



THERMOPLANT

Offshore Services Limited



About Thermoplant?

- We are a privately run-company; specialist suppliers of HVAC equipment including:
 - Heating
 - Ventilation
 - Air Conditioning (Chilled Water/DX Systems)
 - Refrigeration
- We have a highly-skilled and experienced workforce
- We believe in total customer satisfaction



Bassaire

- Press release

Bassaire Energy acquired Thermoplant Offshore Services in April 2017.

- This move enables Bassaire HVAC to manufacture its own offshore equipment, thereby supporting the high level of business won and complementing existing in-house design and contracting capabilities.
- Bassaire commented that: *“This was an opportunity not to be missed and we are delighted to add Hull-based, Thermoplant Offshore Services and its great team of people to the Bassaire Group”*.
- Thermoplant has already completed eleven Gathering sub-station HVAC systems for the Tengizchevroil Future Growth Project and is currently manufacturing several Area sub-station HVAC chillers (cooling duty range 300-400 kW), design to operate in an ambient range -40°C/+50°C.

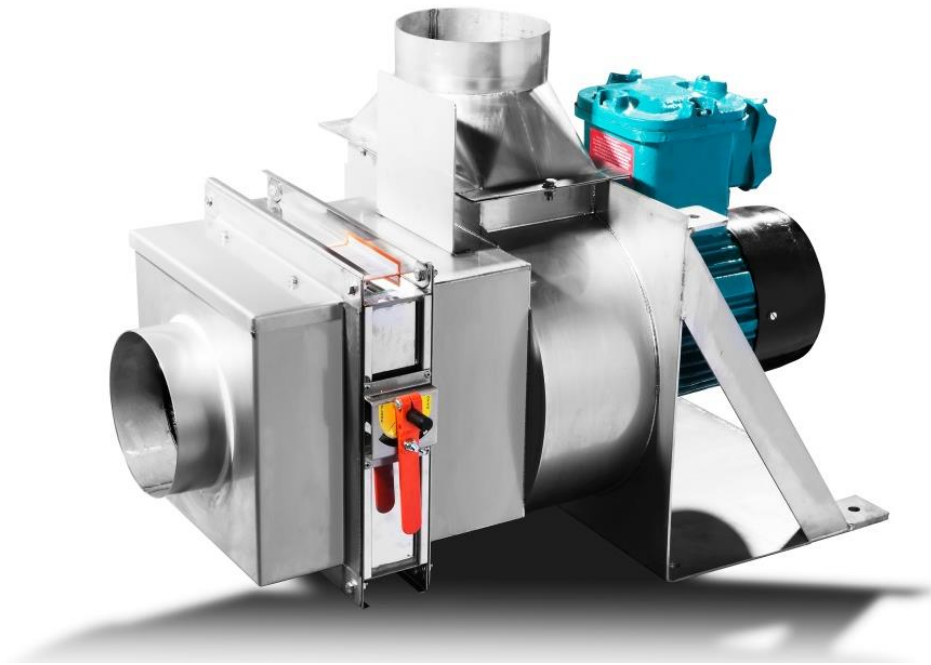
Thermoplant Products

- Our range of products include:
 - Standard range of industrial A/C equipment
 - A range of pressurisation/ventilation fans ATEX Certified
 - Complete HVAC/Refrigeration systems including Chilled Water and DX systems ATEX Certified
 - General industrial safe area HVAC systems for all applications
- Our services include:
 - Installation
 - Maintenance
 - Commissioning



Examples of Thermoplastic Products

Ventilation Fan



Thermoplant manufacture a range of, single inlet single with centrifugal fans sets ATEX Certified.
Size range: HA200/HA225/HA250/HA280/HA315

Shunt Valve Cabinets



For modulating the flow of chilled water to AHUs/FCUs so as to maintain supply air temperatures (suitable for installing in a hazardous area)

