

# Managing Properties

## Introduction

With an existing property portfolio of over 12 million square feet of office, commercial and retail space, as well as over 20,000 flats and associated facilities, the management of properties is our predominant activity. There are many EHS issues which need to be addressed and we have a responsibility to minimise our environmental impacts and ensure sound operational health & safety within our buildings.

Our managed properties include four major shopping malls which welcome over 10 million visitors each month and accommodate over 500 international and local retailers, supermarkets, cinemas, restaurants and other recreational and entertainment facilities.

## Our Approach to EHS

We approach EHS by placing particular emphasis on:

- Complying with EHS legislation and best practices
- Investigating new EHS management practices, techniques and technologies, to improve and enhance performance
- Continuous upgrading of existing portfolio to reduce EHS risks
- Developing in-house guidelines
- Identifying, recording, resolving and following up on any deviations to our EHS requirements
- Managing our staff, contractors and suppliers
- Ensuring our staff and contractors are properly and adequately trained

As property managers, we are in a position to influence the EHS related behaviour of both our tenants and contractors. We employ many contractors and suppliers who provide a range of services and supplies, e.g. cleaning, equipment maintenance, pest control, gardening. We ensure that our contractors are aware of EHS issues and have a history of satisfactory EHS performance. This is addressed through the application of strict pre-qualification criteria and a robust tendering procedure.

To provide assurance of good performance, our staff undertake regular site inspections of our commercial properties to check that effective EHS practices are adopted. Experienced personnel formally audit our property management activities addressing all key environmental issues, to evaluate performance and to identify potential risks.

At least once a month, a trained member of staff carries out safety inspections at each commercial property. Every six months, an external registered safety auditor, engaged by us, but reporting directly to the Labour Department, conducts an independent safety audit.

## Environmental Management

### *Working with Tenants – Guidelines and Rules*

We have incorporated specific environmental requirements and recommendations into our 'Tenant Fit Out Guide and Rules' and our separate 'Environmental Guidelines for Tenants'. These documents encourage our commercial tenants to adopt environmentally responsible practices when moving into and occupying our premises.



## EHS Aspects during Building Operation and Maintenance

- Indoor Environmental Quality
- Materials Selection, Management and Consumption
- Chemicals Selection, Management and Consumption
- Water and Energy Consumption and Efficiency
- Air and Noise Emissions
- Environmental Hygiene
- Waste Management
- Wastewater Management
- Landscaping Maintenance
- Fire and Electrical Safety
- Mechanical Plant Safety
- Traffic Safety
- Occupational Risks
- Ergonomics
- Emergency Preparedness and Response
- Staff Competence and Training

### Examples of Tenant Fit Out Recommendations

- Use timber from sustainably managed sources
- Use composite wood products with low formaldehyde content
- Use pre-treated timber to avoid site emissions during treatment
- Use low or zero ozone depleting insulation materials, refrigerants and aerosols
- Favour water-based or latex paints over high volatile organic compound containing paints
- Avoid lead-based primers
- Maximise use of natural light

### Working with Contractors – Renovation and Refurbishment

When commissioning large renovation or refurbishment works we include environmental protection requirements, over and above compliance with legislation, in our tenders. Consequently, as with our construction work (see previous section), all contractors are required to develop and implement an Environmental Management Plan (EMP). This ensures that all work is conducted with a view to controlling and monitoring emissions of dust, noise and wastewater and properly storing and handling chemicals, dangerous goods and hazardous waste.

Some of the environmental measures, recently implemented during the Parkside renovation, are provided below.

