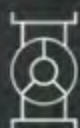


PROCUREMENT OPPORTUNITIES ASSOCIATED WITH SPECIFIC PRODUCT CATEGORIES



Piping, Fittings &
Valves



Pipelines, Hot Bends
& Cladding



Drilling Equipment



Drilling Fluids



Electric Submersible
Pumps (ESP) & Cable



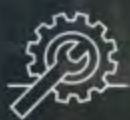
Instrumentation,
Controls & Telecoms



Electrical



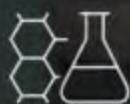
Offshore Structural
Materials



Mechanical
Equipment & Parts



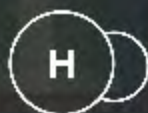
Maintenance, Repair
& Operations



Chemicals



Technology



Green Hydrogen
Supply Chain

Mechanical Equipment & Parts



اصنع في الإمارات
MAKE IT
IN THE EMIRATES



Casting Products

Forging Products

**Turbines Parts & Control
Systems (Steam & Gas)**

Compressors

Pumps

Gearbox

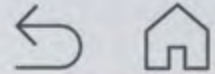
Mechanical Seal and Seal Plan

**Pressure Vessels & Heat
Exchanger**

Internals for Separators

Mechanical Equipment & Parts

Casting Products



Opportunities to manufacture casting products in the UAE:

Overview



Opportunities

- Process in which metal is heated in a furnace (over 1500°C) until molten
- While in the liquid state, the metal is poured into a die, or mold, to create a component shape
- There are two metal casting techniques – investment casting and sand casting
- The established foundries in the UAE partially cover the local demand



Applications

SHF 120 microns is used for the following purposes:

- Oil & Gas (e.g., pressure-containing parts, valves, pumps casings)
- Manufacturing and machinery (e.g., valve body)
- Mining and metallurgy
- Transportation (e.g., automobile parts, railways)
- Construction & infrastructure (e.g., bridges)



ADNOC Standards/Specifications Requirements

- As per ADNOC Requirements

Mechanical Equipment & Parts

Forging Products



اصنع في الإمارات

MAKE IT
IN THE EMIRATES



Opportunities to manufacture forging products in the UAE:

Overview



Opportunities

- Metal is heated to various temperatures depending on the recrystallization temperature
- The process to form and shape metals using compressive forces
- Four primary tools are used in the metal forging process depending on the method used: hammers, presses, upsetters, and ring rollers
- Local forges are fully utilized and only partially cover the local demand



Applications

- Oil & Gas (turbines, electric motors, wellhead equipment, pumps, ball valves, gas compressors, blowout preventers, etc.)
- Manufacturing and machinery (e.g., aircraft landing gear)
- Mining and metallurgy
- Construction & infrastructure

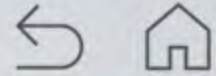


ADNOC Standards/Specifications Requirements

- As per ADNOC Requirements

Mechanical Equipment & Parts

Turbines Parts & Control Systems (Steam & Gas)



Opportunities to manufacture turbine parts & control systems in the UAE:

Overview



Opportunities

- Currently there is limited local manufacturing of Turbine Parts & Control Systems within the UAE
- Being part of the Long-Term Service Agreement for the Gas Turbine installed in the AGCs
- Better position in delivering the spare part and enhance the total Major overhaul Duration



Applications

- Spare part for Power Generation Turbine repair and Major overhaul
- Spare part for Mechanical Driver Turbine repair and Major overhaul
- Reverse Engineering old Turbine obsolete parts

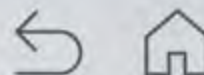


ADNOC Standards / Specifications Requirements

- AGES-SP-05-005 Gas Turbines (API 616) Specification
- AGES-SP-05-004 Mechanical (Rotating) General and Special Purpose Steam Turbines (API 611 and 612) Specification

Mechanical Equipment & Parts

Compressors



Overview

Opportunities to manufacture compressors in the UAE:



Opportunity

- Currently there is limited local manufacturing of Compressors within the UAE
- Good Position in potential future ADNOC Compressor Framework Agreement
- Ability to Brand with ADNOC the Inherently Intelligent Compressor Unit
- Attractive to regional purchasers from delivery and ICV perspectives



