

DRILLING RIGS ACCOMMODATION UPGRADING

Due to the continuous demand for increasing the number of people to be accommodated on board drilling rigs AIMS srl and Gela Montaggi srl have established a cooperation that, providing turn key accommodation upgrades at competitive prices, can have very interesting benefits for Drilling Companies.

For the described activity the group can provide:

1. Feasibility studies, basic design, detail engineering
2. Assistance for preliminary Classification Societies approval.
3. Detailed planning of prefabrication, construction, outfitting and installation in order to match the most stringent delivery schedules
4. Different quality levels for the outfitting up to cruise liners standards
5. Execution of erection works worldwide with highly skilled personnel
6. Commissioning
7. Technical interface with the Classification Societies at erection stage.
8. As built documentation.
9. Classification Societies approval and issuance of all the certificates relevant to the works carried out.
10. Additional engineering activities such as lifeboats capacity increase and new stability data.

The first work of this kind was carried out for **SAIPEM SSSDR SCARABEO 7** increase of N. 10 berths within the following projects limits:

The basic design was already available

The job had to be carried out during the transfer voyage from Nigeria to Cameroon where the rig had to undergo extensive upgrading works at CNIC shipyard in Douala.

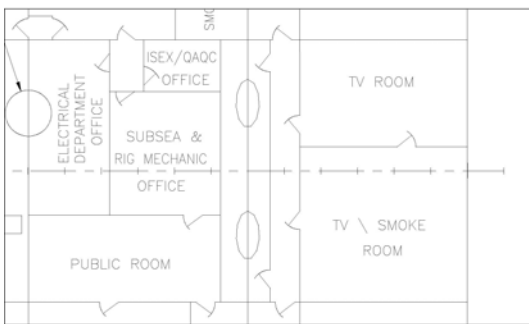
In order to accomplish the project requirements whose time schedule was:

March 1st 2003 Order
April 1st 2003 Shipment of the Containers
May 15th 2003 beginning of works on board
June 1st 2003 completion of works

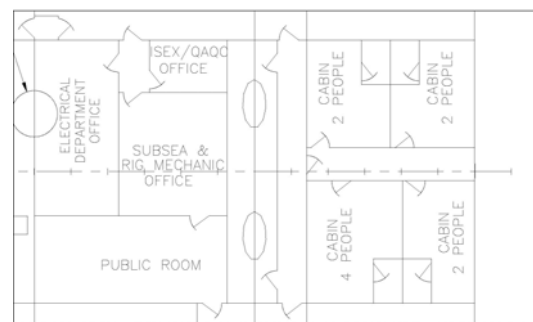
the following steps were carried out:

On board inspection to define all detail engineering information
Detailed Planning of the work
Prefabrication in Italy of all the material
Shipment to Nigeria of 4 TEUs of materials
Erection on board including all structural modifications, cropping and renewal needed to complete the job
As built drawings execution

The time schedule was perfectly matched and in addition some other changes of the rig accommodation layout were carried out within the planned time frame.



Accommodations before conversion



Accommodations after conversion

DRILLING RIGS ACCOMMODATION UPGRADING



For a further increase of 36 berths actually under evaluation AIMS srl and Gela Montaggi provided the feasibility study and preliminary planning of the work to be done with the addition of a partial superstructure located on top of the existing superstructure.

To be noticed that all the technical details and planning were carried out to allow the execution of this work during the normal rig operations.

DRILLING RIGS ACCOMMODATION UPGRADING

The results obtained by AIMS and Gela Montaggi brought to the request from **CNIC shipyard** in Douala to provide a turn key package for the upgrading of the accommodation capability of 20 more berths of the **SAIPEM SDR SCARABEO 3** as a part of the upgrade and repair works the shipyard was carrying out for **SAIPEM** in accordance to the requirements of **ADDAX** petroleum.

The request from **CNIC Shipyard** were the following

- Feasibility study including possible reflection on class and statutory certificates, stability etc.
- Basic design, detail engineering and classification Society approval.
- Erection on board
- Commissioning with final approval from RINa (Registro Italiano Navale)

The schedule for the complete work was the following :

Jan 30th 2004 issuance of the order

April 30th 2004 departure from Cameroon with RINA approval

Due to the very tight schedule two possible alternatives were taken into consideration:

1. Erection of a new deckhouse on board and subsequent outfitting
2. Prefabrication of n. 5 modules (in Italy) to be installed on a structural frame and final connections

After the accurate evaluation of the detailed plans carried out to match the time frame requirements for both solutions the second one was selected because granting a shortest completion time.