#### Waste Management

We proactively manage all waste arising in our buildings. Through building close relationships with our tenants, property owners and contractors, we inform and help the community achieve waste reduction and recycling. We promote the “three R’s” principle – to Reduce, Reuse and Recycle – throughout our properties:

- *Reduce and Reuse* - we continue to explore ways in which we can reduce the amount of waste produced by looking at the type of goods we buy and how we use them. We encourage our tenants to do the same. For example, we have an initiative to install dishwashers in our leased properties to encourage tenants to wash dishes and cutlery rather than to use disposable ones.
- *Recycle* - where waste cannot be avoided, we do our utmost to see that it is recycled rather than sent for disposal. All of our properties undertake the collection, storage, sorting and separation of waste. We monitor the quantities of waste recovered and also undertake awareness campaigns.

#### Commercial Properties Waste Management.

Regarding our commercial properties we actively encourage participation in waste reduction and recycling programmes:

- Festival Walk was the first shopping mall to participate in EPD’s plastic bag recycling programme
- Citygate, Cityplaza, Festival Walk, Pacific Place and TaiKoo Place participated in EPD’s mooncake box recovery programme in September 2003, collecting over 8,700 used containers for recycling

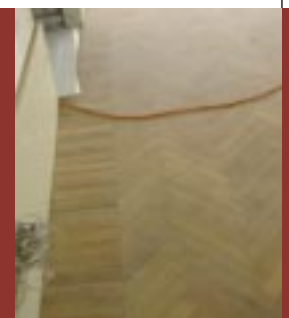
**Residential Estates Waste Management.** An example of a successful residential waste recycling system (at Taikoo Shing) is provided in Case Study No. 4.

#### Energy Management and Greenhouse Gas Emissions

Swire Properties is a significant user of energy, consuming over 200 million kWh of electricity at its managed properties last year at a cost of over HK\$200 million.

### Sustainable and Environmental Measures for the Renovation of Parkside

- Pre-cast partition walls used in place of traditional methods to reduce wet trades and waste
- Existing teak flooring and marble to be protected and retained for reuse
- All existing loose furniture to be sold for reuse and recycling. Existing bathroom fixtures to be retained
- Master light switching and automatic temperature adjustment as guests enter and leave the room
- Architectural power skirting to reduce noise-producing wall chasing in concrete walls for rerouting of cables
- Solid wood and veneer panels to be from sustainable timber sources



Using electricity, gas and other energy sources is necessary to provide our (and our tenants') business operations and the high standard of indoor environment (temperature, humidity, power, lighting and IAQ) that our customers expect. We are committed to conserving energy, reducing associated environmental impacts and preventing the generation of greenhouse gases to promote sustainable development. Our building management teams ensure that energy use is controlled, monitored, and where possible, reduced as new technologies become available and occupancy patterns change.

To achieve this, our Building Services Manager is responsible for managing energy issues and developing and monitoring energy conservation measures for our business. Key priorities include ensuring that our buildings and their systems are properly operated and carefully maintained to achieve optimal performance and efficiency. Measurement and monitoring facilities include high sensitivity meters and sophisticated building automation systems.

### How Electricity Consumption can lead to Global Warming

Buildings account for about 40% of energy used worldwide and electricity generation is one of the primary sources of greenhouse gases, which contribute to global warming. It has been estimated that carbon dioxide contributes to about 55% of the greenhouse effect.\*

The electricity consumption of our managed properties in 2003 equates to an atmospheric emission of approximately 173 kilo tonnes of carbon dioxide.\*\*

\*Sources: *Sustainable Buildings Technical Manual*, published by the Public Technology Incorporated and the United States Green Building Council, and *The State of the Environment in Asia and the Pacific 2000*, published by the United Nations Economic and Social Commission for Asia and the Pacific.

\*\*Equivalent carbon dioxide emission is estimated based on a conversion factor namely 'emissions per unit of electricity generated in Hong Kong', at 0.731kg of carbon dioxide per kWh for the calendar year 2003 provided by CLP Holding Ltd. in their *Social and Environmental Report 2003*.

We have further benchmarked our energy consumption against the best practice standards of HK-BEAM. All of our commercial properties have been audited to identify energy saving opportunities.

In 2002, we consolidated our company-wide energy saving efforts by formalising an energy task force (the Technical Efficiency Team), whose aim is to identify and implement energy saving opportunities in all areas of our operation.