Chilled Water Fan Coil Units



Custom built fan coil units supplied for install within LIR/LER modules

Air Cool Condenser



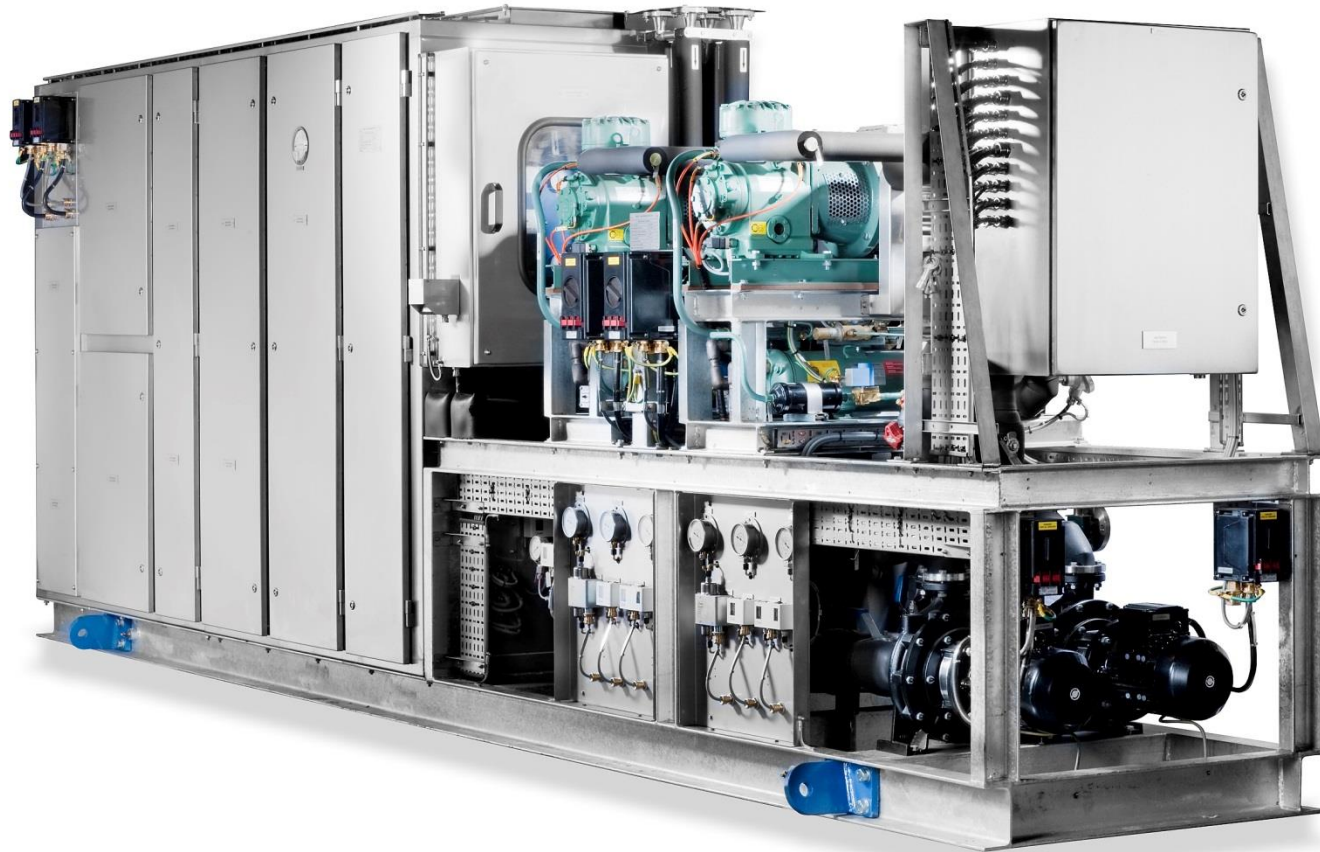
For install in high-ambient conditions (+45°C)

Sea-Water Cooled Chillers



Chilled water skid custom built for install within HVAC plant room (for high-ambient operation)

