



Used Oil Report – Fiji, Niue, Kiribati, Vanuatu, SCL

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Executive Summary

This report covers the visit to Fiji, as part of the consultancy engaged by SPREP under the Global Environment Facility's Pacific Assistance Strategy: Integrated Management of Solid and Hazardous Wastes and Persistent Organic Pollutants (GEFPAS uPOPS) project. Fiji has long been seen as a potential receiving country for used oil in the Pacific. The company that was identified as being able to receive this used oil was Bluescope Pacific Steel (Fiji) Pty Ltd (BPS) in Suva.

The main purpose of the visit was:

- a) To assess the capability and willingness of BPS to receive used oil from various Pacific countries as appropriate.
- b) If BPS is capable and willing to receive used oil from Pacific countries, then to update the audit of BPS that was carried out in 2012, to ensure that BPS is environmentally suitable to receive used oil from the Pacific.

John O'Grady is also currently undertaking audit work for MFAT throughout the Pacific and was therefore able to carry out some additional used oil investigations in Kiribati, Niue and Vanuatu, which were countries he visited during the time the investigations were being carried out for this consultancy. It should be noted that the investigations carried out in these countries were not initially structured as part of the overall consultancy investigations and should be viewed as supporting information that can be drawn on as appropriate.

When it became clear part way through the investigations that Salters Cartage Ltd (SCL) was currently being used to receive used oil from the Pacific and was a likely receiver of Pacific used oil on a regular basis, information was also sought from them regarding their suitability as a potential recipient of used oil from the Pacific.

This report has drawn the following conclusions.

Fiji

- a) Bluescope Pacific Steel (BPS) collect and burn used oil in their steel processing plant in Suva.
- b) They are very proactive in the local market in collecting used oil for this purpose and operate a professional collection and storage system.
- c) They have quite a large storage capacity but not sufficient to take very large amounts of use oil. They have a limited capacity to manage sludge and they do not have a tank cleaning capacity.

- d) The local market keeps them well supplied to meet their used oil needs and their core business is steel making and not used oil.
- e) They are therefore not interested in importing used oil directly into Fiji from overseas countries.
- f) They do receive used oil from other countries indirectly if they have the capacity – for example from Pacific Energy shipments from other countries.
- g) The BPS operation is sound and meets audit criteria for health, safety and environmental impact, with the possible exception of the air emissions, which BPS is working to address now.
- h) BPS may be willing to take part in plans to import used oil from other countries in the future but only as an indirect partner, and only if they have the capacity and resources to manage the used oil.

Kiribati

- a) Most of the virgin lubricating and other oil that comes into Kiribati is imported by KOIL, including the oil that goes to PUB. There are, however, some smaller importers and the companies building roads also import some of their own oil.
- b) KOIL sent three shipments of used oil to India in the last few years, but this has been stopped now because of the high water content, which was unacceptable to the Indian company.
- c) KOIL no longer accept used oil for storage because of a lack of space. They are, however, working with MELAD to arrange for the export of a shipment of used oil to SCL New Zealand and they will then go round and collect all the used oil that has been stockpiled.
- d) PUB is arranging their own shipments of used oil and are backfilling TTs that have delivered fuel to PUB. The first shipment of this used oil is due to go to SCL in New Zealand very soon and this will be an ongoing process.

Niue

- a) The Government of Niue (GON) has made one shipment of used oil to SCL in New Zealand in 2012.
- b) They are currently storing used oil in two 10 m3 Isotanks and around the island in IBCs.
- c) The IBCs are becoming full and are deteriorating in the sun so leaks are occurring. They also have no more IBCs. There are also historical oil leaks that have occurred that have caused ground contamination.
- d) It is difficult for them to transfer the oil from the IBCs to the 10 m3 Isotanks.
- e) They are planning another shipment to New Zealand but need the funds to make this happen, including enabling the collecting of all the used oil.
- f) They also need funds to set up an effective collection, storage and export system in the long term.

Vanuatu

- a) PE run an effective used oil take-back scheme throughout the Pacific, including Vanuatu. This is based on the need to do this under French Law and they have extended it throughout the Pacific in the numerous locations where they are operating.
- b) In Vanuatu they currently send all the used oil they collect to the Copra Plant in Espiritu Santo. This is a somewhat insecure outlet for their used oil, however, and they would appreciate an alternative.
- c) No other company importing lubricating and other oils into Vanuatu has a take-back policy although it should be noted that they are all much smaller than PE Vanuatu.
- d) PE Vanuatu would be very interested in participating in any scheme that offered them the ability to export used oil at a reasonable cost to a suitable receiving country.
- e) If such an opportunity arose then they would also be interested in setting up a collection system for all Vanuatu used oil at their Service Stations throughout Vanuatu.

Salter's Cartage Ltd (SCL)

- a) SCL is a company based in Auckland New Zealand that receives and processes used oil. Their main outlet for the used oil is the two main Oji plants in New Zealand.
- b) SCL has been receiving used oil from various Pacific countries for many years and are keen to continue and expand this source of used oil.
- c) They receive not only used oil, but also used oil filters, oily rags, oily sludge, and hydrocarbon-contaminated soils.
- d) They take used oil in a variety of containers, drums, IBCs, pallets and TTs.
- e) They are well set up to receive used oil from Pacific countries and they offer a good option as a recipient for any Pacific used oil exporting scheme.
- f) It should be noted that there is at least one other potential recipient in New Zealand and also probably others in Australia.

