Improving environmental protection management in a textile plant

by Staff Reporters

Founded in Hong Kong in 1947, TAL specializes in the manufacture of quality men's and women's garments for global leading brands. It produces one out of six dress shirts sold in the US and shares 60% of the entire US market of dress shirts retailing at more than US$50.

Today, it has a total workforce of nearly 25,000 with factories across Hong Kong, Taiwan, Thailand, Malaysia, China, Indonesia, Vietnam, the US and Mexico, producing over 55 million pieces of apparel annually.

ATA Journal recently talks to TAL Group about its environmental protection management.

Q : What are the major areas of concern when building up an environmentally friendly facility?

A : Multiple strategies are required when building up an environmentally friendly facility, namely landscape building; wastewater management; exhaust emissions; and energy saving.

According to Director, Roger Lee, the company has two facilities situated in Dongguan. In a new facility called Pacific Apparel Limited (PAL) alone, the company has invested over US$3.2 million for the environmentally friendly infrastructure.

Q : How to better manage textile-related wastewater?

A : The PAL water treatment plant surpasses international standards, Mr Lee said (details in table). With a total area of 1,760m², it has a treatment capacity of 2,000 tons per day.

After removing harmful substances and pollutants, the water is best recycled to save the use of clean water.

For this reason, PAL has built a huge outdoor water storage tank, the largest in Guangdong province, made of stainless steel and materials used to build a submarine. With this tank, PAL is able to effectively recycle water to flower the greenery within the factory area, and for toilet flush. About 35% (28,500m²) of the total area of PAL is landscaped to contribute to a more comfortable working environment of staff.

Item	Untreated Water Quality	Current Actual Status	TAL standard	China standard
COD (ppm)	400	65	100	100
BOD (ppm)	140	15	20	30
Color	150	15	20	50
PH	10	6.9	6-9	6-9
SS (ppm)	200	20	50	70
Oil (ppm)	180	5	5	10

Current performance of PAL in wastewater control compared with the Chinese standard

Q : How to use energy more efficiently?

A : The company adopts heat exchange and other measures to reduce electricity consumption.

By reusing dissipation heat from steam system to preheat water for domestic use (showering of staff in the nearby dormitory, for instance) via application of heat exchanger system, the company is able to save 200 tons water and 1,200 liters diesel each working day. This translates into a reduced cost of up to US$935 per day.

In addition, it reduces electricity consumption through even distribution of lighting and the application of light reflectors.

Q : What are your effective measures to control emissions?

A : PAL has adopted two emissions control strategies, namely building up a water scrubber system for treatment of emission from generator and boiler, and an electrostatics precipitator for cooking fume.

Item	Before Treatment	After Treatment	China standard
SO_2 (mg/m³)	1000	200	500
Particulate matter (mg / m³)	200	50	100
Smoke Level (grade)	II	I	I

Current performance of PAL in exhaust emission control compared with the Chinese standard

As the company has its own power generator, effective emissions control is needed to make sure no "black" smoke emits from the plant. Technically, by adopting a water scrubber system, it meets the related standards by removing up to 80% of sulphur dioxide (SO_2), 90% of particulate matter (PM), as well as soot and particles emissions.

Water scrubber system

On the other hand, the canteen of PAL daily cooks four meals for more than 2,000 workers working in shifts. The electrostatics precipitator is thus used to meet the GB (GB18483-2001) standards. ■