

STEP by STEP – Standard Work Reduces Errors & Downtime

By: Bernabe Kitane

A typical complaint I hear from print managers across the industry is, “People do not do things consistently,” citing reasons such as:

- “The problem is with the people.”
- “They just do what is comfortable.”
- “They are lazy.”
- “They feel they know more than everyone else.”
- “They don't care.”

People don't come to work trying to cause problems. They want to do a good job. People apply their own best practices when:

- there are chronic problems;
- they are held to a higher expectation than others;
- there are little or no standards;
- and what they need to do their job is incorrect, malfunctioning or inaccessible.

To overcome the “best I can” mindset, management, staff and operators need standards and accountability — the establishment of standard operating procedures (SOPs).

The big picture

SOPs are only a component of what is known as “Standard Work.”

Standard Work is documented and followed best practice methods and procedures, as well as optimized operational metrics (setup and cycle times, downtime, waste and spoilage). It is developed in a team culture and followed by the people operating equipment or executing processes. Standard Work takes SOPs to a more tactical level than the ISO 9001 Quality Management Standard. Advantages of applying Standard Work include:

- Improving safety.
- Reducing quality variability.
- Slashing errors and mistakes.
- Increasing operational efficiency.
- Realizing continuous improvement.

Standard Work is the primary mechanism to ensure management, staff and operators can perform and are performing their jobs consistently. The major elements of Standard Work:

- **Quality** | The sum of a product/service's features and characteristics that bears on its ability to satisfy internal and external customers.
- **Control** | To manage, regulate and maintain processes, equipment operation and quality output.
- **Procedures** | Descriptions of specific methods and techniques to follow systematically.
- **Documentation** | Officially sanctioned, printed information and records that are used to prove something exists, how it will be done, or that it has been completed. These include checklists, operation and maintenance logs, SOPs, and work instructions.

- **Standards** | Officially established targets, tolerances, techniques and procedures that must be adhered to and from which no one may deviate. (A standard can be revised, if it is not totally effective.)

Establishing and documenting effective Standard Work provides a high return with reduced downtime, lower process defects, less rework and higher productivity.

The first step

Choose the right group of people to develop and document Standard Work. While company management and support personnel must be part of the group, the majority should be individuals who operate the equipment and execute processes. They will know what is truly effective. Charge Standard Work groups with the responsibility for creating, communicating and revising procedures and checklists, with feedback from overall operational staff and process support people.

Standard Work development begins with gathering and consolidating existing documented procedures and work instructions. Frequently, departments will have various degrees of documentation and manuals, but these might be scattered and hidden. Department management and individuals will need to gather the documents together.

In the event that documented procedures and activities are few or don't exist, other methods must be employed. Interview people on audio tape, and video record current tasks and techniques as they are carried out.

Once the necessary information has been gathered, sorted and organized, the team needs to conduct an objective review. There are fundamental issues to consider:

- Is there more than one method documented to complete the same task?
- When were tasks and procedures established?
- Who established the tasks and procedures?
- Do previously established tasks and procedures conflict with current quality and safety standards, technology, processes or company policies?

Teams work together to come to a consensus when establishing the final standardized methods, activities and procedures to be followed.

Standard Work includes a very important component known as error proofing. This is the implementation of methods and techniques that limit how a task or activity can be performed, to force correct and consistent completion every time. Error proofing includes the use of:

- Instruments and gauges.
- Limit switches and scales.
- Standards and specifications.
- Procedures, work instructions and checklists.
- Aim points and tolerances.

Once the new SOPs and error-proofing methods are agreed upon, they are documented.

Put it in writing

Standard Work documentation should be written clearly and understandably. Involving workers in the process of developing and documenting Standard Work procedures and checklists is the primary way to achieve clear communication.

Process maps provide visual descriptions of Standard Work tasks and activities. One way to determine if documented procedures are clear and concise is to have people

who do not normally work in that process review and describe them. If they can understand them, then the procedures probably are clear enough to be effective.

Procedural checklists

Sequential step-by-step instructions are initialed and dated by operators, support staff and management to verify that the required tasks and procedures have been completed on time. Checklists should cover daily, weekly, monthly, quarterly and annual activities. Checklists for managers and supervisors include daily tasks to initial, helping them improve their skills and communicate consistently.

Daily logs

Documents at each process or piece of equipment provide day-to-day feedback, good or bad, on that equipment's operation. Operation logs help identify maintenance and operational production problems. Downtime patterns can be revealed, such as electrical or mechanical failures; slowdowns; minor stoppages; waiting for materials; material performance; poor and missing information; and numerous other problems. It is up to management to follow up with corrective and preventive actions. If everything is working well, "no problems" or "ran good" should be recorded in the log.

Procedures and instructions

Instructions on how required tasks and activities should be carried out by each individual facilitate error proofing and consistency. Areas that should have documented Standard Work include: quotes; job layout and design; job planning; estimating; scheduling; materials procurement; prepress; printing; postpress; warehouse; and shipping operations.

Keep it up: Seeing is believing

Once Standard Work has been implemented, it must be sustained. To achieve the necessary discipline, a verification mechanism is put in place.

Visual management consists of clearly displayed visual communications about all needed Standard Work information: procedures, work instructions, performance expectations, quality assurance activities, production tracking and daily shipments. Examples:

- Planning, setup, quality assurance, maintenance, procedures and work instructions posted at each process.
- Color-coded tools, machines and job tickets.
- Painted aisles and floor marking for point-of-use-staging locations.
- Lines on the floor to delineate work areas, and raw material and work-in-process storage.

Audits are periodic checks, observations and investigations on the process or equipment. An effective audit requires training, communication, documentation and objectivity.

Standard Work development should be coupled with technical and operational training for managers, supervisors, staff and operators. Integrating Standard Work with training reinforces the education process and quickly leads to an efficient companywide operational system.

Components of effective training:

- **Knowledge acquisition** | Expert lectures, books and reports on how and why things work the way they do.
- **Skill attainment** | Hands-on exercises and simulations.
- **Standard Work** | Implementation reinforces the knowledge and skill training steps.

Standard Work is the primary tool in achieving effective and efficient operations. Its benefits are numerous: improving and controlling quality; eliminating equipment losses; achieving quick and consistent equipment setups; slashing unscheduled downtime; and accelerating operational throughput. When everyone is on the same track and consistently doing things in the same manner, reduced waste, lower costs and quicker throughput become a reality.

What is Standard Work?

Standard Work is the documented description of agreed upon methods, techniques and procedures, conducted within specified time frames and developed in a team culture. The people operating equipment and executing processes follow Standard Work and sustain it through a periodic verification mechanism. Standard Work utilizes best-known practices, ensuring effective and efficient equipment and process operation.

The Kaizen Blitz

An effective tool for developing and gaining consensus when establishing Standard Work is to conduct Kaizen Blitz events. Kaizen (Japanese for “continuous improvement”) events are intense improvement initiatives that typically take three to five days. They create a sense of urgency and an atmosphere of continuous improvement by focusing the people who work in the process on solving problems and developing Standard Work methods and procedures.

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