THE SOREK B PROJECT

The Sorek B BOT Desalination facility combines the most advanced and innovative technologies in a state-of-the-art, advanced modular design that optimizes energy consumption, and minimizes the use of chemicals. When operational, the plant will be among the world's largest SWRO desalination plants, and will enhance Israel's water resilience and meet the nation's growing industrial, municipal and agricultural needs. Despite the facility's inland location, and compliance with the strictest water quality standards in the world, the groundbreaking design of Sorek B allows IDE Technologies to offer an exceptionally low water price of 1.45 NIS/m3 (equivalent to ~0.40 USD/m3) - a new benchmark for seawater desalination water prices on a global scale.

HIGHLIGHTS

- PPP/BOT – financing, design, procurement, construction, 25 years' operation & maintenance, and transfer to the State at no additional cost at the end of the term
- One of the world's largest SWRO plants
- Unique prefabricated, modular design allows significant reduction in site works, minimal execution time and delivery, and top quality of the installed components
- Designed for low operational cost (pressure center, optimal high pressure generation, low chemical consumption)
- Integration of natural gas fired IPP (clean environmental approach) allows flexible operation according to water demand combined with significant savings in energy costs
- First ever use of Direct Drive for the HP system - innovative integration of a proven and robust industrial solution in a SWRO plant of this magnitude, providing a significant reduction in the overall water price while maintaining highest reliability and flexibility in plant operation
- State-of-the-art plant layout and arrangement to allow optimal operational efficiency
- Pipe jacking of marine pipes to preserve Israel's natural coastal habitat
- Water price: US$ cents 40.05/m3 (US $1.53/Kgal) – low contracted price for potable water from seawater, while complying with strict quality requirements
- Automatic operation using cutting edge software and control systems

MAIN CHARACTERISTICS

- Optimized energy consumption
- Maximal environmental awareness
- Flexible (prefabricated) design
- Economical
  (low water price, low energy consumption)
- Low carbon footprint
- Installation of new generation,
  energy-efficient membranes
- Low chemical consumption
- Natural 90 MW Gas IPP (= low energy price,
  environmentally friendly approach)

PLANT OVERVIEW

Capacity

- Contracted: 555,000 m3/d (146 MGD) | 200M m3 per annum (96% availability)
- Installed: 672,000 m3/d (177 MGD)

Footprint: 94,000 m2

Timeline (from NTP)

- 32 months – 50% of plant available
- 36 months – 100% of plant available

Capex (est.): US$ 600M

- Project Finance by EIB and Bank Leumi (Israel)

RO Train Configuration

- 40 SWRO skids (1st Pass)
- 8 elements per PV
- ~70,000 installed membrane elements overall (in 3 RO Passes)

Pipelines (around 10 km length overall on & offshore, mostly installed by underground pipe-jacking)

Pipeline	Length	Diameter
Intake	3.25 km long (1.5 km marine)	2 x 2,600 mm I.D.
Brine	4 km long (about 2 km marine)	1 x 2,600 mm I.D.

Technology - SWRO

- One stage gravity MMF pretreatment
- IDE unique pressure center RO design that allows energy efficiency and operational flexibility
- Advanced Energy Recovery System (ERI Q-series)
- Modular RO skids for quick erection with maximum precision and quality
- Cascade for Boron removal and maximum quality control of product water
- Post-treatment for remineralization of water according to the specifications for the quality of drinking water in Israel

IDE - Over 50 Years of Experience

A world leader in desalination and water treatment solutions, IDE is at the forefront of the development, engineering, construction and operation of enhanced desalination, industrial water treatment and water reuse facilities. IDE headquarters are in Israel, with offices in the USA, China, India, and Chile, facilitating client partnerships across the globe.

- Proven and robust water treatment technologies that provide our clients with end-to-end solutions
- Developed some of the most advanced membrane-based and thermal solutions
- Designed, built and operates some of the world's largest desalination plants
- Successful implementations in more than 400 plants in over 40 countries

IDE Technologies | Your Water Partners

IDE Water Technologies