

Quality at Y-12, part 3

Or: Quality goes beyond nuclear weapons (title as it appeared in *The Oak Ridger*)

As we continue our look at the history of Quality at Y-12, Bud Leete, Y-12 Statistician now focuses on the quality programs other than those for the nuclear weapons components.

Non-Weapons Quality

Away from Y-12, Quality philosophy was growing on multiple fronts. More and more stakeholders wanted to know Y-12's approach to maintaining buildings, equipment, and services that were not so closely linked to weapons work. What did we know about the quality of vendor supplies? How about safety equipment that was used in the Plant?

A non-weapons quality culture and approach was created at Y-12. The year was 1984. Dale Bewley, who had replaced Charles Holland as Quality Division Manager was promoted to become the Energy Systems Quality Manager and Jim Ferguson was named manager of the Quality Division.

Total Quality Management

During the 1980s a quality movement swept across the country as companies embraced concepts like Total Quality Management. Key concepts were teamwork and sharing of ideas, benchmarking to see what successes others were having, and working to improve systems of processes. Managers were listening to the ideas of industry experts like Dr. W. E. Deming and Dr. Joseph Juran who both embraced the use of technical tools and statistical methods to engage managers and workers to improve.

Passionate speakers like Tom Peters and Stephen Covey kept reminding us of the importance of engaging all levels of the workforce. Y-12 was in a position to take a strong leadership role because of its mastery of the technical tools and the visionary talents in Gordon Fee and Jeff Bostock, the Plant Managers in the late 1980s.

Susan Horniak Alexander, Human Resources Manager, was a valuable contributor. Educational classes were held to encourage stakeholders and teams to find ways to improve processes, materials, and working conditions.

Y-12 was a pioneer in extracting elements of the Malcolm Baldrige National Quality Award criteria to help align its methods of doing business. Dave Beck, Y-12's Quality Manager should be credited for his vision of bringing the criteria to Y-12.

Quality Today

Today the Quality Division is known as the Quality Assurance Division and is headed by Andrea Zava. Many of the facets of 20 years ago remain, and the function today is broader. It is less consumed by weapons work, because that work is a far smaller portion of the mission today. Non-weapons projects like construction of new facilities are much more visible and much more scrutinized by those with stakeholder and oversight responsibilities.

Several conditions are changed forever. The tragedies at Bopal, India, and Three Mile Island have made companies keenly aware of the need to additionally define Quality as "avoiding the catastrophe" rather than more simply as "exceeding expectations" or "conformance to requirements."

Limited resources have forced managers to make ever-deeper financial cuts and the choice often must be made to draw the lines at the minimum requirements for compliance with law rather than at what are the desired practices might be.

Even the weapons refurbishment programs have changed. Statistical sampling — once the source of saving millions of dollars — is no longer in wide use. The Design Agencies now ask for and receive the computer data from component inspections for their computer modeling.

Still, the enduring principles of making quality products and wanting to maximize efficiencies remain. Our desire to understand design intent and delivering that quality will always be a part of the Y-12 attitude. It has matured over the years and is engrained in who we are today.

Thanks to Bud Leete for a most interesting, detailed and thorough analysis of the history of Quality at Y-12. I did not expect anything but such completeness and such high quality of effort. After all, to Bud, top notch quality is just a way of life!

My appreciation goes out to Ken Bernander for insisting that this story must be captured and soon. I hope what Bud has done has helped you readers better appreciate the details that go into all aspects of the highly technical and extremely important work done at the Y-12 National Security Complex.

Our nation's security and the world's freedom depend heavily on all the workers at Y-12 doing our jobs in the most effective manner possible. Maintaining the quality of everything we do is essential. In some cases it is important for safety of personnel but it is also important for quality of product. Y-12's mission requires us to assure that the nation's stockpile of nuclear weapons is reliable and can be counted upon to serve as an effective deterrent to attack on our nation from all possible sources.

Much of what Y-12 does in this era of nuclear weapons reduction is to disassemble and store nuclear materials for various potential future uses, including a reserve energy supply. It is our hope that the world conditions continue to be such that nuclear weapons can be even further reduced and even eventually eliminated.

Even then, Y-12's expertise and highly effective quality management techniques will serve the nation and the world by handling the highly enriched uranium and other uranium associated activities that must still be done, regardless of whether there are any nuclear weapons or not.

Because of the history of Quality at Y-12 and other aspects of our overall mission accomplishment, Y-12 stands ready for the future, well suited to perform the missions our government requests of us. I hope you appreciate that Quality at Y-12 is held in high regard, and rightly so.

I would welcome other suggestions for areas of Y-12 history that should be highlighted such as Bud has done for Quality. Please contact me if you have insights that should not be missed.

I am also looking for information on individuals who have contributed to Y-12's success, such as recent articles about Roy Williams. I welcome your contributions to help capture our history.

You can reach me by e-mail at draysmith@comcast.net or by phone at 865-482-4224.