



Training—Perform, Document, Manage Effectiveness

By Miles Free, Director, Technology Services mfree@pmpa.org

The need for training in our shops and businesses is indisputable. No one graduates from high school with the skills and knowledge to perform as a journeyman machinist. If your company is ISO 9001:2000, Section 6.2.2 describes the records of training that must be maintained; if you are TS16949:2002, the requirement is found in Section 6.2.2.2. If you are FDA Medical Device-compliant, 21CFR, Part 820.25 describes the training requirements for your company.

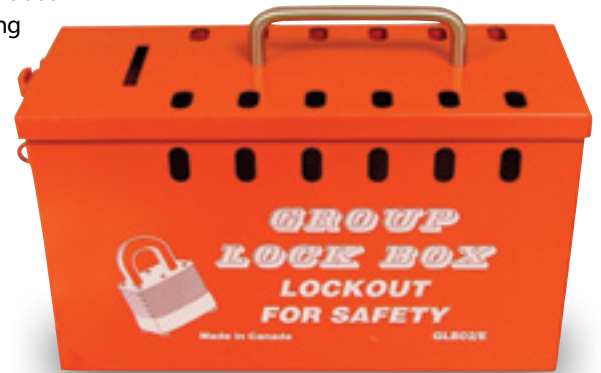
The Occupational Safety and Health Administration (OSHA) has countless

regulations, many of which require an effective training program. Some of the most obvious and applicable to precision machining shops include Control of Hazardous Energy (Lockout-Tagout), Hearing Protection, Flammable and Combustible Liquids, Personal Protective Equipment, Hazard Communications (HAZCOM), Powered Industrial Trucks (forklift operator training) and Mechanical Power Presses.

Examples of two lesser-known regulations requiring formal training are Dip Tanks

(1910.94 (d)(9)(i) and 1910.94 (d)(9)(vi)); and Portable Fire Extinguishers (1910.157(g)(1), (2), (4)).

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The 2006 Annual Meeting Agenda continued

Mr. Sammon was named senior White House correspondent and covered the impeachment of President Bill Clinton.

Today, as senior White House correspondent for the Washington Examiner, Mr. Sammon travels with President Bush wherever he goes. The journalist was with the president on September 11, 2001, when the presidency was forever transformed by the terrorist attacks.

A frequent guest on Fox News, Mr. Sammon has turned his extraordinary access to the White House into a series of best-selling books chronicling the Bush presidency. He will take PMPA Annual Meeting attendees behind the scenes of the West Wing by sharing his experiences as a member of the White House Press Corps. He will also preview the November 2006 congressional elections as part of his presentation.

Day Three will begin with an in-depth analysis of the economy led by PMPA economist, Dr. Ken Mayland, president of ClearView Economics,

LLC. Dr. Mayland provides PMPA members with monthly and quarterly analyses of the domestic economy and major manufacturing sectors.

Dr. Mayland is a member of the Blue Chip Economic Forecasters and Financial Forecasts survey panels, as well as several wire service and newspaper survey panels. He has been a past member of the Economic Advisory Committee for the State of Ohio under various governors, and he has held several leadership positions with the National Association for Business Economics.

Frequently quoted in the local and national media, Dr. Mayland is listed in Who's Who in America and has won several awards in recent years from the Federal Reserve Bank of Chicago for "best forecasts." As a member of the Business Week Annual Economic Forecasting Survey panel, he predicted the 2002 gross domestic product, unemployment rate and CPI inflation projections within one tenth of a percent.

Dr. Mayland was the second-best forecaster in USA Today's forecasting panel for 2003. In November 2004, Bloomberg Magazine identified Dr. Mayland as the nation's top forecaster in its mid-2003 to mid-2004 tally of forecasts. For the most recent forecast year (mid-2004 to mid-2005), the same magazine listed him as tied as the best forecaster of the unemployment rate and as the fifth-best forecaster of the inflation rate.

During his presentation, Dr. Mayland will provide information on economic trends, currency and global markets to assist owners and senior managers in making business decisions with greater confidence in today's complex world.

On the closing day of the meeting, PMPA's newly elected president will share his views on the challenges facing the association, its members and the industry. More details on PMPA's business sessions, networking events and scenic Amelia Island, Florida, can be found at www.pmpa.org.



Manage Effectiveness...continued.....

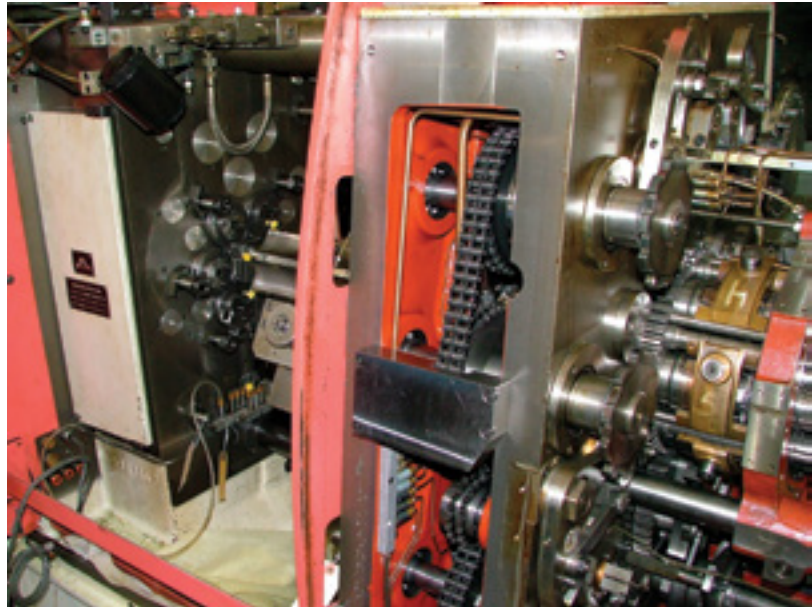
There are also a host of additional training requirements that appear in other standards (such as ANSI) that have been adopted by reference into OSHA, Part 1910. These are also mandatory in the general industry sector.