Packaged Chilled Water Cooling Unit



Packaged HVAC chiller for single lift install

HVAC System Power/Control Cabinet



HVAC system control cabinet for lead/lag/stand-by chiller package

Power/Control Cabinets



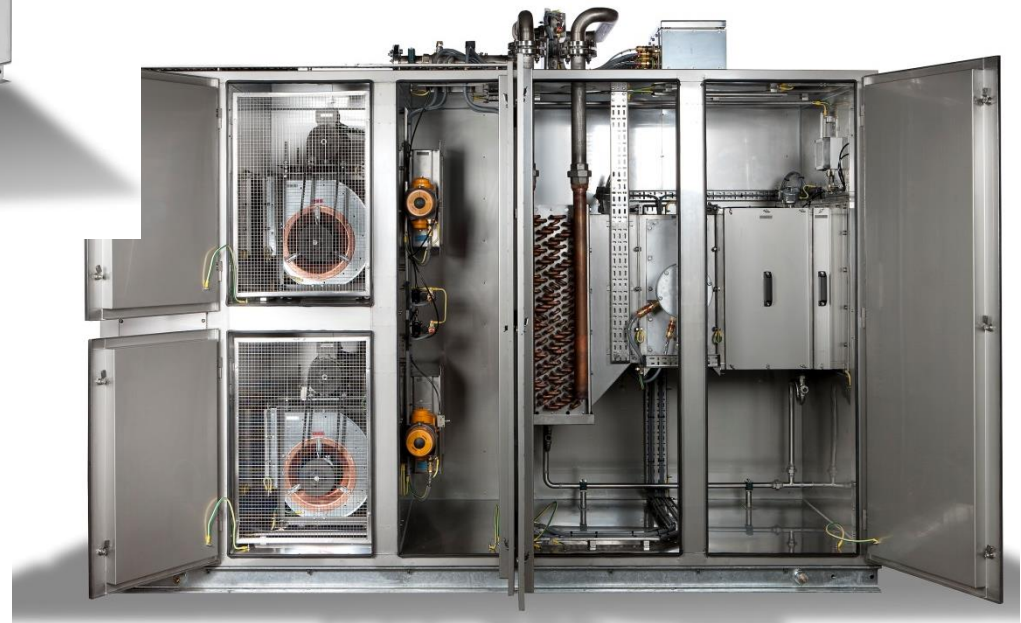
Typical power/control cabinet for LIR/DCC HVAC system

Chilled Water AHU



LIR/DCC Air handling units for conditioning fresh air

Examples of AHUs



Chilled Water AHU



Sea/Fresh-Water Cooled Chillers



Example of packaged chilled water cooling unit utilising sea-water/fresh-water for removing the heat generated by the refrigeration system

TLER DX Cooling System



Custom built cooling system for TLER module on Shell Prelude FSPO
Air cool condenser suitable ATEX Certified for A Zone 1

BD07 HVAC Chiller, Seawater cooled, DX system cooling duty 390 kW



Custom built HVAC Chiller during test
Chiller to be completely stripped down into a flat-pack for installation offshore



Example of three-part split under test

Generator enclosure packaged HVAC Unit
packed for delivery



HPU Module, Duty/Stand-by AC, suitable for install in a Zone 1
Atex certified by an independent authority (Ex Veritas)





Packaged units under manufacture

On going work

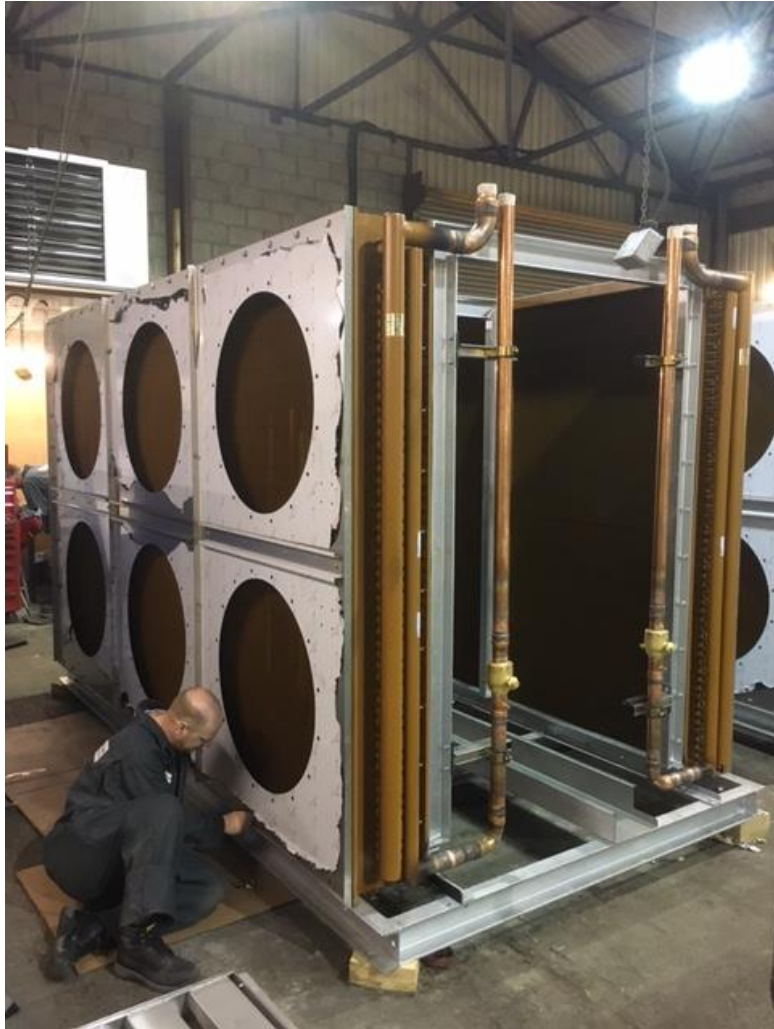
- AHUs under construction,
- Air flow 8.7 m³/s
- DX cooling 400 kW (2 x 200 kW circuits)



