

## Announcing a short course on air conditioning, ventilation and energy management...

*The course will be given in January but registration closes 30 November.*

The APFM, in collaboration with the Building Department of Ngee Ann Polytechnic, is organizing a short course on *Air Conditioning, Ventilation and Energy Management*.

The course will be held Tuesday and Friday evenings, the 4, 7, 11, 14 and 18 January next year at Ngee Ann Polytechnic. At the end of the course, a Certificate of Attendance will be issued by Ngee Ann Polytechnic and APFM.

Here are the proposed topics to be covered in the course:

- 1 The need for air conditioning in buildings and the factors that determine the capacity the system should have.
- 2 How the refrigeration system works in an air conditioning plant.
- 3 The different types of air conditioning systems.



- 4 Air distribution and air quality.
  - 5 Mechanical ventilation systems in buildings.
  - 6 Operation and maintenance of air conditioning systems.
  - 7 Relevant codes and regulations for air conditioning and ventilation.
  - 8 Energy conservation in air conditioning and ventilation systems.
- There will also be practical exercises. Please register by the end of November. Registration forms are available from the APFM Secretariat. The course fee is \$350.

### Call for volunteers

The following sub-committees in APFM would like to invite members who have relevant expertise and experience to serve with them:

*Professional Development,*

Chaired by Philip Poh,

*Membership,* Chaired by Ng Keng Siong,

*Publicity & Publications,*

Chaired by Jeffrey Chua,

*Updates for Professional*

*Practice,* Chaired by Wong Yew Heng.

If you are interested in contributing to the work of any of these committees, please call Ms Tina Ng at the APFM Secretariat, 336 3468.

## ...and another on automation and security systems

Ngee Ann Polytechnic has confirmed the dates of the short course on *Building Automation and Security Systems*. It will be held on Thursdays, the 6, 13, 20, 27 of January and 3 February next year.

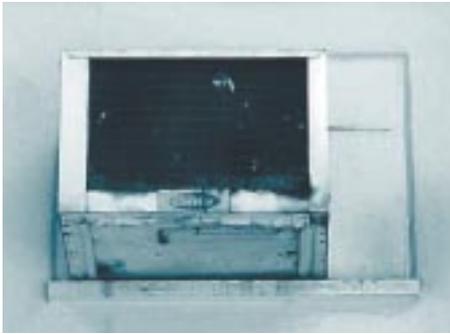
This course is intended to give property managers practical knowledge of the planning and installation of electronic security systems and of the use of automation in the maintenance and management of a building's mechanical and electrical services.

At the end of the course participants should be able to

- describe the hardware configuration of a building automation system and discuss its applications in building maintenance and management;
- discuss the strategies for energy conservation and management in residential and commercial buildings;
- explain the functions of different types of security sensors; and
- describe the components of a CCTV and electronic access control system.

# Building Control Act amendment to make aircon installation safer

Reported by  
**Wong Yew Heng,**  
Council Member.



*The cause of all the trouble.*

*The Building Control (Amendment) Act, first read on 3 August 1999, contains measures intended to minimize incidents of air-conditioning units falling from old and weak wooden mountings.*

New sections were inserted in the act to regulate the installation and retrofitting of air-conditioning units. This was primarily due to the eight cases of fallen air-conditioning units reported since 1984.

Of the eight, seven were due to decay in the wooden frames on which the air-conditioning units were mounted. Fortunately, no one was injured or killed.

## Several steps already taken

The Ministry of National Development has introduced several measures to prevent the problem. For example, new units are required to be mounted on stainless steel brackets in all HDB flats.

In 1997, an additional measure was introduced to ensure that trained workers



*If the aircon projects from the building, it probably needs the stainless steel supports.*

were engaged for the installation of new air-conditioning units to minimize risks due to poor workmanship.

However, there remains a substantial number of wooden frames installed before these measures were introduced and the units that were mounted on wooden frames present a growing risk to the public as the condition of those frames deteriorates with time.

To minimize the possibility of further accidents, the main feature of the Act requires wooden frames to be replaced with stainless steel brackets.

