New World Hotel Saigon

The First and Largest International 4-Star Business Hotel in Vietnam after 1993

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Aim of the Paper

This paper provides a review of the construction of the first and largest project, New World Hotel, in Vietnam since 1991. There were a lot new techniques as well as system for management of the construction industry applied to this project. Eventhough the project has been successfully completed on time and in economy, if we look through the period for the construction of this, we will find out some mistakes about the construction management and financial control. The aim of this paper is to analyse the mistakes and try to give out a conclusion as a lesson for all of us for the future project, especially projects in Vietnam. For this project, I have been involved as a quantity surveyor for the Main Contractor.

General Information

Country Background

Vietnam is an S-shaped country situated on the eastern seaboard of Southeast Asia and bordered by China to the North, Laos and Cambodia to the East. The country occupied a total area of 329,560 sq. km of which 325,360 sq. km is on land. It has a 3,818 km long land boundary and 3,444 km of coastline. The country's two main cultivated areas are the Red River Delta (15,000 sq. km) in the North and the Mekong Delta (60,000 sq. km) in the south. Three quarters of the country is mountainous and hilly, the highest peak is the 3,143 m high Fansipan in north-west Vietnam. Agriculture is one of dominating economic activities of Vietnam and the country is as known as the third largest rice exporter in the world after USA and Thailand.

The climate of Vietnam is rather various, generally there are two main climate zone: the northern climate is subtropical with four seasons and the southern climate is tropical, warming all the time and divided by two seasons: rainy and dry. In the South, the average annual temperature is around 28°C. In the North, the temperature is various: from 10°C to 18°C in the winter and 28°C to 35°C in the summer. Moreover, the country's climate is also mentioned by the very high humidity.

Vietnam currently has a population of 74 million people. The annual population growth rate is about 2.9%. Vietnamese people are mainly Kinh people, other ethnic minorities are included of Thai, Muong, Man, H'Mong, Ede, which mostly living on high plateau. Religions include Buddhist, Taoist, Roman Catholic, indigenous beliefs, Islamic and Protestant. Languages spoken are Vietnamese (official), French, Chinese, English and Khmer.

The country's official name is Socialist Republic of Vietnam and in short,Vietnam. Vietnam is a communist state. Independence was declared on 2 September 1945 but the country really was reunified on 30 April 1975. The capital is Hanoi. The biggest city in Vietnam is Ho Chi Minh City (Saigon).

Vietnam Economic Review

Vietnam is a one of socialist republic country in South East Asian. Vietnam's political environment has remained stable while the country has initiated economic changes of the most fundamental nature. This stability has proven to be attractive for investments, both to large and small multi-national corporations and individual entrepreneurs. Vietnam's labour force and abundant natural resources as well as its liberal investment laws has fuelled growth since the year 1990. This growth in turn has led to a dramatic increase in the number of business travellers. According to Vietnam's Chamber of Commerce, several trade missions came to Vietnam with the majority visiting Ho Chi Minh City.

Vietnam's economic policies have proven to be successful in controlling growth. In 1990, the first time in many years, the inflation rate was much lower than the speed of economic growth. Furthermore, the lifting of U.S. trading embargo against Vietnam in 1994 constructed a good foundation in the economical perspective, allowing U.S. companies to take part on the business and pushing the economic development in Vietnam.

Due to the several major factors above governing economic development in Vietnam have impacted the Hotel's sales revenue prospects. In preparation for the forecasted growth and fierce competition from existing hotels in Ho Chi Minh City, New World Hotel Saigon project, invested by the Joint Venture between New World Hotels group (Hong Kong) and Saigon Tourist Company (Vietnam), was started to construct since 1991.

Description of Hotel Project

The New World Hotel is located at the heart of the business and commercial district of Ho Chi Minh City. The hotel project is consisted of 14-storeys high with approximately 608 modules of 4-star standard compliance with the standard of New World Hotel International Limited.

An estimation of the construction floor area based on the Architect's drawings is as follows:

Table 1: Construction Floor area

Location	***Function***	***Area (m²)***
Ground floor	Fast-food, Coffee shop, Shops, Health club, Disco and Back of house area	8,464
Mezzanine floor	Car park area	1,844
First floor	Carpark, Game hall, Fast-food, Chinese restaurant, Vietnamese restaurant, Function and Pre-function rooms	8,237
Second floor	Guest rooms and Gymnasium	2,450
3-9 floor	Guest rooms	17,206
10-11 floor	Guest rooms and lounge	4,184
12-13 floor	Guest rooms	2,334
Roof	Plant room	275

Total construction floor area: 44,994 square meter approximately.

The period of time for all activities to complete the project was in 3 years from 1st Jan 1991 to 31st Dec 1993

Project's Actors

New World Hotel Saigon project was the first and largest project in Vietnam since the year 1991. Because of the very high standard requirements from the Client, the Main Contractor and most of Sub-contractors were foreign contractor.

The below list shows some main participants involved in the construction of the project:

Table 2: Project's Actors

Client:	SAIGON INN COMPANY LTD. – Joint Venture of New World Hotels group and Saigon Tourist Company
Main Contractor:	HIP HING CONSTRUCTION (HONG KONG) COMPANY LTD.
Architect Consultant:	TAOHO INTERNATIONAL CONSULTANT ASSOCIATES
Structural Consultant:	WONG PAK LAM AND ASSOCIATES
M&E Consultant:	RANKINE & HILL (H.K.) LTD. CONSULTING ENGINEERS
Cost Consultant:	DAVIS LANGDON & SEAH (H.K.) COMPANY LTD.

The Main Contractor appointed was Hip Hing Construction (Hong Kong) company limited. Hip Hing is one of the leaders' construction companies in Hong Kong and also a subsidiary of New World Hotel Groups. This company has constructed a lot of projects in Asian countries and the projects are consisted of many types e.g. high rise buildings, bridges, roads, infrastructure, etc…

Most of other Sub-contractors were Hong Kong Companies.