AHU showing cooling coil (Heresite coated) and Heating section



100% duty/stand-by Air Cooled Condensers (Heresite Coated)



Compressor Skids

- 2 x compact screw compressors configured in a lead lag orientation, each compressor is connected to the DX cooling coil (2 x interlaced circuits).
Skids C/W local control panels



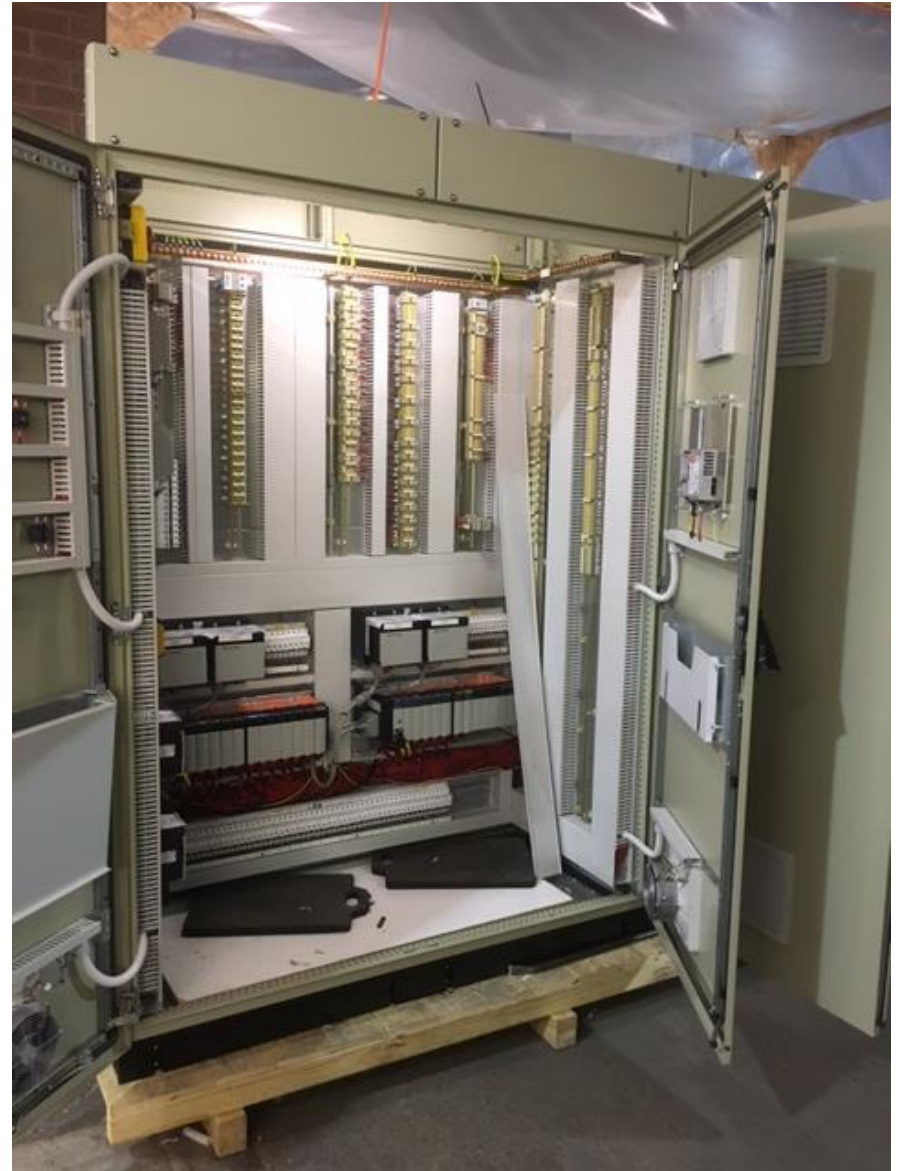
4 Stage Chemical Filter Housing



Access to Filters



HVAC System Control Cabinets



Complete HVAC Control Cabinet



Client List

- **FERGUSON MODULAR**

Hazardous/Safe Area HVAC/Refrigeration Systems for LIR/LER/DCC/VSD accommodation and workshop modules
Owner various, Location worldwide, Date 2000-present day