List of Acronyms

BPS	Bluescope Pacific Steel (Fiji) Pty Ltd
FPS	Fletcher Pacific Steel (Fiji) Pty Ltd
FSM	Federated States of Micronesia
GON	Government of Niue
IBC	Intermediate Bulk Container
KOIL	Kiribati Oil Company
MELAD	Kiribati Ministry of Environment, Lands and Agricultural Development.
MFAT	New Zealand Ministry of Foreign Affairs and Trade
PUB	Kiribati Public Utilities Board
PE	Pacific Energy
RMI	Republic of the Marshall Islands
SCL	Salters Cartage Ltd
SPREP	Secretariat of the Pacific Regional Environment Programme
TT	TankTainer (25,000 litre ISO tank in a TEU frame)
USP	University of the South Pacific

Contents

Executive Summary.....	i
List of Acronyms.....	iv
Contents.....	v
1.0 Introduction	1
2.0 Fiji.....	3
2.1 Bluescope Pacific Steel (BPS) Plant Description.....	3
2.2 BPS Used Oil Collections.....	6
2.3 Discussion with BPS.....	7
2.4 Audit of BPS.....	8
3.0 Kiribati.....	10
4.0 Niue.....	14
5.0 Vanuatu.....	17
6.0 Salters Cartage Ltd (SCL)	19
7.0 Conclusions	21

1.0 Introduction

This report covers the visit to Fiji, as part of the consultancy engaged by SPREP under the Global Environment Facility's Pacific Assistance Strategy: Integrated Management of Solid and Hazardous Wastes and Persistent Organic Pollutants (GEFPAS uPOPS) project. Fiji has long been seen as a potential receiving country for used oil in the Pacific. The company that was identified as being able to receive this used oil was Bluescope Pacific Steel (Fiji) Pty Ltd (BPS) in Suva.

The main purpose of the visit was

- c) To assess the capability and willingness of BPS to receive used oil from various Pacific countries as appropriate.
- d) If BPS as capable and willing to receive used oil from Pacific countries, then to update the audit of BPS that was carried out in 2012, to ensure that BPS was environmentally suitable to receive used oil from the Pacific.

The visit was carried out by John O'Grady from 26-29 March 2018. John O'Grady also had some other business to complete in Suva during this time and the BPS investigation was mainly carried out on 26-27 March 2018. Part of this report focuses on the outcome of the investigations carried out during this visit.

The 2013 Audit Document was *"Consultancy for Fletcher Pacific Steel Waste Audit" Prepared for Secretariat of the Pacific Regional Environment Programme (SPREP), January 2013*. The report was prepared by Contract Environmental Ltd and the work was done by John O'Grady and Boyne Drummond.

This earlier audit of BPS was carried out in 2012 and reported in January 2013. At the time, BPS was owned by Fletcher Building Ltd of New Zealand and was known as Fletcher Pacific Steel (Fiji) Pty Ltd (FPS). The company was purchased in 2014 by Bluescope Steel Ltd of Australia.

John O'Grady is currently undertaking audit work for MFAT throughout the Pacific and was therefore able to carry out some additional used oil investigations in Kiribati, Niue and Vanuatu, which were countries he visited during the time investigations were being carried out for this consultancy. The investigations carried out in these countries are also reported below. It should be noted that the investigations carried out in these countries were not initially structured as part of the overall consultancy investigations and should be viewed as supporting information that can be drawn on as appropriate.

When it became clear part way through the investigations that Salters Cartage Ltd (SCL) was currently being used to receive used oil from the Pacific and was a likely receiver of Pacific used oil on a regular basis, John O'Grady made plans to visit SCL. This visit never

eventuated as the flight to Auckland was cancelled and another suitable time for a visit could not be scheduled. Subsequent email correspondence did, however, provide some useful information and there is also a section on SCL presented below.

2.0 Fiji

2.1 Bluescope Pacific Steel (BPS) Plant Description

BPS operates a steel plant in Walu Bay, Suva that converts steel billets into reinforcing steel using Fiji's highest temperature furnace. (1300°C). The furnace is fired using a combination of used oil and virgin fuel oil. There is an obvious advantage to BPS maximizing its used oil collection as there are therefore direct consequent fuel savings costs. BPS collects used oil in their own trucks for delivery to the plant via a weighbridge to weigh in the trucks. Originally BPS were the only collectors of used oil in Fiji and they have collected used oil since 1997 when they took over the plant.

The plant flow diagram is shown in Figure 1 (drawn when BPS was FPS) and furnace photos are also shown below (Photos 1, 2, and 3).

