EXPECT STORIES FROM THE AVK WORLD

Expect... AVK

DEAR READER

The world is in a state of constant change. Statements that seemed like an intellectual experiment only a few years ago have now suddenly become obtainable.

On 2 September 2015, the first Danish ESA astronaut, Andreas Mogensen, was part of a 10-day mission from the Russian spaceport in Kazakhstan to the International Space Station ISS and in that connection, a Danish trade magazine published an article about how drinking water can be created from sewage and urine and how Denmark is leading the way. On board the space station ISS, the astronauts have no fresh drinking water. Instead they drink their own urine by means of an advanced membrane filtration technique in which urine is transformed into drinking water. The same technology is used in Texas where they transform sewage water into drinking water. The article also mentions that even though many new companies get a lot of media coverage with exiting new products and technologies, it is still highly respected companies like AVK that lead the way in Danish exports of water technology – and for a very good reason!

AVK sells quality products every day, but AVK also sells customised solutions. In addition, AVK enters partnerships through which solutions with quality products are offered, like valves, pumps, meters etc. under the headline Sustainable SMART Water Management.

AVK already participated in export drives in Brazil, China and South Africa with subjects like water loss and lack of drinking water on the agenda.

There is a need to be able to present an overall Danish water loss solution with full integration of the best Danish products, systems and services. This has brought together some of the leading Danish companies within the water sector, NIRAS, Grundfos, Schneider Electric, AVK, Kamstrup, Leif Koch, HOFOR, North Water and DTU to establish a state-of-the-art demonstration project in Denmark for which The Danish Eco-Innovation Program (In Danish MUDP) has financed 18.5 million DKK. The purpose of the project is to create a test facility to show the world´s best water loss solutions with fully integrated SMART pumps and valves, meters, sensors, IT systems and hydraulic designs. At the test facility, state-of-the-art real time supervision of the drinking water system can be demonstrated. After that, the test facility will hopefully lead the way for similar projects in parts of the world suffering from water shortage and water loss.

This edition brings a story about the royal visit and export drive in South Africa by HRH, the Crown Prince of Denmark, which received a lot of publicity. You will also find an article about a modern water supply in which AVK products are part of the solution. Finally, we also focus on how AVK fits into global climate changes.

Enjoy your reading.
Michael Ramlau-Hansen

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Frontpage picture
Series 54 valve installed in the southeastern part of Brazil.
Find this story on page 24.

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24/7 LEAKAGE REPAIR SERVICE FROM AVK SVMC

SAUDI ARABIA

In 2013, AVK SVMC in Saudi Arabia started a new initiative, the Leakage Package. The objective of the initiative was to offer a 24/7 service to key clients and customers providing products for leakage repair on site when it really matters!

By Zahid Hussain,
AVK SVMC,
Leakage Package Supervisor

AVK SVMC now offers this service in the three largest cities in Saudi Arabia: Riyadh, Jeddah and Makkah. The initiative has been very well received by the local water authorities who appreciate the service and fast response from AVK.

It also means that AVK SVMC can attend service on site within a few hours with skilled and competent employees, not only for leakage repair but also control valve (series 859) settings, actuator issues etc.

AVK SVMC has vans in each city fully equipped with products and tools to repair pipes of up to DN 1200 and to perform general service on its products. The service is widely used not only by the water authorities; maintenance contractors have also become frequent users of the Leakage Package to help them with emergencies.

The strategy is to roll out this service to all regions of Saudi Arabia to be close to the customers, to understand and help solve their problems and emergencies. AVK SVMC wants to remain the customers' preferred valve and fittings provider.

AVK UK & WOUTER WITZEL REPLACING BUTTERFLY VALVES FOR WASTEWATER TREATMENT PLANT

The project was a collaboration of both AVK UK and Wouter Witzel

Birkenhead Waste Water Treatment Works is part of United Utilities' Lower Mersey Project which was built in the 1990s to ensure that effluent discharges comply with the European UWW Directive. Refurbishment of part of the plant started in the late summer of 2015 with the replacement of 16 pieces of DN 800 and DN 900 butterfly valves which were installed in 2006.

By Wouter Witzel & AVK UK

Due to leakage problems, the constructing company Nomenca Ltd. was contacted in the beginning of 2015 and asked to carry out a pipeline video inspection. This revealed substantial issues with the existing butterfly valves and on the images, it appeared that not only were all the old valves leaking but for one valve the entire valve disc was missing. The pre-filtered sewage water corroded the stainless steel discs and shafts so much that it had destroyed the valves completely within 10 years.

Due to the good performance of other AVK products on site, United Utilities asked AVK to replace the old valves with Wouter Witzel centric vulcanised bonded to body butterfly valves. Features as the protected valve body, the dry shaft design and reliable operating torques were decisive for their choice. Good cooperation between AVK UK and Wouter Witzel resulted in an order for 9 pcs DN 800 and 7 pcs DN 900 series 75 valves with EPDM bonded to body liner and Duplex discs. In addition to the valves, also the extensions and electrical actuators were included.

Before delivery, a factory acceptance test of the actuated valves took place in the factory of Wouter Witzel. AVK UK´s representative, together with the project engineer of Nomenca, visited the production location in Losser to do the testing.

Competitor's valve

Competitor's valve

After successful function and leak tightness tests, the following e-mail was received from Nomenca: ''I just wanted to thank you all once more for a very enjoyable, informative and successful visit to your production facility in Losser over the last couple of days. The hospitality was excellent all round and I am very appreciative of all your efforts, technical support, and especially the warm welcome I received.''

In October 2015, all the valves were replaced during one week and the treatment works, which serves a population equivalent to 220,000 people, is now updated to function properly for the coming decades ... for sure the butterfly valves do ...!