In detail the whole work was carried out as follows:

- Structural design and RINa approval of n. 5 independent modules. Each module was designed to be self supporting to allow transportation, handling and final placement on location
- Structural design and RINa approval of a support interface to be built and fitted by CNIC shipyard
- Detailed structural FEM calculations to validate the selected option
- Prefabrication in Italy of the modules completely outfitted
- Transportation to Cameroon, while the structural interface was meantime completed by CNIC shipyard.
- Placement of the modules on the structural interface that had been completed before the arrival of the ship
- Completion of the structural works with the construction of a new corridor to realize a completely new accommodation area with n. 5 cabins for a total of 20 berths
- Commissioning, delivery to the Shipyard of all Certificates issued from RINa

The complete project schedule was:

Jan 30th 2004 order

Feb 10th 2004 approval of the cabin modules structure

Feb. 25th 2004 completion of the cabin modules

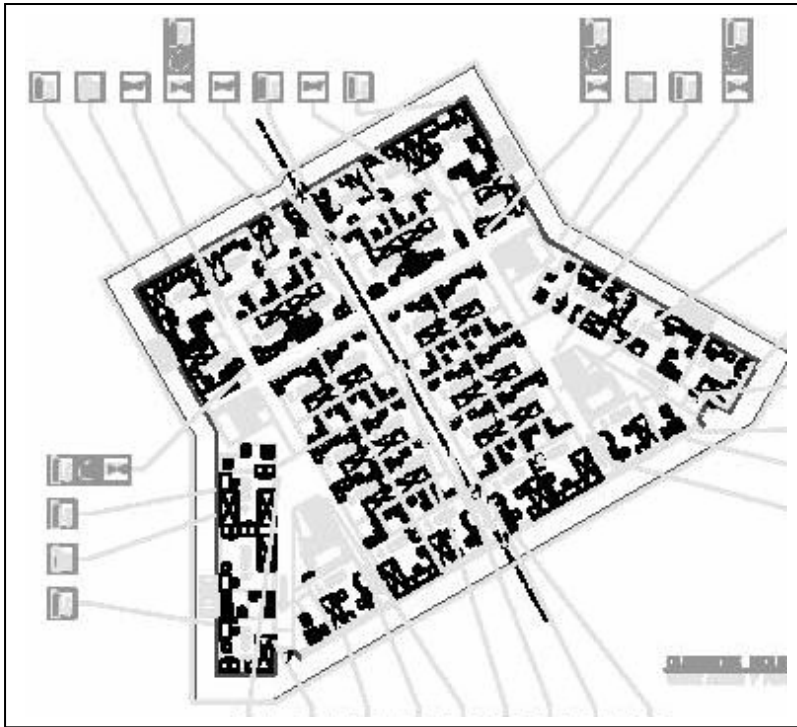
March 7th 2004 shipment of the modules

April 10th 2004 arrival of the modules on board

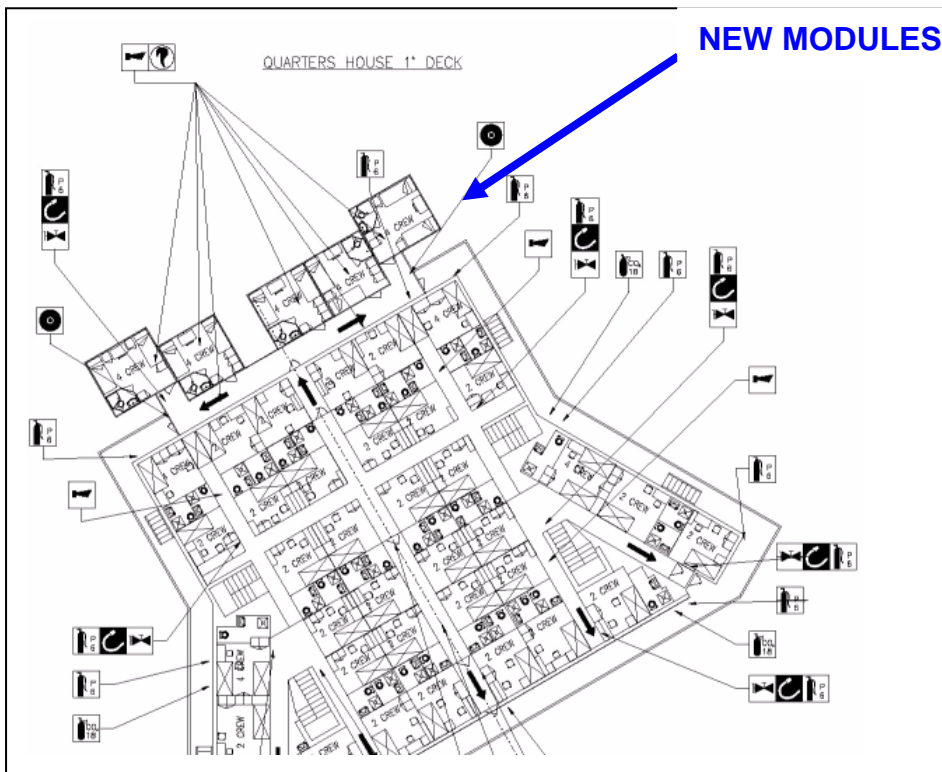
April 30th 2004 departure from Cameroon with RINA approval