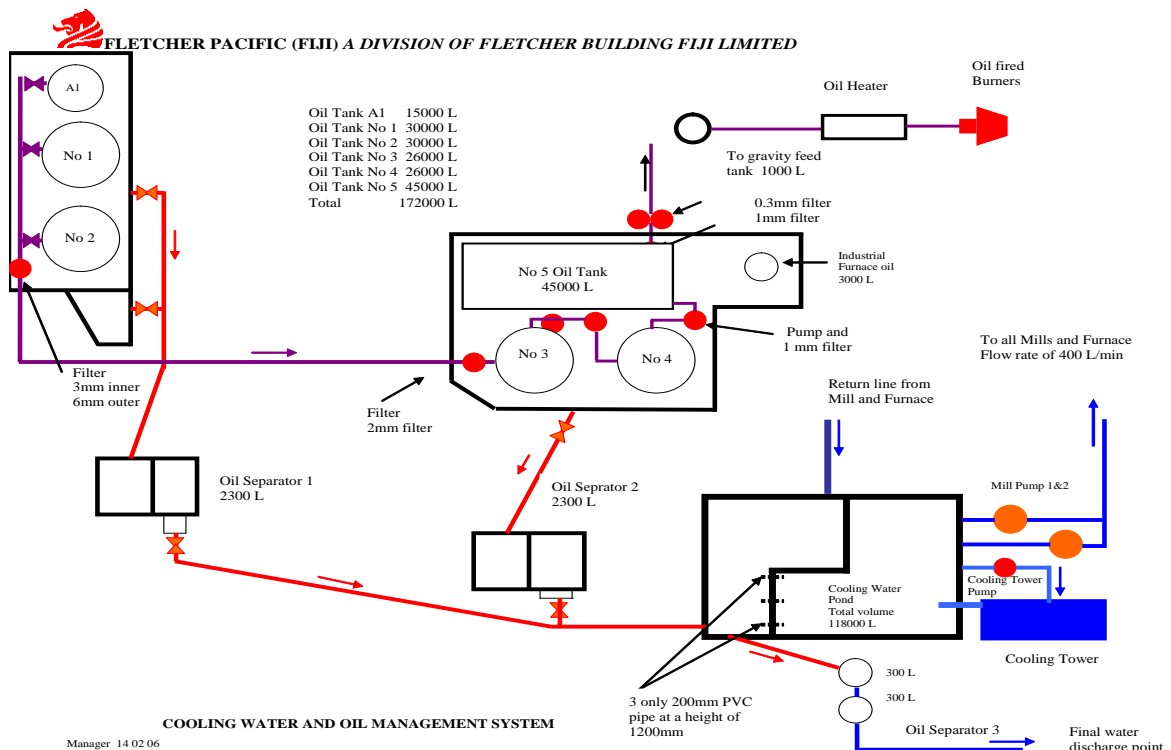


Figure 1 - Plant Flow Diagram



Photo 1 - Plant Furnace



Photo 2 - Furnace Burners



Photo 3 - Furnace Fan

There are five waste oil tanks with a total capacity of 170,000 litres in two tank farms (Photos 4 and 5). All tanks are equipped with relevant fittings and fixtures and all tanks are in bunds to contain any spillage. There is daily monitoring of stocks and regular inspections of the storage facilities.



Photo 4 - FPS Waste Oil Tank Farm 1



Photo 5 - FPS Waste Oil Tank Farm 2

The sludge is separated from oil through sedimentation and water is separated through decantation. The solid suspended particles are separation by filtration. Water discharged from the tanks is transferred to the separators and the two separators have three chambers each for further decantation. Water discharged from the separators goes to the third separator for removal of traces of oil through metal /woven synthetic media filters. The bunded areas also drain to a sump, which is isolated with a locked valve and which discharges to the separators as well. Recently a further stage of treatment was added, namely a parallel plate oil separator and storage tank for removed oil which is then re-used. Photo 6 shows these recent additions.



Photo 6 – Parallel Plate Oil Separator and Removed Oil Storage Tank

The final discharge into the environment is after effluent assessment and the process can be isolated at any point. There is effluent monitoring every six months by an independent body (USP) for a range of parameters. The effluent quality regularly accords with the Fiji National Liquid Waste Standards.

2.2 BPS Used Oil Collections

BPS has a 6000 litre truck which they use for regular pickups. They also have a 16,000 litre tank which they can use to supplement their own truck. In order to use the larger tank they need to hire a truck from Carpenters.

BPS also issues 1000 litre tanks to numerous smaller used oil generators. These tanks are fabricated by the company and used oil generators advise them when they are nearly full, so the oil can be collected. Several smaller companies are also supplied with 200 litre drums. All containers supplied by BPS (1000 litre and 200 litre) have individual numbered markings. The 1000 litre tanks and 200 litre drums are supplied and emptied as a free service.

BPS also picks up waste bunker oil from the ports, which contains water and is also of high viscosity. They find this waste hard to deal with but still receive it which, as well as helping BPS, provides a service to ships. About 50 ships per year are serviced by BPS in Suva and they are commencing to service Lautoka Port.

On occasions BPS can pick up more used oil than they need, in which case they act as a waste-disposal company and burn it through their normal steel mill process anyway.

Used oil is picked up at least once a week from whoever in Fiji requests such a service, including generators in Lautoka, Ba, Nadi, etc. BPS do not charge to pick up the used oil, but on the other hand they do not pay to get the waste oil.

