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#### TMP: Service Division Lake Truzzo (SO) pumping station revamp

Termomeccanica Pompe has developed an integrated Service system providing the client with ongoing assistance at each stage of the delicate "open heart surgery" involved in upgrading existing systems. This field ranges from precision work to replace the equipment's strategic components (such as modifying the hydraulic design) through to the complete revamp of whole pumping stations. Adopting this integrated approach, a highly ambitious revamp project was completed recently on a hydroelectric plant pumping station, with all components of the TMP Service system working together to achieve a prestigious result in this extreme high-altitude environment. The plant in question is located in Valchiavenna, in the province of Sondrio in Northern Italy, and is part of the Mese group of hydroelectric power stations owned by Edipower. The purpose of the project was to replace the obsolete pumping station located under the Lake Truzzo dam (2000m above sea level).



This facility introduces the flows from the Sancia and Val Servizio tributaries into the bottom of the reservoir. Hence maximizing the efficiency of the pumping system was a key requirement in exploiting to the full the pumped water that, after a 1000 metre drop, is used to generate electricity by means of the turbines installed in the S. Bernardo power station (1000 m above sea level). This plant, set into the steep hillside, can only be reached on foot via a spectacularly scenic track or by helicopter, since there are no roads or cable cars for carrying goods and personnel. Compounding the existing logistical hurdles were the difficulties posed by the weather since operational requirements meant the work had to be carried out in the January-March period 2013, leaving personnel to contend with low temperatures and deep snow in the work area. Lastly, the actual pumping station is set into the rock and can only be reached via a sloping shaft roughly 60 metres long fitted with rails.

The contract involved removing the four existing pumps and relevant accessories and replacing them with two high-efficiency souped-up pumping units, each comprising a pump-motor-inverter-transformer train. Another part of the job involved replacing the inclined shaft gear (winch and wagon) and tracked external handling systems so that they would be able to take the new weight of the equipment, weighing up to 3 tonnes. To complete the job, pipework, wiring, bases and supporting structures were altered to the client's specifications. The work was done in record time in 2012, with the contract awarded in late May and factory testing of the first train on the 23<sup>rd</sup> of December. TM.P. worked with ABB Italia in a joint venture for the manufacture of the machinery so as to provide the end client with an unbeatably fast turnaround combined with quality and savings. Actual work started on the 3rd of January, with personnel airlifted to the site: the work team comprised 8 specialist engineers belonging to the subsidiary Termomeccanica Servizi Integrati, a service company specializing in in-field work on rotary units and systems. The team of highly specialized personnel stayed in the plant's guest quarters practically for the duration of the job, working, cooking and sleeping in accommodation made available by Edipower at an altitude of 2000 metres. Materials were airlifted up from the valley in several stages using a local transport company (Elitellina) for loads under a tonne and a Swiss company (Heliswiss International) to carry heavier loads. The latter is a world leader in transporting heavy materials by helicopter and one of its world-first feats was carrying the Alinghi boat from Switzerland to the sea. The team on site, who were in constant contact with the La Spezia headquarters, overcame whatever hurdles came up on a case-by-case basis, meeting the objective of delivering the new station on time. The new pumping station was hence put into service in April 2013 and passed on-site testing with flying colours, confirming the high efficiency of the equipment trains during the reservoir's draining, which was completed in May 2013 to the Client's complete satisfaction.

# Peroni and TM.P. sign partner agreement for the Far East

Termomeccanica Pompe and Peroni Pompe have recently entered into a partner agreement for the sale of API-standard pumps mainly on off-shore plants. The target geographical area for this agreement includes the whole of the Far East (Malaysia, Philippines and Indonesia), with the option of expanding into the Australian market in the future. The main objective of this agreement is to enable TM.P. to enter a new market by taking advantage of Peroni's existing structure, at the same time allowing Peroni to supplement their range with TM.P. products when bidding for new contracts. In addition, an intensive training course was held last July (15-16) on TM.P. process pumps to familiarize Peroni Far East staff with the products and ensure the agreement has the most successful outcome possible.



From left to right: V. Dall'Occo - Peroni Manager Australia, E.Maianti - Managing Director TM.C., L. Lapi and N. Shawki - Sales & Marketing TM.P., E. Garibotti- Managing Director TM.P., G. Fossati - Peroni Pompe Italy, V. Yeo - Peroni Manager Singapore, D. Lin - Sales Engineer Peroni Singapore

# Training Course for the Nigerian Navy

Last November, a course was held at the La Spezia headquarters specially for a delegation from the Nigerian Navy. Said training is an integral part of a contract awarded this year to Termomeccanica Pompe for the reconditioning and servicing of 4 waterjets on 2 of the Nigerian Navy's cruisers. The week-long course involved different bodies within the company and covered a wide range of subjects. The course started with a general presentation of our company and a full overview of the products and services supplied by TM.P. The training then focused on waterjet theory, with a substantial amount of teaching material being handed out. The week ended with some practical work on the use and maintenance of waterjets. At the end of training, each participant was awarded a certificate of attendance and completion. During their visit, the delegation also got to be present for the actual testing of the contract's waterjets, which passed all their tests. The resulting success of this contract, in both technical and business terms, has allowed Termomeccanica Pompe to strengthen its position as an international player when it comes to global service.





