



KIKO TECHNOLOGY PRODUCTS PROPOSAL

for

Westin Resort, Macau

by

LIFE ONE ENTERPRISE, LTD

(authorized distributor of Kiko Technology Ltd)

Avenida da Praia Grande, 759, 1- Andar, Macau

Our ref. T-1001

12 April 2012



MEMORANDUM OF UNDERSTANDING FOR TEST TRIAL

PROJECT TYPE: BOILERS (BUILDINGS)

CLIENT:

COMPANY NAME:	The Westin Resort, Macau	CONTACT PERSON:	66334945
ADDRESS:	1918 Estrada de Hac-Sa, 1429 Coloane (Macau)		
TELEPHONE:	28887111	FAX (if any):	
EMAIL:	jojo.estrada@westin.com		
TEST LOCATION:	Supply water tank for Boilers		
TEST START DATE:		TEST END DATE:	

PRODUCT DESCRIPTION AND UNITS ON LOAN:

Tritan (white plastic)	pcs.	Tritan Mini (blue)	pcs.	Stainless Steel: 2	pcs.
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1. PROJECT OBJECTIVES

The objective of this trial is to demonstrate how Kiko Technology will decrease the water-scale deposits in the fire tube boilers, decrease the amount of time to heat the water to its desired set point, and decrease the usage of fuel.

2. TRIAL PERIOD

Kiko Technology Limited (KTL) agrees to let the client use our technology for the duration of the trial. In exchange, the client agrees to share information of the effects of the technology, techniques, results and other pertinent information. This information will be communicated to KTL regularly through emails, visits or phone calls. This test trial will be conducted from April 13, 2012 for a period of 30-40 days.

- a) The Kiko products on loan include two (2) Stainless Steel cartridges.
- b) The products are immersed into the make up water tank as shown on the attached schematic. No pipe cutting is required.
- c) All products, trademarks, promotional and intellectual materials are and shall remain the sole property of KTL.
- d) The client will take every measure to prevent against loss or theft.

3. SERVICE AGREEMENT

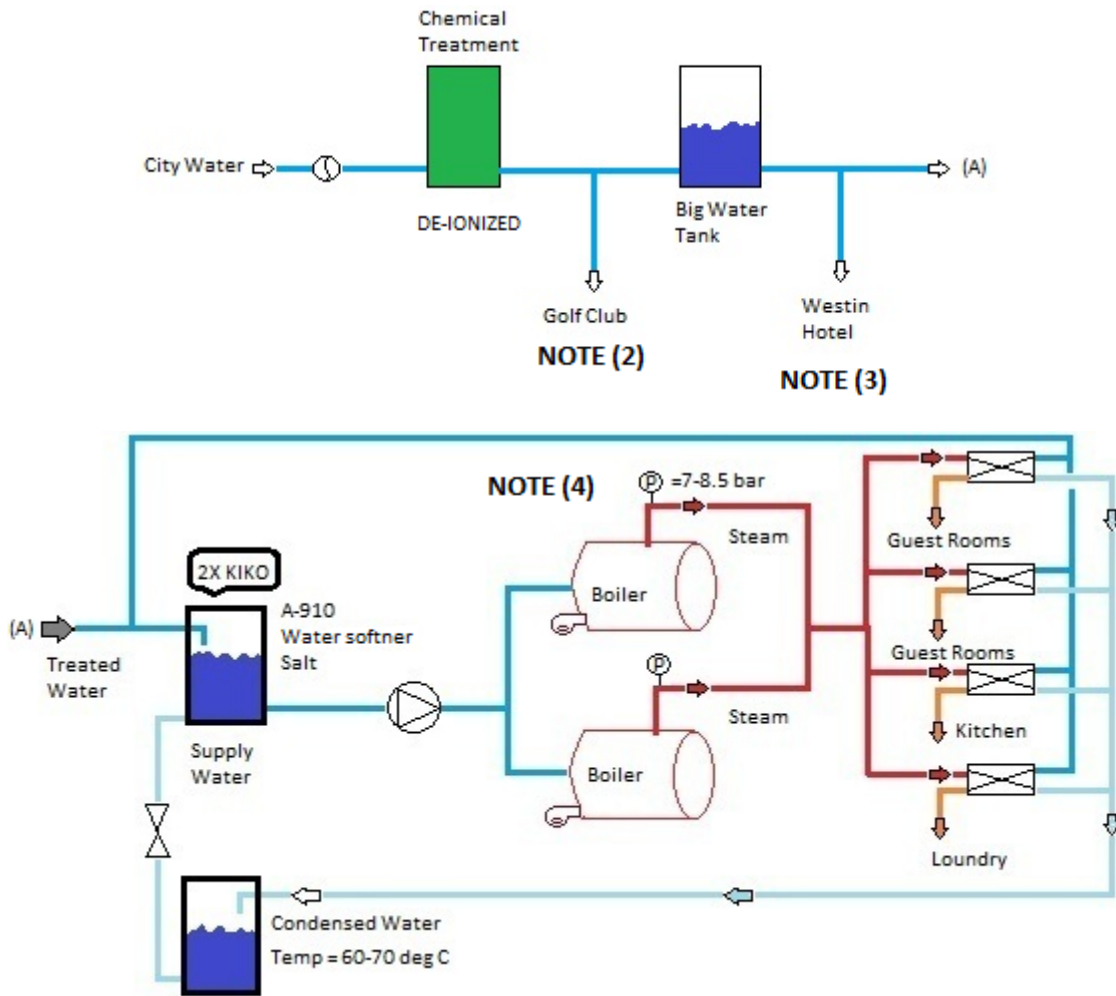
If satisfied upon completion, the client hereby agrees to enter into a Service Agreement or Maintenance Contract with KTL. The calculations in the attached Performance Benchmark shall form the basis of the anticipated fees associated with this Service Agreement.