BPS also collects oil filters, which would otherwise be disposed of into the environment. No other waste-oil collector is picking up filters. BPS collect and drain the waste oil from the filters, and then burn the filters inside the furnace. There is no income generated, although they are able to recover the metal from the filters. They inject the filters into a small gate half-way along the furnace (see Photo 7).



Photo 7 - Furnace Side Gate

BPS also receive used oil from the outer islands and sometimes arrange these collections.

At the time of the 2013 Audit FPS had recently imported used oil from Tonga and Cook Islands but these imports were carried out without following Waigani Convention requirements. This appears to be because of a lack of understanding of such requirements. Since then they have not directly received used oil from overseas although they do know that they receive oil indirectly from overseas, for example from Pacific Energy (PE). For example, they are currently receiving used oil from PE which is coming from Tuvalu although they are not interested in where it comes from. They consider it as coming from PE.

2.3 Discussion with BPS

Mr Vishwa Reddy is the Manager of BPS and he has held this position for 20 years. He therefore has a long understanding of the company. John O'Grady had a lengthy discussion with Mr Reddy and the summary of the discussion is as follows:

1. Bluescope Steel receives used oil where it is convenient for them to do so as supplementary fuel for their steel furnace.
2. They receive oil from all over Viti Levu and from some outer islands of Fiji. They also take oil from ships in Suva Harbour and will start taking oil from ships soon in Lautoka Harbour.
3. They continue to provide a good service to small used oil generators by delivering empty containers to them and picking up full ones.
4. They have never received oil directly from outside Fiji apart from two earlier shipments mentioned above (Tonga and Cook Islands) and see no point in doing so again. It would cost them money and if they need more used oil there is scope to expand their collection of oil in Fiji.
5. If they can't expand their collection of used oil in Fiji then they will just purchase more virgin fuel to fire their steel furnace.
6. If someone wanted to import used oil into Fiji and deliver it to them free of charge then they would certainly take it, provided it was of acceptable quality.
7. If someone wanted to include them in a tender as a final recipient of the used oil they would also consider that possibility.
8. If they receive used oil with water in it at more than 10% then they will charge for receiving this used oil. This sometimes happens with the used oil they take off ships.
9. Their core business is steel manufacture and not used oil. They are not set up for receiving large amounts of used oil. They don't have sufficient storage capacity, they have little means of disposing of sludge and they have no tank cleaning facilities.

2.4 Audit of BPS

There was little point in auditing BPS in detail if they were not going to take part in receiving used oil from other countries in the Pacific. Vishwa Reddy was also reluctant to take part in such an audit. Some thought was still given to this matter, however, as BPS was undoubtedly already receiving used oil indirectly from overseas and will probably continue to do so. They may also form part of bidding process lead by another party for used oil in the Pacific if such a bidding process is initiated by SPREP.

The plant had changed little from when John O'Grady and Boyne Drummond carried out a detailed audit in 2012. The only significant change was that they have added a parallel plate oil separator (see Photo 6 above) to further reduce the oil content in their discharge. Vishwa Reddy says they are now regularly below 15 ppm oil in their discharge. They certainly were unable to meet that previously with their three stage gravity separator which is still in operation. The parallel plate separator acts as a final polishing unit.

They are still have not carried out any air emissions monitoring. They have been hoping that Bluescope Steel would help them with this but this has not eventuated. Vishwa Reddy advised that they have engaged Draeger from New Zealand to visit them and do some stack testing. At present no stack testing is done.

With regard to the air emissions, the furnace does not have any pollution-control equipment, and the furnace fan feeds air to a set of burners where an excess air ratio is maintained via visual checks to ensure complete combustion. The burners inject heat into the system counter-current to the flow of steel through the furnace, and the discharge stack is at the point where the steel enters the furnace. There is also a much shorter emergency bypass stack which is used in case the discharge stack fails to operate.

The 2013 Audit Report noted that the emissions are usually clean and clear, but that occasionally under unstable conditions, black smoke is emitted from the main stack and BPS (then FPS) have various strategies to bring this quickly under control, mainly by managing the air supply to ensure that oxygen in the fuel/air mix is always excess to combustion requirements.

Despite the permit requirement to report on stack emissions, however, there is no stack monitoring. BPS has no way to measure the air emissions with resources available in Fiji, and they struggle to meet this condition. With the planned visit from Draeger, they may now make some progress on this issue.

Mere Senebulu of the Department of Environment said when John O'Grady visited her on this recent visit that as far as she knew, Bluescope Steel were meeting all the

conditions of their consents (except for the stack testing). She said that they regularly received the necessary reports from Bluescope Steel. Mere Senibulu heads the Fiji Waste and Pollution Control Unit at the Department of Environment.