AVK AND NON-REVENUE WATER

GLOBAL

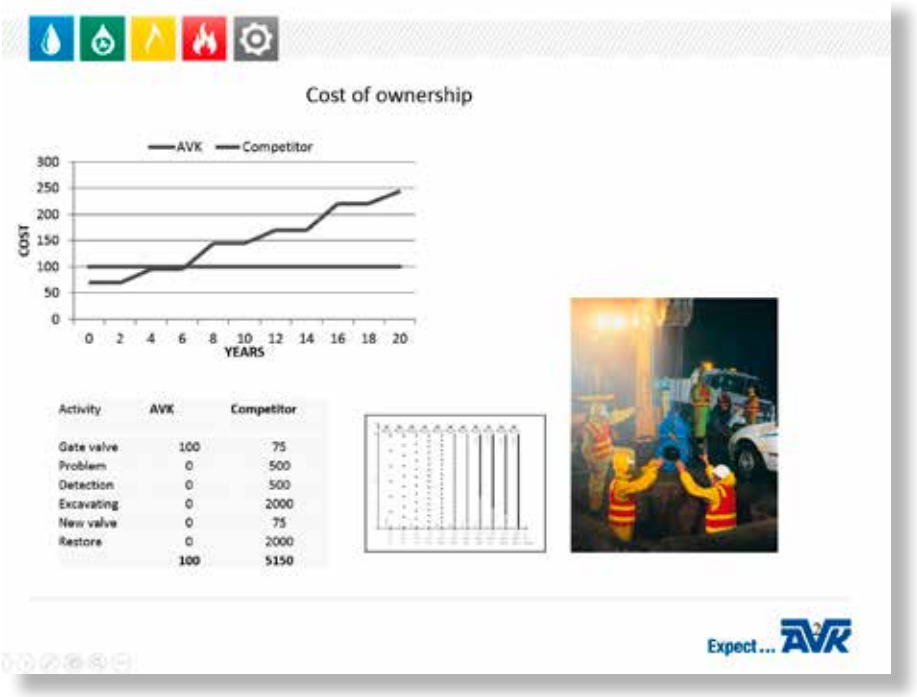
Non-revenue water is about keeping water in the pipes. Non-revenue water within utility networks is a huge source of wastage and reducing water loss is therefore very important.

By Michael Ramlau-Hansen, Global Brand Manager, AVK Holding A/S

Water loss adds greatly to operating costs and leaks can add not only complications but also expenses to the sustainable management of water services. But leakage is not necessarily caused by a hole in the pipe, metering inaccuracies or leaking joints. Leakages might also be caused by valves that are not drop-tight or valves with worn out spindle gaskets.

Regardless of the cause of leaks, it is all about water that has been produced but cannot be billed. Calculations suggest that more than USD 14 bn is lost every year by water utilities around the world due to non-revenue water being detrimental to water utilities' financial situation and posing an extra burden on paying customers.

In order to find leaks in the supply network, it is very important to be able to seal off sections to control the water



flow. AVK wants to assure that a valve, which is being closed to seal off a section, is 100% drop-tight.

in our products to ensure that it is odour-free, colour-free and taste-free, even after many years of use.

Cost of ownership underlines the importance of investing in high quality products as replacement/repair of valves is often far more expensive than the product itself.

A customer from a utility plant which had been able to reduce its water loss from 19 % to 8 % and thus increasing sales with 250,000 m3 water per year, said: “having proper and functional valves is the backbone of any sectioned network”.

You can read more about it in our brochure “The wedge is the heart of the gate valve”, which you find on http://www.avkvalves.com/en/downloads/brochures.

The importance of the right rubber

AVK GUMMI A/S develops and produces all rubber components used in our gate valves to ensure that the valves are 100% drop-tight. The high-quality rubber is also resistant to all types of chemicals used in water supply systems. All rubber components used in our products are tested under national and international standards. The production processes undergo regular testing, and all primary rubber components are marked and identifiable, enabling full traceability.

AVK has developed an EPDM rubber compound which minimises the build-up of biofilm. This prevents the biofilm becoming a breeding ground for bacteria. We regularly perform laboratory testing of the rubber applied

Long-lasting coating

Corrosion protection is another key element which makes our products safe. A valve is buried under ground for as long time as the pipe and thus, corrosion protection is vital for the drinking water as well for the surroundings. AVK valves are epoxy coated internally and externally according to the GSK guidelines for an optimum corrosion protection. Coating according to GSK guidelines is a seal of approval; when safety matters!

In the next edition of Interlink you can read about integrated solutions consisting of valve, extension spindle, street cover and an AVK valve installation tracker (AVIT) as a very important part of the installation of DMA (District Metering Area).

GLENFIELD FREE DISCHARGE VALVE SUPPLIED TO WELSH WATER DAM

UNITED KINGDOM

Picture 2: Operational discharge

Ystradfellte Dam and Spillway was built in 1914. It has a capacity of over 3 billion litres and a maximum height of 29 metres. The dam is located within the Brecon Beacons National Park in South Wales.

By Greg Morris
Dams & Reservoirs Manager
Glenfield Valves Ltd

Over the years, the spillway has suffered repeated damage due to several incidents of discharge overflow. In 2011, an inspection was completed on the reservoir and under the Reservoirs Act, it was discovered that the spillway had insufficient capacity by modern standards and required a major upgrade to pass the Probable Maximum Flood (PMF). The scour outlet has to pass flood flows of up to 7m3/s during the construction phase of the spillway to avoid flows down the spillway.

In order to control these flows and provide sufficient energy dissipation, a Glenfield series 857 free discharge valve (DN900) was selected by Dŵr Cymru Welsh Water. The installed valve and hood is shown in picture 1.

Glenfield Valves and Dŵr Cymru Welsh Water worked closely together to ensure the valve supplied met the system requirements. One of the key points involved in this project was to minimise the water jet spread exiting the valve so that nearby embankments were not

Picture 1: Free discharge valve and hood installation

at risk from impact erosion. Glenfield designed and supplied a remote stainless steel hood which was installed at the downstream end of the discharge valve to contain the jet of water and avoid the conical spray pattern associated with this valve type. As can be seen from pictures 2 & 3, the water jet exiting the valve and hood is directed within the walls of the civil structure.

The valve and hood were delivered in May and commissioned in August 2015. Glenfield were on-site to supervise the successful commissioning of the valve.

