

# Five new tanks built in port

**F**FS have added more tanks to their Cape Town Harbour Tank Farm facility.

Five additional tanks of 8,9 million litres in total capacity have been built. As usual FFS were the design and management team, although construction of the tanks was outsourced to Trotech, and the civils to Inyanga Projects.

Three of these tanks are for the importation and storage of bitumen and have an extensive thermal oil-heating system to maintain the 150°C temperature required. The FFS-designed and -built heating system has been successfully commissioned and is operating to specification. The three bitumen tanks have 200mm of mineral wool insulation for maximum efficiency, and are being used by Colas and Much Asphalt to ensure security of bitumen supply in the Western Cape.

The other two tanks are currently being used for FFS imports.

The project value was approximately R60 million and was completed 8% above budget, mainly due to extensive planning permission delays. ■



▲ The FFS tank farm has pride of place in beautiful Cape Town harbour.

FFS also supplying tax-free bunker fuel in Cape Town harbour. See Page 2

▼ The FFS tank farm seen bathed in the glory of a Cape Town dawn.



## What's inside?



Don Hunter, left, and Don Cochran both retire at the end of February.

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# New tank farm supplies bunkers

**L**ate in 2012 FFS purchased the Cape Town Bulk Services tank farm from joint owners Island View Storage (IVS) and Transnet. This five tank, 3,9-million-litre facility situated on the Eastern Mole of Cape Town harbour is immediately adjacent to our existing facility.

It was at the time that Chevron decided to stop the manufacture of IFO70/80 bunker fuel for the coastal fishing fleet and this facility provided FFS with the opportunity to blend this fuel for the market. The facility has both sea

and road access. The facility has since been re-painted, rebranded with FFS's new logo, modified to incorporate more instrumentation and automation, and now boasts a covered loading gantry. A full-length weighbridge was also introduced.

The facility has now been licensed as a bonded manufacturing facility and can thus provide tax-free bunker fuel. Fishing fleet fuel is now batched up into discrete tanks, third-party tested and certified, and then supplied to customers. ■

## New leaders at FFS

▶ Three new directors have been appointed at FFS. They are, from left, Carl Frankenfeld, Director Sales, Marketing & Transport; Andrew Canning, Managing Director; and Mona Naicker, Director Corporate Affairs.

▼ With the retirement of Don Hunter and Don Cochran, the executive team now comprises, front from left, Petrus Scholtz, Director Business Development, Procurement & Technology; Andrew Canning, Managing Director; Nazeer Essop Ahmed, Financial Director; and back, Carl Frankenfeld, Director Sales, Marketing & Transport; Mona Naicker, Director Corporate Affairs; and Neil Yelland, General Manager Operations.



# Don Hunter retires



**I**t is with mixed emotions that I say farewell to FFS and our customers and associates. After a wonderful, exciting, stressful, challenging, rewarding, demanding, absorbing but ultimately incredibly fulfilling career spanning 25 years, it is time to hand over to a younger, more energetic leader and retire as gracefully as I am able to.

Having started as a project engineer in May 1989 in a small but promising company, I have been privileged to be part of some of the most amazing and innovative developments and growth in this very special company. FFS has forged a legacy that I am very proud of. I am particularly proud, for example, that we were able to remove several million tons of liquid waste hydrocarbons from the environment and through incredible ingenuity re-refine this into valuable energy products, utilised in a great number of niche and specialised applications

The breadth of our engineering feats never ceases to astound me, having conceived, designed, detailed, fabricated, constructed, commissioned and operated a startling number of complex and diverse projects. FFS, I think, has been the embodiment of the South African “can do” attitude and epitomises the technical strength and ability that South Africans have to be able to tackle any challenge, and for this I salute all at FFS. For all those that made this possible, I thank you and wish you all the strength and courage to continue. Farewell and goodbye. ■

# New MD appointed

**A**ndrew Canning, a refinery man who has grown particularly fond of black oils since joining FFS in 2012, has taken over the reins at FFS as Managing Director.



Andrew is a chemical engineer (Pr Eng SA, CEng UK), and has spent most of his working life in the oil and petrochemicals sector where he started life as a process engineer. He has experience

working in the oil industry in the UK where he was based for seven years, as well as nine years in the local oil industry where he worked for the Engen refinery in Durban.

