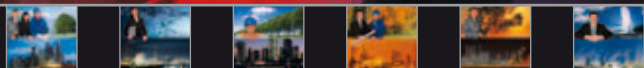


STORK®

Thermatics

>>>>> 011 September 2009



Branch office in Moscow



Stork Thermeq and in a broader sense Stork Power Services is proud to announce the opening of a branch office in Moscow to serve the Russian and CIS markets. The local employees in this office will be responsible for sales, project management, market development, logistics, and coordination within this region. The office will be managed by Mr. Jan Böttger, who recently was appointed as responsible for the Russia/CIS region.

In its start-up phase, the branch office will focus its sales activities on deaerators and replacement turbine blades. The aim is expanding to the full range of power services Stork can offer to our Russian customers.

Böttger explains: "There are two major reasons why this branch opening is so important for us. First of all Moscow is the region where our customers active in the power plant construction market have their headquarters or main operating bases. The second reason is that Moscow is the largest city in Russia. In itself it is a market with power needs as large as the whole Netherlands. With operations here we are pre-

sent in the heart of this striving economy, which still mainly runs on electricity generated by power stations from the 1960s. There is a strong need for Stork's expertise in boilers and turbine equipment, and that is sure to increase even further in the future. As a European partner we offer the best available technology in our field. Russian power plant contractors do not want to settle for less. What we offer to them is European know-how and technology in combination with manufacturing in Russia. The office is a logical and necessary step towards our customers in the area, facilitating the delivery of Stork products, Russian-made, Russian-serviced, but with European design and core technology."

The office is located at Presnenskaya embankment 10, Tower C, in Moscow City, the newly built business heart of Moscow.

In brief we introduce Stork's Russian Team. Mrs. Oksana Shiltseva (oksana.shiltseva@stork.com) is responsible for Project Management and After Sales. She explains: "In a broad sense the objectives are to contribute to further promotion of Stork's products and services. On one hand using knowledge and experience accumulated from work in the Russian power market and on the other hand taking over the best of Stork many years' culture of supplies worldwide and integrate it here for mutual advantage".

Mr. Dennis Grishin (dennis.grishin@stork.com) is involved in Sales and Engineering Support. He has a clear view about the market approach: "In Russia we do both present the best proven technologies and providing local production thus following Russian technical standards and keeping local workplaces. This combination is the base for our business letting us be flexible and making sure a client has the best possible solution with the background of well-experienced and reputable European company".

Focus on the European Energy Policy

The European Power Plant Suppliers Association (EPPSA) is the voice of companies both manufacturing components for and building turnkey power plants. Mr. Patrick Clerens has been EPPSA's Secretary General since the association's move to Brussels in January 2005. Building upon his prior experience as EPPSA's Brussels Representative, he liaises between member companies and the EU-institutions on issues related to energy and clean fossil fuel technology. We asked Mr. Clerens to explain "highlights" in the EPPSA-policy.

Meeting the European targets 20/20/20: by 2020 20% less greenhouse gases and 20% of generating capacity from renewable sources - Are we on the right track?

Generally these are sensible objectives, albeit very ambitious for some countries. In order to meet the 20% renewables target, it must not be forgotten that conventional capacity is necessary to be there in times when no wind is blowing or the sun is not shining. Therefore there is a major challenge for the conventional power generation to have a huge >>>

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Mr. Patrick Clerens, EPPSA's Secretary General

flexibility in its generation, therefore running some times on partial load, whilst capturing CO₂ from the combustion process.

EPPSA is focusing on zero emission power generation, low-carbon technologies and renewable energy sources. Can you mention actual projects supported by EPPSA?

EPPSA is pushing CCS on an EU level via the appropriate routes, e.g. the support of the ZEP Technology Platform and participation in the Berlin Fossil Fuels Forum, which is a structured dialogue on the outlook for fossil fuels. The target would be to demonstrate CCS technology as soon as possible and to build the capacity of the industry to meet the climate change challenges. EPPSA members themselves are active in demonstrating CCS technologies either through pilot or demonstration plants for Oxyfuel combustion and post combustion CO₂ capture.

What are the major drivers for new technology in power generation? Is that f.i. efficiency, environment, fuel flexibility, aging plants?

All of these are drivers for the power technology. The hot topic is of course CO₂ reduction, meaning increasing the efficiency of existing and new plants, the use of biomass and CCS technology. Efficiency increase and biomass use can deliver significant CO₂ reductions in the short term, whilst CCS will kick in on a broad front from 2020 on.

What is the influence of applying renewable energy sources for sales and marketing of the EPPSA-members?

EPPSA is an association supporting thermal power generation. Therefore the renewable topics EPPSA looks into are biomass firing and concentrated solar power (CSP). EPPSA member companies of course have a broader scope and a lot of them are also active in other renewable energy sources.