- **LABTECH SERVICES**

Hazardous/Safe Area HVAC/Refrigeration Systems for LIR/LER/DCC/VSD accommodation and workshop modules
Owner various, Location worldwide, Date 1996-2015

- **OEG**

(Hazardous/Safe Area HVAC/Refrigeration Systems for accommodation/workshop modules)
Owner various, Location worldwide, Date 1996-2015

- **HB RENTALS**

(Hazardous/Safe Area HVAC/Refrigeration Systems for accommodation/workshop modules)
Owner various, Location worldwide, Date 1996-present day

- **HOBRE INSTRUMENTS**

Hazardous/Safe Area HVAC/Refrigeration/Chilled Water Systems for Analyser Houses
Owner various, Location worldwide, Date 1998-present day

- **ABB ANALYTICAL**

Hazardous/Safe Area HVAC/Refrigeration/Chilled Water Systems for Analyser Houses
Owner various, Location worldwide, Date 1997-present day

- **THYSON TECHNOLOGY**

Hazardous/Safe Area HVAC/Refrigeration/Chilled Water Systems for Analyser Houses
Owner various, Location worldwide, Date 2000-present day

- **CULLUM DETUNERS**

Hazardous/Safe Area HVAC/Refrigeration Systems for Generator Enclosures
Owner various, Location, Angola/Brazil, Date 1998 present day

- **SERVOMEX**

Hazardous/Safe Area HVAC/Refrigeration/Chilled Water Systems for Analyser Houses/enclosures
Owner various, Location worldwide, Date 1996-present day

- **MECH-TOOL ENG LTD**

Cameron – Peregrino LER module HVAC System
INEOS – Switchgear module air conditioning / ventilation system
Nexen – Golden Eagle – Laboratory module HVAC system
Owner various, Location, world wide, Date 1998 present day

Client List (cont.)

- **BROWN & ROOT/HALLIBURTON**

Hazardous/Safe Area HVAC/Refrigeration Systems
Owner various, Location, world wide, Date 1998
present day

- **SLP ENGINEERING**

Hazardous/Safe Area HVAC/Refrigeration Systems
Owners BP, Shell, Location, world wide, Date 1998
2005

- **SHELL UK EXPLORATION**

Hazardous/Safe Area HVAC/Refrigeration Systems and
Offshore service / maintenance contract
Owners Shell Location, NS/SNS Date 1996-2010

- **AMEC PROCESS AND ENERGY**

Hazardous/Safe Area HVAC/Refrigeration
Systems and Offshore service/maintenance contract

- **BP EXPLORATION**

Hazardous/Safe Area HVAC/Refrigeration Systems and
Offshore service/maintenance
Owners BP, Location NS/SNS Date 1996-2015

- **PERENCO**

Hazardous/Safe Area HVAC/Refrigeration Systems and
Offshore services/maintenance
Contract, Southern North Sea & North Sea
Owner Perenco, Location UK NS & SNS, Date 2000
present day

- **EXXON-MOBIL**

Hazardous/Safe Area HVAC/Refrigeration Systems
(Esso Fawley) and Offshore services / maintenance
Contract, Southern North Sea & North Sea
Owner Exxon Mobil, Location UK, Date 2000-present
day

- **BRITISH STEEL/CORUS**

Industrial rated HVAC/Refrigeration
Systems for Extreme high temperature
operation

Owner British steel, NS/SNS, Date 1996
2000

- **JOHNSON CONTROLS INTERNATIONAL (formerly
- YORK INTERNATIONAL LTD)**

Marine HVAC / Refrigeration/Chilled Water
Systems (Ministry of Defense)

Auxiliary Oilers (ship set 1 and 2)

HMS Albion/HMS Bulwark

Brunei OPV (ship set 1, 2 and 3)

Oman Project OPV (ship set 1 and 2)

Project 17 (Indian Navy)

Type 45 Destroyer (ship set 1, 2, 3, 4, 5, and 6)

Owner British Navy, Brunei navy, Indian Navy, Location
worldwide, Date 1997-present day

Supply of engineers to carry out system commissioning
both in the UK and overseas

- **ROLLS ROYCE POWER ENGINEERING**

HVAC/Refrigeration Systems for

Generator/Turbine enclosures

Owner RRPE, worldwide, Date 2000
present day

Client List (cont.)

