

This questionnaire has been designed by a work team of the Technological Center CARTIF to obtain information about the wastewater treatment plant in the field of the MEDAWARE project - Development of tools and guidelines for the promotion of the sustainable urban wastewater treatment and reuse in the agricultural production in the Mediterranean countries

1 BASIC DATA OF THE WASTEWATER TREATMENT PLANT

Name:	REPPAS DIMITRIS Kostas Malekides	Position:	Engineer (ENVITEC S.A.) Technician
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1. Where is your local wastewater treatment plant located?

Address:			
City:	ASKAS	County:	CYPRUS
State:		Zip:	
Telephone number		Fax number	E-mail address

2. How many stages of treatment does your facility use?

Primary	<input checked="" type="checkbox"/>	<u>SCREENING, GRIT OF FAT REMOVAL</u>
Secondary	<input checked="" type="checkbox"/>	<u>BIOLOGICAL TREATMENT AND N-REMOVAL</u>
Tertiary	<input type="checkbox"/>	_____
Other	<input type="checkbox"/>	_____

3. What is the capacity of the treatment plant?

Liters per day (average)	<u>36.000</u>
Number of People and/or Employees	<u>300</u>
Peak Daily Flow Estimate	<u>3.0m³/hr</u>

4. How is the sludge disposed of?

Burned	<input type="checkbox"/>	Landfill	<input checked="" type="checkbox"/>
Fertilizer	<input type="checkbox"/>	Other	<input type="checkbox"/>

5. Where does the treated wastewater go after it leaves the plant?River or Stream
Ocean Lake
Other **6. In what year was the plant built?**2001**7. Have there been any modifications of the plant in recent years?**ADDITION OF AN EQUALIZATION TANK

_____**8. Are there any plans for additional improvements to the plant?**NO

_____**9. Wastewater analysis information (influent)**

Wastewater BOD	<u>500</u>
Wastewater COD	<u>2.000</u>
Wastewater Suspended Solids	<u>580</u>

10. Treated water- Local government requirement - If known (effluent)

Wastewater BOD	<u>≤ 10 mg/lit (treated water), ≤ 15 mg/lit (requirement)</u>
Wastewater COD	<u>≤ 80 mg/lit (treated water), ≤ 80 mg/lit (requirement)</u>
Wastewater Suspended Solids	<u>≤ 10 mg/lit (treated water), ≤ 15 mg/lit (requirement)</u>

2 WASTEWATER TREATMENT INFORMATION

11. Primary Treatment Processes

<i>Processes</i>	<i>Size (if know)</i>	<i>Main operational problems (if exists)</i>
<input checked="" type="checkbox"/> Bar or bow screen	W = 0.40 m	
<input checked="" type="checkbox"/> Grit removal	3 compartments of: 2.10 x 0.80 x 1.10m	
<input type="checkbox"/> Primary sedimentation		
<input type="checkbox"/> Comminution		
<input checked="" type="checkbox"/> Oil / fat removal	1 compartment of: 2.10 x 0.80 x 1.10m	
<input checked="" type="checkbox"/> Flow equalisation	6m ³	
<input type="checkbox"/> pH neutralisation		
<input type="checkbox"/> Imhoff tank		
<input type="checkbox"/>		

12. Secondary Treatment Processes

<i>Processes</i>	<i>Size (if know)</i>	<i>Main operational problems (if exists)</i>
<input type="checkbox"/> Activated sludge		
<input type="checkbox"/> Extended aeration		
<input type="checkbox"/> Aerated lagoon		
<input type="checkbox"/> Trickling filter		
<input type="checkbox"/> Rotating bio-discs		
<input type="checkbox"/> Anaerobic treatment/UASB		
<input type="checkbox"/> Anaerobic filter		
<input type="checkbox"/> Stabilisation ponds		
<input type="checkbox"/> Constructed wetlands		
<input type="checkbox"/> Aquaculture		
<input checked="" type="checkbox"/> Activated sludge in a Fluidized Bed Reactor	D = 2.5m, H = 7.0m	

13. Tertiary Treatment Processes

<i>Processes</i>	<i>Size (if know)</i>	<i>Main operational problems (if exists)</i>
<input checked="" type="checkbox"/> Nitrification	INCLUDED IN THE BIOLOGICAL REACTOR	
<input checked="" type="checkbox"/> Denitrification	INCLUDED IN THE BIOLOGICAL REACTOR	
<input type="checkbox"/> Chemical precipitation		
<input checked="" type="checkbox"/> Disinfection	1.5m ³	
<input type="checkbox"/> (Direct) filtration		
<input type="checkbox"/> Chemical oxidation		
<input type="checkbox"/> Biological P removal		
<input type="checkbox"/> Constructed wetlands		
<input type="checkbox"/> Aquaculture		
<input type="checkbox"/>		

14. Advanced Treatment Processes

<i>Processes</i>	<i>Size (if know)</i>	<i>Main operational problems (if exists)</i>
<input type="checkbox"/> Chemical treatment		
<input type="checkbox"/> Reverse osmosis		
<input type="checkbox"/> Electrodialysis		
<input type="checkbox"/> Carbon adsorption		
<input type="checkbox"/> Selective ion exchange		
<input type="checkbox"/> Hyperfiltration		
<input type="checkbox"/> Oxidation		
<input type="checkbox"/> Detoxification		
<input type="checkbox"/>		
<input type="checkbox"/>		

3 CONTROL AND MONITORING SYSTEMS

15. Which are the most critical process parameters that may affect the efficiency of the wastewater treatment plant?

<i>Parameter</i>	<i>Process</i>	<i>Current Automatic Control?</i>	
<input checked="" type="checkbox"/> Wetwell levels	On-off pumping	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Sludge depth	Primary treatment	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Solids Retention Time (SRT)	Conventional activated sludge	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input checked="" type="checkbox"/> Dissolved oxygen concentration	Conventional activated sludge	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Return flowrate from the clarifier	Conventional activated sludge	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input checked="" type="checkbox"/> Internal recycle	Biological nutrient removal	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<input type="checkbox"/> Methanol feed rate	Biological nutrient removal	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Air / solids ratio	Dissolved air flotation thickening	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Sludge depth	Gravity thickening	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Belt speed	Gravity belt thickening	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Chemical dosage rate	Chemical addition for water-solids separation	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input checked="" type="checkbox"/> Chlorine dosage rate	Chlorination	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>

16. In your opinion, what are the main problems with the control system of the wastewater treatment plant?

There were not problems with the control system of the wastewater treatment plant but with the big flow rate and parameters concentration variation, during the week and the seasons of the year

17. In your opinion, what treatment processes / parameters should be monitored / controlled automatically?

Flow rate, dissolved oxygen concentration, MLSS concentration inside the biological reactor, return sludge pumps operation, residual chlorine concentration

If you have any questions about this document, please contact us by e-mail at yolnun@cartif.es

Thank you for your collaboration.