Glenfield Valves offer a wide range of valve products for isolation, flow control and energy dissipating applications for dams, reservoirs and hydro projects. We also supply specialist radial & tilting gates, penstock sluice valves and stop logs through our partnership with Orbinox (Spain).

Picture 3:
Contained water jet

THAMES WATER FIELD TRIALS OF SERIES 29/10 LOCKING DEVICE

UNITED KINGDOM

Existing hydrant with AVK device fully installed. Note the outlet and operating cap now fully protected

Existing hydrant with outlet security device installed

Thames Water and its fire brigade partners have been experiencing numerous instances of hydrant outlet theft and unauthorised use of their asset hydrants, both flushing points and operational hydrants. Over the past few years, numerous attempts have been made to utilise the industries protection for the hydrants with limited success.

By Graham Charnley,
Non Revenue Water Manager,
AVK UK Ltd.

AVK UK Ltd was contacted and in a joint partnership with Thames Water it was agreed to identify a hydrant that was being consistently targeted by vandals and trial the latest innovation from AVK; the series 29/10 hydrant security device.

The hydrants were identified in the East end of London at the junction of Ferndale Street and Yeoman Close, Beckton London E6 6NN. The two hydrants in question are a flushing point for the Thames Water Operations team and are located in a system of bypass and flushing points form a 24" diameter, cast iron main, circa 1950s. These two hydrants have a history of abuse with local children letting the hydrant open during warm periods causing water pressure issues, supply interruptions, discolouration issues as well as damage to the surrounding area due to corrosion from the water.

These events have led to complaints for the customers and local councils and Thames Water had been tasked with identifying and implementing a solution.

In conjunction with Geoff Johnson of Thames Water and Graham Charnley of AVK UK Ltd, samples of the security device were delivered to site and the hydrant chambers inspected. It was noted that there was an outlet security device installed, however the local operations engineer confirmed that they provided limited protection to the hydrants. Being constructed of a "soft" aluminium they frequently "binded" to

the gunmetal outlets causing difficulty in removing them and were easily removed by unauthorised persons.

The AVK device was fitted to both hydrants within seconds and demonstrated that they would resist attempts to remove without the appropriate keys. Installing the universal base plate allowed the older hydrants to be secured, both on the outlet and the operating cap. Due to outlet corrosion, the second cap was stiff to install and the plate was slightly loose, however it was still offering protection to the hydrant and could not be removed without the key.

During installation the use of the revised key was confirmed as providing a secure fit to the top of the security device.

As there are two components related to this device and the simplicity of installation, it was agreed that these units could be installed quickly and easily, covering an area of hydrant abuse with minimal time and allocation of resources.

Primarily the device is intended to protect the asset of the fire hydrant, but it was agreed that the additional benefits extended to:

- Water loss
- Theft of water
- Local flood and corrosion damage when a hydrant has been opened unauthorised
- Customer supply interruptions
- Discolouration issues
- Loss of pipeline pressure
- Theft of outlets
- Security of hydrant for future access or use
- Protection of operational staff when previously they had been called out to an abused hydrant.

The security device will now be left in-situ and reassessed in a few weeks to confirm its performance. As the general area has been subjected to numerous hydrant abuses, it may be considered for extended installation.

Thames Water

AVK NEDERLAND BV MARKET LEADER IN GAS SEGMENT

THE NETHERLANDS

In 2014 AVK Nederland BV won a seven year tender at Alliander and Enexis. The tender was for gas with stainless steel tapping saddles type FSA bush.

By Albert Dokter,
Sales Manager,
AVK Nederland BV

These tapping saddles are used on steel and cast iron pipes for domestic connections and AVK Rewag has made major investments in robots and test equipment in order to meet this task.

At the beginning 2015, three major gas companies in the Netherlands (Alliander, Enexis and Delta) issued a European tender for gas valves and surface boxes. This tender was won by AVK Nederland.

The duration of this tender is 8-10 years and by winning both tenders, AVK Netherlands has considerably strengthened its position in the gas segment.

AVK VALVULAS AT FIHAV 2015 IN CUBA

CUBA

By Javier Garcia Noblejas,
Managing Director,
AVK Valvulas S.A.

The FIHAV trade fair in Havana is the biggest and most important exhibition in the Caribbean and one of the largest in South America. Even though it is a general trade fair, it also has a lot of stands with very technical products.

Pera street cover with AGUAS DE LA HABANA inscription in front of the Capitolio building.

AVK was present at the exhibition for the first time with its own stand through AVK VALVULAS, and this year, a total of 70 countries were represented by companies from all sectors of the Cuban economy.

AVK VALVULAS started supplying series 06/30 valves to AGUAS DE LA HABANA and AGUAS DE VARADERO in 1999 through the AGBAR Group. You can see several PURDIE and PERA street covers in Havana with the AGUAS DE LA HABANA name.

Later we have supplied important orders for water and also for the nickel mining industry.

One of our large orders this year was for Santiago pumping station counting gate valves from DN 350 to DN 800, a big share of them with electrical actuators, butterfly valves series 75 and 820 from DN 200 to 800, air valves, fittings and 6 surge anticipating relief valves. We supplied the order through the WILO SE pumps company.

During the exhibition, our stand was frequently visited by engineers working in the water market in Cuba, and they were all very interested in the AVK program; especially in series 06/30 with extension spindle and street covers, repair clamps and the couplings for PE pipes.

Due to improvements, Cuba will launch important investments in water networks and plants in the coming years. We are promoting AVK in all Cuban water organisations, speaking about the benefits of a good quality in water networks, especially in underground products, and we hope to supply a share of valves again.

The Agbar Group is made up of a group of companies dedicated to complete water cycle management. That means catchment, transport, treatment and distribution of drinking water, and also collection, treatment, reuse and return of wastewater to the natural environment with the minimum environmental impact.

BATTERSEA HOLDER STATION

UNITED KINGDOM

Before photo of the site

AVK Donkin supplied 3 series 777 and 15 series 555 gas valves to the Battersea Holder station site as part of the regeneration project on the South Bank.

By Alan Bite,
Product Manager,
Non conventional gas,
AVK UK Ltd.

