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# THE PROCESS OF CPC ENCOURAGING ENFORCE BEHAVIOUR OF ETHICS

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## **Abstract:**

A Certificate of Practical Completion (CPC) marks the point at which the contractor has completed the contractual obligation and can hand over the works to client. The aim of this research is to focus on getting Certificate of Practical Completion (CPC) to gives up possession of the site to client as if the client becomes the “building owner” which responsible for insurance, security and maintenance. Throughout getting CPC, rectifying defects commented defect checklist by Clerk of Work (COW) during Pre-Delivery Inspection (PDI) was carried out to minimize defect when client takes possession. At the same time, these action minimized defect works when Defect Liability Period (DLP) begins. During the rectifying the defects, transparency and accountability must be includes to achieves the integrity in Project Management. Data were collected from three case studies through observation, interviews, and documentary evidence. Furthermore, site walk for CPC inspection was held a few times, since the contractor does not satisfied the Client in many aspects due to the pending work. It was found that, Certificated of Practical Completion (CPC) could not achieve if Liability for liquidated damaged is not complete.

**Keywords:** Certificate of Practical Completion; Defect; Transparency; Accountability; Integrity

## **1.0 INTRODUCTION**

Generally, Certificate of Practical Completion (CPC) is the point at which a building project is complete, expect for minor defects that can be put right without undue interference or disturbance to an occupier (Reuters, 2017). According to Davies (2017), a Certificated of Practical Completion marks the point at which the Contractor has completed the contractual obligation and can hand over the works to the Client.

It is important to note however, that the defects liability period, which follows certification of practical completion, is not a chance to correct problems apparent at practical completion, it is the period during which the contractor may be recalled to rectify defects which appear following practical completion. If there are defects apparent before practical completion, then these should be rectified before a certificate of practical completion is issued.

As for the contractor, it is crucial to achieve Certificate of Practical Completion (CPC) due to avoid or limits exposure to financial penalties for delay. On the other hand, contractor can achieve milestones for release of retention monies. Contractor has no responsibility for site security or insurance. As for the client, it is important to achieve Certificate of Practical Completion (CPC) because of satisfied that contractor has fulfilled the obligation. Furthermore, the business needs of organization such as end of previous lease and competitive advantage. Client also may takes possession. However, Client may not want to achieve (CPC) due to incomplete work, unsatisfactory and work differ than the design.

On the other hand, Pre-Delivery Inspection (PDI) act as progress to achieve CPC. PDI inspect by the developer (SCP) for the purpose of minimize complain from the purchaser and defect in the unit. Pre-Delivery Inspection is done by person in-charge (PIC) from main contractor and Clerk of work (COW) from the developer.

As if inspection is held defects is the main point to be rectify. A defect must be considered to be a falling or shortcoming in the function, performance statutory or user requirements of a building, and

might manifest itself within the structure, fabrics, services or other facilities of the affected building. The severity of a building defect and the associated levels of damage, deterioration or decay currently present or expected to affect the building and its occupants are similarly related to the perceptions and the expectations of the owner and the occupier, to various other stakeholders with interests in the well-being of the property. The defect or the action required to reduce or remove its effect on the building, will typically be ranked according to a pre-determined set of priorities for repair, maintenance or other works to improve either performance or capability (Aestray, 1999).

Defects within new buildings are areas of non-compliance with the Building Code of Practice and published acceptable tolerances and standards. Older buildings or buildings out of warranty period, may not comply with these standards but must be examples of a defect are cracked, damaged or deteriorated brick walls, leaking showers, dampness to a building as well as, excessive sagging to a roof or ceiling. To determine the actual defect requires a professional inspection to find the cause of the problem and to provide the right information for remedial works. Also, defects may exist in areas not accessed by a homeowner such as rooftops. Roof construction can also be affected by fire damage and must be assessed as structurally adequate (Aris, 1994)

There are many types of defects, however in this study only focus on tiling work, painting work and renders work. First and foremost, tile flooring is an appealing choice for many homeowners. Allergy sufferers often choose tile for its durability through frequent cleaning. Although tile is a tough surface, problem occurs if installation techniques or material are unsuitable. Install well, tile floors can last for many years. Defect in paintwork arise from many causes, mostly in combination, but the main culprits are exposure to sunlight (especially so with dark coatings) and rain. Poor paint adhesion occurs if the background is damp during application. Painting in high humidity conditions will affect the quality of the coat and its eventual durability (Hinks and Cook, 1997).

