

World leading water service provider to install WAF plants

DEGRAMONT, a subsidiary of a multinational company, SUEZ Environment, has successfully tendered for the contract to install two modular water treatment plants - one in Ba, the other in Tailevu.



(L-r) Mr Didier Gaujous, CEO, CDE, Mr Opetai Ravai, CEO, WAF and Mr Didier Vallon, Chairman, CDE.

Water Authority of Fiji (WAF) CEO, Mr Opetai Ravai, said that SUEZ Environment is a world-leading water service provider, with over 200,000 employees world-wide and an annual turnover of some €15 billion.

With construction of the two water treatment plants expected to begin later this year, a personal invitation was extended to Mr Ravai to inspect the same type of plant installed by SUEZ Environment for Calédonienne des Eaux (CDE),

the New Caledonia Water utility.

"The CDE engineers both build and operate the water treatment plants of the type to be constructed in Ba and Tailevu, making it an ideal opportunity for us to inspect and clarify the technical details with the experts.

"A senior manager came to Fiji to extend the invitation on behalf of the CEO of CDE and my visit, along with three WAF engineers, was timed to coincide with the visit to New



(L-r) WAF's Mr Josaia Koroilavesau, Graduate Engineer, Mr Roger Laqere Graduate Engineer and Mr Miteshwar Chand, Bulk Engineer West, in New Caledonia.

Caledonia by the Chairman of CDE. This really was an honour for us," said Mr Ravai.

"As Suez Environment is a recognised multinational company able to exercise large economies of scale, it is advantageous for WAF to be aligned with such a company in terms of water and wastewater systems and its suppliers and operators, with 24 hour access to the expertise of scientists and engineers, world-wide."

During the week of high-level discussions that took place between WAF and CDE, Mr Ravai, in his role as Chairman of the Pacific Water and Wastes Association

(PWWA), invited CDE to become a member of the Association, an invitation immediately accepted.

Mr Ravai said that his hosts were impressed by WAF's "remarkable development" in its five years of existence, saying they were "amazed" by the speed of WAF's progress.

"WAF has been able to achieve this because of the great support from the Fiji Government and the WAF Board of Directors. We all want to see improved service to the people of Fiji."

FIJI Water and WAF MOU benefits rural communities

THE Memorandum of Understanding (MOU) signed by FIJI Water and the Water Authority of Fiji (WAF) on June 30th sees FIJI Water providing funding to assist rural communities in receiving a reliable supply of clean, safe water for their daily needs.

WAF CEO, Mr Opetai Ravai, said that FIJI Water's assistance to these rural communities "would go a long way, not only in improving their water supply systems," but that the ensuing effect would be an "overall improvement in their socio-economic advancement.

FIJI Water CEO, Mr Rokoseru Nabalarua,



(L-r) Mr David Ricanati, President, FIJI Water, Mr Rokoseru Nabalarua CEO, FIJI Water and Mr Opetai Ravai, CEO, WAF.

welcomed the signing of the MOU with WAF as an opportunity to assist the communities in paying their one-tenth community contributions towards the development of

their respective water supply systems.

"The WAF Rural Water Scheme had been supplying water to rural communities since 2010, with more than 250 systems installed since the programme's inception. FIJI Water's contribution recognises the importance of this programme as well as the difficulty some communities experience in raising their one-tenth contributions," said Mr Ravai.

The MOU was signed, during the FIJI Water 20th Anniversary celebrations, at the Grand Pacific Hotel, Suva.

Continued reduction in intermittent water supplies

THE intermittent water supplies to Water Authority of Fiji customers has been reduced by 67%.

This translates into approximately 30,150 customers who now have a sustained, reliable water supply every time they turn on the tap. WAF is committed to reducing the remaining 33% that remains and is carrying out the necessary work to ensure this takes place.

From the CEO's desk

AS we reach the half-way mark of 2015, it is a fitting time to take note of the progress being made by the Water Authority of Fiji (WAF) as we continue to strive to provide sustainable quality water through service excellence to all our customers and an increasing number of rural communities not connected to the WAF water reticulation system. I am proud to note that we have assisted more than 250 such communities in the five years of

WAF's existence. And with the signing of the Memorandum of Understanding with FIJI Water that sees more rural communities receiving financial assistance to meet their one-tenth community contribution, we are gearing up to roll out these additional water supply projects. I am also pleased to note the increasing contact between WAF staff and representatives of overseas companies in twinning and training programmes. Such

programmes are resulting an exchange of knowledge, skill and expertise that benefits all participants. The recent visit to New Caledonia to meet with the Chairman and the CEO of Calédonienne des Eaux (CDE) has enhanced WAF's presence on the international stage. At the same time, CDE has been encouraged by WAF to participate at the regional level, through PWWA (Pacific Water and Waste Association). All these developments take place

because of the commitment and hard work of every member of the WAF team. It has been an exciting first half year, and I look forward to even more progress in the next six months.