	Capital Expenditure (\$'000)	Cost Saving / Year (\$'000)	KWh Saving / Year (\$'000)	Equivalent Reduction in Carbon Dioxide Emission / Year (tonnes)**
49 initiatives completed	17,827	8,242	8,325	6,086
6 initiatives in progress	574	594	599	438
18 further initiatives budgeted	3,646	2,333	2,357	1,723
9 initiatives under study	1,785	688	695	508

By the end of 2003, over 80 energy saving initiatives throughout our property portfolio had been adopted, agreed for implementation or were under study. Those already adopted are currently saving some HK\$8 million annually. Two examples of our recent energy programmes are highlighted in the text strips of this page and page 23.

In recent years, many of our achievements have been realised through our active involvement in the Demand Side Management (DSM) programmes, implemented jointly by government and local power companies. The purpose of this programme is to reduce electricity demand in Hong Kong and its associated environmental impacts. Investment in reducing peak electricity demand by consumers is encouraged through a rebate scheme. DSM has therefore enabled us, as an electricity consumer, to

## So Simple, Everybody Can Do It

### Air-conditioning (AC) services rescheduling at Island Place Tower

The occupants of many buildings often keep their AC and lighting systems running even when the space is unoccupied or partly used. We introduced a new arrangement at Island Place Tower, where users are provided with an incentive to stop using their AC when not needed.

Tenants can now notify the management office in advance to suspend the AC operation when their facility is not in use. In return, they receive a rebate on the cost of additional energy requirements outside of office hours equivalent to 50% of the energy saved. The scheme has proven quite straightforward to implement since no capital outlay or new equipment is required. Although a small amount of management time is required to monitor the situation and calculate the savings, the scheme is popular with users and has reduced AC electricity consumption by around 5%, equivalent to over HK\$300,000 per year, since its inception.

obtain a rebate on the capital cost of certain proven technologies such as energy efficient lamps and condenser tube cleaning systems. We understand that our initiatives accounted for about 54% of the total submissions received in the programme.

### **Water Pollution and Consumption**

We treat our wastewater and conserve water wherever we can as part of our environmental management activities.

Our properties release two main types of discharge that require government licenses: sea-water used by the air-conditioning systems for cooling (e.g. Pacific Place and TaiKoo Place) and wastewater from our tenants' catering facilities. We do our utmost to ensure that the license requirements are not only observed but, where possible, bettered.

We ensure that our tenants use proper facilities such as grease traps to ensure wastewater is treated before discharge and that residual waste is properly disposed of. We inspect the grease traps in all of our managed properties on a regular basis to ensure that they are functioning effectively and we also arrange for the disposal of solid grease trap waste.

In conserving water resources, we adopt a wide range of water saving measures e.g. automatic taps, and we ensure that all of our buildings are provided with accurate water metering facilities to monitor our water consumption. This helps us identify and prevent instances of irregular high consumption, for example, as a result of leaking pipes.

### **Hazardous and Polluting Substances**

Every effort is made to minimise potential impacts, firstly by adopting environmentally friendly alternatives where available, and secondly by ensuring proper handling, storage and use for all hazardous substances. We implement our own 'cradle to grave' procedure for chemical waste to monitor and manage this process.

Did you know that buildings account for 16% of water used annually worldwide?

Source: *Sustainable Buildings Technical Manual* (Public Technology Incorporated and the United States Green Building Council).

Over the past two decades ozone depletion as a result of chlorofluorocarbons (CFCs) emission has been an air pollution issue of global concern. Historically CFCs have been used in fire fighting systems and as a coolant in air-conditioning systems. We are now CFC-free in our fire fighting and air-conditioning systems through retrofitting or replacing existing equipment that enables us to operate on more environmentally friendly substances. Furthermore some of our existing plant use less damaging hydrochlorofluorocarbons (HCFCs) and our newer systems use such substances as hydrofluorocarbons (HFCs) (as they become available) which have a zero ozone depleting potential. These systems also have sensitive leak detection systems and provision for the proper containment of refrigerant during servicing or repair.