At FFS, Andrew spent time initially at the Teakwood Road branch as Branch Manager which afforded him an opportunity to really understand the business from the grassroots, its challenges and the FFS culture. He then spent a year as Chief Operating Officer which allowed him time to fully understand the wider FFS business under the excellent mentorship of the outgoing MD, Don Hunter.

Outside of work, Andrew is supported by his wife Marie and teenage (ouch!) twin daughters Megan and Ellie. Andrew has completed several Comrades Marathons but thanks to a knee injury last year, he has finally given in to the repeated suggestions from his colleagues and bought a mountain bike!

When asked his thoughts on the new role, Andrew had this to say: “I am thrilled whilst at the same time humbled at the opportunity the FFS Refiners board has given me. It is both an immense privilege and a daunting task to take the helm of a company as dynamic and successful as FFS. I am blessed in that I inherit a great team at FFS who are both skilled in what they do while personally being a great bunch of people. The company is well positioned to overcome the multitude of challenges we face, thanks largely to the robust and diversified nature of company that FFS has become under the strong leadership of our outgoing MD, Don Hunter.

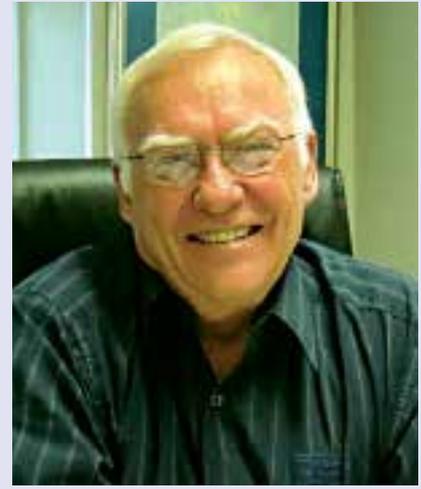
“On behalf of all the staff at FFS, I would like to thank Don for his passion and unwavering commitment to FFS and wish him well for the next chapter in his life – a retirement filled with adrenalin-fuelled adventure!” ■

# Don Cochran says farewell

**A**s FFS comes to the end of an era, retiring Financial Director Don Cochran, reflects, "I was the first official employee of FFS Refiners, starting on 1 November 1986. On 1 December 1986 FFS Refiners began operations, taking over the assets and liabilities and staff of Fuel Firing Systems, the company started by Tony and Diane Hurter in 1974. The management team and administration staff were few in those days, and the company had just moved into their new offices in Umhlatuzana Road and had manufacturing facilities only in Teakwood Road and Secunda

Damsite (Sasol Black Products area). In those days the company sold some industrial fuels – Non-Ferrous Metals were the first customer – but its main market was marine fuel, and all of Unicorn's fleet ran on FFS fuel.

"It has been amazing to have been part of the development and growth of the company into what it is today and I am happy to have been able to make some contribution to this. It must always be remembered, however, that one cannot operate in a vacuum, and I salute each and everyone of you who have, in your own



way, contributed to the FFS of today.

"Change always brings concern with it, but I am confident that the new management team, with the support of the staff, will grow FFS into the future.

"I shall miss and remember you all!" ■

## Technical issues resolved happily

**W**ith HFO customers reporting excessive nozzle and pump wear and combustion problems, FFS embarked on an extensive research programme to establish the root causes.

### Pump & Nozzle Wear

Two test rigs were built up to circulate HFO at normal combustion temperatures and pressures. Each rig had a pair of small gear pumps running in parallel and burner nozzles to provide more data. This set-up then allowed for four simultaneous sets of data to be recorded. Periodically the system was stopped and the pumps and nozzles measured for wear. After several months of continuous running at 26 barg pressure and 90°C, the following was concluded:

1. Pumps were failing due to manufacturing faults and not wear
2. There was no visible or measurable wear on the nozzles

Wear in fuel oil applications can typically be attributed to aluminium and silicon catalyst fines present in all heavy fuel oils. Despite the fact that these trials did not identify significant wear, FFS decided to centrifuge their entire HFO supply to customers to reduce the aluminium and silicon content (and overall ash content) in their fuel.

