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**ADDITIONAL VALUE FOR INDUSTRIAL WATER AT THE MELLITAH  
COMPLEX**

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**ABSTRACT**

Given the limited availability of freshwater resources and the need for their conservation, the implementation of water recycling concepts within the framework of sustainable water management strategies thus of crucial importance. Wastewater treatment and reuse are technically feasible. There is a wide range of proven technologies available and water recycling systems can be tailored to meet specific demands. The treatment and reuse industrial wastewater, provide a sustainable option within an industrial development. In many cases, Water recycling constitutes an economically attractive. The water reuse is very often obtained after the association of several techniques. Many industrial users of fresh water are under increasing pressure to reuse water within their facilities. The goal is to minimize the amount of water that is discharged; there are a variety of reasons for this pressure, such as: The cost of fresh water (\$1.00 to \$2.00/1,000 gal or \$0.26 to \$0.52/m<sup>3</sup>); The cost of additional treatment to reach discharge limits (\$2.00 to \$4.00/1,000 gal or \$0.52 to \$1.04/m<sup>3</sup>); Water availability and Environmental awareness.

This paper covers the preliminary design of some of the reusable water in the Mellitah complex and the appropriate techniques for it as well as the fields of activity used. And estimate the quantity of water used by cooling water system and boilers in the complex, the discharged quantity to the sea as blow down and the amount that can be saved according to plant end-user specification, as well as the international conventions on wastewater discharge. Nevertheless, the work will evaluate the quality of discharged and treatment water using different techniques, and finally to propose where reclaimed water can be utilized.

Keywords: Water Reuse, Micro Filtration, RO, Water Desalination.