

TEMPORARY MOBILE WATER TREATMENT SYSTEMS PROVIDE OVER 30,000 m³ OF WATER IN ARID CONDITIONS FOR POWER STATION COMMISSIONING

Ecolutia Services completes production and supply of treated water using high flow and high efficiency mobile systems. The remoteness of the project means precision planning and a flexibility to match daily on-site demands are crucial. Timely completion of the power station commissioning phase is made possible through the security of supply of treated water.

FOR IMMEDIATE RELEASE: St Gallen, Switzerland (03 January, 2011) – Ecolutia Services successfully completes a multi-phased outsourced water treatment project to help commission a new 420 MW CCGT power station. The temporary treatment and supply of water for the joint construction project between Edison Engineering and Aktor was concluded in time for the handover and scheduled start of commercial operations. Located near Thisvi, in southern central Greece, the mobile water treatment systems produced over 30,000 m³ (~7.92 million US gallons) of high quality water to ensure sufficient availability throughout the project duration.

The feedwater source for the project was a local canal containing high levels of suspended and dissolved solids. These and other contaminants were removed through a series of processes using the world's newest and state of the art fleet of mobile water treatment systems. The core treatment process was undertaken by the Proteus Series filtration system followed by the Triton Series BWRO65, an industry leading brackish water reverse osmosis system, able to produce up to 65m³/h (286 GPM) with an electrical efficiency of <1.2 kWh/m³. As the project involved three phases, the systems were reconfigured at each stage to ensure the correct volume and quality of water was available.

Commenting on the project Claudio Cavandoli, Engineering Department Process Manager, Edison said, "The response and attention from the Ecolutia team to meet our daily on-site requirements was invaluable. The project was undertaken in a professional and positive manner which gave us the assurance of a successful outcome. The knowledge that there is sufficient treated water during the commissioning phase gave everybody on site the confidence to drive forward and helped us to avoid unnecessary delays. The remoteness and hot conditions made operations difficult but we met all our deadlines."

The first stage of operations required batch production of RO permeate over a number of weeks, from the Triton Series BWRO65, to a quality suitable for pipe flushing and chemical cleaning. The steam blow was the next stage of the project and required a significantly increased volume and quality of water. This required a setup change to integrate Proteus Series ion exchange mixed-bed polisher systems after the reverse osmosis system, to guarantee the desired product quality. In fact, the systems performed better than the 0.1 µS/cm required for the project by producing demineralised water at 0.056 µS/cm. The large volume of water required for the steam blow meant a 2,000 m³ (~53,000 US gallons) demineralised water tank was used for temporary storage and as a buffer during the almost continuous month-long production period. The total volume of demineralised water produced for this stage was sufficient to fill the tank more than seven times.

Ken Schmidt, CEO - Ecolutia Services, commented on the project by saying, "I am delighted by our latest success and am thrilled we met all the project challenges and expectations. Focus on providing first-rate customer services and efficient solutions are at the heart of what we do. This project gives me confidence customers value the extra effort our team puts in and our ability to meet their objectives."

The final stage of the project required the co-ordination of three teams - the power station commissioning, Air Cooled Condenser (ACC) manufacturer and Ecolutia teams. Stringent guidelines were adhered to, in line with operating procedures, to ensure an optimal cleaning process and so that the highest quality of water was retained within the loop once it was closed. The feed condensate was cooled with demineralised water to a temperature of 50° C (122 ° F). Following this, in order to provide a thorough cleaning, a further step was integrated into the treatment process. Basket filtration removed particulates down to 100 micron as pre-treatment to a Proteus Series condensate polisher system. This final step of the hot cleaning process combines

the removal of suspended and dissolved contaminants through a customised mixture of resin loadings, before returning it to the hot well.

The use of Ecolutia's mobile water treatment fleet was necessary as the power station's own water treatment plant was not yet fully operational and is designed to meet daily requirements on site, rather than large volumes of water needed during the commissioning phase. The added advantage of the mobile solution is that the modular design of the fleet permits the integration of additional systems without causing any difficulty to existing systems. The use of the multiple modular systems permitted ease of operation and allowed for swift reconfiguration for the various phase of the project.

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Note to Editors...

About Ecolutia Services

Ecolutia Services offers industrial and municipal customers a 'one-stop-shop' portfolio of water, wastewater and environmental solutions. Our portfolio of products and services incorporates the world's newest and most efficient fleet of mobile water treatment systems, as well as gas treatment, waste-to-energy process and industrial automation products. Available 24-hours, 365 days a year, whether for emergency, short-term or long-term use Ecolutia Services can solve a range of critical water issues, ranging from overcoming water scarcity, avoiding plant shut downs through to total water provision.

The management team of Ecolutia Services collectively have over 100 years of industry experience, including senior leadership roles in well known industry organisations. A number of the team are pioneers of innovations brought to the market over the last 20 years and have deep domain knowledge and understanding to develop products to solve the world's water needs for the 21st century. The team share a clear vision to develop innovative technologies, provide greater customer focus and expand the mobile water treatment sector through wider choice and more environmentally friendly solutions.

Ecolutia Services is the services provider of the Stulz H+E Group which has a large number of globally dispersed personnel located in a network of offices, plants and depots. With its reputation of high quality design and engineering skill, Ecolutia Services integrates this wealth of experience into all of our cleantech solutions to meet customer requirements globally. Service options also include operation and maintenance, design, project planning, construction, plant optimisation and project financing.

For further information please visit www.ecolutia.com.

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