Does the actual economic climate affect the market growth in the power generation sector?

From the start of the decision to build a power plant to the finalisation, one can calculate that 4 to 5 years are necessary. Therefore a 2 years economic dip is not having a big influence on our market.

A bigger influence on the market growth would come from a uncertainties in the legal framework. In order for a power plant operator to invest for several decades, he must have some certainty regarding the framework in which he invests. Therefore EPPSA fears much more an uncertain legal frame than the economic crisis.

Are EPPSA-members focusing on markets in waste-to-energy? Which markets especially?

EPPSA is composed of members making turnkey power plants and members making components for power plants. So yes, some of the EPPSA members focus also on the waste-to-energy market. But there is a specific European Association representing the interests of Suppliers for Waste-to-Energy Technology

What do you expect from investments in heat recovery systems in existing plants, f.i. CHP?

CHP is a very efficient way to use any fuel, especially for waste to energy plants which have lower steam parameters (and lower efficiency) and should therefore be supported as much as possible.

But also some existing and some new power plants are designed for CHP use. Regarding retrofitting of CHP, this depends on the specific situation, since it is not always interesting, from a economic point of view.



A short introduction to Stephan Bergmans

In June Stephan Bergmans started as Business Line Manager Products, Licenses and Retrofits. Stephan had a short introductory program with colleagues internally, as well as within our international sales network. We asked Stephan about his first experiences and impressions of Stork Thermeq.



What do you think about our sales organization, both internal and external?

My first impression is that this is a group of dedicated professionals. Stork Thermeq has seen considerable growth over the last years. As a result we have experienced engineers who bring many years of knowledge and experience in the Power Industry as well as talented younger engineers. The resulting mix makes for a dynamic and motivated sales organization. Our internal sales engineers, sales managers and our agents in local markets work as an integrated team to serve our customers. I am excited to see that Stork Thermeq is actively expanding our agent network in new countries and markets together with other Stork Power Services partners.

What is your professional background in the power sector?

I joined the combustion department of Stork Ketels as a recently graduated mechanical engineer in 1993. In those days Stork still built large,

600+ MWe utility boilers. After 3 years, I left Stork to work for a burner company based in California, U.S.A. I spent about 12 years in the US and was active in engineering and sales. Our customers were OEMs, power plants, refineries and chemical plants both in the U.S. and abroad. This gave me the opportunity to get a global view of the power sector.

What are the major developments in the power sector influencing Stork's sales activities?

We see two major developments which offer both challenges and opportunities for Stork Thermeq. First, the financial crisis and resulting uncertain economic climate affects everyone in the power sector and petrochemical industry. Our customers are affected as they have fewer means to finance new projects. At the same time, legislation increasingly requires compliance with stricter environ-

mental requirements. This is a strong opportunity for Stork Thermeq because we can offer tailor-made total system solutions to fulfill our customers' needs in the most economical way. We are able to do this because we have system knowledge of the water-steam-power process and can offer complete solutions including engineering and feasibility studies, equipment engineering and supply, erection and start-up.

Which management aspects will be important in sales, marketing and communication with our customers?

Our most important task is to listen to our customers in order to learn about their needs and requirements, and then we can prepare our solution to fulfill those needs and requirements. In addition it is always essential to stand by our commitments to the customer, and to build long term relationships

based on mutual understanding and trust.

What are your first experiences in cooperating within the Stork Power Services Group?

The different companies within the Stork Power Services Group provide complementary services to the power industry. In that sense we cooperate closely in approaching the different markets and organizing our sales efforts and sales networks. Together we can provide a full package as a single partner for our customer. To the customer we appear to be one company - which, of course, we actually are.

By the way: I was pleased to see that after 12 years there are still many colleagues around that I worked with before I left. To me, this shows that Stork is a stable company based on tradition with a wealth of knowledge and experience but with an eye for the future.

Advanced atomization research for Ultra Low Emissions

Biofuels, especially those derived from processing residues, tend to have high viscosities (> 500 cSt). Their application to modern energy systems has proven troublesome in a number of cases due to the difficulties that arise in atomization. Flashing atomization and especially effervescent atomization are two different means of atomization that can be very promising for combustion of these biofuels in industrial water-steam systems. These techniques were intensively researched in the 70s and 80s for application to coal sludge and sewer sludge atomization. For advanced research into these atomization techniques, Stork Thermeq started a PhD project in Prof. Phil Bowen's Group at Cardiff University in Wales. The main objective is analyzing the atomization performance of these techniques with respect to low emissions of NOx, CO and particulate matter.