FFS have therefore replaced their 1,5t/hr centrifuges with much larger 6,0t/hr Alpha-Laval PX vertical spindle machines in both the Durban and Cape Town plants. This processing reduces ash contents from ~0.1% to less than 0.05% and aluminium and silicon levels from ~300ppm to <80ppm. This higher quality fuel has been well received and the wear concerns reduced.

### Combustion Issues

Majuba power station was having trouble burning FFS-produced HFO. A test rig was set up by FFS in record time in order to assist with this problem. A water-cooled coil in a refractory-lined combustion chamber was hooked up to a pressure-jet burner and a hot reticulation system with load cells to weigh the fuel usage. All temperatures and pressures required were recorded. A super-cyclone was added at the end with a bag filter to catch particulate and any unburned fuel. Multiple tests were done with a range of fuel specifications (viscosity, density, distillation range, ash content) and the operating pressure and temperature boundaries determined.

The results showed no combustion problems with the fuel, but the temperature, pressure, nozzle angle and condition, and air-fuel ratios were critical. Variations in density required a change in the air-fuel ratio. A detailed report was produced and can be downloaded from our website, [www.ffi-refiners.com](http://www.ffi-refiners.com) ■

# Please help us to stick to our core values



## OUR VISION

To be the Preferred Provider of Speciality Energy Solutions

### FFS VALUES:

- SERVICE** (Illustrated with a person running)
- REPUTATION** (Illustrated with a newspaper)
- INTEGRITY** (Illustrated with a compass)
- Customer Satisfaction** (Illustrated with a magnifying glass over a document)

*To have a passion for our business based on Energy, Reputation, Optimism, Enthusiasm and Joy*

*To be a business based on personal and business Integrity, Honesty and Truthfulness.*

*To be a company where Customer Service and Support is integral to all that we do and where we are all committed to becoming Exceptional*

*To work as a Team with people who constantly strives to develop their business and technical skills to ensure Excellence in Execution*

*To grow and protect our brand by being Trustworthy and Reliable, externally (to our customers, suppliers and government) as well as internally (to our employees)*

*To ensure a high level of Work Ethic by bringing Effort, Application & Diligence that demonstrate our commitment to always doing any task to the best of our ability - Productive, Reliable & Supportive under pressure.*

As can be seen from our mast-head on page one, the FFS logo has been refreshed. The individual letters F-F-S on our road tankers can now be read at a distance.

After a brainstorming strategy session FFS also improved on what is important to us, our “Core Values” and what we would like to strive for in terms of how our customers see us. This is as the “Preferred Provider of Specialised Energy Solutions”.

Our Core Values have been captured nicely in the graphic above which has been rolled out to all our facilities. We hope you will challenge us and help us to stick to them. ■

