

## ADVANCED ULTRAPURE WATER GENERATION

Innovative technology in compact, modular configurations for treatment of boiler feed water make-up and water production for gas turbine applications.

### WHY ULTRAPURE WATER?

#### Boiler Feed Water Make-Up Applications

The removal of suspended solids, dissolved gases, dissolved solids, and other constituents from boiler feed water is critical to preserve boiler equipment integrity, minimize corrosion, and extend boiler operating life. Ultrapure water also reduces the number of blowdowns, where applicable, leading to increased plant uptime.

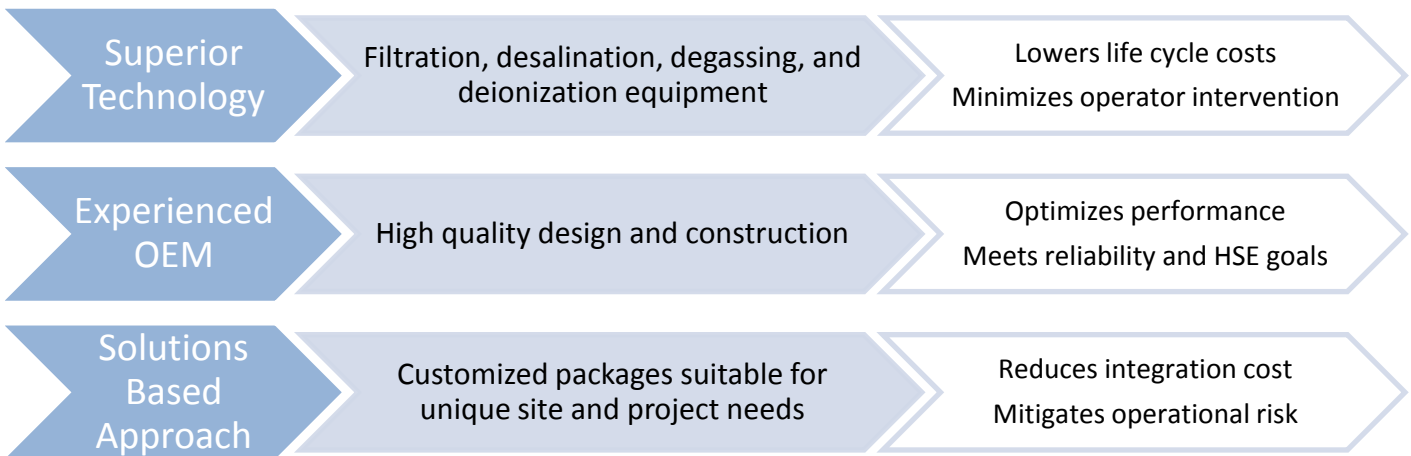


#### Gas Turbine Water Applications

Use of ultrapure water in gas turbine applications extends operating life, minimizes shutdowns and improves turbine efficiency. The applications include direct injection into the compressor to gain efficiency, boost power output, and reduce NOx formation, as well as use as washwater for compressor internals.



### WHY WATER STANDARD?



## CASE STUDY

Water Standard designed, fabricated, and delivered 2 x 100% ultrapure water generation units for integration into an offshore steam power module in the Gulf of Mexico.

### Each unit was designed to produce:

- < 7 ppb dissolved O<sub>2</sub>, < 0.5 ppm dissolved CO<sub>2</sub>, and < 5 ppb SiO<sub>2</sub>
- < 0.1 μS/cm specific conductivity

### The solution included:

- Water Standard Absolute Cartridge Filters
- Custom Reverse Osmosis (RO)
- Water Standard Membrane Deaeration (MDA™)
- Continuous Electrodeionization (CEDI)

### Given the harsh offshore environment, the design featured:

- Custom purge panel for the CEDI to meet Class 1 Div. 2 area classification
- 40 year design life
- Stainless steel construction
- Small footprint to meet space constraints
- MDA™ to minimize chemical dosing
- Fully automated On-skid Programmable Logic Control (PLC)

Deionization Continuous Electrodeionization (CEDI) or Ion Exchange (IX)      Degassing Membrane Deaeration (MDA™)      Desalination Nanofiltration (NF) or Reverse Osmosis (RO)