- **BAE SYSTEMS (MOD PROJECTS)**

HVAC/Refrigeration Systems including sea water cooled systems, Chilled Water systems for Landing Platform Docks (LPD), Auxiliary Oilers, Brunei OPVs and Type 45 projects
Owner British Navy, Brunei navy, Location worldwide, Date 1997-present day

- **VOSPER THORNYCROFT**

(HVAC/Refrigeration/Chilled Water Systems)

- **APACHE North Sea**

To supply 100% duty stand-by Purge Control and 100% duty/stand-by HVAC systems for DCS Modules, control interface with Platform Delta V system via Modbus.
Approval via Petrofac.

Projects;

Forties Alpha DCS Module (HVAC systems)

Forties Delta DCS Module (HVAC systems)

Owner Apache, Location NN Sea, Date 2010-2011

- **TYCO FIRE & INTEGRATED SOLUTIONS**

HVAC/Refrigeration/Chilled Water Systems. Projects would include the current supply of duty stand-by systems to BP/RRPE in Baku as well as Sea Water Cooled Condenser packs
Owner BP/RRPE, Location offshore Baku, Date 2008 present day

- **DUBAI PETROLEUM**

Falah B upgrade, LIR/LER HVAC system including Water Cooling Unit, Main AHU, FCUs, Starter and Control panel (PLC logic) and Remote I/O
Owner Dubai Petroleum, Location Persian Gulf, Date 2010

- **SPECIALIST SERVICES (DUBAI)**

Shell Prelude – Design, manufacture and commissioning of Turret equipment room – HVAC system

Owner Shell, Location West Coast Australia, 2013 present day

Various ventilation projects for small modules

Owner various, location Arabian Gulf , 1996-present day

- **PORTASTOR**

HVAC / Air conditioning system for LER at Shell Bacton Control room Air handling unit

Owner Shell, Location Bacton Refinery, 2012-present day

Client List (cont.)

- **SINGLE BUOY MOORINGS**

Laboratory ventilation / air conditioning systems

Turret ventilation system

Turret LER ventilation / air conditioning system

Final Commissioning May 2017

Galley System

Owner Shell, Location West Coast Australia, 2013
present day

Owner SBM, Various Locations, 2010-present day

- **Commissioning**

We have a team of skilled dedicated personnel who follow the equipment through its various stages on route to its final destination and hand over to the end user.

- **Gorgon Project (Barrow island)**

2 No IEC-Ex rated Chilled water packages delivered
December 2014

Owner Chevron, Location Barrow Island, 2012-2014

- **CENTRICA**

Projects completed

BD08

To supply and install a replacement PLQ HVAC chilled water system (replacing DX system with WCU, 280kW cooling duty).

System designed and installed whilst maintaining ventilation to the PLQ at all times.

Control via PLC with HMI user screens

Platform; 47/3B 3 level Accommodation Module

ALQ (additional Living quarters)

To supply and install a complete seawater cooled DX cooling system to additional accommodation modules

Control via PLC with HMI user screens

BD07

To supply and install a replacement HVAC (sea water cooled) DX Cooling system (replacing DX system with WCU, 390kW cooling duty).

System designed, supplied in a flat pack for assembly/installation inside internal plantroom

Control via PLC with HMI user screens

Commissioning May 2017

Workshop extract systems

Routine maintenance and system verification / balancing

Owner Centrica, Location N Sea, Date 2010-present day

Client List (cont.)

- **MH WIRTH (formerly - AKER KVAERNER MARINE HYDRAULIC (AKMH))**

To supply various HVAC Water Chillers and associated air handling units, Fan Coil Units and PLC control logic for LIR/HVAC modules and Drillers Control Cabins.

West Hercules (DCC/LIR HVAC system)
Seadrill 10 & 11(DCC/LIR HVAC system)
Frigstad (DCC/LIR HVAC system)
TMT 1, 2 and 3 (DCC module HVAC systems)
Carolina (DCC module HVAC system)
Catarina (DCC/LIR HVAC system)
Tungsten Drillship (DCC/LIR HVAC systems)
Transocean 1 and 2 (DCC/LIR HVAC systems)
ZPMC (DCC/LIR HVAC system)
CDC 6 (DCC/LIR HVAC system)

Projects;

West Eminence(DCC/LIR HVAC system)
Petroserv (DCC/LIR HVAC system)
Maersk I, II, III & IV. (DCC module HVAC systems)
Odebrecht 1 and 2 (DCC module HVAC system)
ODN (DCC module HVAC system)
Dalian Developer (DCC/LIR HVAC system)
Cobalt (DCC/LIR HVAC systems)
CIMC 1, 2, 3, and 4 (DCC/LIR HVAC systems)
West Mira (DCC/LIR HVAC system)
BT4000 (DCC/LIR HVAC system)

Various crane cab A/C systems for offshore facilities located in hazardous areas.