The 2013 Audit Report made the following conclusions:

- a) FPS operates an efficient and tidy plant that meets all health, safety and environmental requirements, with a few exceptions as noted below.*
- b) The FPS waste oil management system is carried out in an efficient and compliant manner.*
- c) The waste oil collection system is carried out in an efficient and compliant manner. The system of issuing waste oil collection containers and drums is working well and deserves commendation.*
- d) There is generally good compliance with consent conditions. However there is no air emissions monitoring and no air emissions reporting.*
- e) There are also occasional excursions above Fiji National Liquid Waste Standards although this is not strictly a permit infringement.*
- f) Waigani Convention protocols are not being followed for waste oil imports, because of a lack of understanding of the requirements of the Waigani Convention.*

An update of these conclusions is as follows:

- a) BPS continue to operate an efficient and tidy plant that meets health, safety and environmental requirements, apart from the required regular stack testing requirement.
- b) The used oil (formerly called waste oil) management system continues to be efficient and compliant, based on the assessment carried out on this recent visit.
- c) The used oil collection system continues, as far as could be determined, to work in an efficient and compliant manner, with aspects that certainly deserve commendation. It is very pleasing that the free collection system from small generators is continuing and growing.
- d) BPS continues to struggle with meeting the requirement to monitor stack emissions although there is a planned visit from Draeger which will certainly help with this matter.
- e) BPS now have an additional stage of effluent treatment which should rectify any excursions above Fiji National Liquid Waste Standards.
- f) BPS have no intention of importing any more used oil from overseas and therefore will not in future infringe against Waigani or Basel Consent requirements.

3.0 Kiribati

John O’Grady visited Kiribati from 18 23 February 2018. This visit was mainly for MFAT business but most of one day (22 Feb) was spent on used oil.

The first visit was to MELAD to meet with Taulehia Pulefou and Teniti Taam of the Pollution and Wastes Section. Concerns about the mis-management of used oil were discussed, including the lack of control over small generators and the need for an effective collection system. Progress was, however, being made with PUB arranging independent exports, and with KOIL who were working with MELAD to arrange a shipment of oil to New Zealand.

Teniti Taam then accompanied John O’Grady on visits to KOIL and PUB, both of which are owned by the Government of Kiribati. The following is a summary of these visits.

At KOIL the meeting was held with Ms Tirouma Tekabu who provided a table with the KOIL import data figures (see Table 1 below). Unfortunately they do not add up (see the comparison at the bottom with the total quantity and KOIL stated total quantity. The 2017 figures agree quite well, however, so that is probably reasonably correct. The figure is about 141,200 litres/year. Items should be deducted from this that do not produce used oil (or are not oil-based) such as coolants, degreasers, and grease. This gives a figure of about 135,000 litres/year, which is substantially more than the 2014 Golder Report figure of 14,000 litres/year.

Table 1: KOIL Summary of Imported Oils

Product	Description	Quantities by Year (Litres)				
		2013	2014	2015	2016	2017
SW30	Lube Oil	0	4800	0	0	576
ATF	Gear Oil	0	0	0	0	432
Azolla	Hydraulic Oil	4140	0	1872	3208	21908
Brake Fluids	Various Brake Fluids	0	540	576	3336	0
Coolants	Various Coolants	7622	540	8440	7708	0
Degreasers	Various Degreasers	1644	2832	0	0	0
Disola	Power Plant Generator Oil	17220	37620	12300	12800	18560
Greases	Various Greases	0	260	0	400	4320
Isovoltine	Transmission Oil for Large Engines	2000	0	800	1664	1664
Presilia	Power Plant Generator Oil	415	324	648	1728	0
Quartz 20W50	Petrol Engine Oil	0	0	0	0	7872
Rubia S10	Petrol Engine Oil	1188	0	820	0	0

Product	Description	Quantities by Year (Litres)				
		2013	2014	2015	2016	2017
Super Outboard	Outboard Engine Oil	4380	0	0	4960	30800
Coolants	Various Coolants	0	0	0	0	1944
TIR 15W40	Diesel Engine Oil	46566	21480	7856	45272	53467
Transmission 80W90	Transmission Oil	0	0	0	0	960
Total Quantity /Year		85175	68396	33312	81076	142503
KOIL Stated Total / Year		12288	75956	61900	97040	141927

KOIL is not the only importer of oil products. Several small companies import some oil as well. McConnell Dowell (MacDow) also imported some of their own lubricating oil when they were building the long new road recently and Dai Nippon who are now rebuilding the Betio Causeway, also import their own used oil. MacDow also purchased some oil from KOIL and Dai Nippon are also now purchasing oil from KIOL as well as importing oil.

KOIL made three shipments of used oil to India (Jhoola Refinery, Kolkata) using flexi-tank bladders in containers. This was from 2014 to 2016. The most recent shipment was in July 2016 and involved 40,000 kg in two flexi-tanks. The other shipments were also two flexi-tanks each. Jhoola no longer accepts used oil from Kiribati because of high water quantity. Part of the used oil in the shipments was sludge from fuel tanks and this sludge can typically contain large amounts of water.

KOIL also made an earlier shipment (around 2012) to East Wind in Fiji but East Wind no longer accepts used oil. It was later confirmed on John O’Grady’s visit to Fiji that East Wind had closed down and BPS had collected a large amount of stockpiled used oil from them.

