

Industrial Water Treatment Plant - Maáden Waád Al Shamal Phosphate Project-Turaif, KSA

A Case Study



Key Data

Location	Turaif, Northern Area, Kingdom of Saudi Arabia (KSA)
Plant Type	Industrial Water Treatment Plant- UF, BWRO, DM, CPU, chemical injection and potable water system
Capacity	2670m ³ /hr UF, 2275m ³ /h BWRO, 421m ³ /h DM, 886m ³ /h CPU, 57m ³ /h potable
Use	Demineralised water required for the fertilizer factory, utilities and boiler
Client	Maáden Waád Al Shamal Phosphate Company (MWSPC)
End User	MWSPC
Contract Type	Design, engineering, procurement, supply, installation and startup commissioning

Introduction

Maáden Waád Al Shamal Phosphate Company (MWSPC) planned the development of Waád Al Shamal area in the northern region in 2010 in line with the Kingdom of Saudi Arabia strategy to establish new industrial areas similar to that of Jubil.

Project development is set to be done in phases and the first phase comprises the development of a fertilizer factory at Waád Al Shamal that is expected to export 90% of its daily production.

The MWSPC awarded Metito the raw water treatment package under a utilities contract which covers the following scope of work: design, engineering, procurement, supply, installation and commissioning, all on a fast track basis to meet the deadline and start operations in 2016.

To MWSPC satisfaction, Metito secured all requirements within the committed budget and successfully delivered and commissioned the plant within the desired timeframe.

Umm Wu'al Phosphate Fertilizer Plant is located in Sirhan-Turaif region, approximately 40 kilometres from the city of Turaif and approximately 100 kilometres to the west of Maáden Phosphate Company complex at Haram Al-Jalamid.

Scope of Work

Metito developed the raw water treatment package for supplying the demineralised water required for the fertilizer factory, utilities and boiler. Under this scope Metito was responsible for:

- Securing delivery of the equipment, tools and spare parts
- Commissioning and startup of the complete scope
- Onshore / offshore operation and maintenance training

Securing the following systems and processes:

- Pre-Treatment Package (PTP)
 - Sand filtration system
 - Degasification system
 - Ultra filtration system
 - Micron filtration
- Desalination with double pass reverse osmosis system
- Second pass desalination plant
- Co2 injection system
- Demineralization package including anion / cation and mixed bed polishers complete with chemical injection package
- Condensate polisher package including anion / cation and mixed bed polishers complete with chemical injection package
- Potable water package complete with calcite filters and chemical treatment
- Chiller water system
- Complete chemical injection system for the entire plant



Key Benefits

- A total solution for the industrial water treatment needs of this establishment
- Efficient design that takes into consideration the stringent requirements laid down by the owner
- Reliable and safe proof design that meant trouble free operation and minimum downtime
- Timely execution which was imperative for the startup of the plant by the tight deadline
- Full local support from Metito, a well established company with local presence and global knowhow, ensuring ongoing support

