Written by Michael V. Brown, President New Standard Institute
Tuesday, 01 April 2008 00:00

Effective management of people always involves training. This training can be as simple as one on one in the field or as formal as training in a classroom setting. The hardest part of the training management responsibility is determining when to train and what is the best training method.

One proven approach requires the assessment of the core competencies of a maintenance operation. Core competencies are those sets of activities in which you are expert. Brooks Brothers doesn't make its own suits anymore—it contracts out this work to companies that specialize in fine tailoring. Brooks Brothers realizes its core competency is selling suits, not making them.

Determining core competencies

Once upon a time, your maintenance department's core competency(ies) might have included quality millwright work or electrical troubleshooting. If a reduction in your workforce has occurred (for whatever reason), a manager should make sure that the employees who remain can perform these core functions. Conversely, perhaps your department was only mediocre at HVAC or electronics repair, but still had plenty of employees who could adequately stumble though this work. Now, though, with fewer workers on hand, you may need to engage an HVAC contractor or send failed electronic boards to the manufacturer for repair (or simply replace them with new ones).

Remember: Contractors can tide an organization over in technical areas and consultants can provide training to bring remaining workers up to speed on original core competencies. Contract out those services that are furthest away from your core competencies.

Skills checklist
A good skill checklist is one way of assessing the basic need for a skill. This list is best derived from a review of equipment that has to be maintained at your site. Supervisors or advanced maintenance workers should look at a representative sample of the equipment, at the site, and a make note of the skills that might be required to repair or maintain it. The lists of skills should then be combined to provide a master list of all skills required at the site.

Next, each item on the list should be assessed for relative need, frequency of usage and the number of employees covered under this training. The course list is categorized into basic maintenance skills, electrical, instrument and mechanical. The Relative Need should be rated from 1 (for low) to 5 (for high). The Frequency of Use should be rated from 1 (for seldom), to 5 (for often). In addition, some qualification of the number of persons that are covered also should be made.

You should then rank your training needs by relative importance. All skills that have a Relative Need and a Frequency of Use of 4 or greater should be addressed immediately. Skills that rank at 2 or 3 in both categories should be put off or budgeted for a later date. No attempt should be made to train in skills lower than 2 in both categories.

Payback for your training dollar
The cost of the training may be prohibitive if you train in all the areas of high need and usage. You must next determine whether or not to train employees in a specific skill. Consider these categories:

- *Skills that require a long time to train but are not used very often*—Activities or skills in this category provide the least return for the training dollar and should probably be farmed out to a contractor or to the service department of the equipment vendor.

- *Skills that are used more often and only require a quick training course*—Money can be invested in acquiring these skills and a return on that investment can be expected.

- *There may be some return for skills that take a short time to train and will be used only a few times a year* —You should, however, be concerned about skill retention for tasks that are not used very often. Skills that require practice, such as welding, fall into this category. It may only take a week or so to teach basic welding, but the work performed may be substandard if this skill is not practiced regularly.
- *Skills that are used often but take a long time to acquire should probably be among the*

required skills for entry into the maintenance department —You may have to face the situation and provide the training if these skills are lacking in your current workforce.

Cross craft training

A cross craft effort is the process of training maintenance employees in specific skills that go beyond the traditional trade or craft lines. The advantage of this approach is that particular jobs that historically require more than one craft now are performed by just one person, saving time and money.

A typical example is the change-out of a small motor. Traditionally, a change-out could require an electrician to disconnect the motor leads and a millwright or mechanic to disconnect the coupling, physically replace the motor and perform the alignment. The electrician then would return to the job, reconnect the motor leads, check and possibly change rotation. At this point, the mechanic or millwright would be able to connect the coupling halves to complete the job.

In fact, no more than one individual should be required on this example job at any time, but trade distinctions often require the close scheduling of appropriate crafts. If the loss of this motor created downtime, both individuals would remain at the job site, performing only their particular job functions as needed. In trade-craft-dominated work environments, this situation may be even further complicated. The requirement for an operating engineer to physically remove and replace the motor also may exist.

In a cross craft effort, individuals would receive additional training—beyond the normal skills required for their craft. A mechanic or millwright would be trained to electrically disconnect and reconnect motors. In turn, an electrician would be trained in coupling disassembly and reassembly, as well as alignment methods. After this training, both individuals would be qualified to perform the entire job alone. On the other hand, in many cases, cross craft training can take the form of spot training, designed to equip an employee with a critical skill; i.e., alignment, motor connection, welding and cutting.

The advantage to the company in a cross craft effort comes with the ease of scheduling work. The advantage to the worker is usually an incremental increase in pay for the additional skills learned and used.

Although cross craft opportunities can vary greatly from location to location, the following job areas are typical candidates:

- Jobs combining electrical and mechanical skills (motor change-outs, some instrument modifications)
- Jobs requiring electrical/mechanical and simple welding skills (installing conduit/pipe supports and running conduit/pipe)
- Pipefitting work (pipefitter and welder are separate craft skills)
- Minor machining operations (turning down, reaming and broaching)
- Oxyacetylene operations (cutting, trimming, heating)
- Machine lubrication (refilling after rework)

Identifying potential gains

Once possible training areas have been identified, the company can determine potential productivity gains and financial savings to be achieved from a cross craft effort. The financial savings can be shared with craft employees through negotiated wage increases. This effort takes the following form (in order):

1. Interviews are conducted with supervisors to identify friction areas.
2. Completed work history is reviewed for friction areas and these jobs are tabulated.
3. A study is conducted as to how these jobs could be performed under a multi-skill arrangement.
4. Estimates are made of hours that could have been saved through a multi-skill effort on specific jobs. A calculation of labor cost savings is performed.
5. Tabulation is made of any productivity improvements due to reduced clock hours of downtime. The cost of lost production is calculated.

Possible wage increases now can be determined by examining all accumulated information, and negotiations with workforce representatives can begin.

Remember

Skills assessment and training development are essential in building an effective maintenance program. An organized and structured approach can meet the current requirements of a facility and develop a strong foundation for the future. **MT**

Michael V. Brown is president of New Standard Institute, a training and consulting firm specializing in industrial maintenance, based in Milford, CT. Telephone: (203) 783-1582; e-mail: mvbrown@newstandardinstitute.com
A catalog of computer-based training programs and books authored by Brown and his colleagues, along with a schedule