Challenge

The client had two conventional deaerators with capacities of 305 tph and 280 tph respectively, which supplied feed water to four boilers at the plant. The client was dosing oxygen scavenging chemicals and venting large quantities of steam to maintain the required 7 ppb of dissolved oxygen levels at the deaerator outlets.

The steam venting resulted in high noise levels, and the use of hazardous chemicals posed a potential risk to people and the environment if not managed correctly.

(Solution below: before retrofit)

Solution

Stork Middle East studied operating data and identified that retrofitting the existing deaerators to Stork design would reduce operating costs and significantly improve the deaerator performance.

Stork Middle East delivered the complete EPC contract, including complete engineering of the modifications, supply of new internals and the Stork-patented sprayer, removal of internals from the existing deaerator, installation of the new internals on site, commissioning and performance trials.

(Solution below: representative image of a Stork deaerator retrofit)

Client benefits

Reduced cost

Reduced the Client’s deaerator operating costs by an estimated $75,000 per annum

Reduced environmental hazards

Removed the requirement for oxygen scavenging chemicals which reduced costs and potential environmental hazards

Reduced noise pollution

Reduced steam venting by up to 80% which lowered noise levels from more than 85db to less than 80db

Project fast-facts

Project: Deaerator retrofit
Client: A large fertilizer company (Govt. of UAE Enterprise)
Location: UAE
Services: Process equipment services (boilers and deaerators)
Investment payback period: Three years
Date: 2016