

QUALITY AND SAFETY ISSUES IN COMMERCIAL BUILDING MAINTENANCE

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ABSTRACT

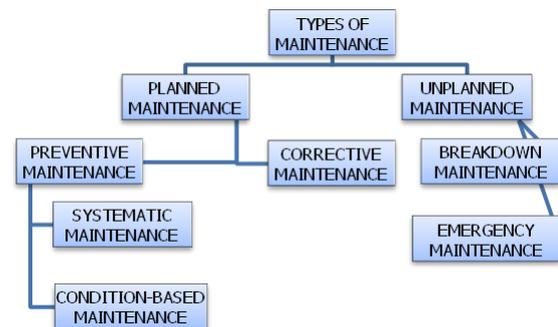
This paper is concerning the quality of building services maintenance. Building services design, installation and maintenance will have a significant effect on the efficiency of the building service systems and the performance of buildings. Hence, building services maintenance must be planned and managed throughout the whole life of a project. The current management of building services maintenance is not entirely efficient and satisfactory. The application of a quality management system is seen to be a useful framework which can provide better control and significant improvements of all maintenance activities. However, the safety issues are also important in the building maintenance. Safety and health issues refer to the protection of the residents and visitors from accidents and get disease threats while in a building. The low quality of work and insufficient maintenance of a building can be a factor causing an accident, injury or death.

Keywords

Maintenance, Quality of Building Services, Safety and Health

1.0 INTRODUCTION

Referring to the British Standard 3811:1984, maintenance means a combination of the technical and management aspects in all actions which is aiming at maintaining the function of an item or restore it to its original function or condition. The goal of maintenance is to make sure the production system in good working order at a minimal cost.



Building maintenance should be given serious attention before (stage design), during and after a building is completed. But overall involvement in the maintenance building after the building is completed and during building operations. Building maintenance management should assist in maintaining the property in good condition through effective management of resources and benefit higher than construction investment has been removed.

According to the conventional definition quality is something that seems good, excellence, distinction, and elevation value. Quality can be referred to some characteristics such as meeting customer requirement, without defects and approaching perfection.

Occupational safety and health is a condition in which an employee requires an environment that is safe and healthy for them and other people who may be affected activities.

2.0 OBJECTIVE

2.1 To know the relation between the low quality of work in building and health problem.

- When maintenance work provided is low then it will affect the health and safety of building users. Poor maintenance of

buildings will worsen when a little damage at first but then becomes larger up to a level where it can be life threatening building occupants. For example, maintenance activities related to electrical wiring. This activity is very dangerous and should be given more attention. If the activity is not treated properly it will have an impact on building occupants, especially children who like to play in such places. In addition, when the materials for the maintenance work not stored properly, such as ladders, nail and hammer it will endanger the safety of the consumers.

2.2 To know the factors that cause the issues in quality, safety and health.

- Lack of effective workers
When a maintenance management does not have effective workers then the work done is not satisfactory. This is because they do not have an expertise in specific areas. For example a building should perform maintenance activities related to the electrical wiring and the contractor has given the tender to the maintenance management but the maintenance management does not have an expert and skilled workers in the fields. So, maintenance work cannot be carried out properly and will affect the health and safety of the building users.
- Not enough budgets for the maintenance work
For example the contractor gives the low allocation cost to the project. When the allocation cost provided is low, the quality of material used to perform in the maintenance work will also be affected. They will use low quality of material such as low quality of ceiling and the result of use it is the building will collapse or unsafe to use.
- Workers does not have good training
When workers are not adequately trained for a job, the quality of job will be affected and may cause an accident or harm to the building users.
- Unorganized planning scheduled
When maintenance management does not organize the planning scheduled very well, it can give problem to their workers. For example, they receive the damage complaint then the workers on duty go to

the place and settle down the problem and the worker does not record the problem. So, it can give the problem to another worker who handles after him if the problem happens again.

2.3 To discuss an elements that considered by facilities management to maintain a good level of quality, safety and health.

- Identifying objective, policies and strategies
Formulation of objectives, policies and strategies by the facilities management organization in Building maintenance is a key factor in determining the success of quality building maintenance.
- Planning
Implementation of effective planning in building maintenance includes three item; the term for the requirement of equipment, systems or physical condition a building include short-term planning (routine) - 2 years or less, mid-term planning - 2 to 5 years, and long-term planning - 5 to 10 years.
- Financial
Financial allocation in building maintenance schedule should be balanced with annual work planning and maintenance set. Therefore, the appropriate budget should be provided and designed based on the expected cost according to the needs of maintenance systems or equipment, and legislation.
- Procedures
Development of building maintenance procedures are technical documents important in maintenance activities. This is because it can facilitate and guarantee the quality of maintenance work carried out.