National Grid, in a pledge to turn decommissioned sites into viable land, reconditioned the Battersea Holder Site ready to work with developers as part of the Nine Elms project. The site which is over 2 acres in size, is situated close to the Iconic Battersea power station. In 2013 work commenced on dismantling the gas holders, this was programmed for two years of demolition and is soon to be completed. The site will then have to be cleared of any rubble and made environmentally ready for the new development.

The development requires the existing major gas main and pressure reducing station, situated on the south west corner of the site, to be moved to the south east corner away from the new apartment buildings. This work will be taken on by National Grid who will relocate and build the new station before the handover to the developer.

The new station consists of 6 buried pressure reducing units as seen in the pictures shown. When the valves are installed, they will only be operated via access chambers. The station is to reduce the gas from 2bar to 75mbar pressure for distribution.

AVK supplied the high profile site with Donkin gas valves, ranging from 12 x DN 450 and 5 x DN 600 series 555's to 3 x DN 700 series 777 Baurer Valves.

Once this project is completed, it will supply gas to around 150,000 customers in Central London. The Nine Elms project will consist of 3,100 new homes, 150 boutique stores, 60 food, drink and entertainment venues, accommodating 15,000 new residents.

Artist's impression of finished site

WATER FOR SOUTH AFRICA

More than half of South Africa's fresh water is produced by its landscapes. These hold a priceless water value and are rich in plant and animal species. However, many of the water catchments within these landscapes are unprotected and often infested.

This article is based on knowledge from the WWF ZA report 2015 'Innovations in the SA water sector – Danish investment into water management in South Africa'.

By Michael Ramlau-Hansen,
Global Brand Manager,
AVK Holding A/S

So, in order to boost the water quality and water security along the catchments, a new series of projects have been launched. WWF, landowners, local government, communities and agro-industry are co-operating to address the sanitation challenge among other important water issues affecting the South African population. A very positive trend is that an increasing amount of farmers, industries, communities and municipalities are willing to discuss the co-management of water resources, and these discussions will hopefully result in long-lasting solutions.

The South African situation
The country faces threats on water security from pollution, growing demand, leaks, drought, changing land issues and climate change. The South African water sector will need to be strengthened to enhance the quality and quantity of supply. Therefore, innovation within technology and development is necessary to handle current and future challenges while ensuring sustainable water for everyone.

Right now the water sector is transforming from focus on engineered supply to focus on demand management in a time with scarce water resources.

Denmark takes part in the development
South Africa and Denmark have a history of collaboration. The Danish government was among the first to acknowledge the new South African regime, and since the first year of the South African democracy, the Danish support has included significant assist in the development of South Africa's water sector.

South Africa now holds a leading role in the African continent, and a new relationship of trade and technical collaboration is beginning. In 2013 a partnership was established to enable a Danish-South African collaboration in the water sector. Since then, several projects have already been implemented across the country. They have demonstrated exciting new innovation in technology, skills and management systems that can support a stronger water sector and more efficient, productive water use. Even though these projects are a good start, continuous improvements and developments are necessary for South Africa to move forward and provide its population with the much needed water.

WWF South Africa
WWF South Africa focuses on freshwater and aims to help build water security in South Africa with healthy catchments sustaining people and nature, and supporting economic development in a time of climate change.

AVK sponsors WWF Danmark

DRAKENSTEIN MEULWATER WATER TREATMANT WORKS

SOUTH AFRICA

From left: the Mayor of Drakenstein Gesie van Deventer, HRH Crown Prince Frederik of Denmark, Global Brand Manager Michael Ramlau-Hansen, AVK Holding A/S and Business Development Director Patrick Jantjies, AVK Valves Southern Africa.
In the background is an AVK gate valves series 06/30.

By Michael Ramlau-Hansen,
Global Brand Manager,
AVK Holding A/S

One of the great water projects in South Africa is in Drakenstein, where AVK has been part of the solution. The project was about establishing a reliable collection and storage of water in order for South Africa to create its own stable water supply to the Drakenstein municipality all year round regardless of the amount of rain that may fall. It should be possible to deliver clean potable water without fluctuating quality, leakages should be reduced and the Drakenstein municipality should be much less dependent on purchasing potable water from Cape Town.

Paarl Mountain and Water Heritage
The catchment area is part of Paarl Mountain Nature Reserve that has been an important water source for the Drakenstein Municipality for a long time. The various streams around the mountains have been used by farmers and townsfolk from the early settlement of the valley, as they provided a pristine source of water which could be channeled to any required application. However, as the water requirements of Paarl increased so did the demand on the mountain's water, particularly in the summer months, and as a result Nantes and Bethel Dams were built to provide capacity to store water through the year to meet the needs of the town.

Even though the dam water was untouched most of the year, the quality of the dam water was fluctuating. This had been an ongoing problem and a priority for the municipality, and as the South African water standards became stricter, the municipality had to rely more and more heavily on purchasing treated water from Cape Town.

The view from the water treatment works.

Water security
In 2001 a water supply management study was conducted for the municipality. The study identified the need for the municipality to secure its own reliable water source. A water treatment works for the Paarl Mountain dams was proposed as most of the distribution infrastructure was already in place. The study showed that the municipality could build and operate the water treatment works at a substantial saving compared to the alternative of continuing to purchase water from Cape Town.

The Department of Water Affairs (DWA) allowed the Drakenstein municipality to draw water from the Berg River at certain times of the year. A supplement scheme to store pumped water from the Berg River in Nantes Dam would only be feasible if there was a treatment facility to treat this water.

The treatment plant
The water treatment plant was built with great consideration to its position in the middle of the national park. This meant that the construction was lowered 5.5 metres below ground, and 1500 tonnes of granite had to be blasted away in order to make room for it. Apart from the traditional cleansing methods such as airration and sand filtering, chalk will be added to the water to provide taste and hardness.

For many years quality has been the primary focus at Drakenstein water supply who through the years, has been a good customer of AVK in South Africa. Drakenstein has always been at the forefront of new technologies and has seen the necessity of buying good quality in the construction phase, which results in minimum operating costs. Therefore, it was not difficult to choose AVK as supplier of valves for the new water treatment works; partly due to the quality but also because AVK Valves Southern Africa could deliver the many different valve types requested for this plant. This plant does not only house gate valves but also butterfly valves from Wouter Witzel and knife gate valves from Valvulas CYL.