Project

In the summer of 2008, PhD student Dancho Konstantinov started this project, entitled 'Development of Novel Spray Techniques to Atomize Difficult Fuels Including Biofuels'. He is supervised by Prof. Phil Bowen and Dr. Richard Marsh. This project entails a literature survey into the actual state of the art of these technologies, a thorough investigation into the fundamental mechanisms and possible similarities that may exist, and finally the development and testing of such an atomizer. Detailed analysis will be performed in the GTRC. Its performance will also be analyzed on Stork Thermeq's 9MW test rig.

Analyzing techniques

Prof. Bowen of Cardiff University in Wales is renowned for his research into atomization. At the moment he is Director of the Gas Turbine Research

Centre (GTRC) and Deputy Director of Innovation & Engagement. With the GTRC, extensive research possibilities are available into the analysis of full-size sprays with water as well as with the actual fuel. A custom-made laser diagnostics facility is available to resolve spray patterns and droplet size distributions to high droplet densities and in large measurement volumes, necessary for the full-size sprays.



Atomizing test facilities at GTRC. Source: GTRC]

Emission reduction

The project is set for a three-year period and the first measurement results are expected at the end of 2009. Performance testing is scheduled for 2010. If successful, the application range is for ultra-low NOx application of difficult liquid fuels. Applications one can think of are biofuels and petrochemical residue streams such as tar, pitch and animal fat. At the moment these fuels can be applied in industrial water-steam systems but at a penalty of high NOx, CO and particulate emissions. With the superior atomizing performance of the technologies researched, the fine sprays that result lend themselves ideally for ultra-low emissions combustion.

Order highlight 2nd quarter:



- AVR Duiven, The Netherlands: Engineering, manufacturing and installation for pressure parts boiler 3.
- Hitachi Power Europe: Engineering, manufacturing and supply of one deaerator for Electrabel project in The Netherlands.
- Total Fina Antwerp, Belgium: Retrofit of one boiler with Low NOx burner for Antwerp Refinery.
- Vredestein Tyres, The Netherlands: Repair/Modification of fire tube boiler.
- Gross Kraftwerk Mannheim, Germany: Engineering, manufacturing and supply of one deaerator for Block 9.
- Essent Milieu Wijster, The Netherlands: Manufacturing, replacement superheater boiler 12.
- Total Refinery Vlaanderen, Belgium: Retrofit of three boilers with low NOx burners for Dunkerque Refinery
- Pfeifer & Langen, Germany: Furnace modification
- ADM, The Netherlands: Study for syngas firing
- Total Duinkerken, France: Low NOx retrofit of three boilers
- Several deaerator licenses with end-user around the globe like: France, India, Thailand and China.

Dutch environmental inspectors train their Portuguese colleagues

This spring Portuguese inspectors visited the Netherlands for some training and to carry out company inspections together with Dutch inspectors. Later this year Dutch experts will furthermore give workshops regarding environmental legislation enforcement policy in Portugal.



Course

The Portuguese environmental inspection service IGAOT is relatively young and consists of 35 inspectors. In order to gain experience in the legislation they contacted the Dutch environmental authorities. In March 2009, six experienced Portuguese inspectors visited the Netherlands for a so-called 'train-the-trainer' course. Apart from their theoretical and practical knowledge regarding IPPC, BAT and BREFs they also developed their training skills. For the practical part of IPPC the

Portuguese inspectors carried out inspections together with their Dutch colleagues.

Future

This collaboration will be continued by setting up an enforcement strategy and inspection priority system and by reviewing the IGAOT organisation. The collaboration between Portugal and the Netherlands covers more than just emission reduction. Apart from IPPC support the Inspectors General of the Netherlands and Portugal have signed several Collaboration Protocol Agreements.

We always stay in touch.

See you in Bangkok and Abu Dhabi!

In the first part of 2009, Stork Thermeq exhibited at many exhibitions in the power sector. This policy showed to be successful: close contacts with our customers and their engineering companies is really a "win-win". As a customer you can explain your investments and challenges for the future. We are able to react with specialized advice from the sales colleagues within Stork Power Services. For that reason, especially at the Power Gen exhibitions, we are cooperating in a joint booth in order to concentrate on our turnkey approach to customer projects.



Welcome in Bangkok – Thailand!

From **7 – 9 October 2009** we invite you to visit the Power Gen Asia in Bangkok (Thailand). Together with the Dutch embassy, a networking party called "Dutch Hour" will be organized on Thursday 8th October in the afternoon (*for details check www.powergenasia.com.*) We look forward to welcoming you as our guests in **Hall 7, Booth F9!**

Welcome in Abu Dhabi – UAE!

From **11-13 October 2009** we are exhibiting on the Power Generation Middle East in the Abu Dhabi National Exhibition Centre. For details about the booth position TBC you visit www.power-generationme.com.

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