

Ploughman's Lunch is included in the price, and there will be commentaries, music and bar facilities. Numbers are limited to 47. The duration of the trip is about 3½ hours. Members of all Branches are welcome and applications should be addressed to the Branch Secretary: Mr. D. Band, FIQS, LIOB, 1 Lismore Avenue, Ladybridge, Deane, Bolton, Lancs.

MIDLAND BRANCH

Annual Dinner

The annual dinner of the Midland Branch was held at the Prince Charles Suite, Mayfair, Bull Ring, Birmingham, on Friday, 19th January 1979 with 240 members and guests attending.

The Branch Chairman, Mr. M. H. Simcock, FIQS, FIARB, welcomed the official guests who included N. Hunt, President, Birmingham Association National Federation of Building Trades Employers; D. Bergman, FRICS, City Building Finance Officer, City of Birmingham; R. Vickers, Chairman, Midland Section, Federation of Civil Engineering Contractors; P. A. Fisher, FRICS, Chairman, Quantity Surveying Division, West Midlands Branch, The Royal Institution of Chartered Surveyors; F. Mark, RIBA, President, Birmingham Architectural Association; Allan R. Gosling, FRIBA, DipArch(Birm), Director Midlands Region Property Services Agency, Department of the Environment; J. H. Scropton, FIQS, FIOB, President, The Institute of Quantity Surveyors; R. Thompson, Managing Director, Willis Faber (Midlands) Ltd., International

Insurance Brokers; P. G. South, BA, Director, The Institute of Quantity Surveyors; John M. Wood, FRICS, Chairman, West Midlands Branch, The Royal Institution of Chartered Surveyors; W. G. Reed, MCD, BAarch, RIBA, MRTPI, City Architect, City of Birmingham; F. W. Singleton, CEng, FICE, FIMunE, FIHE, Chairman, Midland Association, The Institution of Civil Engineers; S. V. Jordan, Regional President, Midland Region, National Federation of Building Trades Employers; K. J. Gildea, MIOB, Chairman, West Midlands Region, The Institute of Building.

Allan Gosling proposed the toast to the Midlands Branch and the Institute, which was responded to by Mr. J. H. Scropton. Michael Simcock proposed the toast to the guests and was responded to by Mr. R. Thompson. The various speeches were an accomplished mixture of both the funny and the serious aspects of life in the building industry.

Bob Morris, the Branch Social Secretary was singled out for special mention, having organised the annual dinner for the past nine years. The continued success and popularity of the annual dinner was recognised as being largely due to Bob's diligence and this was underlined when Mecca Ltd., the caterers, publicly presented him with a token of their appreciation in the form of a bottle of champagne.

The 240 members and guests who braved the hostile Siberian weather, once again, enjoyed a convivial evening of good fellowship with other members of the industry in this region.

EEC and Overseas

ADVOCATING A CHANGE IN THE PRESENT SYSTEM OF TENDER SUBMISSION

By Lai Pang Fee, FRICS, FIQS, FSIS, MIS(M), MIEEE

This article is the text of an address by Mr. Lai Pang Fee to the Hong Kong Society of Builders in January 1979.

The present system of tender submission, basing on bills of quantities as forming part and parcel of the tender documents, is but a small step in the right direction towards the maturity of the building industry. Prior to the present-day popularity of bills of quantities, the tender system had been described as grossly unfair to both the builders and the owners because it discouraged expertise in the building industry and resulted in shoddy workmanship because of gross under-estimations in the quantities needed for a project. Without proper bills of quantities as a guide to tendering, each tenderer then was required to take off quantities themselves in order that a tender sum can be derived. Needless to say, there was tremendous wastage of labour resources as each and every tenderer had to maintain a separate unit devoted solely for the purpose of quantity take-off. Worse, the better qualified and more capable

this unit was, the slimmer the chance of that tender ever obtaining a contract. Everything else being equal, contracts would be awarded to those who failed to take-off certain portions of the work required because of inexperienced hands in the quantity take-off unit.

