



## Garages Waste Minimisation Club Case Study

### **Overview**

The WMC-Garages has had five meetings since its inception in 2002. These meetings have covered a number of discussion topics. The first meeting covered Waste Minimisation (WM) concepts and benefits derived from Waste Minimisation. The different types of lubricants and the relative benefits of each on service interval and warranties were also discussed. The second meeting covered Eskom Industrialek's Energy management program and the WM cost benefits that could be derived from this program. A workshop on Hillstar's Cleansing methods was also discussed. The third meeting covered air compressor efficiency and energy cost reduction with a presentation from Atlas Copco. The fourth meeting focused on proper maintenance procedures to optimise the Oil Water separators found on the individual sites (BECO). A guest speaker from the ROSE foundation covered the correct practices regarding the disposal of used oil from the site. This led to individual site visits to quantify and report on the status of each oil water separator and the associated waste streams created by each unit. The fifth meeting covered the importance of utilising bunded storage areas on site (BECO) and a speaker from the CMC Scientific Services Department covered how an un-bunded storage area could seriously affect the Stormwater system.

A company walk through survey was carried on all companies during period March – June 2002. This formed part of the initial Prevention Quick Scan Report, which helps identify opportunities to prevent waste and emissions and to help reduce the consumption of energy and raw materials. Another survey was carried out at each facility during March – April 2003. This survey concentrated on the pollution prevention and staff education as well as to ascertain the effectiveness of the current oil water separator setup. These reports highlighted several recommendations and improvements that could be made at each facility. The recommendations are listed below in point form.

### **N'Dabeni Technical Workshop**

- Sampling of used oil from machinery to determine relevant service intervals.
- Switching off office equipment when not in use.
- Eliminating leaks in the compressor system.
- Reassessing the stormwater systems in the building.
- Redesign the storage area for used oils.

Management at N'dabeni workshop showed great interest in the bund area presentation. This was to be discussed with management regarding the implications on the stormwater systems and surrounding environments on the Health and Safety of their employees working in the stormwater systems of Cape Town. This was discussed as a side topic at the last meeting. Management moved on the decision to increase their monitoring of the water quality of the associated water systems that their employees are working with. Management has not yet calculated the company's savings from the decrease in sick leave. Management are considering developing separate workshops and shop floor training to improve employee understanding regarding environmental awareness in the workplace.

Management have been noted an indirect saving of approximately R500 000 (conservative estimate by management) through preventative maintenance procedures over the past eight months. This was a result of the oil-sampling program whereby the external company sampling the used engine oils could detect early warning signs of mechanical problems of the vehicles through chemical analysis of the oils. This was reported directly to management, who in turn made the appropriated decisions on the servicing floor.

## **Bellville Mechanical Workshop**

- Better material usage (oil, engine cleaner) through better house keeping and work methods.
- Reuse of water in the wash bay.
- Switching off equipment when not in use.
- Optimising lighting.
- Optimising compressed air system and eliminating leaks.
- Re-designing the bund wall area around the used oil storage tank.
- Repairing leaks in the roofing of the main workshop to reduce Stormwater collecting on the workshop floor.
- The need for a separate OWS in the main workshop from the OWS in use in the main wash bay.

The management of Bellville Mechanical workshop have taken these recommendations into consideration for next years budget. Management have not put a financial figure to the savings made by implementing several of these recommendations.

## **Hillstar Mechanical Workshop**

- Reuse up to 90% of the water in the washbay. This would involve educating the staff on using water wise methods.
- Replacing the current compressor with a more economic unit.
- Testing current engine oil practices to maximise service intervals on vehicles.
- Optimising the extractor fans in the workshop.
- Optimising the current lighting in the workshop.
- Better material usage (oil, engine cleaner) through better house keeping and work methods.
- Switching off equipment when not in use.
- Redesign the storage area for used oils.
- Improving 'dry-cleaning' methods for cleaning the workshop floors.

Management considered that plans should be made to install a bunded wall around the used oil storage area in the main workshop. This was highlighted as a major area for improvement. This would help contain any spills incurred by the used oil tank and drastically reduce any pollution caused by a leak. They also brought the problem with the parking area onto a discussion level. Management have not put a financial figure to the savings made by implementing these recommendations.

## **Orbit Coachworks**

- Better reuse of materials (paints, solvents, oil, etc) through better house keeping.
- Maximise circulation of warm air in the drying ovens.
- Use of infrared heating.
- Switching off equipment when not in use.
- Eliminating leaks in the compressor system.
- Optimising Lighting
- Design a storage area for used oils and hazardous chemicals, which are stored on site.
- Restructure the current waste separation area to reduce contamination

Orbit Coachworks has a stricter environmental policy due to their association with Mercedes-Benz. There is a higher awareness level among the management regarding Environmental, Health and Safety implementations. This outlook has helped them welcome the recommendations made by BECO-ISB. Management have not put a financial figure to the savings made by implementing these recommendations.

## **Summary**

The majority of the members have embraced the recommendations made by BECO-ISB. Though most of these recommendations had little to no financial benefits in terms of immediate money savings by the members, the members realised the long-term benefits of accountability to the surrounding community regarding pollution prevention and creating a more favourable working environment for their employees.

The net financial savings by the club members are estimated to be way over R500 000, when one takes into consideration that only one club member has calculated the money they saved. This company has also not calculated the money saved in time through reducing sick leave taken by employee therefore the savings could be much higher.