

# Contractor's Calculation of Prolongation



中國港灣建設(集團)總公司

香港代表: 振華工程有限公司

CHINA HARBOUR ENGINEERING COMPANY (GROUP)  
HONG KONG REPRESENTATIVE: ZHEN HUA ENGINEERING CO., LTD.

Date: 4 August, 1999  
Our Ref: CHEC/CED/106/08/99

The Hongkong Electric Co., Ltd.  
Electric Centre,  
28 City Garden Road,  
Hong Kong.

Attn: Mr. N.Y. Cheung

Dear Sir,

Re: Contract No. 96/8011  
Site Formation Works  
Redevelopment of The Hongkong Electric Co., Ltd. Headquarter  
No. 44 Kennedy Road, Hong Kong  
Variation Quotation No. VO/72  
Additional Overhead Due to Delaying Events Beyond 17/8/98

Following our submission for Extension of Time Application No. 2 via letter ref. CHEC/CED/101/07/99 dated 14 July 1999, we are pleased to submit herewith our evaluation of additional overhead as a consequence of the 42 days delay incurred for your certification.

Your earliest assessment and certification would be much appreciated.

Yours faithfully,

For and on behalf of  
中國港灣建設(集團)總公司  
CHINA HARBOUR ENGINEERING COMPANY (GROUP)

Authorized Signature(s)

Victor Wu  
Manager - Civil Engineering Department

VW/AC/aw

Encl.

c.c. Levett & Bailey - Mr. Colin Kin (w/e)  
H.O.

HE claims by  
MC

Site supervision  
Site prelim.  
HO overheads  
Indirect costs  
Finance charges

LEVETT AND BAILEY						DCL	AC	KWC
LLH	EC	SL	AL	AW	LWC	HKY	RG	
- 5 AUG 1999								
DM	AS				CKX	LXX	LVL	
PC	SCH	HSC	SVL	CK	LSM	CPN	LCV	

HKEC Contract No. 96/8011  
Site Formation and Foundation Works  
For Kennedy Road Head Office Redevelopment

## 1. Introduction

- 1.1 Due to unexpected stringent requirement by GEO on rock stabilization works, numerous variation orders covering additional rock dowels and shotcrete were instructed which caused prolongation and disruption to the works.
- 1.2 The Contractor accordingly submitted under letter ref. CHEC/CED/101/07/99 dated 14 July, 1999 - Extension of Time Application No. 2 detailing his entitlement for time extension of 42 days under provisions of contract.
- 1.3 As a consequence of the prolongation of construction works, the Contractor contends that he has an entitlement to seek for reimbursement of additional overhead incurred pursuant to Clause 12 (4) of contract conditions.
- 1.4 In the following section, the Contractor sets out the respective calculations for additional overhead under the following headings:
  - i) Site supervision costs
  - ii) Other site preliminaries
  - iii) Head office overhead
  - iv) Other indirect costs
  - v) Finance charges

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## 2. Calculation of Additional Overhead

### 2.1 Extended Site Supervision Costs

Site Personnel	* Monthly Cost (HK\$)
i) Project Manager	60,000.00
ii) Site Agent	45,000.00
iii) Site Engineer	40,000.00
iv) General Foremen	35,000.00
v) Gander Foremen	30,000.00
vi) Electrician	25,000.00
vii) Quantity Surveyor	45,000.00
viii) Assistant Quantity Surveyor	20,000.00
ix) Surveyor	30,000.00
x) Assistant Surveyor	20,000.00
xi) Leveller	10,000.00
xii) Safety Officer	40,000.00
xiii) Site Clerk	9,000.00
xiv) Amah	8,000.00
	<u>417,000.00</u>
Add 5% Provident Fund	20,850.00
3% Medical Scheme	<u>12,510.00</u>
Total monthly cost:	<u>450,360.00</u>

Extension of Time: 42 days or 1.4 month

Total extended site supervision cost = \$450,360.00/m x 1.4m  
= \$630,504.00

\* monthly cost for individual site personnel has allowed for pro-rata of double payment.

### 2.2 Other Preliminaries Costs

During interim payment stage, the time related running costs as per preliminaries bill have been identified and agreed between L & B and CHEC. Therefore, to save any argument which may be arisen, the running cost breakdown has been adopted in assessing the extended preliminaries costs in this submission.

