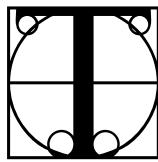


Novedades: Boavista II, floating 42 MW power plant



On April 2nd, 2011, the floating power plant Boavista II parted from Ría de Vigo to Luanda, Angola, on the semisubmersible vessel Eagle. The boarding manoeuvre and later transfer to Luanda put an end to a project initiated in October 2009, the first one in Spain for the construction of a floating power plant. After two weeks of travel, the floating power plant was placed in its final location inside the dock of Luanda, where the necessary previous works for the final testing regarding energy load and supply to the grid will take place.

The Ministry of Energy and Waters of the Republic of Angola is enhancing the growth of energy infrastructures and power production installations as a way to develop the country's industry, which will benefit its citizens. One of the projects ordered by the Ministry, represented by Minister Miss Emanuel Vieira Lopes, has been the project Boavista II, which consists on the supply of a 42.1 MW gas turbine and its auxiliary equipment installed in a pontoon. This floating power plant will supply enough power to cover the needs of 70,000 Angolans.

As required by a project of these characteristics, project Boavista II has been developed with the participation of a multidisciplinary group of companies. The project was awarded to the consortium comprised by Spanish companies "Comercial Cueto 92 International" and "Soluciones de Gestión y Apoyo a Empresas", with the collaboration of "Idom" for engineering duties and technical assistance by technicians, "Astilleros P. Freire" for the construction of the pontoon and the assembling of the equipment, and suppliers for the most important pieces of equipment: General Electric for the turbine, ABB for the power transformer and Alstom Grid (formerly Areva T&D) for the gasinsulated substation.

The engineering, equipment supply, assembling and commissioning of the systems have been done during 17 months of work.

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1 General description of the installation

The installation consists on a pontoon over which a turbogenerator group has been installed. Its generated electric energy is evacuated to the ground by a high voltage power line.

The electric generator group is comprised by the following equipments: GE 6B turbine, mounting systems, electric generator, main transformer and GIS substation. All these main equipments are placed over the pontoon. The plan also has the following auxiliary systems and services: emergency generators sets, fireproofing systems, water treatment plant, compressed air plant, control rooms, pumping room, power system room, gasoil tanks, water tanks and storage rooms.

The electric connection for the exportation of energy with the dock takes place trough an isolated cable supported by an output porch and the supply of process and service fluids trough flexible pipes.

2 Loading and unload manoeuvre

The loading manoeuvre of this 1,206 m², 1,700 t. pontoon started with two tug boats that worked for 35 minutes to tug the pontoon from the reparation dock in Bouzas. An hour was needed to put it in position over the deck of the special tug boat Eagle, submerged 5.5 m. under the sea since several hours before. Once the pontoon was set, the ship emerged from water with the pontoon over its cover, completing the loading operation for which a total of 6 hours were required.

14 days later, and after travelling for the 6,500 km. that separate the coasts of Vigo and Luanda, the ship by the company Offshore Heavy Transport, one of the few companies with submergible ships, submerged again to free the pontoon in its destination. It was decided that this transport modality was the best after studying other possibility, wwhich would have been tugging the pontoon through the ocean, with all the risks it would have involved during the loading process.