That was not all. The cost of maintaining the quantity take-off unit had to be reflected in the tender prices submitted. As the amount of abortive work done by such a unit could be as high as nine in ten, one could imagine the significance of this in the industry as a whole. Besides, with the acceptance of tenders that were based on wrongly estimated quantities, the contractors would have to find other means to make ends meet. There is no necessity for us to discuss what these means are. Suffice it to say that the system, as it stood then, was detrimental to the owners as much as it was detrimental to any competent professional builder.

So bills of quantities came to the rescue, just in the nick of time too, as one contractor after another went asunder, defeated by the very system that had given them jobs that were well below the profitability margin.

That was the past – the past that must be remembered in order to fully comprehend the inadequacies of the present.

For the present, the tenderers for a project are provided with uniform bills of quantities prepared by a private quantity surveyor and given a time target, usually from three to six weeks, to fill in the rates against those quantities supplied and extend them out to form competitive tender. It is useful to bear in mind at this stage that the private quantity surveyor on the project had already prepared cost plans and estimates and had at least six months of fruitful discussions with the design consultants, knowing exactly how difficult the job is, what the

prices of specified components are, where they can be obtained from and what peculiar nature or capacities these components possess. In short, in order to arrive at a project estimate to be presented to the owner for discussions, the private quantity surveyor would have priced his own bills of quantities long before the time of tender submission. And yet, the tenderers are given only six weeks at maximum to understand the implications of the project, to find out prices and behavioural patterns of specified components, to work out unit price build-ups and to arrive at tender sums that must reflect their total commitment of resources for the next two years.

Now we begin to understand why so many contractors feel the strains of the system and why as yet the system is still imperfect and can still lead to contractors going bankrupt.

In some ways, the present system is no better than the former. Whilst there is a distinct advantage in providing tenderers with bills of quantities, the present system still discourages expertise in the building industry and still leads to an enormous wastage of labour resources.

Each and every tenderer has still to maintain not a quantity take-off unit now but a pre-tender estimating unit whose main function is to price out bills of quantities. This unit must be distinguished from the post-contract estimating unit, at least in theory, because while the former is always engaged in the working out of tender sums, most activities of which become abortive when tender sums do not turn out to be contract sums, the latter is engaged in constructive activities in ensuring that the jobs in hand are constantly kept in financial control. And yet, it is the activities of the former pre-tender estimating unit that tip the profitability balance in a contracting organisation. Expertise in such a pre-tender estimating unit is of paramount importance to a contractor who wishes to run his business professionally. But, sad to say, the more expertise this unit has, the less the opportunity of the contractor in obtaining a contract. In other words, the pre-tender estimating unit can price the contractor out of a job because the unit is too efficient. Herein lies the weakness of the present system and the key to proposed changes which must now be made in order to make the building industry a healthier one.

Essentially, the present system still hinges on the illogical premise that the contractors are out to make maximum profits without regard to consequences. They are therefore not recognised as professionals in their own right and private consultants, be they architects, engineers or quantity surveyors, are always reminded by owners and developers to provide the minimum to the contractors tendering for a project but to expect the maximum from a contractor after award of contract, even when the contractor is known to have made grave errors in his pre-tender estimate. The sooner the attitude towards contractors changes and professional builders recognised the better matured will the building industry be. This being said, we now come to a proposed tender system that must recognise the professional builder as a joint partner in the development of a project, fully committed to produce his maximum within the resources available to him.

Firstly, we see no necessity to hide the quantity surveyor's tender estimates from tendering contractors in the hope that mistakes would be committed by a tenderer to obtain a contract. Just as uniform quantities can be given to tenderers, a uniform estimate (excluding perhaps the preliminaries and the percentages for profits and attendance to nominated sub-contracts) must now be given to tenderers who, under the present system, are simply unable to produce good tender figures given the limited time required for tender submission.

We have to bear in mind that the present system still favours a contractor with relatively less knowledge of rate built-ups. How then can tenders be distinguished in order to make an award? The proposal here is for tenderers to make percentage adjustments to the quantity surveyor's estimate on a trade-by-trade basis. If a tenderer has mechanical excavators at hand, his rates for the excavator trade can be lower than the ones given in the priced bills of quantities. If he has the finishing materials specified in stock, he can price the finishing trades lower. In any case he has to price his preliminaries and his percentage allowance for attendance and profit to nominated sub-contractors. He can also opt to price the entire bill of quantities at his rates totally different from the ones given in the bills if he considers that the estimate is totally unrealistic. At least he would then have the quantity surveyor's expert opinion as a guide to his pricing and he cannot later plead ignorance of any contractual obligations envisaged in the bills.