KOIL no longer accepts used oil as they don’t have the space. They are, however, aware that this is causing problems and they are actively working with MELAD (Taulehia Pulefou) to arrange an export shipment to New Zealand. They will probably use flexi-tanks again seeing as that has worked well for them previously.

KOIL are encouraging used oil generators to store their used oil and when the export shipment to Fiji is confirmed, then they will collect it all. KOIL also have a small stockpile that has accumulated since the last shipment went to India.

Teniti Taam and John O’Grady then visited PUB who are managing their used oil independently of KOIL. No senior staff were available so a meeting was held with the Leading Hand Tebakabu Tion who was very helpful. PUB has one power generator at their Betio Plant where the visit took place, and three generators at their Bikenibeu Plant which is larger. These generators have weekly and monthly servicing that

generates about 7000 litres/unit/year of used oil. For the four units that is 28,000 litres/year of used oil. Some of this used oil is in fact diesel as they add diesel to clean the oil from the generators. In addition every two years they completely empty the oil from the units which is about 1800 litres per unit.

All the PUB used oil is stored at the Betio plant (see Photos 7-9). They have a full tank-tainer (TT) of 24,000 litres of used oil ready to ship and this will be the first one they have shipped (see Photo 10). In addition they have about 200 drums full of used oil ready to ship (i.e. 40,000 litres). This is all stored in a very tidy and orderly manner.



Photos 7-9: PUB Used Oil Storage



Photo 10 – Tank-tainer Ready to Ship

PUB has recently developed an arrangement with Pacific Bulk Fuel of New Zealand to supply them with diesel in TTs and then take as a backload, used oil in the same containers. The full TT in the picture is the first one that is ready to go.

The diesel-fueled generators operated by PUB are all recently-purchased Japanese generators and the Japanese suppliers forbid the use of used oil to be added to the diesel as they consider this will damage the generators.

4.0 Niue

John O’Grady visited Niue from 3-14 March 2018. Most of the time was spent on MFAT business as well as an assignment for SPREP to install and commission a medical incinerator. Some time was also spent, however, on used oil, including a meeting with Andre Siohane, Director of Infrastructure, Communications, Utilities and Transport. Andre Siohane has direct control of the management of used oil in Niue. A discussion was also held with Haden Talagi, Acting Director, Department of Environment, and used oil locations were also visited.

A summary of the findings from the Niue used oil visit is as follows.

In 2012 they shipped one TT of used oil to SCL in Auckland. The cost of the shipment was about \$US6000 including permits, transport, lease of tank-tainer, pick-up and clearance in Auckland (done by SCL) and cleaning the tank-tainer (also done by SCL). SCL did not charge for processing the used oil.

The Government of Niue (GON) has received 2 x 10 m³ Isotanks from Matson Line and have set these up to receive used oil – one at the Power Station and one at the old fisheries processing plant. These tanks are nowhere near full at the moment. Photo 11 below shows the one at the old fisheries processing plant.



Photo 11 – 10 m³ Isotanks at Old Fisheries Plant

The GON has distributed several 1m³ IBCs to other used oil generators – St Josephs Auto Repairs, Alofi Rentals, Niue Rentals and All Stars Auto Repairs. These IBCs are nearly full and they have no more IBCs. A visit to Alofi Rentals revealed that they have two full IBCs and one that is about 25% full (see Photo 12 below).



Photo 12- IBCs at Alofi Motors

The plastic in IBCs goes brittle in the sun so they are not useful for permanent storage. This is shown in Photos 13 and 14, which are photos of IBCs at the old Fisheries Plant.



Photos 13 and 14: IBCs at the Old Fisheries Plant

The GON had planned to set up a system where the full IBCs are picked up and delivered to the 2 x 10m² tanks and then the oil in these tanks are transferred to a TT. They can only put 18 tonnes into a tank-tainer as they are limited by their crane capacity.

This whole system has ground to a halt now, however, as:

- The GON has no more IBCs.
- They will have difficulty moving the full IBCs.
- They have no used oil pump to transfer the oil from the IBCs to the 10 m³ tanks.
- They have no funds to set up any export of the used oil.

In the meantime the IBCs are filling up and spilling. The soil contamination is evident in Photo 12 and is quite widespread wherever the used oil is being stored.

Hayden Talagi advised that there are two more auto servicing places starting up soon, which will add to the problems if a solution is not found soon. In addition an old used oil dump has recently been discovered behind an old petrol station where numerous corroding drums of used oil were leaking. The GON has no funds to deal with this problem and do not have the know-how to do a clean-up.

Haden Talagi confirmed that they are very concerned about water quality in Niue already. Their underground water lens is precious and the rock is very porous. They do not want their water lens to be contaminated with used oil.

The GON urgently needs assistance, both financial and technical to set up proper collection, storage and export systems.

All fuel and most oil is imported by the Power Station. The auto repair locations, however, also import lubricating oils and other related products.

5.0 Vanuatu

John O’Grady visited Vanuatu from 3-7 April 2018. Most of this time was spent on MFAT business, but two meetings were also held to discuss used oil.

Firstly a meeting was held with Nicolas Leflon, General Manager, Pacific Energy (PE), Vanuatu. The following is a summary of this meeting.