When a water supply is highly dependent on a very fragile ecosystem, as national parks, great focus must be on caring for the water at your disposal. Therefore, a leakage has been and still is a primary focus area. A computerised SCADA system is installed at the water works to monitor the water works 24/7. Due to the water's high quality the water supply has no issues receiving proper payment for the water it delivers to its consumers. The water loss has been minimised to 13% which is far below the national average of 37%. Drakenstein is now the excellent example for others to follow.

AVK wishes Drakenstein congratulations on the water works.

CO-OPERATION AGREEMENT SIGNED BY SOUTH AFRICA AND DENMARK

Eva Kjer Hansen, Danish Minister for Environment and Food and Nomvula Mokomyane, the South African Minister of Water and Sanitation at the meeting in South Africa

When a South African minister calls upon foreign companies, it is due to the fact that local authorities are not sufficiently qualified, and the minister is therefore open to solid advice and innovative ideas.

By Michael Ramlau-Hansen,
Global Brand Manager,
AVK Holding A/S

This was also the case when Nomvula Mokomyane, the Minister of Water and Sanitation, invited Danish companies to an export drive on 2-4 November 2015 to talk about the great water issues affecting South Africa. From Denmark, HRH Crown Prince Frederik, two Danish ministers, and approx. 50 Danish companies including AVK, travelled to South Africa to offer their expertise in a future co-operation between Denmark and the South African government. Monday 2 November 2015 Minister Nomvula Mokomyane and Eva Kjer Hansen, Danish Minister for Environment and Food, signed a co-operation agreement regarding a strategic partnership within the water sector.

Governmental action plan

Close to 40% of the water in South Africa never reaches consumers where it would be of use. This waste is caused by leakages, outdated pipes and theft. The government in

South Africa wishes to reduce water consumption by 15% despite the fact that a reduction of 1% is the maximum obtainable right now. Therefore, South Africa is challenged in numerous ways. The two most significant challenges challenges being the lack of sufficient clean potable water and the need for water to secure the agricultural growth ambitions.

In several of South Africa's million cities, restrictions on water consumption have already been introduced, and with the risk of a future water crisis that will influence the entire nation, South Africa seems ready to take action. And since Denmark has some of the world's most advanced companies to deliver the necessary technology to prevent water waste, Danish companies seem to hold an advantageous position in future negotiations.

Denmark's position in South Africa
The companies that stayed in South Africa during apartheid have had a head start compared to other companies, but this export drive could be the opening for these companies to enter the South African market. Minister Nomvula Mokomyane welcomes any company that can help the country with its drought issues and with cleaning the water in order to help South Africa move forward.

This Danish export drive will hopefully entail easier access to the South African market, and Denmark's support to anti-apartheid and the construction of democracy will also have a positive influence on decision makers in the future co-operation.

Nomvula Mokomyane, the South African Minister of Water and Sanitation giving her speech at the meeting in South Africa.

AVK in South Africa
AVK has been on the South African market since the beginning of the 1990s. At first with a representative who was responsible for sales to the South African market, and later we established our own sales company, AVK Valves Southern Africa Pty Ltd. responsible for the entire sub Saharan African market. A part of the product programme – primarily gate valves – was delivered by AVK International A/S, but other AVK companies also delivered valves to AVK Valves Southern Africa during the years.

In order to include production facilities in Johannesburg, AVK Holding A/S thus acquired a majority stake in Premiere Valve Group in July 2014.

Premier Valves is one of the largest manufacturers of valves predominantly for the water industry in Southern Africa, and AVK Holding A/S has further invested in the facilities in Johannesburg to help establish a training and education centre. Here, AVK can offer production training and training in the use of valves and accessories in order to contribute to the further development of the South African society which is also very important according to Minister Nomvula Mokomyane.

CONSTRUCTION SITE AT RESISTANCE **SQUARE IN BLOIS**

FRANCE

As part of the development of the city of Blois, the ongoing works have demolished the roundabout at Resistance square in the centre of Blois and established a new pedestrian zone with a great sidewalk and a narrowed road for cars.

This project also comprises modifications to the power grid, fiber and water network in this particular area.

By Fransisco Viskinge,
General Manager,
AVK France SA

On this site close to the Loire river, there is an old crossover of networks to supply the neighboring south part of Blois (Vienne quarter) on the other side, including the main street of Denis Papin and other major streets in Blois. A major complication was the main storm water collector which is also placed on this site and takes a lot of space. Two combi-cross valves (one three-way DN 200 and one four-way of DN 300) have therefore been used in order to minimise the “congestion” of valves on this very limited area. This solution was planned in collaboration with the technical department of the city of Blois and with our local client DEHE Travaux Publics.

Following this project, the municipality of Blois has decided to include our combi-cross valves on their official technical specification requirements.

This project will involve other AVK products when the drinking water extension network on the main street of the city of Blois needs to be refurbished in June 2016.

RECONSTRUCTION OF A SEWAGE TREATMENT PLANT IN AMERSFOORT

The water board “Vallei en Veluwe” is reconstructing the sewage treatment plant in Amersfoort into an energy and nutrient factory which generates energy and raw materials.

By Hans Bos,
Account Manager,
AVK Nederland BV

The energy is generated from wastewater and sewage sludge, which is positive for an energy-neutral purification of wastewater in the Amersfoort region and in addition, around 600 households are provided with electricity.

At the same time, raw materials such as phosphate and nitrogen are regained through the application of Pearl® technology, which results in an estimated 900 tonnes of high-grade fertiliser annually.

In short, sewage sludge is converted into energy and raw materials and this contributes to sustainable developments and cost savings.

The above construction of the Energy and Nutrients Factory is carried out at RWZI Amersfoort by the company Eliquo Water & Energy from Barneveld. They are specialized in the development and realization of complete concepts for energy-neutral treatment of wastewater.