Various crane cab A/C systems for Statoil projects.

Supply of engineers to carry out system commissioning both in the UK and overseas.

Client List (cont.)

Current Projects

- **SMS**

Kaombo A HPU AC Turret cooling system (100% redundancy)
Kaombo B HPU AC Turret cooling system (100% redundancy)
Owner Total, Location Offshore West Africa, 2012-present day

- **Schneider TCO project**

Gas Gathering Module HVAC Systems (various)
Sub Station Module HVAC Systems (various)
Owner Tengizchevroil, Location Kazakhstan, 2016-present day

- **Siemens**

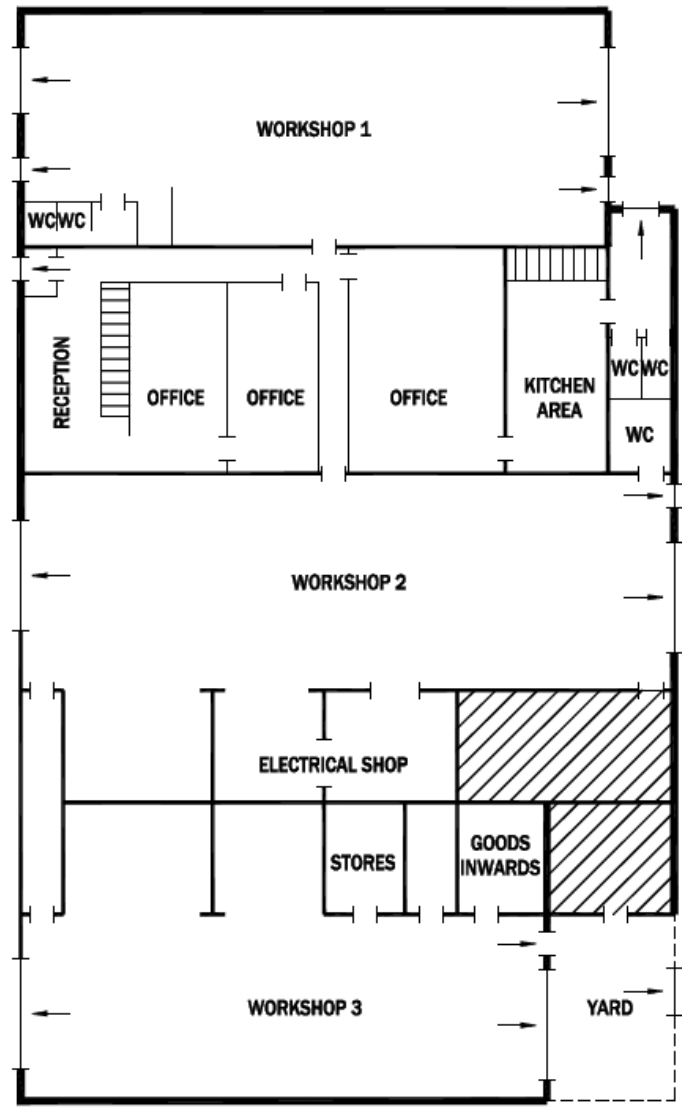
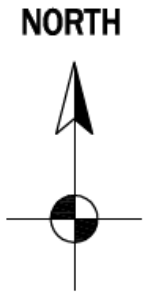
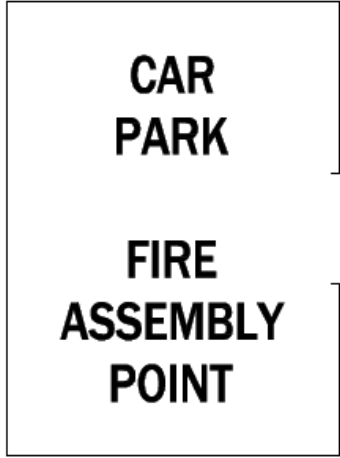
HV Sub Stations HVAC (various)
Beatrice wind farm AC and ventilation
Owner Siemens, Location North Sea, 2016-present day