## The details of the Act

The Act's definition of "air-conditioning unit" includes a window air-conditioning unit and any condensing equipment of an air-conditioning unit.

"Building and Construction Authority" means the Building and Construction Authority established under section 3 of the Building and Construction Authority Act 1999 (Act 4 of 1999).

"Trained Worker" means a person who holds a certificate issued by the Building and Construction Authority for installing a structural supporting system to support an air-conditioning unit.

The Act applies to an air-conditioning unit that is to be installed or has been installed on the exterior of any premises or building (other than a bungalow, semi-detached house, terraced house or linked house) or in such a manner that any part of the air-conditioning unit projects outwards from the premises or building.

The Act requires a person who desires to install an air-conditioning unit on any premises or building to employ a trained worker to carry out the installation. The trained worker shall carry out the installation work in the manner prescribed by regulations.

It goes on to specify that an air-conditioning unit installed in a timber-framed opening on the exterior of any premises or building is to be retrofitted within one year from October, 1999, in such a manner and using such material as prescribed by regulations.

## Retrofittings required

New sections were inserted to provide that if the Commissioner of Building Control considers any air-conditioning unit has been installed on any premises or

building in an unsafe manner, he shall notify the owner in writing and the owner shall, within such period as the Commissioner may require, retrofit the air-conditioning unit in such a manner and using such material as the Commissioner may require.

In addition, the Trained Worker is required to submit a report to the Commissioner upon the completion of any installation or retrofitting work carried out by him in such form and manner as the Commissioner may determine.

At the second reading in Parliament of the Building Control (Amendment) Bill, on 18 August 1999, two main questions were raised.



*Aircons installed in bungalows and other private housing may be excluded.*

## The first question:

The Bill only defined a trained worker as one who holds a certificate issued by the BCA for installing a structural supporting system for an air-conditioning unit, without giving details about the qualifications for such a trained worker.

Could the qualifications be made more clear and transparent? How many trained workers were in the industry? Were there sufficient trained workers to keep installation work at reasonable price levels? In the one year period imposed for retrofittings, will owners have difficulty meeting the deadline?

## The second question:

The Bill said that the installation will use "such material as may be prescribed". The question was what would the new acceptable materials be, given that wood is not suitable in the Singapore climate?

The Senior Parliamentary Secretary to the Minister for National Development,

Associate Professor Koo Tsai Kee, replied to the two questions as follows:

*“Is one year sufficient time to change all the 65,000 air-conditioning units, of which 45,000 are in HDB and 20,000 in private estates? We have a pool of 4,000 trained workers certified to install steel brackets on to these existing air-conditioning units. We have an existing problem of 65,000 air-conditioning units. So there should be enough time. We have 4,000 workers and we expect more workers to be trained.*

*“What is the qualification of a worker? It is not very high because it is a very simple task actually. We require a person to take a test. If he says he is qualified, he has the skills but he has no certificate, we will require him to take a test. If he says, “I do not know how to do the installation”, then he undergoes a course.*

*The 17 hour course is conducted by BCA at the Construction Industry Training Institute at Braddell Road. The course fee is \$410 per participant and we conduct the classes in Mandarin or English, or, if there are enough students, it can be conducted in any dialect or language.*

*Companies can sponsor their workers for this course. They can pay a one-time fee of \$9,840 for one class organized for a company. We have settled the problem whether there is sufficient time. The answer is yes. Are there enough workers? The answer is yes.*

*What is the best-approved material? We think stainless steel is. That will be in the subsidiary legislation. Stainless steel is relatively cheap, readily available and easily installable.*

## Collecting your Certificate

Members who have not collected their membership certificates from the Secretariat are requested to do so, personally, as soon as possible.

Ms Tina Ng is in the office from 10am to 3pm, Monday to Friday.  
Telephone 336 3468.

The Association's office is now in the Capitol Building, 11 Stamford Road, #03-04.