Design Stage of Hotel Building

In early stage of the design process, the Main Contractor has been engaged to be responsible for the design, planning, supervision and execution of the Hotel project which consisted of a hotel complex of not more than 14 storeys high with approximately 608 modules of 4 stars standard in compliance with the standard of New World Hotel International Ltd., including all outdoor works and landscaping. The Architect has been firstly appointed to prepare drawing, herein called Architect's drawings, which have been subjected to requirements of the Client and the Main Contractor. During this period, the Architect frequently met the Client and the Main Contractor to discuss about the project in many aspects in order to provide sufficient drawings for preparing a cost estimating plan and budget. After that the Consultant for an estimation of a project cost has been appointed. This stage has been very important because all documents produced have been a binding part of contract. Many researches regarding to an economic circumstances, traditional custom and local culture, local authority's custom and local authority's procedure, construction capability, etc.. in Vietnam have been done. The Main Contractor, Architect, cost Consultant have been requested to deal with many local construction companies and local authority in case of these works. All of the preparation works for this project seemed to be proceeded early from the year 1990. In fact, in order to find a very good position of the hotel project, the Client had to put an effort to procure a transaction from Saigon Tourist Company, one of a tourist leader's companies in Vietnam.

Project Organization

As mentioned above, the Main Contractor in this contract has been responsible for both design and construction. The simple organisation chart can be described as below:

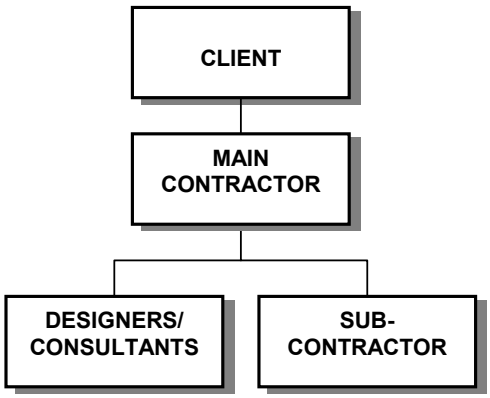


Figure 1: General Organisation Chart

The Organisation chart above is similar to the design-and-construction approach, sometimes called "turn-key" project of a "package deal". The real type of a contract will be defined in a project's procurement.

Project's Procurement in the Design Stage

Contracting Form between the Client and the Main Constractor

Understanding a contract between the Client and the Main Contractor is really necessary. The basic structure of this contract has been to allocate all construction undertaking under one entity on a "Turn-key" basis the contract sum of which has been estimated at cost.

In addition to this "Turn-key" construction underaking, the Main Contractor has provided supplementary project management services and other professional input on a "Cost-plus" basis.

Hence, the Main Contractor's overall contractual package in this project has been in the form of a COST-PLUS CONTRACT. The contractual structure can be summarised by the formula:

Construction Element (Turn Key basis) at cost	+	Project Management Fee		
+	**Other Professional** Expenses	=	**OVERALL CONTRACT** (Cost Plus basis)	

"Turn-key contract" means the package deal, all-in contract in relation to the actual construction element excluding all reimbursable cost-plus items such as Main Contractor's Management Fee, professional expenses and other disbursements.

"Professional Team" means the team of professional Consultants engaged to assist the Main Contractor, including but not limited to the Architect, the Quantity Surveyor, the Structural Engineer, the Mechanical and Electrical Consultant Engineers, the Hotel Interior Designer, the Kitchen Consultant, the Landscape Consultant, the Laundry and Cleaning Consultant, the Public utilities Consultant and any other professional Consultants who shall , from time to time enter into contract with the Main Contractor pertinent to the execution and completion of the Hotel Project. The "Professional Expenses" means the expenses from Professional Team.

"Cost-plus contract" means the Turnkey contract plus the designated items namely the Project management and other reimbursable professional expenses.

"Project Management Fee" means a fee receivable under this contract. The total fee was SIX PER CENT (6%) of the ACTUAL CONSTRUCTION COST under the TURN KEY CONTRACT which was subjected to adjustment from time to time based on workdone accomplishment.

In brief, the contract signed between the Client and the Main Contractor has been a Cost-plus contract. The contract's amount had not been finalised yet but it has been based on a contract cost plan, which had been estimated before by a preliminary Architect's drawings and specification. The target cost applied to this contract has been in an amount of US$ 60,000,000 (United State Dollar: Sixty Millions). The Main Contractor had to

proceed all works in the contract in adhering to the Target cost and the contract cost plan.

Purchasing and Contracting Procurement between the Main Contractor and Consultants/Designers and Sub-contractors

Designers/ Consultants:
In the early time of a design stage, most of Designers/Consultants have been appointed by the Main Contractor. Because the Main Contractor (Hip Hinge Company) was a big company in the construction industry, almost Designers/Consultants who were over-seas were their subsidiaries, since the project considered as the first and largest building in Vietnam. At that time, a building design's capabilities in Vietnam were poor of knowledge and experiences. The Designers/Consultants have been requested to soon finish a production of drawings, specification, master programme, budget and cost plan, etc… in the preliminary period. The Main Contractor has collected all documents and submitted to Client for an approval. The contracts between the Main Contractor and Designers/Consultants have been often a lump sum contract. The contract amount for each Designers/Consultants has been an agreed percentage based on a main contract cost plan.

The sequence for the design of the hotel project can be simplified as following:

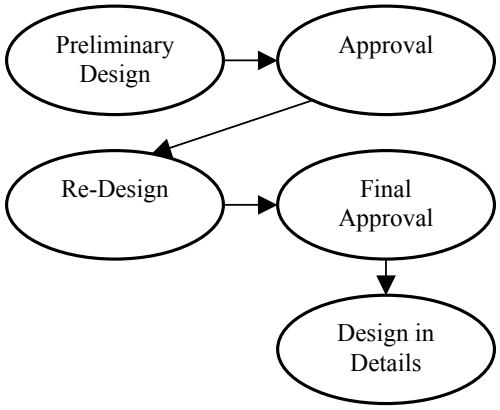


Figure 2: Sequence in Design

In this stage, the Main Contractor have appointed Designers/ Consultants to implement immediate works as follows:

- Designer for Architecture.
- Designer for Structural Works.
- Designer for M & E Works.
- Designer for Kitchen and Laundry.
- Designer for Interior Decoration.
- Designer for Graphic and Signage.