3.0 LITERATURE REVIEW

The literature review will be discussing about the quality and safety issues in building maintenance.

3.1 Definition

Malaysia is a speedy developing country and now struggling to become a developed country with a first class infrastructural network. Towards the union, various developments have been well planned especially in building construction sectors in order to fulfill the needs of society and organizations. The planning of building and facilities management before, during and after a

building creation must be parallel to maintain the initial condition of the building and to ensure the surrounding of the building is always in good quality, safe and healthy to all occupants or visitors of the building. Nowadays, many issues reflected to quality, safety and health originated from the weakness of facilities management especially building maintenance aspect such as impairment, fire collapse, failure in compliance of law and so on. So the quality, safety and health practice are two essential element in building maintenance to ensure that all occupants always comfortable, safe and healthy during occupation of a building.

3.2 Quality Issues

The main issue being faced by the maintenance management in Malaysia is the low service in quality (Ruslan 2007; Shahrul Nizam Kamaruzzaman and Emma Marinie Ahmad Zawawi 2010). The dimensions for building maintenance quality are observed through the perspective of timeliness and certainty standard. Every activity in maintenance involves the replacement of parts. The responsibility of building maintenance management is to make sure that the quality of the part that need to be replaced is at a good quality. Nowadays, the problem is, the new building in Malaysia were built and equipped with a system or high-tech and sophisticated equipment imported from abroad such as the United State (U.S.), United Kingdom (UK), Germany, Finland, Japan and etc. This situation has resulted in the cost of replacement including transportation costs and foreign exchange services. So unfortunately, most of the imported parts require a long period of time to arrive in Malaysia. String of this problem has resulted in building maintenance management resorted to using counterfeit parts; they are cheaper and easily available in Malaysia. If the parts do not have the proper quality and durability, it will result in a decrease efficiency of the system or equipment. As a result, system or equipment will be at risk when used by building occupants. Facilities management in building maintenance should always prepare and prioritize quality services regularly make a thorough assessment of the implementation of management measures achievement.

3.3 Safety and Health issue

Issues in safety and health are always became a social issues where many people have presenting an active interest. In this research, safety and health issues refers to the protection of the residents and visitors from accidents and disease threats while in a building. Besides that, maintenance management building also is responsible for overseeing the safety and health of the operation and maintenance

for all facilities under its control. It is also known as important components for safety and health. The low quality of work and insufficient maintenance of a building can be a factor causing an accident, injury or death. The importance of maintenance is not only to extend the life span of a system or equipment but also be able to prevent any accidents or illness from happening. Maintenance of buildings should see the view of security on the outside and in the hidden part of the building especially as electrical wiring, water pipes, air conditioning duct, structure and so on. Poor maintenance building will worsen when a little damage at first but then becomes larger up to a level where it can be life threatening to building occupants. A research conducted by the Ministry of Human Resource Malaysia found that most of the air in the commercial and office buildings in the country is “sick” and a danger to health. “Pain” in this definition is “sick building syndrome”. Most of the ventilation system, especially in offices, restaurants and entertainment centers are not in good condition and has been contaminated with toxic as carbon dioxide and dust. A major contributor to sick building syndrome (SBS) is air conditioning which is divided into two types, discomfort and disease. An early sign of sick building syndrome (SBS) is the occupants are feeling too hot or too cold, too dry, lack of freshness and fatigue. Extension of this syndrome, the occupants of the building will have more serious effects such as tired or strained eyes, unusual tiredness, fatigue or drowsiness, headache, tension, nasal congestion, shortness of breath, panting and skin dryness.

4.0 METHODOLOGY

The research method consisted of Journal and article using internet search engine in order to collect data. Several of journals and articles focus on maintenance building especially in quality and safety issues have been selected in for data collection.

5.0 FINDINGS

According to the Journal of Facility Management and Maintenance Building: Quality Practice, Safety and Health, there are an issue happened to Malaysia government building. Recently the country was shocked by a series of incidents involving damage to the government buildings in Malaysia. It covers leaking roof at Parliament House, water leak at the Kuala Lumpur Court Complex and at the Immigration Headquarters Putrajaya, clogged sewage pipe leak resulted in

hospital cafeterias Sultan Abdul Halim, Sungai Petani, and hot water pipe leak at Selayang Hospital. Such incidents have been embarrassing and demeaning building government and able to cause accidents and diseases to the building occupants such as slipping, falling, stricken object, injury, cough, sore throat, fever, runny nose, sore head and so on. Complaints often heard about the public buildings have the maintenance; safety and hygiene conditions (Gurjit 1995) compared to private buildings are usually more reserved (Abdul Hakim Mohammed and Wan Min Wan Mat 2002).