There are great similarities between plastering and rendering, except that renders are usually used for external work and final mix depends on prevailing weather and microclimatic conditions. The cementitious materials set by hydration and so water is needed for the chemical reaction. This is why the materials in their powdered form should be properly stored on site away from moisture, and kept under cover and off the ground. They are also particle composites with aggregates acting to stop cracks (Dean, 1996)

## **2.0 LITERATURE REVIEW**

A Certificate of Practical Completion (CPC) marks the point at which the contractor has completed the contractual obligation and can hand over the works to client. If practical completion is not certified by the most recently agreed completion date, then the contractor may be liable to pay liquidated and ascertained damages (LAD) to the client. These are pre-determined damages set at the time that the contract is entered into, based on calculation of the actual loss that the client likely to incur if the contractor fails to meet the completion date.

### **2.1 Transparency of main contractor**

As a wise main contractor, transparency is important in every construction work since it makes it easy for others to see what actions are being performed well as when, how and why they are happening. This entails honestly outlining with ease to any interested party how a project is being managed. Example can be seen during rectifying work of defects commented by Clerk of Work (COW) during an inspection. No information is hidden, not even the financial status of the project. Transparency implies openness, timely communication and accountability.

### **2.2 Accountability of main contractor**

Accountability of a main contractor is very crucial to make sure the work flow is done smoothly without any delay. Project manager must conduct meeting continuously to follow up with the update on the work done. Besides, person in-charge such Site Supervisors, Mechanical Supervisors and Site Safety

Supervisor must supervised the labors doing their work. When accountability is implies at the site, then it will definitely give an impact to the integrity in Project Management.

### **2.3 Integrity in Project Management**

Integrity is one of the important ethics in construction especially for the leaders. Leaders with integrity may not be the famous or flashy of leaders. Intergrity means do the right thing because it is the right thing to do. This will leads to success.

### **3.0 METHODOLOGY**

A semi-structured interview is used for this study. Most of the information is gathered by interviewing the Project Director, Senior Supervisors and Mechanical and Electrical Supervisor. Other than that, semi-structured interview was also carried out with the labours during the progress of rectifying defects. Observation are done when inspection are done by the Clerk of work (COW) at the unit. Most of the things come from COW are complaining about the defects. With these helps to observed well what is the standard needed by the COW and at the same time acknowledged who are the person in charge on rectifying defects commented by COW. These are been record in notes as guide. In addition, observation are done when workers rectify items commented by the COW such as uneven painting to wall, door leaf defect and rusty to floor tap cover. Minor defects take a short time to be rectify instead of the major. These rectifying works usually record by taking photos.

As for the document reviews, company profile is used as a guide to write up a company background. Construction drawings act as the guide to refer during the task given by the Project Director to ease the understanding and to be clear. On the other hand, Sales and purchase agreement (S&P) as guideline during the checking or inspection is done at unit or retail shop to make sure everything is tally with the S&P.

### **4.0 ANALYSIS AND FINDINGS**

From the observation on this project of constructing service apartment consists of four blocks, 1205 units in total including 40 units of retail shops. Besides, the project also consists of three levels of parking lot and numbers of facilities located at Level 1. The project located at Wangsa Maju was in a final phase where most of the things done were rectification work of defects. Besides, Pre-Delivery Inspection (PDI) was carried out for every block and retail shop with Clerk of Work (COW). Therefore, every rectification work carried out depends on the list of defect checklist commented by COW.

Pre-Delivery Inspection is done by the developer (SCP) for the purpose of minimize complain from the purchaser and defect in the unit. Pre-Delivery Inspection is done by person in-charge (PIC) from main contractor and Clerk of work (COW) from the developer. One team named 'PDI Team' is created with the members of general workers, painter, plumber, mosaic workers and electrician. 'PDI Team' will give the best effort to rectify the defect commented during Pre-Delivery Inspection. All of the comment will be record in a Pre-Delivery Inspection form by the Clerk of work (COW).

