

OUR CLIENT UNITEAM INTERNATIONAL
OPERATORS AGIP KCO



DESCRIPTION OF THE PROJECT

The Kashaghan oil field is located in the northern part of the Caspian sea within the territorial waters of Kazakhstan. It's the largest new oil find in the world with a forecasted out-put of 1.2 million barrels per day by 2016 and a field life expectancy of some 40 years.

The project involved the design, installation and commissioning of HVAC services for the Temporary safe refuge Barge.

The Safe refuge, is as the name suggests, a place of safety in the event of a major gas incident (hydrogen sulphide blow out) occurring on the island during the drilling phase . The refuge is built to accommodate 500 persons in a clean gas free atmosphere for up to 2 hours until evacuation from the drilling island can be effected.

The main refuge area (top side) was constructed in modular form using units of specially constructed forty foot containers, joined together along the long side by special gas tight seals.

CHALLENGES

There were four main challenges for Novenco to overcome:

1. This type of vessel had not been built like this before with pre built containerized plant rooms.
2. Specifications from AGIP KCO were very brief. Novenco in close co-operation with Uniteam Int were responsible for making the initial design concept.
3. The climatic conditions were extreme with winter temperatures down to minus - 38 °C to summer conditions peaking at + 40°C.
4. The time schedule was compressed to just 16 weeks for complete plant room installation and delivery.

SOLUTION

Three empty forty foot containers were delivered directly to our factory in Denmark. Installation of the main equipment and duct-work created a complete HVAC plant room. Run tests of main fans were made before the plant room was disassembled.

The containers were split into 3 units. Transported by road and sea to the ship-yard at Astrakhan in Russia. They were re-assembled with final electrical / piping hook-ups at the yard.

Novenco were responsible for design, manufacture and installation of the complete plant room internal assembly.

Upon completion of the plant room, Novenco fully commissioned and tested the complete HVAC and control systems with hand over on time, to a satisfied customer.

ADVANTAGES

We can maintain complete control of production, both of our own equipment and installation of the complete plant rooms. This taking place at one site, our manufacturing facility in Denmark.

Containerized plant room produced in half normal production time.

Delivery by standard road transport and container vessel any where in the world.

Easy hook up of external services

Novenco offers a unique advantage of flexibility and technical competence.

TECHNICAL DESCRIPTION EQUIPMENT

SCOPE OF SUPPLY:

NOVENCO AIR HANDLING UNITS

Number of units	2 (run and standby)
Type	ZCR 18/8 and 18/10
Duty	Fresh air supply / room area extract
Volume flow rate :	3.4 M ³ /s (supply) / 1.85 M ³ /s (extract)
Filter :	EU-3
Cooling duty	160 Kw
Heating duty	60 Kw
Heat recovery	Enthalpy wheel exchanger
Back flow dampers	Manual
Casing	Standard Aluzinc

COMPRESSOR SKIDS

Number of units	2 (run and standby)
Duty	160 Kw (each)
Compressors	Bitzer CSH-7581-80
Condensers	Air cooled Finn coil (Finland)
Refrigerant	R 134A
Expansion valve	Danfoss ICM-B
Skid manufacturer	York Marine (Denmark)

NOVENCO EXTRACT FANS

Number of fans	2
Type	Centrifugal backward curved
Model	CNA-250-R
Duty	1268 M ³ /hr @ 450 Pascal's
Application	Toilet extract & Medical extract

ROOM MOUNTED COOLING/ HEATING UNITS

Number of units	6 in main Temporary Refuge
Number of units	3 in technical rooms
Number of units	3 telecom and medical rooms
Type	Floor standing direct expansion room Units with air cooled condensers
Maker	Montair (indoor unit) / Finn coil (outdoor condenser)
Duties	From 5 Kw up to 29 Kw
Refrigerant	R-407 C

HVAC CONTROL PANEL

Suppliers	York Marine controls (Denmark)
User interface	Touch screen display
PLC type	Mitsubishi
Cabinet type	Cubic

DAMPERS

Fire and gas dampers	
Sizes	from 200 x 200 to 1000 x 800
Type	PFGD – A60 pneumatic actuator Maker Baas
Pressurization back flow dampers	
Sizes	sizes 200 x 200
Type	BLD manual
Maker	Halton

ANCILLARY EQUIPMENT

Sound attenuators
Grilles and diffusers
Toilet extract valves type URH
Electrical frost heater battery 110 kw (ATEX 20~E1)

