

Tips:

How to institute an equipment maintenance program

Changing the oil in your car at recommended intervals can help you avoid major repairs and increase the vehicle's service life. Regular equipment maintenance in your plant provides similar benefits. Here's some information on how your plant can institute an effective equipment maintenance program.

A solid equipment maintenance program can reduce repair and replacement costs, ensure reliable material processing or handling, and extend the service life of your equipment. Routine maintenance also reduces the risk of mechanical failures that can injure workers. In fact, if a worker brings an injury-related lawsuit against your plant, your failure to perform and document recommended equipment maintenance can be viewed as negligence.

What are the program's components?

Documentation, training, and schedule-tracking procedures are the most important components in your equipment maintenance program. Documenting the program ensures that all workers thoroughly and consistently follow the maintenance procedures. Training your workers to understand the operation and potential malfunctions of equipment they

operate also improves their maintenance practices. Schedule-tracking procedures ensure workers perform maintenance on time. Other program components include stocking equipment maintenance supplies and, if necessary, setting aside a maintenance area.

How complex will the program be?

The program's complexity depends on your equipment. For instance, cleaning an air-purifying respirator worn by a worker in a dusty plant area requires only cleaning and sanitizing the mask after each use. But maintaining a belt conveyor in a mineral-handling operation is much more time-consuming. The maintenance procedures include cleaning the conveyor frame and components; checking the frame for warping or bending; inspecting and lubricating idlers, possibly replacing worn idlers; checking the belt for wear and possibly repairing or replacing it; inspecting, cleaning, and lubricating the drive system; and lubricating the head and tail bearings.

How often does my equipment need maintenance?

Your equipment manufacturer typically recommends a maintenance timetable. For instance, the air-purifying respirator should be cleaned at least once per shift; the conveyor belt should be inspected at set intervals that depend on your conveyor type, service duty, and conveyed material — perhaps once every 100 hours of operation or at 2-week intervals. Regardless of the equipment type, the manufacturer also specifies which components your workers can service and which, if any, must be serviced by the manufacturer or its representative.

Another tip: "Systematically update the manufacturer's operations and maintenance manual with supplementary information, manufacturer correspondence, operation and maintenance notes, and copies of related technical articles and data" (from "Recordkeeping for effective dryer maintenance," by Bob Robinson and Ron Koch, *Powder and Bulk Engineering*, April 1991).

Do government regulations specify maintenance for certain equipment?

Many federal agencies mandate maintenance programs for various equipment

types to minimize accidents and worker injuries. OSHA publishes maintenance regulations for a host of dry bulk materials processing and handling equipment. Depending on the equipment you use, you may also need to comply with regulations of other agencies, such as the Department of Transportation. Your equipment manufacturer can supply more information about complying with federal regulations, but it's your responsibility to be aware of the applicable requirements.

How much will the maintenance program cost?

The program's cost depends on your equipment. Typically, you can consider the cost an operating expense. The expense is often offset by the maintained equipment's better efficiency, improved reliability, and longer service life.

A final word

To make your equipment maintenance program effective, ensure that both management and workers have a role in planning the program. "Work with everyone on the maintenance staff to develop a clear, concise list of specific maintenance objectives," advises Gregory A. Mark in his May 1991 *PBE* article, "Developing a strategy for effective plant maintenance." This input goes a long way toward ensuring everyone's acceptance of the program — and the program's ultimate success.

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