The green,  
green grass of  
home

*Grassed areas dominate the greater part of most large estates. Well-maintained turf emphasizes the line and colour of the structures around it. But it is no easy task maintaining green grass in a public place as the turf gets a lot of use by the residents.*

*Technical requirements for turf management should be spelled out in the contract you write with your horticultural service provider. To help you with the details, here are ten points in good turf maintenance.*



*Cow grass.*

## 1. Types of grasses

The grass you see most of in Singapore is common “cow grass” or *Axonopus Compressus*. This is a hardy grass, well fitted for survival, vigorous growth and easy maintenance.

The other commonly planted grass is “carpet grass” or *Zovsia Matrella*. It has a fine texture and dense sods. But it is slow to establish and requires more maintenance and trimming than cow grass.

Carpet grass is usually found in landscaped areas in public places and in the gardens of private landed properties.

## 2. New turf

Easy maintenance begins with the turf supplied by your contractor. The turf must be healthy, with a strong green colour. It should be dense and free from weeds. It should be placed within 24 hours of delivery to site.

### Definition of Weeds

**You don't have to travel the world to find out that a weed in one garden is a cherished exotic in another. The correct definition of a weed is an “unwanted plant”. Carpet grass found in a cow grass area is considered a weed.**



*Sods should be fresh, dense, bright green – and planted within 24 hours.*

## 3. Soil preparation

The ground surface must be free of debris, rocks, roots and other matter.

The soil should not be clay, as clay compacts too easily. Compaction prevents the grass roots getting the air and water they need.

The soil should have adequate water retention, Loamy and porous soil helps in turf growth. However, should such soil be unavailable, you need to take steps to improve it.

A mixture of three parts of loose topsoil to one part of sludge will help to raise the quality of the soil for your grass.

## 4. Sunlight

Grass needs full sunlight for photosynthesis. Insufficient sunlight reduces its ability to grow and feed itself. You may need to prune tree branches to allow sufficient sunlight to reach your turf area.



*Touch-me-not growing in cow grass.*

## 5. Grass cutting

Regular grass cutting is part of the maintenance to ensure good turf growth. Regular grass cutting increases shoot density and ensure that the growth is kept spreading. For well-established grass, cutting should be done fortnightly.

Large motorized rotary mowers lower the cost of cutting and can do very good work, provided they have large flat tires and are kept off uneven or soggy ground. The wheel can easily uproot turf and cause ugly depressions that are expensive to repair.

Grass-cutting contractors often overlook the need to trim the edges of footpaths. And footpaths get narrower!

## 6. Aeration

Compacted ground prevents turf growth and needs to be loosened. Soil loosening by forking is cheap and quite practical. Moreover it reduces water loss through surface run-off.

## 7. Weed control

As your turf is getting established, you may find the seeds of many other grasses and plants came with the soil it is planted in. Weeding needs to be carried out regularly to remove all the broad-leaf and other weeds from the turf area.

Weeding can be done either manually or by spray with a herbicide. Extreme care must be taken when a herbicide is applied because many can damage a lot more than weeds!

## 8. Fertilizers

The most common fertilizer used is organic fertilizer in pellet form. Mixed with dolomitic lime, it can be broadcast by hand onto the turf.

This should be done immediately after rain so that the fertilizer dissolves faster into the soil.

## 9. Top dressing

Top dressing helps boost turf growth. The topsoil used should be fine and loose and broadcast over the turf. Once it has been rained upon, the top dressing spreads to the gaps between the turf sods. Subsoil should not be used as a top dressing.

## 10. Damaged areas

Dead turf, bare patches and ground depressions should be replaced when they occur to prevent further damage to surrounding turf. Such areas are likely to be compacted and should be dug up. New soil should be added before new sods.

*Based on a paper by the Horticultural Services Unit of EM Services Pte Ltd.*



# Applying e-commerce in property management

Dr Lawrence Chin  
Director, Centre for Real Estate Studies  
National University of Singapore

## Introduction

The aim of the IT2000 Master Plan is to transform Singapore into a fully intelligent island where the use of information technology (IT) is pervasive in every aspect of our society – at work, home and play (National Computer Board, 1992). The Internet is a powerful tool for linking communities locally and globally by electronically linking those with a common cause or interest. In other words, individuals and firms will be able to form communication links for personal, social and business activities.