Secondly, in order to minimise possible disagreements, a section of the tender documents should be devoted solely to rate built-ups. It is pointless for the quantity surveyor to keep his workings closest to his chest and risk later arguments as to the "hows" and the "whys" of a unit rate of an important item which has to be completely remeasured. Rather, by showing the tenderers how the rates for some main and rogue items are derived, the tenderers can have a better understanding of the project requirements and can better perform their post-tender functions in bringing projects to their satisfactory completions.

Thirdly, the catalogues and technical descriptions of main products specified should be incorporated as another separate section of the tender document unless of course such products are so commonly used that their behavioural patterns are widely known. In one case known to me, the aluminium louvres of the windows for a project are specified as double bank "Colt" or equivalent but in pricing these windows, the successful tenderer has only allowed for ordinary type locally manufactured aluminium louvres in his price and the resultant loss to him by this single mistake made is sufficient to wipe out his anticipated profit.

And lastly, in order that the tenderers can give good competitive prices for a project with no misgivings, it is prudent or the professional consultants to give tenderers a list of anticipated difficulties so that proper consideration be given to them in the making of the tender prices. To help the contractors in the pricing of all difficulties should not be viewed scornfully. The bridging of the gap that now exists between the professional consultants on the one hand and the professional builders on the other must be accelerated.

Finally, we need to ponder over the likely objections to the proposed changes that may be advanced.

The owners should have no objection to the proposal as its implementation would result in better built projects within contractual times without any fear that the contractors would collapse as they are paid adequately and fairly for the projects handled.

The architects and the engineers should not object to the proposal as its implementation would certainly result in a smoother control of site operations.

The quantity surveyors might object as they might feel an invasion of their privacy into the manner in which they cost out items. But, on reflection, they should agree to the proposal because they are not performing any additional duty over and above what had been contemplated from them.

If they view their professional role more as project financial managers rather than as book-keepers of building projects

they should welcome the challenges the proposed system could bring as their estimates would be literally put to the test.

The builders would welcome the proposal as it means that there is no necessity to overload the high cost of abortive pre-tender work in tenders and that the competence of a builder is finally recognised. No longer would builders committing errors in price estimates ever be given jobs to the detriment of the industry.

If objections to the proposed changes exist, they could most likely be pinned down to conservatism and the unwillingness of most of us to see changes in any system. But just like the bill of quantities which took some fifteen to twenty years to take roots locally, it may take a longer while for the proposed changes to be effected. It is sufficient at the moment that thoughts along this direction be present and the feasibility of implementing the proposed changes discussed.

APPENDIX 'A' - Table of Contents in Proposed Tender Documents

Section 1 - Drawings.

Section 2 - Notes to Tenderer.

Section 3 - Tender Form.

Section 4 - Articles of Agreement and Conditions of Contract.

Section 5 - Specifications.

Section 6 - Catalogues and Technical Descriptions of Main Materials specified.

Section 7 - Rate Built-ups

(a) Rates of Main Items

(b) Rates of Rogue Items

Section 8 - Priced Bills of Quantities with Allowance for Tenderer's Percentage Adjustments to Trade Sections.

Section 9 - List of Anticipated Difficulties.

