

Environmental Management of

OPERATIONS DIVISION

The focus of those targets for the Operations Division in year 2000 were mainly on legal compliance. This year, one of our key objectives is on EMS implementation which aims at using a systematic approach to control the environmental issues arising from train operation.

“ The concept of EMS is relatively new to the Corporation when comparing to the Quality and Safety Management Systems. Staff have established their own working habit over years and changing their perception and mindset toward environmental protection are a challenging job.”

*Dr Kam Chan
Environmental Engineering Manager*

Divisional Environmental Policy

- ▶▶▶ Comply with all relevant regulatory and legislative requirements in Hong Kong, adopt best practices and implement codes of good environmental practice.
- ▶▶▶ Actively seek to minimise the use of resources, wherever practical and cost effective.
- ▶▶▶ As part of the process of minimising use of resources, implement pollution prevention practices where possible.
- ▶▶▶ Integrate sound environmental management practices with existing systems such as safety and quality management systems.
- ▶▶▶ Set up procedures to manage environmental complaints both from internal and external parties.
- ▶▶▶ Conduct training programmes to brief and educate staff in environmental matters both during induction and as ongoing practice.
- ▶▶▶ Objectives and targets will be set according to the principles of SMART (Specific, Measurable, Achievable, Results oriented and Time bound).
- ▶▶▶ As part of the Operations Division's commitment to continual improvement and the reduction of its environmental impacts, the Division will strive to achieve its environmental objectives and targets during the operation and maintenance of the railway on a year to year basis.

Indoor Air Quality Monitoring Kits

System Purpose: Measure Indoor Air Quality at stations and Train Compartments
Six parameters are measured including:

- CO₂, Temperature and Relative Humidity using CO₂ Monitor.
- Respirable Suspended Particulates (RSP) using DATARAM
- Total Bacterial Count and Fungi using Bio-Air Sampler



Indoor Air Quality Measurement at station



RSP DATARAM



CO₂ Monitor



Bio-Air Sampler at Ventilation Plenum

Noise Monitoring System

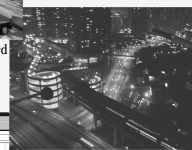
System Purpose: Measure Sound levels Generated From the Operating Railways at Noise Sensitive receivers.

System Components:

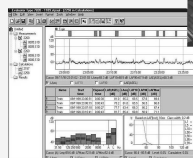
- Sound level meter - Measures sound levels and spectrum of running EMU
- Sound Analysis Software - Assists for an assessment an evaluation of noise level.



Annual Noise Survey at Telford Garden



Noise Complaint Investigation at Tsing Yi



Sound Analysis Software



Noise Monitoring System at SHD

Major Achievements in 2000

Statutory compliance

Noise Control: Full compliance with relevant laws and regulation through implementation of various noise reduction tools, rail maintenance and noise monitoring programme

Wastewater: Full compliance with the statutory provisions of the Water Pollution Control Ordinance

Initiatives on Air Quality Control:

- ▀ Phasing out the use of materials with Ozone Depleting Potential
- ▀ Undertook indoor air quality monitoring which was checked against the Indoor Air Quality Criteria of the Environmental Protection Department
- ▀ Undertook a radon monitoring programme within the tunnels and measurements taken complied with WHO standards

EMS

- ▀ The role of Environmental Engineering Section as the EMS system owner was established, responsible for initiating, monitoring, and reporting the progress of EMS implementation. The role of Operations Division Environmental Working Group shall fine tune to oversee the progress of EMS implementation and the achievement on EMS objectives and targets.
- ▀ Implemented an EMS in January 2000. Internal audits commenced during 2001.
- ▀ To support the EMS, a computer-based Noise and Complaint Information System was established for centralized monitoring results.
- ▀ EMS has been implemented in all departments of the Operations Division except Consultancy Services.

Key Objectives and Targets in 2001

- ▀ Continue to ensure compliance with relevant laws and regulation.
- ▀ Maintain the quarterly wastewater monitoring programme to monitor discharges from stations, tunnels and depots.
- ▀ Continue to monitor indoor air quality and review results, as well as noise monitoring programme.
- ▀ Examine how best the EMS system can be integrated with the Safety and Quality systems in the Operations Division as far as practicable.

Something More about EMS Implementation

- ▀ EMS implementation has successfully raised the environmental awareness amongst staff at all levels in the Operations Division. Contribution from Safety & Quality Department and their experience has also helped resolve many difficulty encountered during the EMS launching stage, eg. role defining, EMS procedureclarification etc.
- ▀ The continuous support of staff, together with the EMS implementation and the Environmental Protection Working Group (EP Working Group) in promoting the environmental awareness are also essential in smoothing out the unforeseen irregularities. Through visiting, training and technical forum, frontline staff are getting familiar with pollution issues. They are stimulated to participate in the process actively. Staff are encouraged to think creatively to reduce resource consumption and pollution arising from their works, eg. Waste oil, scrap metal re-cycle.
- ▀ Since the establishment of EP Working Group in the Operations Division in 1996, membership in E&M Section has increased to 5,000 last year, eight times the number of five years ago.
- ▀ Integration of the EMS into the existing Integrated Management System is the next important task to achieve.
- ▀ With respect to the constraint of EMS implementation, the biggest difficulty is to follow the SMART principle in the setting up of objectives and targets. 