A large number of new pipelines were necessary for this reconstruction; both indoor and underground, and AVK Netherland BV delivered the manually and automatically controlled gate valves, knife gate valves (mechanically and pneumatically actuated) and ball check valves.

Once again a beautiful project equipped with AVK products!

ENGINEERING SITE SOLUTIONS

UNITED KINGDOM

AVK UK Ltd delighted to announce the launch of ENGINEERING SITE SOLUTIONS.

As part of AVK UK's drive to provide customers with SOLUTIONS, NOT JUST PRODUCTS, one of the 8 customer promises under the Expect… brand initiative, AVK launched the Engineering Site Solutions package delivered by Invicta Valves Ltd.

By Kieran Fitzpatrick
Head of UK Marketing,
AVK UK Ltd.

The official launch took place at the Future Water Association offices in Kenilworth, Warwickshire on 24 November 2015. A strong audience of persons comprising all aspects of interest from site engineers through to UK business stakeholders had all aspects of the capabilities demonstrated to them through case studies, and received information on key support locations and contacts.

The actual site capability was further illustrated by a demonstration of plant and equipment in the grounds of the FWA offices during the day.
Invicta Valves, a member of the AVK Group since 2010 with more than 30 years of experience in offering site solution packages relating to valve and penstock installation, actuation and refurbishment, are the delivery partners for the Engineering Site Solutions initiative and as such have extended their scope of works to include for example, network leakage management solutions, project management and full valve/pump chamber refit and refurbishment.

Invicta Valves have gained an excellent reputation for designing, manufacturing in their own workshops, supplying and installing bespoke equipment to resolve particularly challenging installation issues to tight deadlines; a reputation which has led to them being retained on some of the largest projects in the UK for their "one stop shop" approach.
The Engineering Site Solutions package is supported by 43 fully trained site, sales and engineering professionals operating from 6 locations spread from Prestwick in Scotland to Maidstone in Kent.

Kieran Fitzpatrick, Head of UK Marketing for AVK commented after the launch:
" …this unique "one stop shop" approach that AVK are offering through Invicta Valves, is such a huge benefit for our Utility Customers and their Delivery Partners. When you consider that AVK's unrivalled breadth of product offer now including a specialised site solutions package delivered by highly competent site engineers, can now be quoted, supplied and installed through a single point … think of the efficiencies in time, project management and therefore cost that this can deliver …"

Further information including the full range of the offer, case studies and contact details can be found by visiting www.avkuk.co.uk/engineeringsitesolutions

INVICTA
Valve, Penstock & Site Solutions

AVK BRASIL – IMPORTANT ROLE IN BRAZILIAN WATER CRISIS

BRAZIL

By Estevan Fernandes Lopes,
Sales & marketing manager,
AVK Válvulas do Brasil

Southeastern Brazil is facing its worst drought in more than 80 years. For São Paulo, the most populous state in Brazil, the water crisis started in 2014 were levels of drought and water supply reduction reached worrying levels.

One of the symbols of this crisis is the drastic reduction in the Cantareira System – an immense reservoir administered by SABESP and responsible for the water supply to about 8.8 million people. The drought in the southeast, in combination with factors related to infrastructure and planning, is responsible for the worst water crisis faced by the region. SABESP´s role in the crisis is to identify quick solutions to increase the water supply to the people and to create new procedures and emergency projects to improve this situation in the coming years.

The crisis scenario threatens to create serious problems mainly to the Greater São Paulo (RMSP), which with its about 20 million inhabitants, is the seventh most populous urban area in the world and the financial centre of Brazil. Because of its immense size and industrial value, the São Paulo Metropolitan Region faces several challenges when it comes to managing its water resources.

AVK is an important partner for SABESP in this challenge, working in two important fields: One task leading the Danish Water Forum in Brazil with a group of professionals who are promoting new concepts, technologies and techniques to underground water mapping, and the second task is risk management and the challenges of DMA (District Metering Areas).

Metallic seated gate valves, series 54 from 600 mm to 1200 mm
The series 54 valve is considered the best valve to promote drilling service under pressure for relocation of major pipelines and networks where demand for water is large and the supply is low.

According to the SABESP engineers, our series 54 valve meets and exceeds all expectations for a delicate job like that. According to SABESP, the demand for these large valves will increase in the coming years and consolidate AVK as the best valve for this application. It will be a point of enormous importance for the AVK brand in Brazil.

WASTEWATER PUMP STATION, RIVER ROAD, PORT NOARLUNGA

AVK Australia recently completed the valve supply of a major upgrade and refurbishment to the SA Water River Road wastewater pump station in Port Noarlunga. The valves included the series 55 RSGV, series 41 RSCV, actuation and other ancillary valves.

By Vincent Tripodi,
Marketing Coordinator,
AVK Australia

The project scope included replacement of the existing pumps, pipe work and fittings, ventilation, power supply, improvements to operator access and refurbishment of the existing wet well. AVK Australia is working with Iplex Pipelines and Fulton Hogan, who are undertaking the works under a design and construct contract with SA Water.

Inflow to the pump station is via a 1m diameter gravity drain while the outflow is by a 550mm rising main outflow to the Christies Beach treatment plant approximately 1km away. The desired project outcome for SA Water is an improved reliability in sewer service, reduced risk of environmental incident's and provision of a safe working environment. The modifications to the pump station allow optimum operation for the current and future flows as a result of the forecast growth in the catchment.

The construction phase of the project is now complete with AVK Australia continuing to provide ongoing support for SA Water projects such as the Port Noarlunga WWPS.

AVK IN ROMANIA

From the beginning of 2015, Vestra, the newest member of the Elsaco Group, has taken over the distribution and sales activities of equipment for utility companies and contractors from Elsaco Electronic founded in 1994. Vestra is continuing the strategic partnerships that Elsaco has built with 36 foreign partners and leaders in their fields, and the company is expanding product offerings available for Romania.

By Felix Gyori,
Chief of Operations in Romania,
AVK International A/S, Romania

In addition, Vestra provides consulting services and customised solutions for the supplied equipment as the company has as a medium and long-term objective: to reach a market share position in Romania allowing it to be market leader for the segment dedicated to the supply of equipment for the utility industry such as thermal energy, water and gas.

