

# Amarinth delivers high alloy API 610 VS4 vertical sump pumps for prestigious gas processing project in the UAE

case study



## Technically challenging

Nama represents Amarinth as its agent for the emirate of Abu Dhabi and had identified an opportunity for Amarinth's expertise in pump supply on the Habshan Gas Complex Expansion project which will see the gas processing and re-injection capability doubled.

Part of this project called for API 610 VS4 vertical sump pumps to be installed in an additional process train to existing gas fields. The pumps had to operate in a harsh environment to a specific and demanding hydraulic performance and so had to be manufactured from special exotic alloys which are rare, difficult to procure and challenging to machine. Despite this, the client needed these pumps delivering on a very tight deadline - just 40 weeks from order.

## Bespoke versions of designs

A standard pump was not an option and although a number of manufacturers looked at the requirements none could meet both the technical requirements and the exact duty demanded by the specifications provided by the client within the specified lead time.

Nama were quick to realise that the requirements ideally suited the capabilities of Amarinth. The resulting solution complied fully with both the specifications and the lead time by innovatively creating a bespoke version of its proven API 610 VS4 vertical sump pump. This included installing stillage tubes in the pump rather than creating separate connection points in the sump, saving the client considerable expense.

Following a comprehensive review of Amarinth by the client, it was awarded this prestigious contract.

## Design requirements

The client's design requirements

minimised the support plate diameter and the addition of stillage tubes removed material from the support plate and so it was analysed for stress and strength using Amarinth's in-house FEA software. These changes were all incorporated without impacting the lead time.

3D modelling was used to ensure the correct allowances for bolting to the connecting pipework and to make certain those bolts could be tightened within the restricted access on top of the support plate.

All the units were subject to NDE and NDT including radiography, dye-penetrant of castings and welds, PMI and type 3.1 and 3.2 material certification of critical components. After assembly, extended API 610 tests



were conducted in-house, witnessed by the client's inspection agency.

The high level of NDT meant that a large amount of documentation was required for the pump dossiers. Amarinth more than lived up to the client's expectations by ensuring that the management of the contract and of the documentation deliverables were both at the same on-schedule pace at all times.

## Local support

Amarinth, in conjunction with Nama (who will be undertake first level support), will be providing additional post order services to the client including pump commissioning and site assistance - an order for spare parts has already been received.



## Nama Development Enterprises

Nama is dedicated to further developing and maintaining its position as one of the leading, local business groups serving the Oil and Gas, Power and Water and Industrial sectors of the United Arab Emirates economy.

Our objective is to professionally satisfy the needs of our local customers while ensuring that we remain one of the first choices for international organisations that are looking for a reputable local business partner to jointly develop their business within the UAE.



*"We knew from previous jobs that Amarinth would be able to deliver a solution within the client deadline that would comply fully with the specifications. The client was very impressed with the overall execution of the contract and in particular the considerable cost saving that the innovative design of the stillage tubes delivered into the project. Amarinth staff worked hard to incorporate client changes and always maintained a can do attitude - something that other suppliers could learn from."*

**Mr Tarek Helamieh**  
Sales Manager