Materials/Equipment Procurement
Most of material/equipment have been imported from overseas. The imported material/equipment, especially the finishing material, have been tile, carpet, sanitary ware, ironmongery, window and door panel, glazing panel, ceiling board, loose furniture, etc…, M&E's material and equipment, computer, video camera and so on. The Main Contractor has estimated and prepared a quota list of imported material/equipment in order to get a tax free from Vietnamese Authority. This step has been considered very necessary and important. In this work, the project manager has played a role as a conductor. He has pointed out which one was necessary and which one was unnecessary in the quota list, which one was available from local resources. The very good quota list, the more success in a budget control.

The Main Contractor has prepared the list of suppliers available for the required materials/equipment from the drawings and specification. In the design stage, some of tenders for material/equipment supply have been prepared. Others have been proceeded the tender during the construction stage.

Sub-contractors:
Tenders for some activities have been carried out during the design stage. Invitations for bid were opened overseas (in Hongkong) and also in Vietnam. The chosen of the Sub-contractor sometimes has not been the lowest cost of tendering, it has been depended on other aspect e.g. qualification, sufficient bidding documents and the relationship with the Main Contractor.

- Piling work.
- Sub-structure and Super structure.
- M & E works.
- Lift & Escalator.

Contracts between the Main Contractor and Sub-contractor have been often a 'Measure-and-Value' contract in which the Sub-contractor has received a bill of quantities with the tender drawings. The payment has been based on an actual workdone quantity measured by site quantity surveyors of the Main Contractor.

Budget of Project or Cost Plan of Main Contract

After designing drawings, normally Architectural drawings, had been approved, the Consultant for Quantity Surveyor has provided an estimated cost plan and submitted to the Client and Main Contractor. The cost plan has been one of main part of the contract. It was meant the Turnkey contract as mentioned in the 'Contracting Form between the Client and the Main Contractor'. A brief cost plan provided a budget for each activity would be shown as the followings:

Table 3: Project Cost Plan

		Budget (US$) ('000)
A	**ANTICIPATED CONSTRUCTION COST**	
A.1	Preliminaries	4,398
A.2	Piling	1,876
A.3	Substructure & Superstructure	8,732
A.4	Building Services	12,458
A.4a	*Plumbing & Drainage*	*1,449*
A.4b	*Electrical Installation*	*2,872*
A.4c	*Fire Services*	*828*
A.4d	*PABX Installation*	*543*
A.4e	*Extra Low Voltage System*	*543*
A.4f	*M.V.A.C. and Boiler Plant System*	*3,583*
A.4g	*Kitchen & Laundry Equipment*	*2,122*
A.4h	*Utilities Connection*	*517*
A.5	*Lifts & Escalator*	*1,358*
A.6	Interior Decoration	11,533
A.6a	*Public Outlets*	*5,408*
A.6b	*Guest Room Area*	*6,125*
A.7	Miscellaneous Works	582
A.8	Imported Materials	1,294
A.9	Contingencies	1,940
	Sub-total:	44,172
B	OTHERS:	
B.1	Demolition & Clearance	1,643
B.2	Computer System	424
B.3	Graphic & Signage	137
B.4	Consultancy Fees	2,704
B.5	Contractor's Management Fee	2,650
B.6	Financial Charges & Legal Fees	4,028
B.7	Operating Items and Pre-opening Expense for Hotel	4,241
	Sub-total:	15,828
	TOTAL	60,000

The total amount of budgets has been also the Target cost.

The Main Contractor has applied many ways to control all prices for each activity within the budget cost plan. There were some of main solutions, which listed under, reducing the construction price.

- Controlling design, specially the design of interior decoration, equipment's installation, etc…
- Employment of local staff, local Sub-contractors.
- Proposal of many alternative material/ equipment which were substituted for original materials/ equipment.
- Purchasing available material in local market.

The budget cost plan has been managed by computer program. Every activity in the budget cost plan has been assigned a code address. Payment for each activity has been prepared following the assigned code. Accumulated total of payment has been compared to budget amount by percentage figure. Contract signed with the Sub-contractors or Suppliers has been classified by each item in cost plan to ensure not exceed the budget.

Drawings Design Programme

Schedule for all activities of design has been prepared by the Main Contractor. It has been enclosed in the contract document as a part of time for construction of the hotel project. Activities for procurement and others have been arranged to follow up the time schedule. In figure 3, the production of design's drawing will be shown by a bar chart of time. Some activities of design have been carried out during the production stage.

Design of Hotel Building

The hotel project is a high rise building, which consisted of 14 storeys. The main structure of this building is a reinforced concrete frame combined with reinforced concrete core wall. Foundation of a whole structure has been designed with pile cap supported by driven reinforced concrete pile 300x300x42 m long. The section of columns in some lower floors is normally 1200x1600. For the upper floors, section of columns is reduced by every 3 floors. All external walls have been casted by concrete with rebar inside.

There are 2 portion of the building:

- Podium area: from ground floor to second floor, with the cross-area is around 11,200 sq. meters.
- Tower portion: from second floor to roof floor, having almost same module design with the cross-area is around 2,200 sq. meters.

External finishing of hotel project is by granite tile from ground floor to second floor and whethershield external paint from third floor to roof floor. Inside the hotel project, materials for finishing were often as below:

- Floor: granite tile, marble tile, carpet…
- Wall: ICI deluxe paint, wallpaper, tiles…
- Ceiling: gypsum board

According to the requirements, the project after completion of construction would be a 4 stars standard hotel, all of the fixture and fitting seemed have to reach to the very high quality and more expensive.