## Concept of e-commerce

E-commerce or electronic commerce can be defined as the way of conducting business electronically. The benefits of using e-commerce in business operations and management include:

1. enhancement of communication and collaboration between employees;
2. improvement in supply chain management;
3. cheaper information exchange with suppliers;
4. lower cost access to new markets; and
5. corporate resource planning.

There are basically two types of e-commerce, business-to-business and business-to-customer:

In **business-to-business e-commerce**, firms transact business by buying and selling via electronic means.

Previously, this e-commerce was confined to large organizations using private networks for electronic data interchange (EDI) and electronic fund transfer (EFT). In addition to large capital outlay, private networks incurred high maintenance costs.

By using the Internet, e-commerce is now available to both large and small enterprises.

In **business-to-customer e-commerce**, firms can reach out to customers via the Internet.

In the retail sector, cyber-mall shopping has been developed for a host of products and services. The system also allows transactions to be done online: customers can place orders, as well as obtain customer support services.

For example, the cyber-mall launched recently at the site [\[road.com\]\(http://www.road.com\) will allow Orchard Road merchants to go online and sell to the global market. Profits from sales will be shared between the merchants and the multi-media company.](http://www.orchard-</a></p></div><div data-bbox=)

Cyber-malls have also made ties with delivery firms such as DHL to get items to buyers around the world.

A recently announced shopping site at [www.nececity.com](http://www.nececity.com) will allow customers to visit famous shopping streets in a 3-D environment and interact with the retailers and other shoppers there.

## Use in property management

It can be both business-to-business and business-to-customer.

In the first case, property management firms can use e-commerce in dealing with their suppliers, contractors and other consultants. Work orders, quotations and tenders can be handled via the Internet for the purchase of goods and services.

In the second case, property management firms can provide better customer service. They can establish their own websites to provide information about their professional services – and to provide residents and tenants with a simple means of requesting management services, any time of the day.

In lease negotiations, clients could file application forms electronically to the landlord or his property manager.

A good example is the system Singapore Network Services and HDB have jointly developed: the HDB-Resale Net allows users to fill out resale application forms electronically or ask for a valuation.

In the near future, virtual communities will be a reality in our society: online services will keep residents and tenants updated on the latest events and developments in their estate or condominium.

The remarkable feature of these interactive websites is that information and reports are generated in real-time. Information can also be filtered, updated, sorted and packaged by the users according to their specific requirements.

Property managers can make use of online virtual notice boards as a management tool that transmits information quickly. Hyperlinks can be created for

different things like general notices, calendars of events, minutes of meetings, safety information and bookings for the use of facilities.

## Trends and developments

The Asia-Pacific region will witness a boom in the use of the Internet and e-commerce, be it in Internet access, e-commerce applications or spending on Web servers. According to a US research firm, Dataquest, the region chalked up an estimated US\$2 billion (S\$3.3 billion) in e-commerce-related spending this year. This figure should triple to US\$6.5 billion by the year 2003.

By 2003, it is projected that 220 million people in the Asia-Pacific region will have access to the Internet, equal to the population of the United States.

This growth is being driven by consumers and businesses that need access to the Web. E-commerce will become mainstream in the near future.

A Dataquest survey of 683 organizations in eleven Asia-Pacific nations shows that Singapore will be among the top three nations in implementing e-commerce. At present, 46% of firms polled in Singapore have implemented business-to-business commerce while 36% plan to.

## Conclusion

E-commerce is not only for big-time businesses. Small- and medium-size companies, including property firms, should now seriously harness IT in their business activities. Implementing e-commerce will allow these firms to provide better customer services, expand markets, improve supply chain management, and enhance their corporate image.

## References

- Ho Ka Wei, *Orchard Road goes online for e-trading*, Straits Times, 99.08.04
- Ong Boon Kit, *Residents' Perception on Condominium Virtual Community*, unpublished BSc(Real Estate) dissertation, 1998/99, School of Building and Real Estate, National University of Singapore.
- Toh Han Shih, *Asia Internet and e-commerce to boom*, Business Times, 99.08.23

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