However, before Pre-Delivery Inspection is held, 1<sup>st</sup> and 2<sup>nd</sup> Defect Inspection will be held first. Defect Inspection act as preparation before PDI to minimize defects in the units.

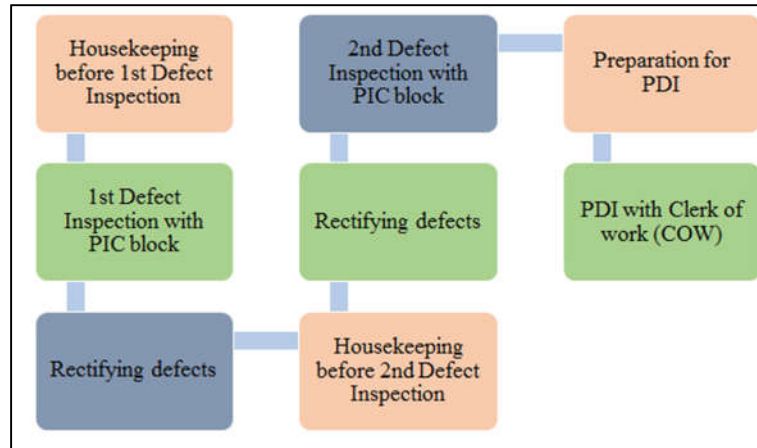


Figure 1: Flow of work to Pre-Delivery Inspection (PDI)

On the other hand, the contractor was focusing on getting Certificate of Practical Completion (CPC) on time. Therefore, during the period of getting CPC, site walk was held a few times. Site walk was attended by bosses of developer, Champion Priority (SCP), architect, Mechanical and Electrical (M&E) manager, Mr Raymond, Clerk of work (COW), sub-contractors and main contractors. Site walk is held to let the bosses walk around and survey the surrounding before approve the CPC. Site walk is done because to let the bosses see the result of work done of the building and common area.

First and foremost, the inspection will be done at the typical unit selected by the bosses (refer Figure 1). Usually, the major things that the bosses looked into were the paintings, mosaic and the condition of the unit. Then, inspection continue at the rooftop of the block (refer Figure 2). Piping on top of the roof mentioned by the bosses. Watermarked at the wall surface also be the main point since it was not pleasant from the eye-sight. Other than that, the bosses will walk at the facilities floor, located at the first floor. Common areas during the inspection were at the playground (refer Figure 3) and swimming pool (refer Figure 4). Last but not least, the site walk continue at the car park level (refer Figure 5).



Figure 2: Site Visit at Rooftop area



Figure 3: Site Visit at the playground area, swimming pool and parking area

## 5.0 CONCLUSION

In a nutshell, even though there is 1<sup>st</sup> and 2<sup>nd</sup> Defect Inspection, however Final Inspection which is Pre-Delivery Inspection (PDI) is the most crucial among all because the inspection witnesses by Clerk of work (COW). Besides, the inspection helps to minimize the defect but to surge the quality of the building. With the transparency and accountability of main contractor, defect can be rectifies with a proper procedures of rectification. Last but not least, Certificate of Completion (CPC) could be achieved on time when the process is being followed properly. Site walk also helps to convince the developer as well as the architect and the others to say that the building is sufficiently completed.

## REFERENCES

- Aestray, B. (1999). Building Maintenance Practice: A Construction Management Approach. Lambert Academic Publishing.
- Aris. (1994). The Technology Building Defects. New York: Taylor & Francis.
- Davies, R. (2017). CIBSE Home Counties Se Region. Retrieved from CIBSE Home Counties Se Region Retrieved from <https://www.cibse.org>
- Dean, Y. (1996). Mitchell's Building Series Finishes 4th Edition. England: Addison Wesley Longman Limited.
- Hinks, J., & Cook, G. (1997). The Technology of Building Defects. New York: Taylor & Francis.
- Reuters, t. (2017). Thomson Reuters Practical Law. Retrieved from Thomson Reuters Practical Law Web Site: <https://uk.practicallaw.thomsonreuters.com>