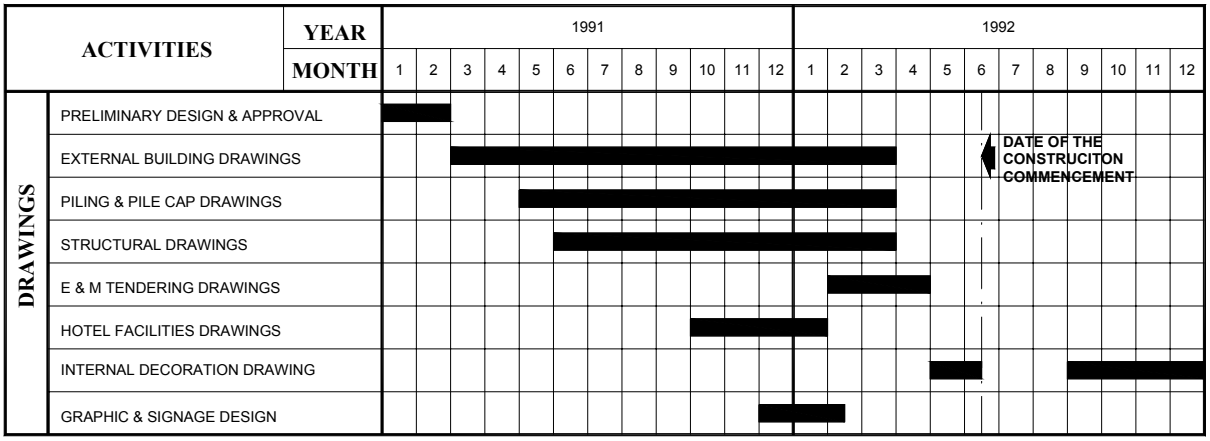


Figure 3: Master Programme

Information Technology

Computers have been widely used by the Main Contractor, Designers/ Consultants, Suppliers and Sub-contractors in order to increase the capability and productivity. Computer programs have been assistant tools for the construction management such as design and producing drawing, project estimation, scheduling, monitoring and control.

Some of computer softwares have been used during the construction of the hotel project which listed below:

- AutoCAD program release 12 has been applied to produce drawings and prepare a revised drawing.
- WPLSTR: program to calculate all structural frame
- of building.
- WPLSTRRB: program to calculate rebars and size of beams, columns, slabs, etc…
- Excel: applied to control in accounting and financial aspect.

Other programs edited by Designers/Consultants themselves have been applied to calculate for this project and these were prohibited, not for popular purposes.

Experiences to Use in Future Projects and Conclusions

The New World Hotel project was entirely designed by Hongkong architects in the manner consistent with Chinese architectural tendency. This style of design has been applied to many hotels owned by New World Hotel groups. At the first time when Vietnamese people looked at the proposed architectural model of this project, they were feeling something dramatically, peculiarly and enormously. Especially, the dark yellow color for the external finishing has drawn a good attention from many people living around the hotel project and in Ho Chi Minh city. Regarding to the structural design, in order to provide the large conference hall, the designers has calculated for the very big reinforced concrete beam, called transfer girders, of the slab above with the long span, around 18 meters long. With reference to the final monitoring record of settlement, the average reading record is around 15mm.

During the design stage, the progress has run smoothly without major problems. The Main Contractor has performed well all activities to sastify the Client's requirements. All Designers/Consultants have fulfilled their duties in this tage.

However, because this has been the first time that the Designers have been involved in the project's design in Vietnam, the structural designers have considered the earthquake factor which has never appeared. Therefore, the structure of the hotel project has seemed to be surplus of strength capacity.

Furthermore, the price of local materials and labor has been very cheap so the Main Contractor has not paid attention on the cost that the local suppliers/ sub-contractor offered. All Suppliers/ Sub-contractor who has taken the contract from this project has earned a lot of profit and most of them have become a big company in Vietnam.

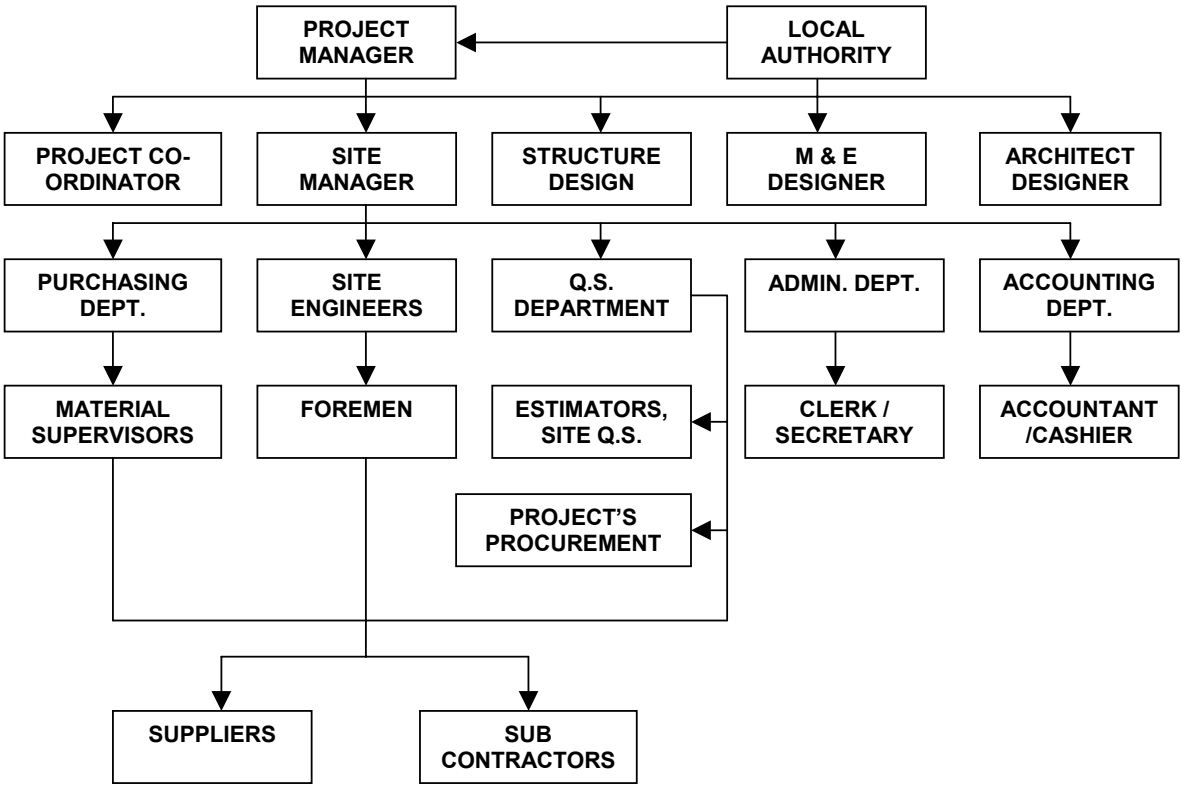
Production Stage

The success of the construction of a hotel project has seemed to be concentrated in the production stage. The functions of the Main Contractor and his staff have ranged from general office administration to estimating, bidding, planning, scheduling, monitoring and controlling job progress. In the production stage, the managerial aspects have been considered the most important factor. The following production planning activities have been normally fulfilled in this stage.