A resource for the safety training mandates by OSHA can be found in the General Industry Section, pages 20 through 55 of "Training Requirements in OSHA Standards and Training Guidelines," available as an Adobe pdf at: www.osha.gov/Publications/OSHA2254.pdf.

Knowing the topics that employees need to be trained on is only the first step. Other critical steps include performing the training; documenting the training; and auditing the effectiveness of the training. Ineffective training in the safety arena puts your employees at risk. Ineffective training in quality systems or job procedures puts your entire business and your value chain (both customers and suppliers) at risk.

The management challenge. Our military forces are constantly training so that their personnel are fully capable at a minute's notice. There is no second-place winner in military affairs. Similarly, the challenges that our employees face in the execution of their daily work leave no room for failure. Getting a diploma should not be the end of education and professional growth.

Still, many of us struggle with training issues because we don't see the difference between training for competence versus training for awareness. Many of our systems



are set up to document evidence that training took place, but at the expense of perhaps missing the point of whether or not that training was effective. An employee's signature on a training log is weak testimony after the inspector or auditor has asked that employee a relevant question and received a shrug as an answer.

Training for competence. Training for competence can be easily designed since an objective measure of success is evident (that is, the ability of the trainee to perform some action). Training for competence can be structured in a purpose-objectives-benefits format.

For example, Purpose—to safely de-energize and lock out this machine; Objectives—to know where the lock-out switch is, how to shut down prior to lockout, safely de-energize and

lock out, and prove that equipment is de-energized; Benefits—to understand that uncontrolled energy from electricity, moving tools or powered equipment can cause injury.

Presenting is not an effective means of training for competence. Presenting is a means that can be used to successfully create awareness. However, it is the hands-on, on-location, using the actual equipment, demonstrating and correcting behavior that creates successful training. While presentations can effectively create awareness, if there are no other reinforcements, that awareness will diminish over time.

Using job descriptions and existing work instructions will enable you to ensure that employees receive training on the important aspects of their jobs. Use training as an opportunity to re-evaluate the job and tasks being performed. Do not use it as simply another milestone to be passed on the road to compliance. Every training contact is an opportunity to continuously improve both the trainee and the organization.

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Manage Effectiveness...continued.....

Documenting training is important in today's world of quality and management systems that require evidence of performance. Sign-in sheets or log sheets are granted almost holy status by trainers and quality managers. However, when employees fail to answer or understand an auditor's question—despite a hand-signed log sheet attesting to their training—it calls all of the organization's paperwork into question.

An observation report prepared by a trainer or supervisor is the truest tool for effective training. This report should plainly state whether the employee was observed correctly performing the task or if there is a need for retraining. It is the feedback of this observation step that locks in the trained behavior and assures the quality and effectiveness of the training. What effective process do you know of that does not include a feedback loop?

Management's additional role.
Management has one more role in this

training cycle besides identifying the need, providing the means and assuring that the training works through documented observations. Management must hold itself and the entire organization accountable for not only the task of training, but also the expected, desired outcome of the training.

To accept training as a mere formality is failure to care about the organization and its people. Accepting paperwork rather than looking at hard evidence of effectiveness of the training is where many managers miss the point. While the quality systems focus on records and record keeping, they are not the goal. Development of competent employees is the goal.

It's not the papers in the files; it's the performance of the people. Managers have to observe performance to standards. That way, an outside auditor will not be the first to audit your employee's performance, and identify that they might not have "got it."

Recent PMPA Listserve Topics

PMPA members use e-mail Listserves to share ideas, solve problems, sell excess material and equipment, and learn about new business opportunities. Here is a list of topics that were recently discussed:

- 2nd-shift premium
- Performance appraisals
- Parts washing
- Chinese currency manipulation
- 1-5/8" round aluminum 6061-T6
- Sources of 5/16" round C64200 aluminum silicon bronze
- DFAR clause
- Severe weather alert system
- 7075-T6 material for sale
- Machinery for sale
- Computer consultants
- Issue with a material supplier
- 25/64" or 10-mm hex brass
- Custom carbide tools
- Eligible supplier

- DPAS rating
- Military spec help
- Turcite
- 98 percent alumina ceramic
- Mechanical repair – CNC
- Banjo fittings
- E-coat
- Electromagnetic iron
- High-speed drilling
- Cross-drilling attachment for Acme Gridley
- Excess material
- Sawing Monel
- Chasers
- 1117 stock
- ASTM F738M-02
- 18NiCrMo5/Pb
- Cutoff rings
- Salt spray chambers
- Cpk vs. ppm

Remember that you must be a PMPA member to subscribe to the PMPA Listserves and to receive the benefits.

pmpa.org



To learn more about any of PMPA's networking opportunities, visit our Web site.

PMPA Calendar Of Events

Below is the calendar of upcoming conferences and events scheduled for the 2006-2007 program year. For the latest district/chapter meeting information, please view the Calendar of Events at www.pmpa.org/calendar/. If you have questions about PMPA conferences or regional meetings, please contact Rob Kiener, director of marketing and membership communications, at (440) 526-0300 or rkiener@pmpa.org.

PMPA Annual Meeting
September 30-October 4, 2006
Ritz-Carlton Amelia Island
Amelia Island, Florida

PMPA Management Update
March 1-3, 2007
Disney's Contemporary Resort
Lake Buena Vista, Florida