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WATER SAVING TIPS FOR METAL MANUFACTURING

Water Saving Tips

Efficient water use makes good business sense. There are many opportunities for our businesses to make simple changes to daily operations which will save significant quantities of water. These reductions will improve the efficiency of our businesses, increase our company profile, increase staff performance and save considerable amounts of money.

It is worth noting that industry as a whole is relatively efficient with its water use. Many organisations have made considerable reductions in their water demands and are reaping the benefits of their increased performance. We should use this good work and the forthcoming water restrictions as motivation to increase our performance even further.

The following are some simple tips that we can implement in our daily operations which will help save our organisations valuable resources and precious capital.

Metal Manufacturing

- **Coatings:** Use no rinse coatings.
- **Timers:** Use timers and valves on rinse tanks to ensure flow is completely switched off when not needed.
- **Nozzles:** Replace nozzles on spray hoses with “high pressure”, “low volume” ones.
- **Dry clean:** Use “Dry” clean up wherever possible.
- **Heavy metals:** Prevent discharge of metals to sewer.
- **Waste treaters:** Ask your waste treater about new opportunities/innovations to segregate and recycle your waste.
- **Tanks:** Use rainwater where possible for cleaning, toilets, gardens etc.
- **Reuse:** Recover water where possible for use throughout the site.
- **Showers and boot wash:** Install low flow fittings for showers, boot wash and other domestic wash down areas.
- **Chemicals:** Use chemicals more sparingly. This will save you money through reduced chemical use, reduce chemical dosing for trade waste demands and reduce trade waste costs associated with TDS levels.
- **Monitor:** Monitor water use and trade waste demands for each process and product. Develop a trend of water demand and trade waste as a percentage of product output. This will help to identify issues and areas to be targeted in a water management plan and also highlight the company’s performance.
- **Material flow:** Conduct a basic material flow diagram to identify which process or products use the greatest amounts of water and develop goals and targets to reduce demand. Measure water use with bucket and stopwatch to determine the water used for each process.
- **Maintenance:** Increase maintenance of machinery to reduce wasted water.

- **Cooling tower:** Increase cooling tower efficiency to reduce loss through blowdown and drift.
- **Cleaning:** Reduce and reuse water required for cleaning where possible.
- **Surface runoff:** Capture surface runoff where possible to be used as cleaning water or as a grey water substitute for cooling, toilets, gardens etc.
- **Water treatment:** Look at water treatment options if your business is water intensive and treat water for reuse if at all possible.
- **Leaks:** Fix all leaks as soon as they occur and maintain regular checks.
- **Dry sweep:** Use sweeping, squeegeeing, vacuuming or shovelling solids prior to wash up to prevent product going to drain and elevated trade waste charges. Do not use hoses as brooms.
- **Reuse:** Look for water reuse opportunities where possible. For example, can rinse water be use for pre-wash water in another process. Can water used for cooling machinery, be used for cleaning? Can waste product be used by another organisation?
- **Recover:** Recover metals form plating solutions using electrowinning. Recover spent solvent onsite.
- **Chelating agents:** Reduce the use of chelating agents to improve wastewater treatment and reduce sludge volume.
- **Alkaline cleaners:** Use alkaline cleaners instead of solvents in degreasing operations.
- **Acid recover systems:** Use acid recover system.
- **Drip trays:** Install drip trays and splash guards to prevent spills and leaks entering the wastewater.
- **Draining:** Drain work pieces above tanks prior to rinsing.
- **Paints:** Use water based paints.

For more information please visit the Ai Group Website at www.aigroup.asn.au or speak to an Ai Group Resource Efficiency Adviser on 03 9867 0111.

Information about efficient use of resources can be found at the following websites:
Sustainability Victoria www.sustainability.vic.gov.au or EPA Victoria at www.epa.vic.gov.au