- Time schedule with manpower planning.
- Site organisation.
- Plant and equipment plan.
- Materials delivery plan.

The site organisation chart has been approved to illustrate responsibility and duties of staff and other participants in different levels.

Figure 4: SITE ORGANISATION CHART



The organisation chart for this project is shown in the figure 4.

The process to proceed all activities of the construction of the hotel project will be described by the followings in turn.

Bidding and Contract

Bidding and contract have been a part of procurement. All documents have been prepared by the quantity surveyor of the Consultant. Bidding document has been included:

1. Invitation for Bids.
2. General conditions of contract.
3. Special conditions of contract.
4. Technical specifications
5. Price Schedules/ Bill of quantity
6. Contract form

A short list of available Suppliers and Sub-contractors has been prepared by the quantity surveyor of the Main Contractor. The Suppliers and Sub-contractors whose name in the list have been considered by their qualification, their company's capability and recommendation (from some ones). Depending on each activity, the bidding document has been different in some ways.

The sequence of the bidding has been carried out by steps below:

- Invitations for bids have been sent to the Suppliers/ Sub-contractors.
- Suppliers/ Sub-contractors have collected bidding document from the office of the Main Contractor. They have prepared and fulfilled all documents within a limited time (approximate 10 days) and then submitted to the Main Contractor in a sealed package.
- The Main Contractor has verified and analysed bidding document by their own quantity surveyors. In the special case that the total budget amount of the bidding exceeded 300,000 US$, the quantity serveyor of the Consultant has been requested to give an advice. A short list of competitive Suppliers/ Sub-contractors has been issued.
- Supplier/ Sub-contractor whose name in short list have been required to hold a meeting with the Main Contractor separately. They have been requested to finalise the whole bidding document and to give a discount if possible. In this period, the Main Contractor have asked for more information regarding the company's background, company's reference project, etc…
- The final Suppliers/ Sub-contractor has been decided by the project manager after considering a report of bidding from the quantity surveyor. The decision has not been only based on the lowest price but it has been also referred to the company's background, the completed bidding document, the recommendation for special purposes, the relationship with the Main Contractor.

- A letter of acceptance together with all bidding documents has been issued as a contract between the Main Contractor and the chosen Supplier/ Sub-contractor.

Production Planning

Site Layout Plan

An arrangement of site layout plan has effected a productivity of construction activities. A hotel project has 3 sides facing to 3 large roads. By an assistance of a municipality, the Main Contractor has occupied a section of road for his arrangement of site office, working shop and fabricating shed, storage, batching plant, etc… Offices and stores of Sub-contractors have been arranged in this space too. Tower crane, passenger hoist have been arranged inside the building project.

Hoarding surrounding construction site has been built by one of Sub-contractors. Security guards have been employed to ensure a secure condition inside and outside the site. Watch towers have been built for security guard to conveniently observe all actions inside the site.

Location of New World Hotel Project.

Construction Programme

The Main Contractor has issued a construction programe, herein called Master Programme (see figure 5) to provide a guideline and reference for periods of time for activities to be completed. This schedule has been approved by the Client. For every activity proceeded by Sub-contractors, a required detailed schedule has been followed the period of time in the Master Programme.

The Master Programme has been fixed in the project manager's room, quantity surveyor's room and other rooms of related section but it has not been used for public purpose. The actual construction progress has been keeping track by site quantity surveyor at the end of every week.

Management of Site Activities

Activities on site have been controlled by the site manager and his staff. Site meeting for co-ordination has been held in the office of the Main Contractor by the site manager at the beginning of every week and all Sub-contractors have been requested to be attended. In the meeting, Sub-contractors have been asked to report the workdone in the previous week, activities in the week, problems encountered and so on. The site manager has managed all site operations and co-ordinate with all Sub-contractors entered to the project from time to time. Regular report e.g. daily, weekly and monthly report has been provided to monitor activities on site. All activities have been managed with a view to ensure compliance with the Master Programme.

Quality Assurance

Quality control has always been of great importance to the Main Contractor. Since early from the design stage, the quality has been mentioned in a specification at the time of bidding and signing a contract with Suppliers/ Sub-contractors.

The requirements of materials, equipment and plants' supply and technical condition have been included as a binding part of a contract with any Suppliers/ Sub-contractors. By the requirement of the high quality of the hotel project, the Main Contractor has paid more attention on the quality control of the production.

Quality Control in Design

All designs for the hotel project have been assigned to the qualified Consultant's company. Designers have been requested to establish and maintain documented procedures in order to ensure that the specified requirements of hotel standard have been met.

The preparation of designed drawings has been consisted of the sufficiency for the implementation of Designer's purposes. Calculation for design, if any, has been submitted in the full document. Computer programs, which have been used, have been specified clearly in the document submitted with the reference projects. Specification of materials, equipment and plants in design drawings has been adequate and sastified all requirements of the Client and the Main Contractor.

The full documents of design have been submitted to the local authority for the verification and approval. The verification of design have been included some activities such as:

- Performing alternative calculations.
- Comparing the design with a similar proven design, if available.
- Undertaking tests and demonstrations.
- Reviewing the design stage documents.

The design had to approve by local authority before release for the implementation work.

The sequence of the design include in the quality control can be shown as in the figure 6

Quality Control in the Bidding and Contract

In the bidding, the competitor with the low price has been considered but not always. As what mentioned in the bidding and contract section, the competitor has been also considered by the good qualification of their company and reference projects. It has meant that the guaranty of the quality in the production has been important.