Elsaco and AVK International A/S initiated a partnership nine years ago, which proved to be a success.

The quality and durability of the products provided by AVK International A/S contributed to the smooth completion of major infrastructure projects for water and sewerage in Romania.

One such project is the rehabilitation of the capture and treatment plant and the pumping and chlorination station of the Chişcani locality as well as the extension of the water and sewerage network from the common streets of Braila and the adjacent localities. For the purpose of this project the following products were used: gate valves (manually and electrically actuated), butterfly valves manually and electrically actuated, check valves and dismantling joints. The main beneficiaries are the Public Utilities Company Dunărea Brăila and the inhabitants of the Brăila County who will benefit from an improved water and sewerage network.

The extension of the water supply networks from the localities Buzău, Verneşti and Spataru is another project aimed to facilitate the living conditions of the inhabitants. In this case, a wide range of products from AVK were applied, i.e.: gate valves (manual), air valves, dismantling joints and underground hydrants.

For the rehabilitation of the water treatment plant from Valea de Peşti and of the Captation Lazăru from Valea Jiului, AVK products such as gate valves (manually and electrically actuated), butterfly valves (manually and electrically actuated), check valves as well as dismantling joints were used. Apart from the completion of this impressive project, the water and environment quality was considerably improved with the contribution of the gate valves and the above ground hydrants supplied by AVK for the execution of the networks project in Petroşani.

QUEENSBURY WASTEWATER PUMP STATION

AUSTRALIA

By Vincent Tripodi,
Marketing Coordinator,
AVK Australia

The Queensbury wastewater pump station is located in the Hendon suburb of Adelaide in South Australia. Owned and operated by state-owned SA Water, the station was upgraded in October 2014 to meet the needs of the growing population in Adelaide. Adelaide based valve manufacturer AVK plays a vital part in the AUD 18 million plant upgrade.

AVK supplied a range of 400mm and 600mm series 55 gate valves, series 41 swing check valves, dismantling joints, mechanical couplings and a range of other ancillary valves for this project which collects wastewater from approximately 20,000 properties and supports a population of 50,000 people in Adelaide's north-western suburbs.

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INVICTA VALVES CONTRACT - LEE TUNNEL PROJECT

UNITED KINGDOM

Morgan Sindall, as part of the MVB joint venture with VINCI Construction Grands Projects and Bachy Soletanche, is delivering the Lee Tunnel, Britain's largest water engineering project for 20 years.

By Tim Leigh,
Sales Director,
AVK UK Ltd.

Project Description

The GBP 635 million project (worth more than GBP 208 million to Morgan Sindall) involves the construction of a four-mile length of tunnel to prevent sewage discharges into the river Lee from the largest sewer overflow point at Abbey Mills Pumping Station in Stratford, East London. The seven-metre-diameter tunnel, the width of three London buses, will prevent more than 16 million tonnes of sewage mixed with rainwater overflowing into the river from the Victorian sewer network when it becomes overloaded. The tunnel will store and then transfer sewage to Beckton Sewage Treatment Works, which is being expanded to deal with the increased treatment volumes.

The Lee Tunnel, the first of two planned tunnels, marks a massive step forward in improving the quality of London's rivers and is an essential part of providing the capital with a 21st century sewerage system.

The project includes five shafts, which will be up to 75 metres deep. Tunnelling work started in 2012, and progress is in line with the schedule to meet the required completion date of 2015.

AVK Engineering Site Solution – Invicta Valves
Invicta Valves was awarded the contract to supply and install 19-off actuated penstocks and 12-off flap valves at the Abbey Mills site and the Beckton WWTW site.

The penstock / flap valve ranged in size from 3m square opening up to 4.8m wide x 5.2m deep.

The total value of the contract was more than GBP 1 million and the supply and installation were scheduled to be carried out over a 18-month period.

14-off penstocks and 12-off flap valves were installed into new build civil works and the remaining 5-off penstocks are to be installed into existing installations.

Several site surveys had to be carried out to establish the actual dimensions of the old installations and compare these with the original Thames Water drawings.

These surveys necessitated confined space entry into the chambers and wading in the media up to waste height.

The majority of the penstocks and flap valves have been installed and commissioned with the exception of 5 penstocks that are to be installed into original chambers, some of these will be installed over the Christmas period and the last and largest penstock will be installed in January 2016.

Better than the rest…
Utilising the skill of Invicta engineers and project management excellence over 100 drawings were discussed with the MVB design and engineering team which enabled us to decipher the best engineering solution for design and install of penstocks up to a massive 4.8m x 5.2m.

Our professionalism in submission of associated RAMS (Risk Assessment Method Statements) and support from our supply chain, presentations to the MVB senior engineering and procurement management teams ensured our successful bid to gain participation in the biggest UK water project for over 20 years.

Our overall project management expertise from concept to completion was the differentiator between Invicta Valves and our competition.

CITY OF CHARLES STURT - STORMWATER **PUMP STATION UPGRADE**

By Vincent Tripodi, Marketing Coordinator, AVK Australia

Frogmore Stormwater Pump Station

The Frogmore site was the last of 11 stormwater pump station upgrades. This project will upgrade the capacity of the Frogmore Pump station in line with other upgraded pump stations within the city to be able to efficiently handle a 10 year ARI program and increase community protection from the risk of flooding in larger rain events.

Over the 10 year program, the City of Charles Sturt will have spent AUD 10 million in upgrading the stormwater pump stations in the fixing leaks and blockages in pipes, installing new pipes and valves as well as upgrading existing stormwater pumping stations.

The upgrade works include the construction of underground stormwater storage and the construction of larger pump chambers to enable three new larger stormwater pumps to be installed. This takes the stormwater pump station capacity from 400l/s to 900l/s as well as ensures extra underground stormwater storage. A new electrical transformer and electrical upgrade including improved remote monitoring are also part of this stormwater pump station upgrade.

The construction works on this project are being undertaken by our field services construction team and were scheduled for completion and commissioning in early February 2014.