PE Vanuatu take back used oil and send it to the Copra Facility in Espiritu Santo to be burnt locally. The copra facility only takes drums so it is a nuisance having to decant from the TT where the oil is collected, into drums.

PE has a policy throughout the Pacific of taking back used oil from everyone that receives their virgin oil. PE Vanuatu realizes that the Copra Plant outlet for the collected used oil is an insecure one and they would value finding an alternative as a back-up.

PE Vanuatu obtains their fuel from Singapore and South Korea and they recognize the logic of sending used oil to these destinations by back-loading the TTs that come loaded with the fuel. There is no suitable outlet in these countries, however. They were sending used oil to a reprocessing plant in Singapore but the reprocessing company was badly hit by the drop in oil prices a few years ago.

PE Vanuatu receives back about 60,000 – 80,000 litres per year and they sell about 200,000 litres per year. They were reluctant to give the exact figure. Other parties in Vanuatu also sell lubricating oil, including Trade Tools, but PE is the only company that takes back used oil.

It is easy to collect the used oil from the larger generators such as the Utilities company UNELCO and car dealers, etc. It is more difficult with smaller customers who often just throw their used oil away. It was PE’s view that small players and their customers just don’t care about collecting used oil. They stressed that there is a clear need to consider the whole system including suppliers.

There are some minor uses of used oil in Vanuatu such as putting on roads to keep dust down. Such practices are, however, environmentally unacceptable as well as using only very limited amounts of used oil.

PE Vanuatu would be keen to take part in a SPREP-organized collection scheme and to send their used oil to New Zealand if that was the outcome of such a scheme. PE may also be interested in tendering for used oil in places they operate from.

PE Vanuatu also confirmed that if they had a good outlet for used oil such as New Zealand, PE would consider setting up collecting facilities at PE Service Stations to receive used oil from the public, including used oil generated from customers of their competitors. They would do this as a public service.

PE would also be interested in combining used oil collection with the collection of used batteries and they would also do this as a public service.

PE operate in French Polynesia and in ten other countries – New Caledonia, Vanuatu, Fiji, Papua New Guinea, Cook Islands, Tonga, American Samoa, Solomon Islands, Kiribati and Tuvalu. Their Head Office is in Tahiti and they also have major offices in New Caledonia and Fiji. They are strong in most but not all of these countries. Under French Law, they must collect used oil from all their customers and they have extended that practice to everywhere they operate.

PE owns a shipping company “Petrocean”. They own two medium range tankers, and others are available as needed.

It is interesting to note that the main Pacific countries they do not operate in, namely Palau, FSM and RMI are the ones that have mainly accumulated large stockpiles of used oil. They also do not operate in Niue, which also has some serious used oil problems.

Secondly John O’Grady met with Roslyn Bue of the Department of Environmental Protection and Conservation, Vanuatu and briefed her on the meeting with Nicolas Leflon. Roslyn Bue was keen to learn about used oil initiatives and was complimentary about what SPREP had been doing in this area. She wanted a copy of the 2013 Used Oil Report prepared by Contract Environmental and John O’Grady supplied her with one. She agreed to follow up on the smaller generators of used oil that were independent of PE, to see if she could stimulate some interest in collecting and returning this used oil.

The problem would be that such an initiative would lack a focal point independent of PE and funding would be needed to organize such collections and reuse. It was thought that it may be useful to fund PE to work to collect all the used oil and ensure that an option was available for receiving the used oil.

6.0 Salters Cartage Ltd (SCL)

SCL is one of the main companies in New Zealand that collect, process and supply used oil for re-use. They have a processing facility in Wiri, Auckland. The other main company is Waste Management Ltd (WML), which has a processing plant in Mt Maunganui. There are also a few small operators in this business in New Zealand.

It is also worth mentioning that there are used oil companies in Australia that could be approached as well, such as Cleanaway, JJ Richards and Sons, and several others.

SCL is the company that is the most proactive in New Zealand, regarding the import of used oil and they also have agreements with good outlets for the reprocessed oil. John O'Grady had planned to visit SCL as part of this project but the flight was cancelled at the airport and a new suitable time could not be arranged. Some information was obtained from SCL, however, by email correspondence with the CEO Ron Salter.

This information is summarised as follows:

SCL currently import from the Pacific:

- Used oil
- Used oil filters
- Oily rags
- Oily sludge
- Hydrocarbon waste such as contaminated soils.

These wastes come in all forms, such as drums, IBCs, pallets and TTs.

They also have a shredder for plastics, and they are installing a used oil filter shedder.

In response to questions, SCL responded as follows (responses in red):

Could we have confirmation that you are willing to export and receive used oil from the Pacific, assist its clearance through the New Zealand Customs and the Port, remove and use the used oil, and clean the tanktainers ready to be filled with diesel again? - **Yes we are able to do all of this as sometimes we do the importation ourselves. Sometimes others deliver to our yard and sometimes we do the whole job.**

Could we have an indication of quality requirements regarding the used oil you receive, including limitations you place on water content? - **Used oil is variable as its source so it is hard to put controls on it, what we do ask is the free water is run off. We check flash point and water level.**

What would your approximate charges be for the above services and would you would require payment for processing the used oil? - We charge \$0.15 per litre plus some handling cost fork lift charges. If it comes in IBCs or drums there is extra charges as well.