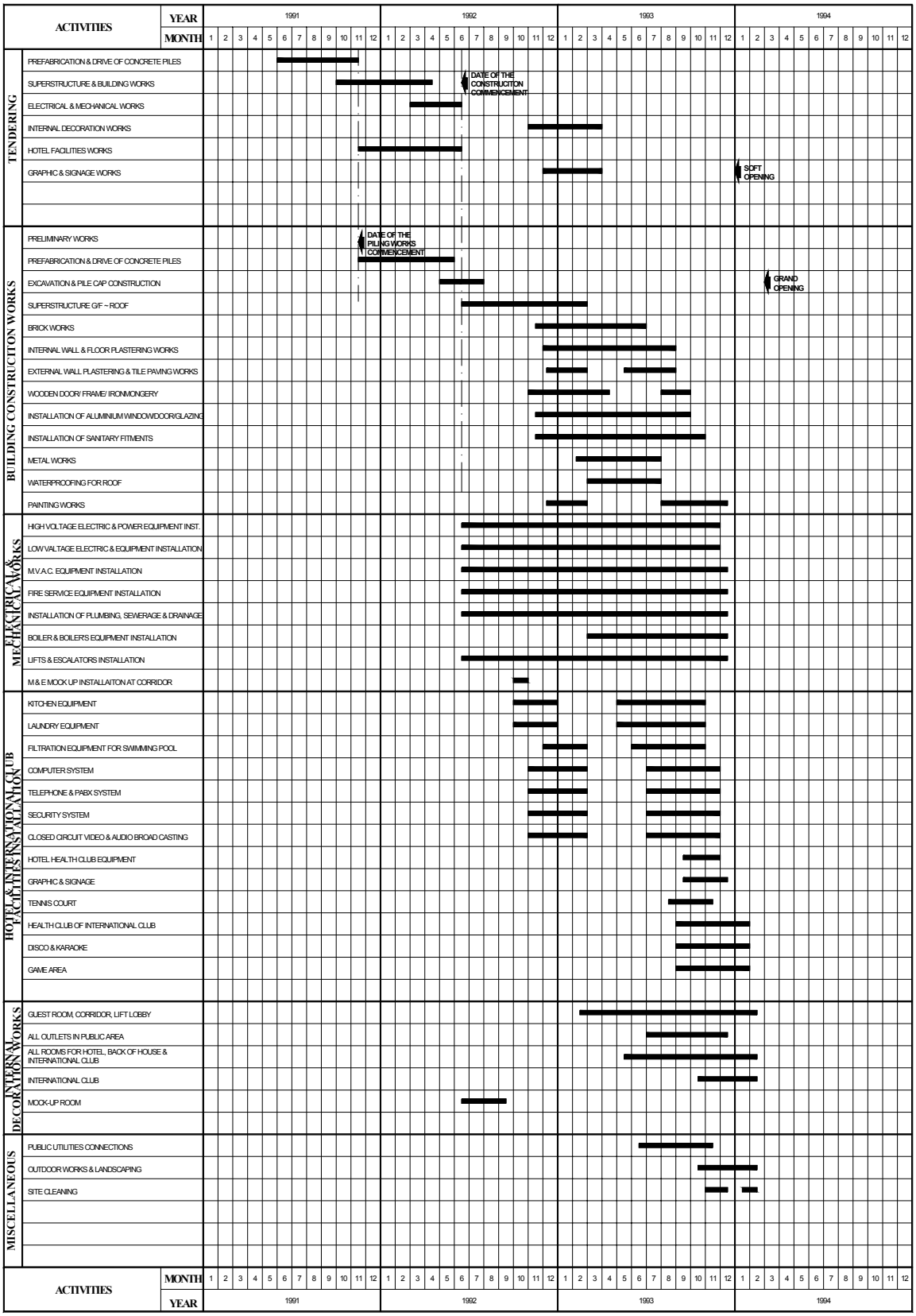
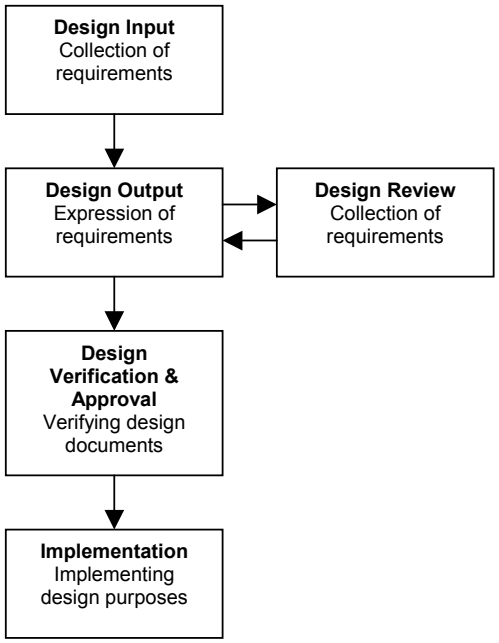


Figure 5: Master Programme

Figure 6: Sequence of Design's Procedure



Before signing a contract or issuing a letter of acceptance, the Main Contractor has requested the Supplier/ Sub-contractor reviewing all requirements and conditions to ensure that they have been able to meet the contract requirements.

Quality Control in Purchasing

The purchased products have conformed to specified requirements. The evaluation and selection of Suppliers have been based on their ability to reach the sub-contract's requirements. The Suppliers have submitted sample if possible, document regarding the storage and maintenance of product, products identification and traceability of all stages of production, delivery and installation. Material supervisors of the Main Contractor have responsibly inspected the quality of materials when it has delivered to site. They have ensured that such materials have not been lost, damaged. Delivered materials have been followed all specifications and requirements which declared in the contract document.

Quality Control in the Activities on Site

Any activities of the production on site have been inspected during the time of the production and before jumping to the next step. Quality control on site has been undertaken by the site inspectors i.e. site manager and his staff. Checking works on site has been done at the right time that the Sub-contractor has started to carry out their work. Foremen have been assigned to follow up the work of the Sub-contractor all the time. During the progress of the work, any problem or obstruction encountered has been made a record and informed to the site engineers and site manager for their solution.

The process for inspection of works on site has been applied as the followings:

- The Sub-contractor has commenced to proceed the work.
- During the time of this activity, foremen have been checking and making record every step of the procedure to carry out this works.
- The Sub-contractor has submitted a 'Request for Inspection' in the first time.
- Site inspectors have carried out the inspection and issued the 'Defect List' to Sub-contractor.
- Inspection in the second time, …, until the Sub-contractor has completed the correction of the 'Defect list'.
- The Main Contractor has submitted a 'Request for Inspection' to the representative of local authority for their approval.