One priority of the Stormwater Fix Program is to reduce the number of wet weather overflows.

AVK 400mm series 55 gate valves, series 41 swing check valves and dismantling joints are being installed in the pipework development of this program.

AVK Industrial 1/15 Dunstan Road, Wingfield, South Australia 5013 (08) 8262 8855, www.avkindutrial.com.au

A pit construction at Frogmore site where the AVK valves have been installed

AVK IN JAMAICA

Working with our local Jamaican agent, Incotek, AVK was pleased to complete two days of training in November 2015 with the Jamaican National Water Commission (NWC) at their training facilities in Kingston Jamaica.

Hendrik Kwakkel, AVK Netherlands

Graham Charnley, AVK UK

By Graham Charnley,
Non Revenue Water Manager,
AVK UK. Limited

Ken Clarke of Incotek arranged for over 40 engineers from a variety of disciplines to attend over the two days, with Hendrik Kwakkel from AVK Netherlands and Graham Charnley from AVK UK presenting the AVK product programme on each day.

The history of AVK where Mr Kjær took the company on the journey to the current global position was described by Hendrik, who has been part of most of the journey for the last 35 years, and who was able impress the delegates with the breadth of supply, inward investment of AVK and the continual growth being shown by the company.

Hendrik covered the AVK Netherlands' stainless steel products and the leading rubber technology of the sealing system designed into the repair fittings and improved performance available for the AVK designs.

The range and applications were covered, and Hendrik was able to supply a range of options and potentially altering the current working practices to improve the methods and quality of repairs.

Graham Charnley created an overview of the RS gate valve range with particular attention to application, quality, solutions and design. It was widely agreed that the AVK RS gate valves delivered a quality product that supported a step change in design and operation that would benefit the NWC's whole life costs and future performance. Interestingly, it was identified that some of the operational issues being experienced by NWC are very similar to those of other water companies around the globe.

As Graham highlighted the necessity of air management within the networks, a related benefit of correct air management is the reduction of energy consumption; a major issue on the island. Maintenance, correct sizing and long-term operation were covered, and it was agreed that AVK can support the engineers in value engineering the correct solutions for future projects.

Ken Clarke concluded the training with a lunch and all those attending the two days of training were appreciative of AVK's and Incotek's efforts in arranging the seminars.

AVK CONTRIBUTES TO SECURING WATER NETWORK IN SWEDEN

By Heidi Kjær,
Marketing and Communications Coordinator,
AVK International A/S

Citizens of the municipalities Uppland-Bro and Sigtuna in Sweden can look forward to a more secure water network. Norrvatten Municipal Council provides the municipalities with water and has just started a large project building a new waterline between the two municipalities.

Prior to this project, both Uppland-bro and Sigtuna were dependent on a single water line, which made the two municipalities vulnerable to breakdowns. The future water line makes it possible to supply the two municipalities with water from two different sources, which enhances the delivery performance and minimises the damage if a breakdown of the network should occur.

The project consists of approximately 20 km water line and an 11 km discharge line connected to the existing water line. The new water network will consist of 600 mm pipelines with branches of 300 mm pipes connecting to the municipal network.

The first stage of the project – a 3.7 km water line going to Järfälla waterwork – has been initiated to which AVK in Sweden has delivered double eccentric butterfly valves, dismantling joints and extension spindles. The project is expected to be completed in 2018.

Parties involved in the project:

- Norrvatten has initiated the project
- The contractor is Peab
- The wholesaler is Onninen
- The supplier is AVK Sverige AB

Short facts about the project

- The project is in five stages, starting in Upplands-Bro and finishing in Sigtuna.
- The lake, Mälaren, which is the third largest lake in Sweden, provides the water.
- Görvälnverket, Norrvatten waterworks, is cleaning the water before it is distributed to the water network.
- It is not only citizens of the municipalities Upplands-Bro and Sigtuna, who benefit from this new water network. The airport of Stockholm, Arlanda Airport, can also look forward to a stable water supply that ultimately will benefit the whole country.

AVK AROUND THE WORLD

BIKE RIDE IN THE NETHERLANDS

By Hendrik Kwakkel, Managing Director, AVK Nederland BV

During a bicycle trip together with my wife Jannie, I saw this beautiful hydrant P5 from Mittelmann standing in a garden at a farmers place.

Now you can see that even if a hydrant is fully depreciated, you can always use it in your garden". You do not throw away AVK products like old furbish.

DRUMLANRIG CASTLE IN SCOTLAND

By Jørn Urup Nielsen, former employee of AVK

Street cover from before 1899 seen by Drumlanrig Castle in Skotland.

AVK AROUND THE WORLD

SIGHTSEEING IN SAUDI ARABIA

By Ole Hedegaard, Managing Director, AVK Saudi Valves Manufacturing Co. Ltd.

AVK series 27/00 fire hydrant manufactured at AVK SVMC. The hydrant is installed inside the Grand Mosque in Makkah, Saudi Arabia. This is the holiest site for Muslims and AVK was the obvious choice for fire protection at this important religious and historical site. Makkah has more than 12 million Muslim pilgrims visiting every year.

AVK series 27/00 fire hydrant manufactured at AVK SVMC outside the main entrance to the Yas Marina F1 Circuit in Abu Dhabi.

AVK series 27/00 fire hydrant manufactured at AVK SVMC installed in 2006 in Colombo, Sri Lanka.

COMPETITION

We are happy to announce that the winners of the competition in AVK interlink no. 45 are:

- Ummar Sharief, AVK Saudi Valves Manufacturing Co. Ltd., Kingdom of Saudi Arabia
- Jill Shaffer-Rice, American AVK Company, USA
- Shaun Holland, AVK UK Ltd., England

Gifts are on their way.

The correct answer is: Supa Maxi™ universal coupling

New competition:

Which product does this enlargement show?

Send an e-mail with the correct answer in which you state your address and the gift you would like to receive – if you win.

E-mail to: lios@avk.dk

Choose between:

Krenit bowl, black with red or yellow inside Ø12.5 cm

Picnic grill in a cooler bag

Hoptimist in yellow

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Expect... AVK