

Waterwise information

Sept 2009



Conducting a water audit

A water audit is part of a water efficiency program. Refer to the Waterwise Business Information Sheet – *Water Efficiency Program* for further information on establishing a program at your facility.

The purpose of a water audit is to:

- Identify all uses of water within a facility.
- Determine whether each component is using water efficiently.
- Look for ways to reduce water use.
- Continue to monitor. The monitoring process will identify any changes in water use over time and may be a trigger for maintenance.

A water audit team needs to be established to undertake the work. Suggested team members include an audit coordinator, personnel familiar with the operations, the facility or plant manager, maintenance staff and possibly an external auditor.

The results of the water audit feed back into the Water Efficiency Program process at Step 3 – Determine Actions.

Water use summary

The key task is to construct a summary table that identifies all water uses at the facility.

- Create a table of all water uses. Consider: mechanical plant, cooling towers, amenities, on-site processes, dishwashers, x-ray machines, garden use etc. Refer to industry specific Waterwise Business Checklists for details of likely water uses in your industry. An example table is on the back of this sheet.

The next step is to estimate how much water each component uses over the year and reconcile this against the water use account.

- Enter your estimate of the annual water use for each component in the water use table. Consider using sub-meter data (if this is available), manufacturer's information on water use per cycle x number of cycles per year, number of toilets x estimated flushes per year, measure reticulation flow by reading the meter before and after a cycle x number of waterings per year, measure time to fill bucket etc.

- Add these figures and compare them with the quantity of water charged on your water bill. If your total is within 15% of the water bill amount, that's pretty good. If not, you may have under or overestimated a particular water use, or possibly not captured all water uses.

Processing data

Once the water use table is complete and reconciled, compare each water use against an appropriate industry benchmark.

The purpose of the exercise is to identify the inefficient processes and develop a plan to improve water efficiency through process changes, retrofitting or replacement.

Refer back to Water Efficiency Program Information Sheet at Step 3 – Determine Actions for additional details.

For a list of waterwise auditors, visit:

www.watercorporation.com.au/w/waterwise_index

References

DPPEA FY04-08 – North Carolina Division of Pollution Prevention and Environmental Assistance.

Further information

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Refer to specific Waterwise Business Information Sheets and Checklists for more detail on specific industries and processes. The table below identifies key water use areas common to many industries to provide a basis for your own water audit checklists.

	First pass	Follow up	Qty per cycle	Qty per year
Process and Equipment use				
Cleaning, washing, rinsing	Investigate	Sub meter?		
Metal finishing	Investigate	Best practice		
Painting	Investigate	Best practice		
Dyeing and finishing	Investigate	Best practice		
Photo processing	Investigate	Benchmark		
Re-use of water	Investigate	Implement		
Dialysis	Investigate	Benchmark		
RO or filtration plants	Investigate	Benchmark		
Water transport of product	Investigate	Alternatives?		
Water used in product	Investigate	Wastage?		
Cooling and Heating				
Single pass cooling	Investigate	Recycle?		
Cooling tower	Investigate	Sub meter		
Chiller	Investigate	Sub meter		
Boiler, hot water, steam systems	Investigate	Energy efficiency?		
Air washers	Investigate	Alternatives?		
Boiler Scrubber	Investigate	Alternatives?		
Sanitary and Domestic				
Toilets	Count	Replace?		
Urinals	Count	Leaks?		
Showers	Count	Shr. Heads?		
Taps	Count	Restrictors?		

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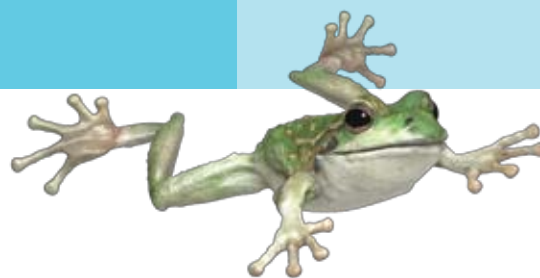
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	First pass	Follow up	Qty per cycle	Qty per year
Kitchen and Food				
Cafeteria uses	Identify	Optimise		
Dishwashers	Investigate	Optimise		
Ice Machines	Investigate	Optimise		
Taps and hoses	How used	Nozzles?		
Other Facility Support				
Floor washing	Investigate	Alternatives?		
Air emission wet scrubbers	Investigate	Alternatives?		
Building washing	Investigate	Alternatives?		
QA testing	Investigate	Alternatives?		
Laboratories	Investigate	Optimise		
Wastewater treatment	Investigate	Alternatives?		
Scouring of pipelines	Investigate	Alternatives?		
Testing of fire and other systems	Investigate	Alternatives?		
Outdoor uses				
Landscaping	Investigate	Alternatives		
Irrigation	Vol/cycle	Alternatives?		
Particulate emission control	Investigate	Alternatives?		
Ponds and fountains	Investigate	Leaks?		
Pools	Investigate	Leaks?		
Vehicle washing	Investigate	Alternatives?		

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