Another issue reported by Utusan Malaysia also discuss about the collapsed building in Tasik Banding in Gerik. The collapsed building in Tasik Banding, Gerik the two-storey building belonging to the Perak State Parks Corporation (PTNP) recently gave a clear indication that the country requires building surveying services. Such situations are actually indirect guidance of trained professionals that the country needs to regulate the building of the design, construction and maintenance. Although various proposals have been put forward by certain parties to address these issues since the incident of damage to buildings collapsed ceiling, leaking pipes and cracked walls in some governmental administrative building in early May, but it seems there is no solution. This is because every time there is a breakdown in the building, trying to establish new authorities and the investigating team to identify the cause of the damage. Countries actually desperately need a change in the management system and building a more systematic maintenance. It should be undertaken by those who are specially trained in the field. To ensure that it can be achieved, building surveying profession should be given a place to act as interpreter-consultant who represents the interests of the government to do a check and balance on the work done by contractors and consultants consisting of architects and engineers. Capability building surveyor not disputed because it has received recognition from the Malaysian Professional Center, Institute of Surveyors, Malaysia, the Royal Institute of Chartered Surveyors, UK, Department of Public Service and Quality Assessment Division of Building Surveyors Learning Syllabus by the Ministry of Education Malaysia. Building surveying degree of specialization is in control aspects of building, including maintenance of the building. If the developed countries like the United Kingdom, Europe, Australia, New Zealand, Hong Kong and Japan have long to recognize and trust building surveying profession to carry out maintenance work including building control.

Recently, Sinar Harian reported that The Education Ministry will conduct a physical audit of 13

Matriculation Colleges across the country to identify the damage and upgrade the institution for student comfort. Deputy Minister Dr Mohd Puad Zarkashi said the ministry would send an officer to conduct a comprehensive investigation on the damage and problems facing each college and to take further action. Most of the Matriculation College built a long time ago and the building age more than 10 years old, certainly much to be considered for improvement and upgraded. For example, some buildings are damaged as moldy and some crack, he told reporters after a visit to Malacca Matriculation College here today. In fact, he said there Matriculation College who face problems of water supply and it can interfere with students, especially if the problem occurs in the hostel building.

6.0 RECOMMENDATION

The main function of building maintenance is not only to ensure the building, system or equipment operating at maximum efficiency but also to ensure always meet the needs of building occupants and the legislation. After deep discussion with team members, we have come out with several recommendations in order to solve the problem regarding quality and safety issues in maintenance building.

1. Commercial buildings management needs to know the importance of maintenance building regarding quality and safety issues.
2. Need to produce comprehensive maintenance plan for the long term period (5 years) or increase the amount of budget, workers and substitute quality components or materials for construction.
3. Build strong relationship between government and private sector and share an expertise in order to improve maintenance in commercial buildings.
4. Produce law enforcement toward quality and safety issues.
5. Need to increase the awareness of quality and safety issues in commercial buildings.
6. Need to produce efficient facility management as the guide for commercial building maintenance practice.
7. Need a comprehensive examine all commercial buildings by government for every 3 or 5 years in order to make sure the buildings in the good condition.

7.0 CONCLUSION

In Malaysia, facility management is still a new entity and exists since 10 years ago and unfortunately it does not grow and no professional organization that exists to develop facility management seriously. This situation is very much different if compared to western countries or other countries in Asia such as China and Singapore. These countries have active professional organizations to develop management facilities such as the International Facility Management Association (IFMA) in the United States, the British Institute of Facilities Management (BIFM) in the United Kingdom, Japan Facility Management Promotion Association (JFMA) in Japan and Hong Kong Institute of Facilities Management (HKIFM) in Hong Kong. Therefore, the government or nongovernment organizations (NGOs) in Malaysia should be making their way to developing the organization facilities management professionals. Maintenance is a key activity in facilities management in Malaysia especially involving the maintenance of buildings, plant, equipment, infrastructure and so on. Facility management involved in the public and private sector either use concept sourcing or outsourcing. An important factor in building maintenance is to ensure that all building occupants comfortable, safe and healthy while occupying a building. Various factors involved in achieving service quality, safe and healthy in the building such as the objectives, policies and strategies, planning, finance, procedures, regulations and standards as well as human resources.

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ATTACHMENTS

State Stadium of Terengganu was collapse



Pipes leaking in the Hospital Selayang building



Roof leaking in commercial building

