Written by Doc Palmer, P.E., MBA, CMRP - Managing Partner, Richard Palmer and Associates
Friday, 12 February 2010 14:02

Let's talk troubleshooting. How do you plan and schedule it? Sounds difficult, if not impossible.

Truth be told, planning and scheduling are practically made for troubleshooting. Therefore, even if we typically don't plan or schedule much of anything, we should—*at least*—plan and schedule troubleshooting. Why is that?

Planning and scheduling form the basis of controlling maintenance, while troubleshooting is the least predictable of all maintenance activities. If not contained, it can ruin overall maintenance productivity.

Planning, though, is not "Plan then execute." Planning is running a cycle of improvement: We plan, see what we planned wrong and plan better next time, never expecting perfection. Furthermore, weekly scheduling is not dictating when each job and each person will interact next week. Weekly scheduling is allocating enough work to fill available labor hours as a goal to improve productivity. It is "OK" if the plans are not perfect and it is "OK" if we don't meet the schedule goal. Still, we get better each time, and complete more work than if we did not plan or schedule.

How do we plan troubleshooting work orders? We count on the fact that a current work order is not the only time we will hear from a given piece of equipment. Each piece of industrial equipment in our plants has one or two predominant failure modes. If we do not know what is wrong this time, we might simply say "troubleshoot and repair," and then collect feedback. The next time, we can say "troubleshoot and repair, and the following is what we found out last time." Faithfully repeating this method over the course of several years yields a troubleshooting guide unique to each piece of equipment—*a guide born from the experience of a number of different craftpersons*. Thus, we must plan troubleshooting work if we plan anything at all, because a planning system is about learning and improving, and reducing the unknown.

(By the way, parts-information collection is invaluable for troubleshooting. How many times have we all thought, said and/or heard something along the lines of the following? "I don't know what's wrong this time, but these are the parts we've used in the past.")

How do we schedule troubleshooting? As impractical/unfeasible as it may seem, we must schedule troubleshooting work orders because we must fill all the available crew labor hours for our work goal. If we start setting aside a certain portion of craft time for unknown maintenance, the whole productivity improvement effort falls apart—Parkinson's Law sets in and all work expands to fill the available time.

I once worked (and laughed) with an instrument planner who seemed to have only three job plans: "Troubleshoot and repair 2 hours." "Troubleshoot and repair 4 hours." "Troubleshoot and repair 8 hours." Yet, consider: Any time estimate on a maintenance job keeps the job from expanding unnecessarily, and we can often expect certain troubleshooting to last less than half a day. Why should we default to a mentality of "Come back when you're finished" and perhaps fuel the idea that these jobs might run all day?

Go ahead and take your maintenance program to the next level. Plan and schedule troubleshooting work. **MT**

Doc Palmer is the author of McGraw-Hill's Maintenance Planning and Scheduling Handbook. Telephone: (904) 228-5700; e-mail: docpalmer@palmerplanning.com (FYI: He'll also be presenting a post-conference workshop on "Maintenance Planning and Scheduling" at MARTS 2010. For more details, visit www.MARTSconference.com)