Applications

- Gas Export Compressor
- Gas Injection Compressor
- Instrument Air Compressor
- Vapor Recovery Compressor

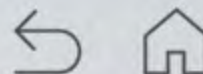


ADNOC Standards / Specifications Requirements

- AGES-SP-05-002 Centrifugal Compressors (API 617) Specification
- AGES-SP-05-003 Reciprocating Compressors (API 618 and ISO 13631) Specification
- AGES-SP-05-009 Packaged Integrally Geared Centrifugal Air Compressors (API 672) Specification

Mechanical Equipment & Parts

Pumps



OVERVIEW

Opportunities to manufacture pumps in the UAE:



Opportunity

- Currently there is limited local manufacturing of Pumps within the UAE
- High demand of centrifugal pumps with different sizes for new projects targeting sustaining oil productions and increase to 5 million bbl
- UAE based supply chain for better quality assurance by purchaser and availability of top-class steel mills
- Easy modification or upgrade for any defects or anomalies are found in the site



Applications

- Main Oil Loading Pumps
- Water Injection Pumps
- Export Pumps
- Process & Utilities Pumps

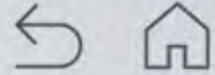


ADNOC Standards / Specifications Requirements

- AGES-SP-05-001 Centrifugal Pumps (API 610) Specification
- AGES-SP-05-008 Centrifugal Pumps for General (Utility) & Firewater Service Specification
- AGES-SP-05-010 Rotary-Type Positive Displacement Compressors & Pumps (API 619 & API 681) Specification

Mechanical Equipment & Parts

Gearbox



OVERVIEW

Opportunities to manufacture gearbox in the UAE:



Opportunities

- Currently there is limited local manufacturing of Blowers & Draft Fans within the UAE
- Easy to design and manufacture
- Tendency to move to air cooled equipment due to shortage of water in the desert
- Better position for case of delivery critical spares or packages



Applications

- Firewater pump angle gearbox
- Speed Step up gearbox
- Boilers Blowers



ADNOC Standards / Specifications Requirements

- AGES-SP-05-016 Centrifugal Fans (API 613) Specification
- AGES-SP-05-016 Centrifugal Fans (API 677) Specification

Mechanical Equipment & Parts

Mechanical Seal and Seal Plan



Overview

Opportunities to manufacture manufacture seal & seal plan in the UAE:



Opportunities

- It is considered that there is additional opportunity for manufacturing of Air Handling Units within the UAE
- Easy to assemble to and package such units
- High demand for customized air handling units for oil field conditions
- High maintenance and spare parts consumption for these units



Applications

- Substation air condition
- Control Room air conditioning system
- Operation Accomodation and Recuritation facilities air conditioning

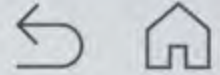


ADNOC Standards / Specifications Requirements

- AGES-SP-14-001 HVAC Design Basis
- AGES-SP-14-002 HVAC Equipment
- AGES-SP-14-003 HVAC Ductwork, Pipework and Accessoriest

Mechanical Equipment & Parts

Pressure Vessels & Heat Exchanger



Overview

Opportunities to manufacture pressure vessels & heat exchanger in the UAE:



Opportunity

- It is considered that there is additional opportunity for manufacturing of Pressure Vessels and KO Drums within the UAE
- Easy to design and to fabrication
- Availability of a top-class plates manufacturer



Applications

- Separator and Columns
- Knock Out Drums
- Scrubber
- Deaerators

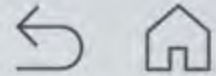


ADNOC Standards / Specifications Requirements

- AGES-SP-06-001 Design Criteria for Static Equipment
- AGES-SP-06-002 Pressure Vessel Specification

Mechanical Equipment & Parts

Internals for Separators



Overview

Opportunities to manufacture internals for separators in the UAE:



Opportunities

- Currently there is limited local manufacturing of Internals for Separators within the UAE
- Easy to design and manufacture
- Internal replacement performed during plant shutdown whereas the duration of the campaign is limited



Applications

- Improve separator efficiency and separation effectiveness with new internals
- Replacement of existing internals due to their wear or damage



ADNOC Standards / Specifications Requirements

- AGES-SP-06-011 Vessel Trays and Internals Specification