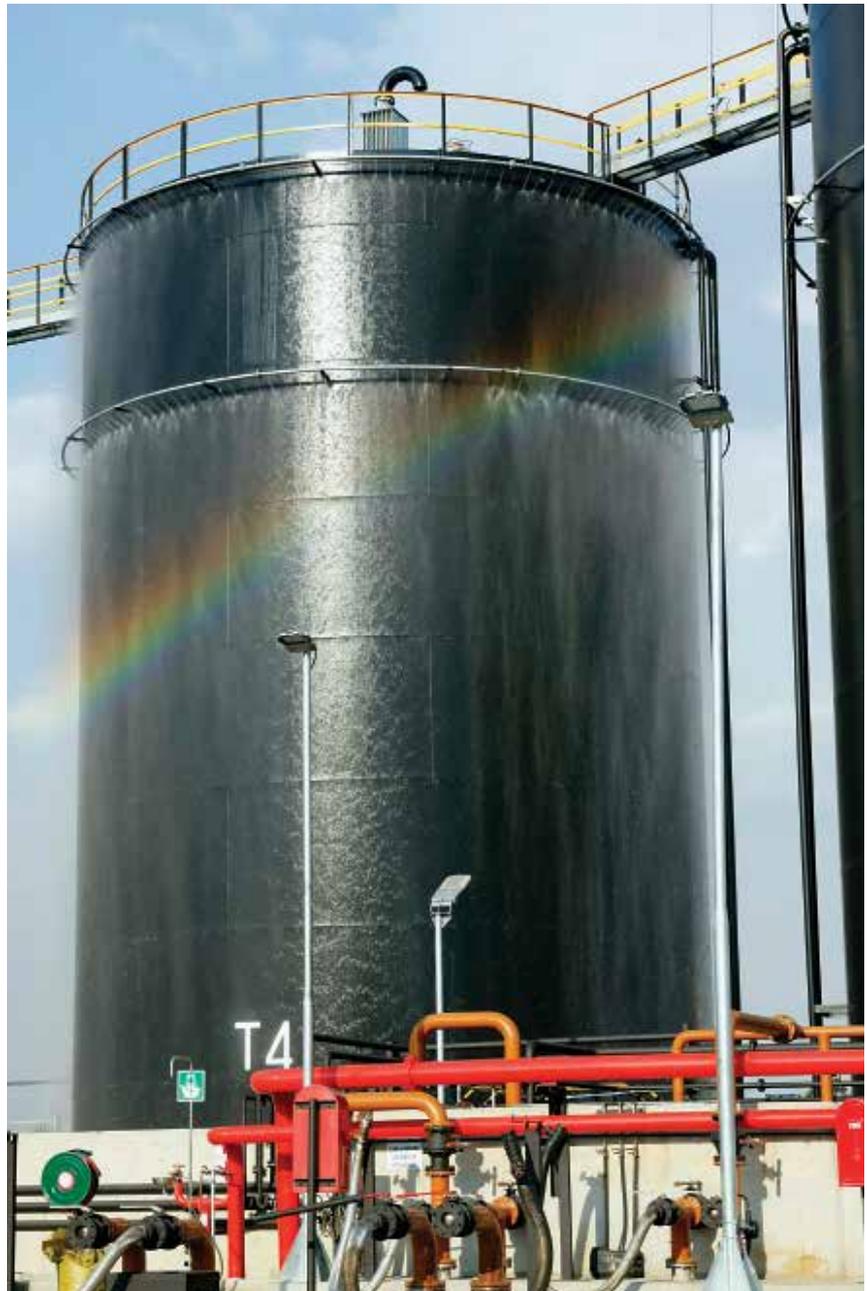


# Evander tank farm extended

**A**s part of its strategic infrastructure investment plan, FFS has extended its Evander (Mpumalanga) tank farm by an additional five tanks with a total capacity of 8,4 million litres.

This tank farm was commissioned late in 2014, in time for a Sasol Synfuels shutdown so that their coal tar fuel could be stored. This is the first phase of a planned R160 million tank farm of 25 million litres total capacity. This state-of-the-art facility is the only one of its kind outside of Sasol. ■

► One of the new tanks at the bigger and better Evander tank farm, with part of the fire-fighting system in the foreground.



## Competition gets staff clicking



▲ The theme for the 2015 calendar was “Seascapes”.

**F**FS have been blown away by the positive response from our customers and associates to our annual calendar. Each year now we open up a photo competition to all our staff, to see who can win a place in our annual calendar, with the winning shot getting the cover spot.

The theme is different each year, but is essentially a celebration of our outdoors. We have done birds and animals, and seas and landscapes. Last year’s winner was Alison Osborn (Group Environmental Manager) with her stunning Namibian desert and this year’s winner is Mike Heffernan (Cape Transport Manager) with his churning sea. ■

# FFS develops efficient VOC filter

**A**nother successful FFS research and development project has been rolled out to FFS processing facilities. This is the Volatile Organic Compound (VOC) and odour control emission filter.

The project started with FFS embarking on a technology search to establish the most effective method of VOC reduction. The project was completed before new legislation (Listed activities and associated minimum emissions standards identified in terms of Section 21 of the National Environmental Management Air Quality Act of 2004) comes into effect on 1 April 2015. The reduced VOC limit for existing industrial fuel oil recyclers vapour recovery/destruction units will be 90mg/Nm<sup>3</sup>.

What came out of the R&D programme was an activated carbon filter that can be regenerated in-situ using steam, that is also cost-effective and very efficient. The emission gas stream is run through the activated carbon filter, reducing the VOC content from >10,000 mg/Nm<sup>3</sup> to around 20 mg/Nm<sup>3</sup>.

Once the carbon charge becomes saturated, the flow is swung to the second filter and the saturated filter is flushed with steam. The water and hydrocarbon flush is then treated in the effluent water treatment plant. As an added benefit, the activated carbon filter also removes odorous mercaptans, thereby greatly reducing the “oily” smell.