- **Belgian Government**

Elia wind farm HVAC System
Owner Belgian Government, Location Belgian Coast, present day

- **CENTRICA**

ALQ (additional Living quarters) Air Cooled HVAC system/Extract fans
Owner Centrica, Location North Sea, present day



Approx.
Manufacturing/Office
space 1700m²

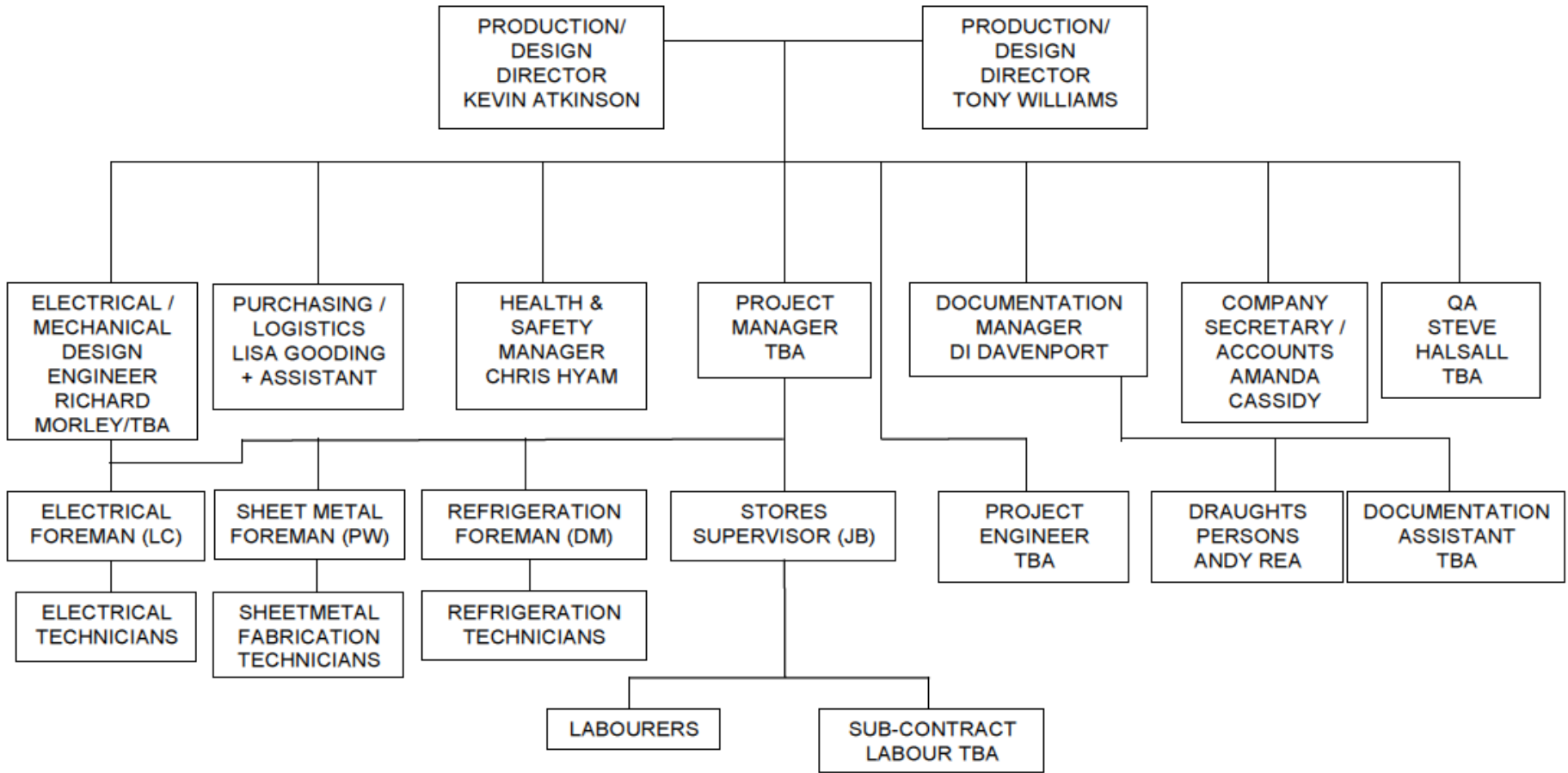
Thermoplant floor plan – Ground floor



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ORGANISATION STRUCTURE AND MANAGEMENT RESPONSIBILITY



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