- a) Should the client, for any reason, during or right after the completion of the trial, wish to discontinue the use of the product, then all the installed products will be returned to KTL immediately. The client shall arrange to have the product(s) picked up by a KTL agent. In such a case, no service contract fees will be charged.
- b) If the client does not return the technology after the agreed time period of this MOU, we will assume that Client wishes to enter into a Service Contract/Agreement for the continued use of the technology. Client will be billed at MOP 15,000 per month, which is about 35% of the total boiler fuel cost savings.

Signature: _____
KTL Distributor's Name:

Signature: _____
Client's Name:

APPENDIX I – WESTIN BOILER PLANT SCHEMATIC



Notes:

- (1) Incoming Macau water is chemically tested by NALCO.
- (2) Supply water to Macau Golf & Country Club (MGCC).
- (3) Water for Westin Hotel's HVAC System (this test will not include the chiller plant).
- (4) Boiler On @ 7.0 bar / Boiler Off @ 8.5 bar



APPENDIX II – MONITORING FUEL SAVINGS AS KIKO REMOVES SCALE

Step 1: Insert two (2) Stainless Steel KCCs into the supply water tank. The Stainless Steel cartridges can withstand high heat/steam temperatures.

Step 2: The boiler fuel rate was turned on March 19, 2012 (15:30 pm) at the following cycle rates:

Burner ON for 4 min

Burner OFF for 9 min and 30 sec

Step 3: The boiler fuel rate will be recorded every week for one hour,

- a) Between 08H00–09H00 when the laundry systems are operating.
- b) Between 19H00–20H00 when hot water usage for guest showers is at its peak.
- c) Measurements to be taken every 5-7 days until the completion of this trial.

Step 4: The boiler operates as follows:

- a) The hot water is on/off-based on a fixed set point which is 7 – 8.5 (bar).
- b) There is no fuel flow meter at sight.
- c) When pressure reaches the set point ($P = 8.5$ bar), the sensor signals the burner to shut OFF.
- d) As scale is removed from the boiler, heat exchanger and piping, the time to operate the burner (ON) will decrease.

Step 5: The reduction of scale will allow the burner to reduce the time (ON) and this will be converted to fuel savings. Kiko estimates the burner on/off cycle will be reduced for its current 4 minutes ON cycle to about 2:00 – 2:45 minutes

FUEL SAVINGS ARE MEASUREABLE



PERFORMANCE BENCHMARK COMPARISONS (PRE & POST KIKO)

PERFORMANCE BENCHMARK COMPARISON (PRE & POST KIKO)			
Parameters	Pre-Kiko	Post-Kiko	Cost Savings
Scale	Presence of scale	No scale	Improved fuel efficiency ⁽¹⁾
Rust	Presence of rust	No rust	Improved fuel efficiency
E&M – Mechanical Brushing	Annual cleanings	Reduced frequency of cleaning/brushings	Lowered maintenance costs
Iron (Fe) & Copper (Cu) Loss	Fe & Cu loss	Less Fe & Cu loss	Better life span of piping