## **Keeping Our Costs Cool**

### **AC system control at TaiKoo Place**

Energy consumption by AC fans often totals around 25% of total energy use in a typical commercial building. Standard systems require constant air pressures inside ducts irrespective of the demand for cooling. We upgraded one of these systems at TaiKoo Place to automatically control duct pressures with respect to the demand for cooling, leading to substantial savings in fan energy consumption. At a capital cost of \$70,000 to design, fabricate and install the system, and with annual savings of \$200,000, the payback period was less than 4 months. This initiative which was undertaken using internal resources (including research by a staff building engineer as the final year of his part time degree programme) received a Hong Kong Eco-Business Award and the international Hays Montrose President's Prize of the UK Chartered Institution of Building Services Engineers (CIBSE) in 2002.



## Health & Safety Issues

### Safety Management System (SMS)

We set and maintain a high level of health & safety standards and ensure all property management staff, including our contractors and suppliers, abide by them. This means implementing good housekeeping practices, maintaining good IAQ and preparing to adequately and promptly respond to emergency situations and health threats such as SARS.

In July 2003, we formally implemented a company-wide SMS for all our offices and managed properties, including commercial and residential premises. Our SMS encompasses all areas of our property management business through the 5-step approach illustrated below.



As part of the system, an SMS Steering Committee develops and reviews safety plans, sets safety objectives and targets, and carries out contractor performance reviews. It also provides us with a formal mechanism to monitor our safety performance through the implementation of accident investigation and statistics reporting, comprehensive audit and review of safety performance.

### Best Practices and Legal Compliance

In order to realise our health & safety policy we implement a combination of health & safety practices and procedures, as outlined below. Our procedures relate to all high risk activities, e.g. working at height on gondolas and working in confined spaces.

**Staff Qualification and Competence.** As of December 2003, our staff hold approximately 2,700 licences for safe working practices in 36 categories, including work on gondolas, gas welding, metal scaffolding, first aid and security.

**Personal Protective Equipment.** We ensure that only equipment meeting relevant international specifications and industry standards as approved by Government is provided and that it is maintained in good condition.

**Installation and Equipment for Risk Reduction.** All staff working at height are trained and equipped with safety harnesses and lifelines. Those managed properties having external landing areas with no railing or fencing are equipped with fall arrestor systems to safeguard workers from potential falls.



Confined space work



Gondola



Working at height on gondola

### Our Health & Safety Procedures cover the following areas:

- Curtain Wall Emergency Replacement
- Pesticides Application
- Hot Works
- Refrigerant Stores
- Permanently Installed Gondolas
- Confined Spaces
- Spill Response

Slippage is the leading cause of staff injury within our premises. To address this, we have posted warning signs concerning potentially slippery surfaces, such as lobby entrances, corridors, washroom areas and escalator landings.

In 2003, we fully complied with all our health & safety legal requirements.

- No. of warning letters from Labour Dept. = 0
- No. of prosecution actions = 0

### **Emergency Preparedness and Response**

Emergency planning is addressed for all managed properties through the identification of emergency scenarios e.g. fire, explosion, vehicle accidents, flooding, etc. Staff are then trained and drilled in the appropriate response. In the event of any accidents or incidents, systematic investigation and reporting to the relevant management and/or the Labour Department is undertaken.

In terms of crisis management, we have established a business recovery plan which covers response procedures for catastrophic events that could potentially affect our operations e.g. severe fire, bomb threats, prolonged electricity blackouts and terrorist attacks. Every two years, we employ an external risk management consultant to simulate scenarios including drills that involve all relevant staff.

### **Contractors and Suppliers Management**

We work closely with many contractors and suppliers in the management of our properties. Our SMS Steering Committee provides safety guidelines for all appropriate personnel to ensure that they are aware of and observe relevant health & safety requirements.