Mr Opetai Ravai.

Valuable insights from Hunter Water work attachment

WATER Authority of Fiji (WAF) Senior Planning and Design Engineer, Mr Sosiveta Turagaiviu, said that the week and a half work attachment spent with Hunter Water, Australia, was "educational and enlightening, with regard to the needs of the WAF water and wastewater infrastructure."

Despite his schedule being disrupted at first by cyclonic weather conditions in New South Wales, Mr Turagaiviu said that during his attachment, from 28th April till 7th May, his hosts provided an extensive overview of various water and wastewater treatment plants in operation or under construction.

For example, he had the opportunity to observe the testing of the newly-constructed mechanical aerators at the Shortland Wastewater Treatment Plant, Newcastle. At Morpeth Wastewater Treatment Works, Maitland, in the Hunter region, Mr Turagaiviu noted the use of



Mr Sosiveta Turagaiviu, Senior Planning and Design Engineer, WAF observing the mechanical aerators being tested at the Shortland Wastewater Treatment Plant, Newcastle, Australia.

fibreglass covers on the wastewater inlets and saw an odour control facility using soil filters to absorb odorous and noxious gases from wastewater inlet pipes.

He also visited Mardy Water Treatment Plant, Somersby Water Treatment Plant and Sanitarium Health and Well Being, the latter being an example of a manufacturer pre-treating waste before disposing of it into the wastewater system. Pre-treatment is a

legal requirement in Australia, to ensure that the wastewater treatment plants are not overloaded with the introduction of organic matter into the system.

The quality of effluent finally reintroduced back into the environment is also closely monitored. Where the receiving creeks or streams are considered to be small, care is taken that extended

aeration processes are used to remove nitrogen and phosphorous, so inhibiting excessive algae growth.

Mr Turagaiviu said he appreciated the opportunity provided to him by WAF and Hunter Water and especially wanted to thank Mr Jim Keary, CEO, Hunter Water and his Personal Assistant, Ms Angela Cagney, the staff of Hunter Water, Wyong Shire Council and the other private institutions he visited during the work attachment.

Twinning Programme with Auckland WaterCare Services



Mr. Tuan Hawke, Water Supply Manager, Watercare Services (left) and Mr. Nigel Toms, Risk Manager, Watercare Services in discussions with WAF.

THE twinning programme workshop between Water Authority of Fiji (WAF) and Watercare Services, of Auckland, New Zealand saw some 15 WAF participants meeting with Watercare Services' representatives to share knowledge and skills in developing a risk assessment framework for Water and Wastewater Treatment Plants in Fiji.

Supported by the New Zealand

Foreign Affairs Ministry to create partnership between similar utilities in the exchange of expertise, the four-day workshop, held at the end of May, saw the development of the risk assessment framework with the full involvement of key staff.

The risk assessment framework can be adopted in any field of work that WAF undertakes, quantifying identified risks, which greatly assists as support information in the justifications for approvals.

Manager Regional, Water Development Affairs- new role for Vakacegu

IN his new role as Manager Regional, Water Development Affairs, Mr Vula Vakacegu is already working to develop a good rapport by meeting with and listening to key stakeholders.

These include the Prime Minister's Office, the Ministry of Regional development, the Regional Commissioners and the Ministry of Infrastructure, as well as Water Authority of Fiji (WAF) management and other organisations.

This role has been created specifically to listen to and address the issues and requests arising from the rural sector in relation to water with Mr

Vakacegu and members of his Rural Water Supply Team, some 20 personnel, sharing attendance at the Provincial and Council meetings in order to stay abreast of these issues.

Mr Vakacegu also believes that a key function of the Division is to empower Rural Water Committees.

"After a rural water project is commissioned, WAF gives maintenance support to the committees for the first six months and supplies the necessary tools and fittings as a starter repair kit. We need to ensure that the committees are empowered with an understanding of what are their responsibilities in keeping their

water systems maintained and functioning properly.

"We are about to expand from being the Rural Water Supply Division to being the Rural Water Supply and Sanitation Division, so there is a need to access the necessary expertise to successfully develop this branch of the Division," said Mr Vakacegu.

Mr Vakacegu brings to his new position five years' experience as WAF Regional Manager, Central/Eastern, as well as more than 30 years in a variety of operational roles within the Public Works Division, all of which, he believes will enhance his ability to work



Mr Vula Vakacegu.

with the stakeholders.