Item	Description	Total Running Cost (HK\$)
1.	Independent Checking Engineer	266,250.00
2.	Progress Photographs	25,347.00
3.	Site Safety	353,047.50
4.	Environment Control	96,787.20
5.	Watching	90,525.00
6.	Plant and Scaffolding, etc.	100,000.00
7.	Hoarding, screen, etc.	62,036.25
8.	Temporary Drainage	95,850.00
9.	Contractor Office	116,617.50
10.	Temporary Latrine	3,834.00
11.	Telephone	15,975.00
12.	Water for the works	6,390.00
13.	Site Electricity Supply	10,650.00
14.	Employees' Compensation Insurance	<u>166,250.000</u>
	Total Running Cost:	<u>1,409,559.45</u>

Original contract period: 9 months

Extended preliminaries cost = \$1,409,559.45 x  $\frac{1.4m}{9.0m}$   
= \$219,265.00

## 2.3 Head Office Overhead

2.3.1 It is an accepted practice within the Construction Industry as a consequence of numerous legal decisions, in the circumstances the Contractor incurs prolongation for which there is an award of extension of time, the Contractor shall be entitled to seek reimbursement of Head Office Overheads to compensate for the additional time allocated to the project arising from the prolongation of the works.

2.3.2 In order to calculate these overheads, it has also been an accepted practice to the use of a formula method and it is proposed herein that Hudson's Formula, which is an industry accepted formula, be used in this calculation.

2.3.3 For the propose of calculating the overhead allowance for this exercise, it is proposed to adopt an overhead percentage of 7.5%. This percentage is an average of CHEC's overhead percentage on turnover recorded for the previous years.

### 2.3.4 Extended Head Office Overhead

Original contract value = \$51,126,056.00  
Original contract period = 270 days  
Extension of time entitlement = 42 days  
Percentage of Head Office Overhead = 7.5%

Using Hudson's formula, extended Head Office Overhead

= Original contract value x % of head office overhead x  $\frac{\text{Extension of Time}}{\text{Original Contract Period}}$

= \$51,126,056.00 x 7.5% x  $\frac{42}{270}$

= \$596,471.00

## 2.4 Other Indirect Costs

### 2.4.1 Labour

Description	No. of Labour	Monthly Wage (HK\$)	Extended Period	Total Cost
i) Assistant Labourer	5	16,900 (\$650/day x 26)	1.4 mth.	118,300.00
ii) Welders	6	24,700 (\$950/day x 26)	1.4 mth.	207,480.00
Total:				<u>\$325,780.00</u>

### 2.4.2 Transportation

Car allowance for 3 No senior staff of management team inclusive of fuel and tunnel fee

Monthly cost per car = \$3,500.00

Total cost = \$3,500/m x 1.4 month x 3  
= \$14,700.00

Total amount of indirect cost = \$325,780 + \$14,700  
= \$340,480.00

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## 2.5 Finance Charges

2.5.1 It has been established legally that finance charges are an accepted element of additional overhead for which the contractor is entitled to be reimbursed.

2.5.2 In this project, the Contractor has suffered extra finance charges due to works prolongation in the following areas:

### i) Delay in refunding of retention money

Amount of retention money withheld : \$2,556,000.00

Period of delay : 42 days on 1.4 month

Interest rate (prime rate +2%) : ~ 10.5%

Extra finance charge =  $\$2,556,000 \times 10.5\% \times \frac{1.4}{12}$   
= \$31,311.00

### ii) Extended exposure of project finance for remaining contract value after 17/8/98.

Certified value of work up to 17/8/98 : \$39,110,526.00  
(as per payment certificate No. 15)

Latest certified value as per payment : \$62,273,133.00  
certificate No. 20

Remaining contract value after 17/8/98 : \$23,162,607.00

Extra finance charge =  $\$23,162,607 \times 10.5\% \times \frac{1.4}{12}$   
= \$283,742.00

### iii) Extra finance charge for remaining outstanding payment

Anticipated final contract value	:	\$72,051,012.00
As per final A/C submission	:	
Latest certified value as per	:	\$62,273,133.00
Payment certificate No. 19	:	
Outstanding value	:	<u>\$9,777,879.00</u>
Add: additional overhead as per this	:	\$1,786,720.00
submission (refer to summary page)	:	
Overall outstanding payment	:	<u>\$11,564,599.00</u>
Date of last payment received as	:	5/2/99
per payment certificate No. 19	:	
Extended financing period up to	:	4.5 mths.
date of this submission	:	

Extended finance charge =  $\$11,564,599 \times 10.5\% \times \frac{4.5}{12}$   
= \$455,356.00

Total additional finance charges applied =  $\$31,311 + \$283,742 + \$455,356.00$   
= \$770,409.00



HKEC Contract No. 96/8011  
Site Formation and Foundation Works  
For Kennedy Road Head Office Redevelopment

3. Summary

Item	Description	Amount (HK\$)
2.1	Site supervision costs	630,504.00
2.2	Other preliminaries costs	219,265.00
2.3	Head office overhead	596,471.00
2.4	Other indirect costs	340,480.00
		1,786,720.00
2.5	Finance charges	770,409.00
	Total amount of additional overhead applied.	2,557,129.00

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