The plant instrumentation and control system was developed in-house by FFS engineering staff.

Alison Osborn (Group Environmental Manager) says, “It’s another of many environmental improvements that FFS have spent time, effort and money to bring to fruition.” ■



▲ The welder Hoosen Yacob stands next to one of the FFS-designed and -built VOC and odour scrubbers in the main FFS workshop.



## Yuri looking for waste oil

**W**e welcomed Yuri Naidoo to our ranks on 1 February 2014. She is a Marketer in the marine waste oil section.

Working with ships agents and ship owners, her role is to source waste oil, nationally. She actively markets FFS’s services in Durban, Richards Bay, Cape Town, Saldanha Bay, Coega and Port Elizabeth. ■

# FFS-sponsored matrices excel

**T**he Programme for Technological Careers (Protec) was started in 1982 with 100 students at a three-day vacation school in Soweto.

It was the brainchild of Cliff Mc Millan, who at the time was a member of the executive committee of the SA Institute of Civil Engineers and was started to encourage previously disadvantaged pupils to follow a career in engineering.

Protec's main focus is Saturday classes for selected promising learners in Grades 10, 11 and 12, supplemented with vacation schools and camps, career guidance and appropriate exposure to the world of work and technology. Protec developed its own appropriate training material and soon earned a reputation as a leader in this field.

The Protec branches provide extra tuition in mathematics, physical science, English and world of work (life orientation).

FFS is the main sponsor of the combined Protec INK (Inanda/Kwa Mashu) branch, which conducts its Saturday

and vacation schools at the Altech Multi-Media Centre and at the Ohlanga High School.

FFS is also a secondary sponsor of the Protec Tongaat branch (together with the Uthongathi Computer Centre) that operates from the Tongaat Hulett premises in Maidstone. FFS, being a technology driven company, believes strongly that engineering and science are imperative for the economic growth of the country.

The Protec learners see Protec as a family, as the tuition goes way beyond just learning. Protec assists with the obtaining of bursaries, entrance to university and the administration managers of the branches become almost second parents to the learners. A large number of learners "give back" to Protec by getting involved in branch activities; there is also a post-school programme where past Protec learners encourage and assist other Protec learners to adjust to university life.

The matric results of the Protec branches sponsored by FFS are exceptional, and the 2014 results are as follows:

	Number	Pass	B	D	H	Fail	Awaiting Results	Distinctions
Protec Tongaat	37	100%	97%	3%	-	-	-	85
Protec INK	46	94%	76%	18%	2%	2%	2%	48
KZN AVERAGE		75.8%	28.3%					
NATIONAL AVERAGE			68.7%					

## FFS expo encourages young scientists



▲ FFS has been a sponsor of the 'FFS Expo for Young Scientists' in Durban for 30 years. The expo encourages learners from Grades 8 to 12 to explore the world of science and have fun! Above is a view of the 2014 expo.

## Contact details: FFS Refiners

### HEAD OFFICE,

Tel : (031) 459 5300, Fax : (031) 459 5326, E-Mail : [ffs@ffs.co.za](mailto:ffs@ffs.co.za)

### JACOBS PLANT, DURBAN,

Tel : (031) 465 1466, Fax : (031) 465 1473, E-Mail : [teakwood@ffs.co.za](mailto:teakwood@ffs.co.za)

### CHLOORKOP PLANT, GAUTENG,

Tel : (011) 976 2198/7/6, Fax : (011) 976 4006, E-Mail : [chloorkop@ffs.co.za](mailto:chloorkop@ffs.co.za)

### EVANDER PLANT,

Tel : (017) 632 9100, Fax : (017) 632 9119, E-Mail : [evander@ffs.co.za](mailto:evander@ffs.co.za)

### PIETERMARITZBURG PLANT,

Tel : (033) 398 1651, Fax : (033) 398 1652, E-Mail : [pmb@ffs.co.za](mailto:pmb@ffs.co.za)

### CAPE TOWN PLANT,

Tel : (021) 557 4529, Fax : (021) 557 0667, E-Mail : [cape@ffs.co.za](mailto:cape@ffs.co.za)

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