"I look forward to working with our stakeholders in following proper procedures in resolving any issues regarding the supply of water to rural communities. I understand that there may be some frustrations, but these can be resolved by working together," said Mr Vakacegu.

Sydney Water provides environmental training

WATER Authority of Fiji (WAF) CEO, Mr Opetai Ravai, said that the training by Sydney Water of WAF and Ministry of Environment engineers would help WAF create a framework to better manage environmental compliance as well as manage the discharge of industrial wastewater.

"Both the Ministry and WAF seek to establish a realistic operational framework, appropriate for Fiji that minimises the impact upon the environment," said Mr Ravai.

"We are seeking the best combination of treatment technology and the applicability of appropriate discharge standards that would be more economical for the country, as well as looking at the best way to manage



Mr Andrew Kirkwood, Manager, Business Customer Services, Sydney Water, Mr Iain Fairbairn, Product Manager Wastewater, Sydney Water, Ms Rebecca Whiteside, NSW Environment Protection Agency, Mr Aminiasi Qareqare, Acting Director, Department of Environment Fiji, Mr Mitesh Baran, Manager, Wastewater, WAF and Ms Lyn Almario, Asian Development Bank, Philippines.

the discharge of industrial wastewater into our sewerage networks.

"Sydney Water has an excellent track record in building relationships with its environmental regulator. We see this as a benchmark for establishing our governance framework and management systems in Fiji. In addition, Sydney Water's trade waste management policies

provide an excellent framework on which to structure Fiji's policies, to gain the best outcome."

Sydney Water General Manager Customer Services, Mr Andrew Kirkwood said that the company was "more than happy to assist" as it was a "great acknowledgement that we are world-class in the development of constructive relationships with our regulators and industrial customers."

"It is also an acknowledgement of the depth of knowledge and expertise our staff has developed over the years. We hope we can share this knowledge so that Fiji becomes adept and efficient in their management of urban water and wastewater management," said Mr Kirkwood.

Chromatography training towards ISO 17025



Mr Mosese Nariva, NWQL Team Leader, WAF.

TRAINING in the use of the newly acquired gas chromatography and high performance liquid chromatography (HPLC) equipment has taken place National Water Quality Laboratory (NWQL) while the laboratory is progressively working towards

ISO 17025 accreditation.

The equipment is used to analyse samples to detect components such as pesticides and herbicides that may be contaminating the water supply.

NWQL Team Leader, Mr Mosese Nariva, said HPLC uses a liquid mobile phase to carry the sample through a column or tube that is packed with a solid absorbent material. Each component in the sample interacts slightly differently with

the adsorbent material, causing different flow rates for the different components and leading to the separation of the components as they flow out of the column.

Gas chromatography uses a mobile phase. This is a carrier gas, usually nitrogen or helium, during which the sample is analysed while in a volatile or vaporised state. It is used for separating and analysing compounds, testing the purity of a particular substance, or for separating the different components of

a mixture.

"This process is used to test for the presence of trihalomethanes that are formed by the reaction between excessive chlorine and naturally occurring organic substances in water," said Mr Nariva.

He said that the two items of new equipment are part of the drive to ensure that the data produced by NWQL has integrity, is valid and of high quality.

"We are more than 70% complete on our journey to ISO 17025 certification. This equipment and training is another step forward on that path," said Mr Nariva.

WAF efforts reach rural communities

A three-hour drive from Sigatoka, located in a remote area of Navosa Province, the village of Vunavesi's only source of water "from the time of our forefathers," was from a creek.

But that has all changed. The sixty villagers now have piped water into Vunavesi, where, according to villager elder, 75 year old Ilaitia Tamata, "The women had to carry the laundry to and from the creek, it has been a hardship. The piped water has brought great relief to our people."

The work, carried out by the Water Authority of Fiji (WAF) included the construction of a 10,000-gallon ferro-cement tank and the installation of 10 sets of standpipes and showers at a cost of \$88,000.

"Bringing piped water to the more remote areas of Fiji is a challenge but it is a major part of what we do. Our commitment is to bring sustainable water to everyone in Fiji. I am glad that the villagers of Vunavesi appreciate our efforts," said WAF CEO Opetaiya Ravai.



The children of Vunavesi Village can now receive water at the turn of a tap.

DMAs effectively monitor non-revenue water losses



Mr Fred Fuakilau, Team Leader, Integrated Meter Management Unit, WAF, making a presentation at TCET, Auckland, New Zealand.

AS leaks are always present in water supply networks, the challenge is to monitor, check and effectively respond where leaks are occurring.