We also ensure that products supplied, e.g. pesticides, cleaning products and fuel, are checked prior to purchase and that they are legally acceptable.

### **Indoor Air Quality (IAQ)**

City dwellers often spend as much as 90% of their time indoors. It is therefore important to provide occupants of our properties with a healthy, comfortable and productive indoor environment. Consequently, we monitor IAQ to ensure that we meet the requisite standards. We focus our measurements on three critical factors:

- Quantities of fresh air supply, complying with international best practices
- Levels of carbon dioxide (CO<sub>2</sub>) to ensure that sufficient fresh air is being supplied
- Levels of respirable suspended particles to ensure that our filtering systems are working effectively

IAQ measurements are taken in common areas and our air-handling units (AHUs) (located in our air-conditioning plant rooms), at least once per year but particularly before a new tenant moves in. Given that each of our properties has several hundred AHUs (two on each floor of office space, for example), this means that our IAQ monitoring programme is extensive and almost continuous. Any potential problems identified are investigated with more detailed measurements undertaken by third party professional bodies, to ascertain the cause of the problem and thus ensure prompt rectification. In addition to IAQ, the technical teams at our managed properties also conduct regular temperature and humidity measurements to assess thermal comfort.

## **Examples of Safety Best Practices**



Fencing to isolate work area from pedestrians



Risk assessment for confined space work



Close communication during use of mobile plant



Use of gondola for building façade cleaning



Use of personal protective equipment (PPE)

We are careful to avoid the use of materials associated with IAQ problems in our day-to-day activities and periodic renovation works. We recommend our renovation contractors avoid the use of materials with high levels of formaldehyde (in pressed timber products), volatile organic compounds (in paints), preservatives (in solid timber) and unprotected mineral fibres (in acoustic and thermal insulation).

### **Defence Against SARS**

During the SARS outbreak in early 2003, our shopping malls like others in Hong Kong saw a fall in patronage due to public concerns over the infectious nature of the illness. The Swire Pacific Group Risk Management Committee immediately established a special task force involving safety expertise from group companies. The task force implemented various preventive initiatives across group companies, such as disseminating precautionary information, issuing risk management guidelines, sharing best practices and initiating contingency planning. Our immediate response measures also included:

- Intensifying cleaning of common areas, such as lobbies, lift interiors, lift call buttons and washrooms
- Strengthening supervision of contractor cleaning and pest control services at all buildings and ensuring cleaning contractors had contingency plans
- Intensifying the monitoring of drainage systems in order to promptly repair any leakage or blockage in drainage pipes, as well as upgrading water basins and urinals with infra-red sensors to automatically activate flushing

- Proactively separating offices during the SARS period to avoid the risk of cross-contamination
- Assessing and assuring the adequacy of personal protective equipment and cleaning equipment for property management operations. All staff were required to wear masks when on duty in public areas and upon entering tenant premises
- Proactively informing tenants of our SARS prevention work and providing channels to respond to their enquiries promptly

A formal SARS Action Plan was swiftly drawn up to ensure that we are proactive in reducing the risk of SARS. We are therefore fully prepared to act promptly in the unfortunate event of any future SARS outbreak.



Provision of first aid at shopping malls

### **Staff Safety Statistics in 2003**

- No. of fatalities: 0 cases
- No. of injuries: 78 cases
- Major causes of injuries: 1) slip / loss of balance; 2) lifting or carrying object; 3) striking against fixed or stationary object
- No. of staff work hours lost to injuries: 12,271 hours
- Total no. of staff work hours: 4,089,830 hours
- Incident rate: 34 per 1,000 employees
- Severity rate: 600 per 100 employees

### **Contractor Safety Statistics in 2003**

- No. of fatalities: 0 cases
- No. of injuries: 10 cases
- Major causes of injuries:
  - 1) cut / laceration;
  - 2) striking against fixed or stationary object