The General Arrangement of the accommodations before and after the conversion is shown below:

DRILLING RIGS ACCOMMODATION UPGRADING



Existing accommodation Layout



New accommodation Layout

DRILLING RIGS ACCOMMODATION UPGRADING

The following pictures show the works carried out as well as some areas of **SCARABEO 3** before and after the conversion.



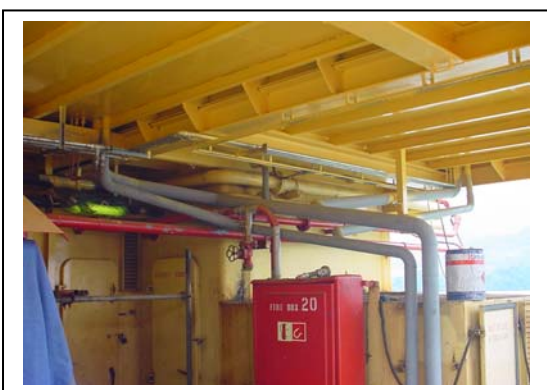
Modules Support Frame



Modules prefabrication



Modules installation on board



Aft Starboard Area

Before and after the new modules installation

DRILLING RIGS ACCOMMODATION UPGRADING



Aft Port Area

Before and after the new modules installation

All the connection to the existing systems were prepared before the arrival of the modules in Cameroon



Existing outside passage aft and new corresponding accommodation corridor



DRILLING RIGS ACCOMMODATION UPGRADING



Details of modifications



Area below the helideck

DRILLING RIGS ACCOMMODATION UPGRADING

COMPLEMENTARY SERVICES

Available Standards

As a completion to the proposed program the selection of outfitting quality standard can range from low level and cost to highest class standards to match every Customer requirements

The companies we can use as suppliers and subcontractors have proven experiences that can span from commercial vessels to Cruise Liners outfitting both for new buildings than refurbishment and conversions



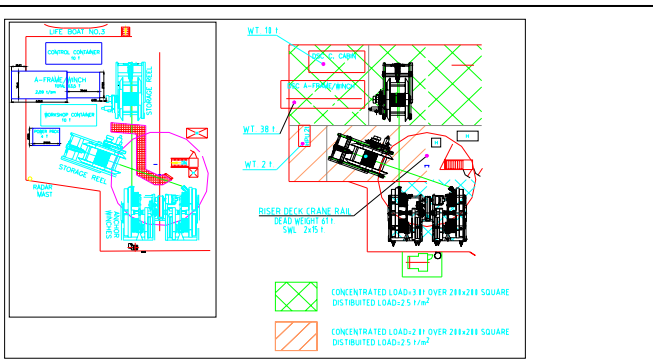
Examples of higher standard cabins

Additional Works

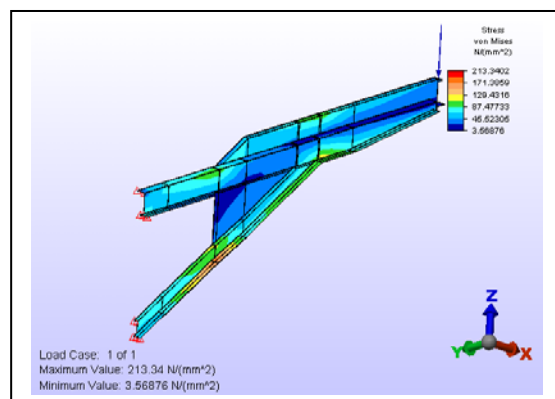
When completing a living quarter conversion, some additional work relevant to Safety Regulations are involved like for instance lifeboats capacity increase and Stability documentation (when applicable).

As a part of our turn-key concept we can undertake the addition and modification of lifeboats support structures, as well as the increase of decks strength from design to work execution.

SSDR SCARABEO 7 Deck Capacity increase



Deck layout in way of the new ROV



Deck Finite Element Verification

DRILLING RIGS ACCOMMODATION UPGRADING

Also we can take care of the development of the new stability information that can be updated both simply by calculation amendments or even by carrying out inclining experiment and draft survey.

The possibility to supply the state of the art loading computer completes the offer of technical services



SSDR SCARABEO 7 Loading Computer screen page