WAF Team Leader Integrated Meter Management Unit, Mr Fred Fuakilau, said that

he had received confirmation during his two days spent at Thomas Civil & Environmental Consultants (TCET) in Auckland, New Zealand, that the steps taken by WAF to break the water supply network into smaller divisions, or District Metering Areas (DMAs), is the most effective way to monitor for leakage, water loss, illegal connections and the under-reading of meters.

Mr Fuakilau, who attended a two-day workshop conducted by TCET Principal Engineer and water loss specialist, Mr Richard Taylor, said that the next step is to adopt operational indicators that will allow for accurate readings of actual water loss.

Amongst the "exciting developments" in addressing water loss and non-revenue water are Smart or Automated Metering Systems. These meters are linked to a SCADA

(Supervisory Control and Data Acquisition) system. Such systems control remote equipment by computer and coded signals. They can include multiple sites and cover large distances.

Mr Fuakilau said to provide accurate Non-Revenue Water percentages, it is necessary to check that the bulk metering is accurate and not just rely on SCADA readings. Bulk metering takes place at outflows from water treatment plants and reservoirs, into the distribution system. Water losses and NRW calculations are based on these readings, so accuracy is important.

"As water balance calculations establish the level of real water losses occurring in the water supply it pays to physically check the meter readings in order to get an accurate water balance calculation," said Mr Fuakilau.



Change management initiative for all

FOLLOWING the Change Management Workshop, conducted by Bill Synnot of the Australian firm, Bill Synnot and Associates earlier this year, WAF Senior Business Analyst, Mr Manasa Tusulu and colleagues organised a morning tea to recognise the essential contribution made to productivity within the company by the

WAF Housekeeping staff, who provide a safe, clean environment for the other members of the WAF team at Head Office.

The Housekeeping team were each presented with laminated cards stating the WAF Vision, Mission and Values. These pocket-sized cards were the first to be presented to staff members.

Everyone in WAF needs to be driven by the same vision, mission and values. We need to communicate what these are to everyone in the company and people also need to know that their

contribution is valued; hence the morning tea.

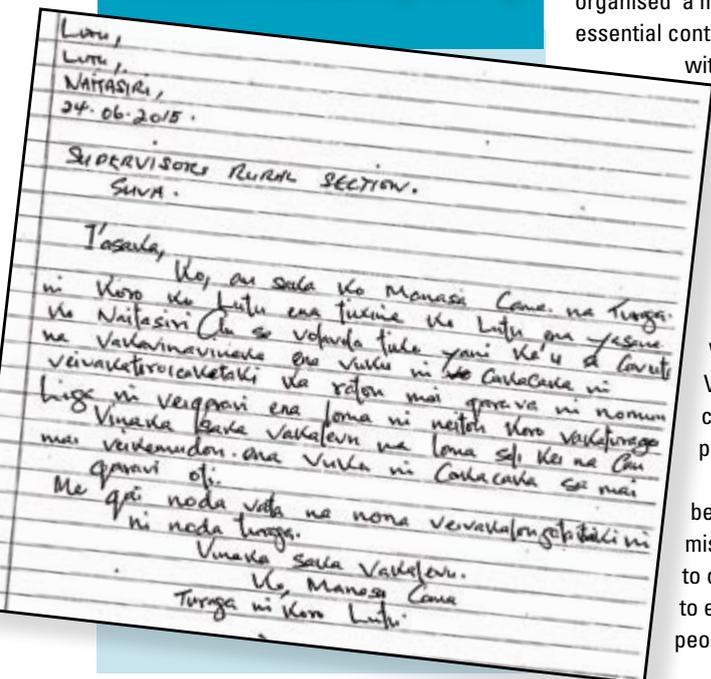
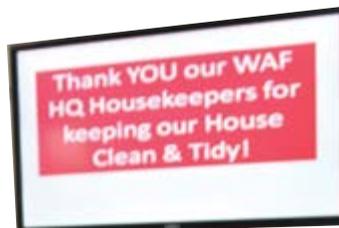
The Change Management Workshop he

and 22 WAF colleagues attended emphasised using practical tools to work with people to bring about change.

"An essential part of change management is laying the foundation for new behaviours. Everyone working in a company plays an important role.

"We cannot expect people to buy into the vision, mission and values if they don't really know what these are and if they don't understand the importance of their role in the overall success of WAF.

"Instead of a top-down approach, trusting that the message will get through, we are taking a proactive approach to communicating what these are to all members of the WAF workforce, targeting a section or department at a time," said Mr Tusulu.



Report a leak call 334 6777 or 5777 (Vodafone and Inkk users).

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