In fact, the inspection of the work has mainly carried out by the Main Contractor (the site manager and his staff). Inspection by local authority's representative has been a step to regularise the inspection document.

Installation of Rebars and Formworks

Casting Concrete on Site.

The above process can be summarised by the chart below:

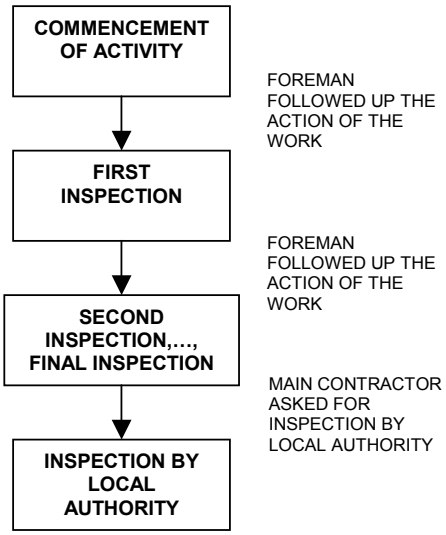


Figure 7: Inspection 's Process Chart.

All records and inspection forms of site activity have been documented and carefully maintained by the Main Contractor for the final inspection.

Economic Control – Budget Review and Reconciliation

Economy in the construction field of a project is contributed by a collective group of managers, staff, workers and any one entering to the project from time to time.

The Main actor who has played a role as economic controlling manager was a project manager. The project manager together with his quantity surveyors have managed and controlled all financial activities including tendering and contracting, payment to Suppliers/ Sub-contractor, requested payment applied to the Client. The

- Suggesting architect to change the design of finishing material of external wall, substituted granite cladding tile for external paint.
- Suggesting to use concrete block wall instead of reinforced concrete wall.
- Purchasing available material in the local market.
- Appointing as much as possible domestic contractor instead of overseas contractor.
- Making good a quota list of imported material for tax free.
- Employment of local staff.
- Controlling logically and reasonably the planning schedule of delivered materials, Site activities.

Revisions of designed drawing have been updated and estimated the cost during the construction period. In order to observe the financial condition, a statement o budget cost, estimated cost (according to the revised drawing), payment made and balance of payment has been issued at the end of every month by the quantity surveyor.

The final statement for this hotel project will be shown as in table 4:

Experiences to use in Future Projects

The New World Hotel project has been considered as a practical and training school for any Vietnamese participating to the construction of the project. In my opinion, Vietnamese people have learnt a lot of things by this project from the many know-how skills of the detailed works on site to the global construction management in the overview. A first time in Vietnam, the international construction management has been used by the overseas contractor. All of the processes and procedures of the management have been applied systematically, logically and in order. Processes of the construction management represented in chapters above could be a good reference material for any one interesting in the construction management. Otherwise, in order to get more success in the construction management, especially in Vietnam, by the position of the site quantity surveyor of the Main Contractor, I would like to mention some problems and experiences in my point of view as the following:

- Vietnamese workers at that time have not got enough adequacy of working skill to well perform their job. Therefore the Main Contractor has got problems in the quality control.
- The Main Contractor has not comprehended all construction condition in Vietnam e.g. local climate, water table of river, factors of wind load, earthquake, traditional custom and so on. Hence they have got some problems in the excavation, in the custom-built formwork, in the working time of Sub-contractor, etc…
- Many unnecessary overseas Sub-contractors/ Suppliers e.g. the Sub-contractor for landscaping work, ceiling work, supply of furniture, etc…, and their price have been normally much higher than local.
- Many Sub-contractors on site, a very difficult management and control.
- In the procurements, the Main Contractor has not asked for the bid security and performance security from local Sub-contractors. Some of Sub-contractors have ceased from carrying out the bidding, or others have failed to perform the contract. It has not been a secured method for procurement's activities.
- Some of Sub-contractors have got problem in finance in the preparation of the implementing their contract. Hence, the Main Contractor has paid them some money for the contract in advance.
- Problems in communication. The main language has used on site has been English whilst the language of the Main Contractor has been Cantonese and the local Sub-contractor has been Vietnamese.
- Problems encountered and the way to solve the problem will be a good experience for any one want to learn.

A	ANTICIPATED CONSTRUCTION COST	Budget (US$) ('000)	Estimated Amount ('000)	Amount Paid ('000)	Estimated Balance ('000)
A.1	Preliminaries	4,398	5,358	5,174	184
A.2	Piling	1,876	1,876	1,876	0
A.3	Substructure & Superstructure	8,732	10,409	9,736	673
A.4	Building Services	12,458	13,339	11,371	1,968
A.4a	*Plumbing & Drainage*	*1,449*	*1,370*	*1,287*	*84*
A.4b	*Electrical Installation*	*2,872*	*3,324*	*2,962*	*362*
A.4c	*Fire Services*	*828*	*800*	*708*	*92*
A.4d	*PABX Installation*	*543*	*799*	*713*	*86*
A.4e	*Extra Low Voltage System*	*543*	*520*	*14*	*506*
A.4f	*M.V.A.C. and Boiler Plant System*	*3,583*	*4,442*	*3,743*	*699*
A.4g	*Kitchen & Laundry Equipment*	*2,122*	*2,018*	*1,902*	*116*
A.4h	*Utilities Connection*	*517*	*65*	*41*	*23*
A.5	Lifts & Escalator	1,358	1,345	1,243	102
A.6	Interior Decoration	11,533	11,636	9,152	2,484
A.6a	Public Outlets	5,408	5,545	4,083	1,462
A.6b	Guest Room Area	6,125	6,091	5,069	1,022
A.7	Miscellaneous Works	582	589	493	96
A.8	Imported Materials	1,294	1,383	1,348	35
A.9	Contingencies	1,940	2,458	1,121	1,337
	Sub-total:	44,172	48392	41,514	6,878
B	OTHERS:				
B.1	Demolition & Clearance	1,643	2,005	2,005	0
B.2	Computer System	424	531	438	93
B.3	Graphic & Signages	137	173	75	98
B.4	Consultancy Fees	2,704	3,049	2,402	647
B.5	Contractor's Management Fee	2,650	3,234	2,714	520
B.6	Financial Charges & Legal Fees	4,028	1,195	1,195	0
B.7	Operating Items and Pre-opening Expense for Hotel	4,241	5,222	5,222	0
	Sub-total:	15,828	15,410	14,052	1,358
					8,236
	TOTAL	60,000	63,802	55,566	8,236

Table 4: Estimated budget control sheet.