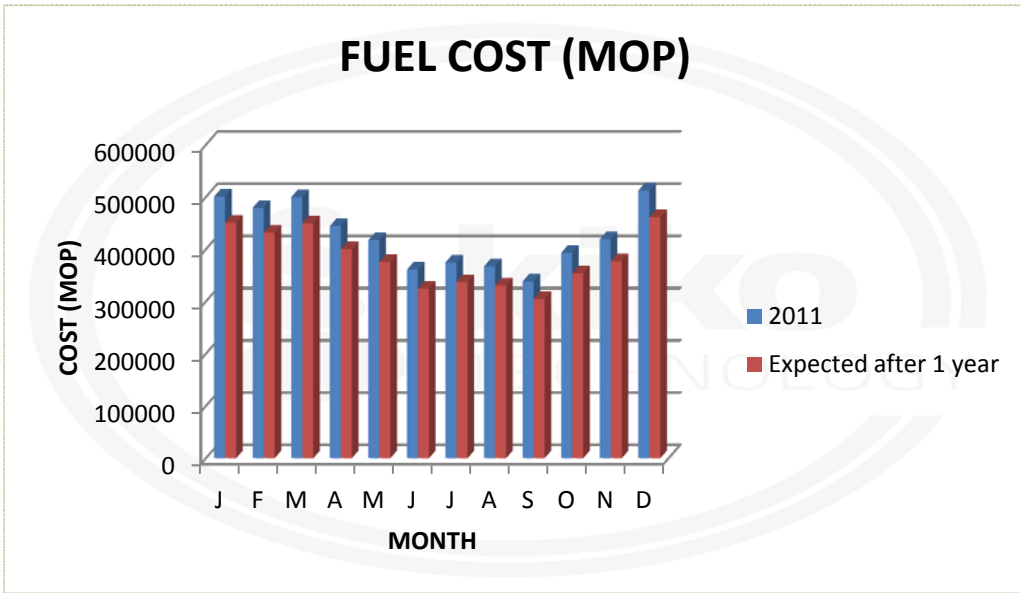
PERFORMANCE BENCHMARK COMPARISON (PRE & POST KIKO)			
Parameters	Pre-Kiko	Post-Kiko ⁽²⁾	
		At 10% Fuel Savings	At 20% Fuel Savings
Fuel Savings	Control	10%	20%
Fuel Consumption (in litres)	42,730 (L)	4,273 (L)	8,546 (L)
Fuel Costs (in MOP)	MOP 5,109,296	See below	See below
Total Cost Savings (in MOP)	-	MOP 510,929	MOP 1,021,859

After 1 year, based on 2011 logs, the Westin can anticipate saving between MOP 510,929 to MOP 1,021,859.

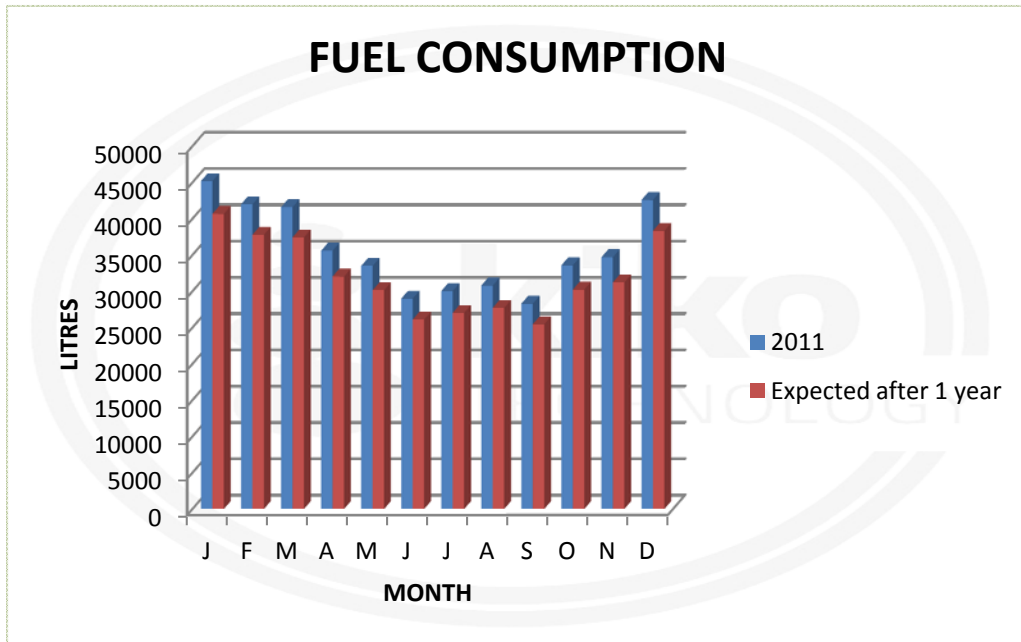
Notes:

- (1) Even a small amount of scale will raise fuel consumption.
- (2) Two scenarios: at a 10% fuel savings; at a 20% fuel savings.
- (3) The service agreement shall be based on proximally 35% of the accord boiler costing savings.
- (4) Other tangible cost savings will be:
 - a. Less operating and engineering maintenance to keep the system cleaner and scale free.
 - b. The exhaust gases will burner cleaner with less CO, SO_x and NO_x due to less fuel consumption.
 - c. After the beta trial, the Westin will be better equipped to make the decision whether to discontinue the use of anti-scale chemicals such as A-910, salt, and water softeners.

EXPECT FUEL SAVINGS OF BETWEEN 10–20% AFTER 1 YEAR



Total MOP savings after 1 year: MOP 510,929 (@10% savings)
 Total MOP savings after 1 year: MOP 1,021,859 (@20% savings)



Total fuel savings after 1 year: 4,273 (L) (@10% savings)
 Total fuel savings after 1 year: 8,546 (L) (@20% savings)

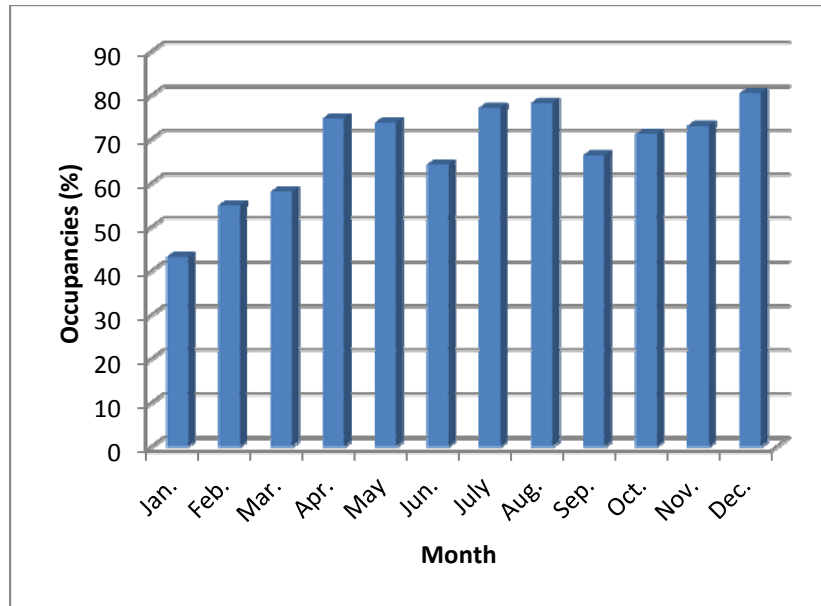


Figure. The Westin Resort Macau – Monthly Room Occupancy in 2011



MEASUREMENTS BY THE KIKO TECHNOLOGY TEAM

During the 2-month trial period, we will service the account by doing the following:

- Photos (before and after the trial)
- Visual inspection (before and after the trial)
- Recording log sheet "Time On/Off"
- Taking samples and analyses

After 2 months of trial we will provide a verification report with photos, log sheets, graphics and fuel savings results.