Could you tell us the approximate amount of used oil you have received in the last 2-3 years from Pacific countries and from whom? - We used to get heaps 1 to 2 million litres/year, most of it out of Tahiti. Now about 200,000 to 300,000 litres/year from various sources.

Have any countries sent unsatisfactory oil? - We can treat all grades so there have been none rejected.

Where does your processed oil go? - We are New Zealand Government Product Stewardship approved, and all of our oil must go to consented users only. Volumes reused are send to the NZEPA yearly. All of our oil now goes to the two Oji plants. (Oji is the Japanese Company Oji Fibre Solutions that now owns the two main New Zealand Pulp and Paper plants at Kawerau and Kinleith.)

What shipping lines have been used in the past for used oil shipments from the Pacific? - Matsons and Pacific Direct Line.

If SPREP calls for tenders to pick up the Pacific stockpiles then what would you like to see in the tender documents? -

- Approved by NZ Government or Government of the country receiving the used oil.
- What happens to the oil must be consented.
- Insurance to ship is costly so must be able to prove that you have insurance
- Tanks must be in current certification

7.0 Conclusions

Fiji

- a. Bluescope Pacific Steel (BPS) collect and burn used oil in their steel processing plant in Suva
- b. They are very proactive in the local market collecting used oil for this purpose and operate a professional collection and storage system.
- c. They have quite a large storage capacity but not enough to take very large amounts of use oil. They have a limited capacity to manage sludge and they do not have a tank cleaning capacity.
- d. The local market keeps them well supplied to meet their used oil needs and their core business is steel making and not used oil.
- e. They are therefore not interested in importing used oil directly into Fiji from overseas countries.
- f. They do receive used oil from other countries indirectly if they have the capacity – for example from Pacific Energy shipments from other countries.
- g. The BPS operation is sound and meets audit criteria for health, safety and environmental impact, with the possible exception of the air emissions, which BPS is working to address now.
- h. BPS may be willing to take part in plans to import used oil from other countries in the future but only as an indirect partner, and only if they have the capacity and resources to manage the used oil.

Kiribati

- a. Most of the virgin lubricating and other oil that comes into Kiribati is imported by KOIL, including the oil that goes to PUB. There are, however, some smaller importers and the companies building roads also import some of their own oil.
- b. KOIL sent three shipments of used oil to India in the last few years, but this has been stopped now because of the high water content, which was unacceptable to the Indian company.
- c. KOIL no longer accept used oil for storage because of a lack of space. They are, however, working with MELAD to arrange for the export of a shipment of used oil to SCL New Zealand and they will then go round and collect all the used oil that has been stockpiled.
- d. PUB are arranging their own shipments of used oil and are backfilling TTs that have delivered fuel to PUB. The first shipment of this used oil is due to go to SCL New Zealand very soon and this will be an ongoing process.

Niue

- a. The Government of Niue (GON) has made one shipment of used oil to SCL in New Zealand in 2012
- b. They are currently storing used oil in two 10 m3 Isotanks and around the island in IBCs.
- c. The IBCs are becoming full and are deteriorating in the sun so leaks are occurring. They also have no more IBCs. There are also historical oil leaks that have occurred that have caused ground contamination.
- d. It is difficult for them to transfer the oil from the IBCs to the 10 m3 Isotanks.
- e. They are planning another shipment to New Zealand but need the funds to make this happen, including funds for collecting all the used oil.
- f. They also need funds to set up an effective collection, storage and export system in the long term.

Vanuatu

- a. PE run an effective used oil take-back scheme throughout the Pacific, including Vanuatu. This is based on the need to do this under French Law and they have extended it throughout the Pacific in the numerous locations where they are operating.
- b. In Vanuatu they currently send all the used oil they collect to the Copra Plant in Espiritu Santo. This is a somewhat insecure outlet for their used oil, however, and they would appreciate an alternative.
- c. No other company importing lubricating and other oils into Vanuatu has a take-back policy although it should be noted that they are all much smaller than PE Vanuatu.
- d. PE Vanuatu would be very interested in participating in any scheme that offered them the ability to export used oil at a reasonable cost to a suitable receiving country.
- e. If such an opportunity arose then they would also be interested in setting up a collection system for all Vanuatu used oil at their Service Stations throughout Vanuatu.

Salter's Cartage Ltd (SCL)

- a. SCL is a company based in Auckland New Zealand that receives and processes used oil. Their main outlet for the used oil is the two main Oji plants in New Zealand.
- b. SCL has been receiving used oil from various Pacific countries for many years and are keen to continue and expand this source of used oil.
- c. They receive not only used oil, but also used oil filters, oily rags, oily sludge, and hydrocarbon-contaminated soils.
- d. They take used oil in a variety of containers, drums, IBCs, pallets and TTs.

- e. They are well set up to receive used oil from Pacific countries and they offer a good option as a recipient for any Pacific used oil exporting scheme.
- f. It should be noted that there is at least one other potential recipient in New Zealand and also probably others in Australia.