Reviewing a whole construction process and management, we can understand that the Main Contractor is primarily a resource manager, where the resources include men, materials, equipment, money and time. The Main Contractor, whose prime responsibility is the assembly operation, is made up of professional contractors, speciality contractors (sub-contractors), construction workers, and material and equipment, manufactures and suppliers. They are responsible for the planning, co-ordination and supervision of the entire production process and for the completed facility's adherence to the projected plans and specification.

Conclusion

The construction of the New World Hotel project has been considered successful in many aspects and the Main Contractor has been deserved by the good evaluation and admiration from the Client, the Vietnamese government and other overseas and local contractors. By the success of the construction of the New World Hotel project, the construction market in Vietnam has been rising up. The New World Hotel project has marked the milestone to turn the new page in the Vietnamese construction industry.

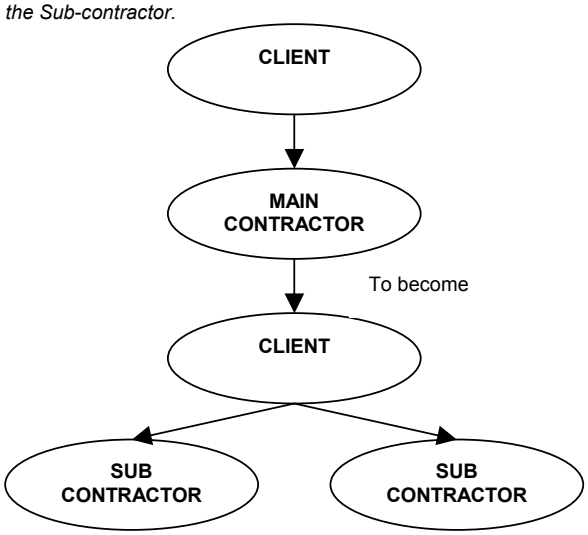
Property Management

Defects Liability Period

After completed the construction of the New World Hotel project and handed over to the Client, the Main Contracor has entered to the stage of Defects Liability period for 1 year. Any problem of running hotel equipment, any defect found during the operation of New World Hotel has been repaired and rectified by the Main Contractor under the supervision of the representative of New World Hotel.

The Main Contractor appointed the Sub-contractors, who related to the defect to carry out the repairing work.

Figure 8: Relationship between the Client, the Main Contractor, the Sub-contractor.



In order to ensure that the maintenance has been able to implement by the Sub-contractors, the five percentage of contract amount, herein called the retention, has been kept by the Main Contractor. The retention has been paid to the Sub-contractors after they had completed well the works in the defects liability period. In the case that the Main Contractor has employed other Sub-contractor for repairing work due to the failure of maintenance by related Sub-contractor, the retention has been deducted by the same paid amount. The retention has not been paid to the Sub-contractor who has ceased from doing the maintenance. It has been similar to the way that the Client has done with the Main Contractor. It has been easy to undertand that the Main Contractor has played the role as the Client to the Sub-contractors during the maintenance period.

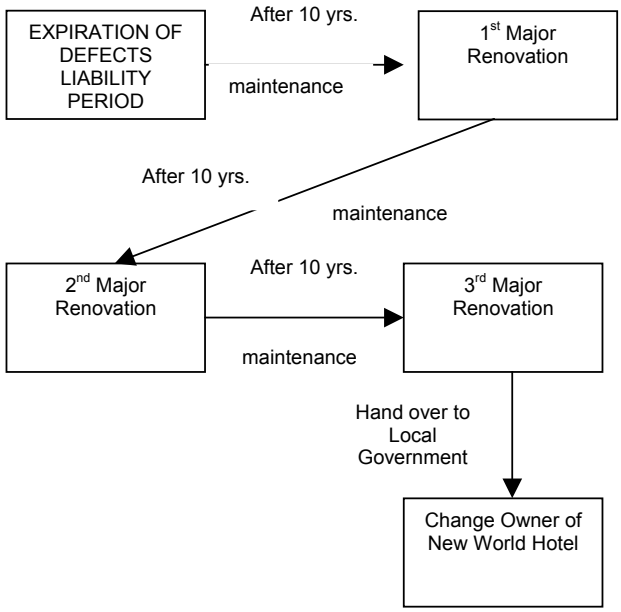
The relationship between the Client and the Main Contractor, the Main Contractor and Sub-contractors can be illustrated as below:

Maintenance Planning

The New World Hotel Joint Venture has been existed by a validity of 40 years since the date of the inauguration of the hotel operation. This has been the time that the New World Hotel management board has planned for maintenance activities. The engineering department has been charged for the maintenance job. Because the New World Hotel has been a high standard business hotel, and because that the aim of the management's board has been to become the leader in hospitality industry in Vietnam so they have requested the engineering department to keep the high quality of hotel by a good maintenance. The planning schedule has been prepared by the engineering department and the period for major renovation has been ten years.

The planning of maintenance can be shown as follows:

Figure 9: Maintenance Planning Schedule



During the defects liability period, all staff in engineering department have been training to be able to implement the maintenance after the expiration of the defects liability period by the Main Contractor.

Conclusions

Property management has seemed to be the quite new subject in Vietnam, but in this hotel, a client has properly arranged the planning of maintenance. According to one of the strategies of the New World Hotel operators, a good quality service has included the good maintenance and they have not really wanted to receive any complaint from guests. The engineering department has been performing their assigned duties, but they have got some problems during the maintenance. The reason that eventhough their staff have been trained by the Main Contractor, but because they have not participated to the actual construction of the hotel so they have not been able to complete well the repairing work. For example, up to this moment, the leakage of water from the garden in 2nd floor has not been finished the repair because they have not understand the method of waterproofing which applied before and the location that the leakage has often been.

In my opinion, it is better to employ the Main Contractor to implement the repairing work during maintenance period. They have constructed the hotel project so they can understand what they can do for the work they did before.

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