be a supplier showcase to highlight improved methods to quantify quality measurements. Anyone interested in participating in this year's conference should contact any of the Division officers; in any case, plan to attend and be informed! 