Log Sheet – How to Record Burner ON/OFF Cycle

First Day

Date: _____

Occupancy (%): _____ Outside Temp. (°C): _____ Fuel Cost (MOP/L): _____

Nr. of measurement	Time (start)	Burner On (min.)	Burner Off (min.)	Fuel Consumption ()
1				
2				
3				
4				
5				

Week 1

Date: _____

Occupancy (%): _____ Outside Temp. (°C): _____ Fuel Cost (MOP/L): _____

Nr. of measurement	Time (start)	Burner On (min.)	Burner Off (min.)	Fuel Consumption ()
1				
2				
3				
4				
5				



Week 2

Date: _____

Occupancy (%): _____ Outside Temp. (°C): _____ Fuel Cost (MOP/L): _____

Nr. of measurement	Time (start)	Burner On (min.)	Burner Off (min.)	Fuel Consumption (specify units)
1				
2				
3				
4				
5				

Week 3

Date: _____

Occupancy (%): _____ Outside Temp. (°C): _____ Fuel Cost (MOP/L): _____

Nr. of measurement	Time (start)	Burner On (min.)	Burner Off (min.)	Fuel Consumption (specify units)
1				
2				
3				
4				
5				



Week 4

Date: _____

Occupancy (%): _____ Outside Temp. (°C): _____ Fuel Cost (MOP/L): _____

Nr. of measurement	Time (start)	Burner On (min.)	Burner Off (min.)	Fuel Consumption (specify units)
1				
2				
3				
4				
5				

Week 5

Date: _____

Occupancy (%): _____ Outside Temp. (°C): _____ Fuel Cost (MOP/L): _____

Nr. of measurement	Time (start)	Burner On (min.)	Burner Off (min.)	Fuel Consumption (specify units)
1				
2				
3				
4				
5				

PHOTOS – A Similar Hotel in Macau (taken year-end 2010)



Fig. Pre-Kiko



Fig. Post-Kiko

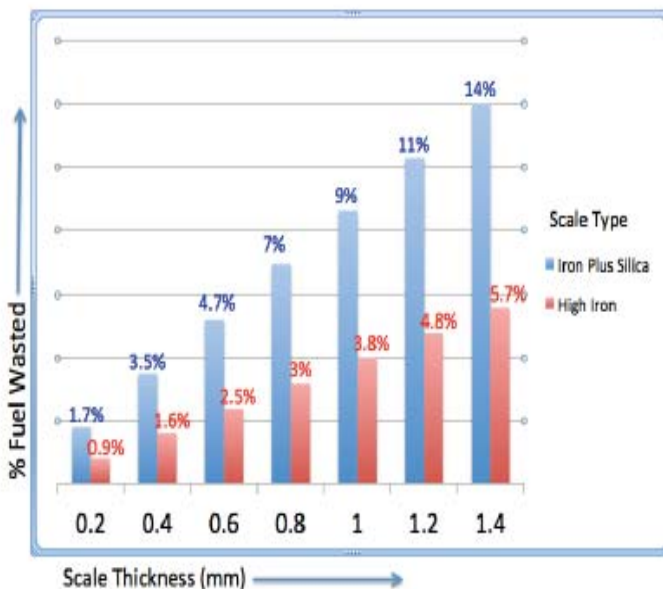
APPENDIX III

KIKO TECHNOLOGY IN BOILERS

BENEFITS: Reduce fuel consumption by 10-15%

The Challenge: Scale/Fouling in the boiler system results in higher fuel consumption

- Even thin layers of scale serve as an effective insulator and retard heat transfer
- The result is overheating of boiler tube metal, tube failure, and loss of energy efficiency
- Fuel waste due to boiler scale may be 10% for water-tube boilers and up to 15% in fire-tube boilers
- Energy losses as a function of scale thickness and composition are given in the chart below



Energy Loss Due to Scale Deposits*			
Scale Thickness (mm)	Fuel Loss, % of Total Use		
	"Normal"	High Iron	Iron Plus Silica
0.40	1.0%	1.6%	3.5%
0.79	2.0%	3.1%	7.0%
1.19	3.0%	4.7%	10.5%
1.59	3.9%	6.2%	14.0%

Note: "Normal" scale is usually encountered in low-pressure applications. The high iron and iron plus silica scale composition results from high-pressure service conditions.
*Extracted from National Institute of Standards and Technology, Handbook 115 Supplement 1.

Benefits With Kiko Technology: Scale/Fouling is continuously prevented from forming on heat exchange surfaces

- Kiko technology condition the water to prevent calcium, magnesium, and silica from forming
- With no scale and fouling 10 - 15% fuel savings can be achieved
- Within 3 weeks of installing Kiko 80-90% of rust can be removed via blowdown
- Kiko technology is simple to install and will not require system shutdown
- Kiko technology is a 100% chemical free "Green" Technology and is effective for three years per charging cycle