

# Why P/M?

## Preventative Maintenance in Water Systems

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As many of you are aware in today's economic time's budgets, funds and programs are being cut all in an effort to save money. Yes, I will agree a lot of systems may have areas to trim but most systems that we see have very little extra; in fact many do not have enough to begin with! So when it becomes time to look at finances, and where you need to cut, avoid the P/M area. In fact, as you will see most of the P/M steps cost very little, and in the long run, will actually save you money; present that one to the board!

What is P/M? In simple terms, it is a program to keep your system running efficiently and effectively, while maintaining as little down time as possible. In our lives outside of work, do we do any P/M? Do we do any of the following?

- Change the oil in your car
- Paint the house "inside or out"
- Mow the lawn
- Trim the hedges
- Clean the furnace or the chimney to the wood stove

These are just a few of our normal chores around the home, I am sure you can add to this list. Oh, by the way, what cost is associated with these chores? The \$29.00 oil changes for your \$30,000.00 car or the \$100.00 of paint for your \$200,000.00 home. Most P/M is labor cost, yes I know time is money but a smooth running system or facility is worth its weight in gold.

A few basics to a P/M program:

- Assessment; assess the needs of maintenance - use the operators/owners manual for manufacturers recommended service intervals.
- Inventory; create an inventory of all your maintainable assets, such as: pumps, motors, analytical equipment, generators, meters, valves and hydrants.
- Set a schedule; take the manufacturers recommendations of any given product and make it work for you. Do you have an hour one day a week, or does it work better with four hours once a month? Stick to the schedule for consistency reasons. Even look to rainy days to do these tasks.
- Records; maintain records log what you did and the condition when you did it. You can do this by use of a computer, paper, or even a log book. There are computer programs available or paper logs, most manufactures supply a paper maintenance log in the operators/owners manual. If not create your own! Look at past maintenance records to see if anything has changed? If so, is it normal or are we heading for failure? Change can be as minor as a noise or vibration, or a piece of equipment not taking grease. To a packing drip that turns into a spray or high amp readings on a motor. Track cost associated with the piece of equipment, this will help justify replacement.

- Inspect; do visual inspections of the item and consider taking a picture for the file. A picture is worth a thousand words, especially if you have a photo when installed for comparison when wear occurs.
- Maintain; such as clean or paint, grease, take an amp reading, operation use exercise that valve or hydrant "they are designed to be used"!
- Here are some items that can be included into any P/M program that the owners / operators manual may not include:
- Use compressed air to clean the windings of motors, do this twice a year. You may be surprised at the amount of dirt and/or dust that is accumulated. This also works great with heaters and AC units.
- Clean chlorine feed pumps by running white vinegar through them. Simply drop the suction tube into a gallon of vinegar and place the discharge tube to waste and let the pump run. This also works for cleaning sight glasses, or lab glasswear. This has also been known to work on cleaning PH / Turbidity analyzers.
- Try cleaning filter media by use of citric acid or caustic soda. This process works well, however, use caution as both products can cause chemical burns, so use proper safety gear.
- How about tools? Clean the jaws of pipe wrenches or other gripping tools with wire brush and use light oil on moving parts. Clean mud/trash pumps with clean water after each use. Clean and lubricate tapping machines after each use. Get the point! Clean the tools and they will perform better and last longer. Oh, by the way, those small gas engines we have use fuel stabilizer.
- Don't forget the safety gear, use it and maintain it!

The long and the short of this P/M deal is if you do not have a program in place, it is time! The picture attached is a bearing that was not maintained "greased" and the replacement was in the tens of thousands of dollars. This could have been prevented with a few pennies worth of grease. 💧