# PLM system being implemented at

### Termomeccanica Pompe

Over the coming months, TM.P. will be phasing in a PLM system that will involve several people belonging to various bodies within the company right from the development and prototype stage.PLM (Product Lifecycle Management) systems are designed to manage the product throughout its life, from the request for quotation we receive from our Client all the way through to After-Sales, and everything in between, including Development and Manufacturing stages.

PLM is a tool designed as an aid to Collaborative Management - as it allows global organizations to work as a single team and to design, produce and support products - as well as to Continuous Improvement (Kaizen), enabling the company to acquire and incorporate best practices and whichever methodologies have proven most effective along the way. It is a complete approach to innovation based on accessibility to a common store of product/job-related information and processes. The project will initially focus on the Technical Area, progressively extending to the whole company in subsequent phases.

There are a number of main objectives behind the plan to implement the PLM system here at Termomeccanica Pompe, each ambitious in its scope:

- optimizing turnaround and reducing costs, making the company more competitive;

- achieving improved quality and reducing risks associated with developing products made to order;

- improving processes associated with the development, modification and maintenance of products through improved and simplified management of all product-related information.

## International Oil & Gas Conference & Exhibition - Basra - Iraq



Pompe, who participated with a stand shared with Peroni Middle East, to get in contact with local companies with whom it has been able to open a fruitful dialogue, exchange ideas and experiences, update its own knowledge and competences and to discuss the latest progresses and challenges awaiting the Iraqi Oil sector, all of which aimed at undertaking new collaborations in the country. Amongst the End Users met were South Oil Company, State Company for Oil Projects, South Gas Company, Zubair Eni, Rumaila and Majnoon Oil Field Shell.

# Offshore Contract Delivery in the North Sea for TM.P.

October marked the successful conclusion of a contract for the supply of 14 pumps for the refurbishment of the FPF-1 offshore platform tapping into the Greater Stella North Sea oil and gas field.



The value of the contract awarded by Petrofac in September 2012 is approx. • 2.75M and the end user will be a joint venture between Ithaca Energy, Dyas and Petrofac itself. The supply contract awarded to TM.P., which includes all the centrifugal pumps installed on the platform, features 2 main units for pumping hydrocarbons - each comprising a BB5 pump driven by a 1.5MW inverter-duty motor and a booster pump - and 10 utility pumps, 3 of which are engineered OH3 models, with another 5 OH2s in various sizes, one engineered VS4 and one engineered VS2.



#### Flash News

## TMP bags a new Contract in Iraqi Power Generation

Last October, Termomeccanica Pompe won a new contract for a value of approx. 11 million euros for the rehabilitation of 6 boiler feed units complete with boiler feed water pumps, booster pumps, double-ended electric motors and variable speed drivers to supply to the Baiji Thermal Power Station (Iraq).



TM.P has conducted an on-site survey to determine, together with the Client (Ministry of Electricity), which of the 18 existing units will be subject to rehabilitation.

Delivery is scheduled for the period from August to October 2014 and an additional 5 months will be needed to install and commission the 6 units.

## TMC takes part in PCV Expo Moscow



The 2013 edition of PCVEXPO, held in Moscow's exhibition centre (Crocus Palace) from the 28<sup>th</sup> of October to the 1<sup>st</sup> of November, drew more than 5500 visitors over the course of the 4-day event. For pump products, compressors and valves, PCVEXPO is recognized by the whole of the Russian market as the main event on the year's calendar.

The 269 exhibitors from 26 different countries included, for the third year running, Termomeccanica Compressori, who this year exhibited alongside Termomeccanica Pompe and Adicomp, showcasing 2 different gas compression and treatment systems, a sector of undeniable interest to the Russian and former Soviet Union markets.

Visits to the stand during the exhibition allowed the 3 exhibiting companies to strengthen their cooperation with existing contacts and establish new ones to develop future opportunities.

It is worth pointing out that Termomeccanica compressors featured not only on the group's stand, but also on the stands of various packaging customers exhibiting at the event, further attesting to TMC's status as a major player in the market.

L. Lonoce (Gulf Area Manager TMP) P. Bandoni (Sales & Marketing Manager Divisione Service TMP)

The 3rd edition of "International Oil & Gas Conference & Exhibition" held in Basra, Iraq opened its doors to over 18.000 visitors coming from over 35 countries, confirming itself as one of the key international events in the Oil&Gas sector. Participation was very high, demonstrating the high level of international interest in the Iragi market. Irag has been heavily investing in Oil & Gas, and, Termomeccanica Pompe, who has been following with great attention such sector, has already acquired key contracts and is currently under negotiation for others. Furthermore, the company intends to open a local Service company, following the by now consolidated Group strategy to establish Service companies in areas of strategic interest. The exhibition has allowed Termomeccanica

In addition to the need to adapt all units supplied for offshore installation, the project posed other technical challenges, resulting in a number of special features, such as a 3-point base for main and booster pumps, a variable speed feature so that performance can be adapted to suit different operating conditions, and the need to develop 2 pumps (one VS2 and one VS4) specifically for this project. The supply of CE- and ATEX-certified units also required the involvement of Lloyd Register as IVB (Inspection & Verification Body), the Bureau Veritas as TPI (Third Party Inspector) and T.U.V. for the PED certification of pressure equipment.

# The editors of this issue are:

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### Our mission

To contribute to the success of our customers through our experience and know-how. We pursue this goal giving the utmost consideration to the hard work and commitment of both employees and suppliers, respecting the Environment and complying with the expectactions of our Shareholders.