**Oasis Clearwater**
ENVIRONMENTAL SYSTEMS
WASTEWATER TREATMENT ENGINEERS

# POWER USAGE FOR SERIES 2000

There are two components to power consumption in the operation of a Series 2000 Aerated Wastewater Treatment System, the air pump and the irrigation pump. The following provides a general guide to power consumption.

## Air pump power usage
The air pump runs continuously because the <u>aerobic</u> bacteria in the system will die or drastically reduce in population size if the air is turned off.

*LESS AIR = LESS BACTERIA = LESS TREATMENT OF WASTEWATER (SEWAGE).*

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|---|---|
| Air Pump Power Use | 0.08 kW (80 W) per hour |
| Amount of power used per day<br>= 24 hours x 0.08 kW | 1.92 kW |
| **Cost per day at $0.25 per kW hour**<br>**= 0.25 x 1.92** | **$0.48 per day** |

## Irrigation pump power usage
The runtime of the irrigation pump is based on the amount of dripline. Each 100m of dripline discharges at 6.5 litres per minute:

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|---|---|
| Pump rate for 400 metres of dripline (normal length required for a 4 bedroom house)<br>= 400/100 x 6.5 | 27 litres/minute |
| Pump run time for 1,000 litres/day (4 people at 250 litres/person/day)<br>= 1,000 litres / 27 litres/minute | 37 minutes per day<br>= 0.62 hours per day |
| Power usage per day (for 0.6 kW pump)<br>= 0.62 hours per day x 0.6 kW | 0.37 kW per day |
| **Cost per day at $0.25 per kW hour**<br>**= 0.25 x 0.37** | **$0.093 per day** |

## THEREFORE: TOTAL RUNNING COST PER DAY = $0.48 + $0.09 = $0.57/day

## TOTAL RUNNING COST PER 31 DAY MONTH = $17.67
As a comparison a 2.4kW heater running 8 hours per day = 19.2kW per day = $4.80 per day (19.2 x $0.25). The total per 31 day month is = $148.80! (31 days x $4.80)

## TESTING POWER USAGE
A simple way to test that the Series 2000 Wastewater Treatment Plant is not the cause of the increased electricity usage is to compare electricity usage with the system running and not running. To do this read the power meter at a set time when household water usage will be minimal. At say 7pm, turn the system off. At 7am read the meter again (12 hour period) remembering to turn the system back on.

Compare this reading with a meter reading taken over the same period (7pm to 7am) with the system running. ENSURE that ALL other household electricity usage is about the same over the two test periods e.g. same heaters, lights, etc.