APPENDIX 'B' - SAMPLE BQ PAGE

Page 3-35

Item No	Description	Quantity	Unit	QS's Rate	QS's Amount
					\$
	<u>To hardwood veneered laboratory furniture</u>				
1	Cranked hinge	70	Prs	5.30	371.00
2	Cupboard door lock and furniture	6	No	13.00	78.00
3	Drawer lock and furniture	6	No	13.00	78.00
4	Cupboard catches	70	No	2.60	182.00
5	Finger Pulls	140	No	2.10	294.00
	<u>Sundries</u>				
6	145 x 25 mm hardwood packing plugged and screwed to concrete	2	lin m	8.40	16.80
7	125 x 25 mm hardwood ground plugged and screwed to blockwork	160	lin m	7.50	1,200.00
8	150 x 25 mm hardwood sill, once rebated and rounded on edge	1	lin m	12.10	12.10
9	38 x 25 mm hardwood batten plugged and screwed to concrete or blockwork	631	lin m	5.20	3,281.20
10	25 mm wide x 2 mm thick black melamine strip, glued to hardwood frame after completion of finishes	311	lin m	12.30	3,825.30
	Total of Page No. 3-35				9,338.40
	Carried to Summary of Joiner				9,338.40
	<u>SUMMARY OF JOINER</u>				
	Total of Page No. 3-30				45,810.00
	Total of Page No. 3-31				27,835.00
	Total of Page No. 3-32				81,050.00
	Total of Page No. 3-33				36,225.00
	Total of Page No. 3-34				1,676.10
	Total of Page No. 3-35				9,338.40
	QS'S TOTAL OF JOINER CARRIED TO SUMMARY OF BILL NO. 3				\$200,134.50

NOTE: If Tenderer chooses not to adjust by percentages in summary, he can opt to insert his own rates and re-work a revised total to be carried to summary of Bill No. 3.

APPENDIX 'C' - SAMPLE BILL SUMMARY PAGE

Page 3-56

Item	Description	From Page No.	QS's Amount	Percentage Adjustment	Tendered Amount
			\$	%	\$
	<u>SUMMARY OF BILL NO. 3</u>				
A	Excavation	3-5	63,874.50		
B	Concutor	3-16	309,069.30		
C	Bricklayer	3-18	82,729.70		
D	Asphalter	3-20	32,904.30		
E	Joiner	3-35	200,134.50		
F	Steel & Metal Worker	3-40	80,506.50		
G	Plasterer	3-45	146,621.60		
H	Plumber	3-48	40,267.50		
I	Electrical & Mechanical Services	3-51	613,125.50		
J	Glazier	3-53	26,130.30		
K	Painter	3-55	15,593.30		
	TOTALS OF BILL NO. 3 CARRIED TO TENDER SUMMARY		\$ 1,610,957.00		

NOTE: The Tenderer can opt to ignore QS's Amounts and based his tendered amounts on his own rates.

APPENDIX 'D' - SAMPLE TENDER SUMMARY PAGE

Page T5-1

Bill No.	Description	From Page No.	QS's Amount	Tendered Amount
			\$	\$
1	Preliminaries	1-15	-	
2	Preambles	2-15	-	
3	Administration Block	3-56	1,610,957.00	
4	Classroom Block	4-62	3,812,510.00	
5	Science Block	5-48	5,120,110.00	
6	External Works	6-23	2,142,110.00	
7	Prime Cost and Provisional Sums	7-5	6,500,000.00	
	Subtotals		\$19,185,687.00	
	<u>Add for:</u>			
	Insurances			
	Water for the Works			
	TOTAL CARRIED TO FORM OF TENDER			\$

Education and Research

CONFERENCES AND COURSES

CENTRE FOR ADVANCED LAND USE STUDIES Courses on SMM6

The last three courses on the Standard Method of Measurement (6th Edition) will take place at Bristol Polytechnic (pm 7th March), Albany Hotel, Birmingham (pm 15th March) and Centre Hotel, Cardiff (pm 21st March). These courses have been arranged to study the new edition of the Standard Method of Measurement. This new edition will need to be rapidly understood by all those involved with cost control in the construction industry. The courses, therefore, will be of interest and help to quantity surveyors, estimators, buyers, site agents, etc., involved in consultancy, contracting and sub-contracting both in the public and private sectors. The speaker will be Peter Goodacre, MSc, ARICS, of the Department of Construction Management, University of Reading.

Applications should be made to the Course Administrator, Mrs. Vanessa Player, BA, at CALUS, College of Estate Management, University of Reading, Whiteknights, Reading RG6 2AW, Telephone (0734-861101). The fee is £10 and the course material will consist of notes and a tape cassette highlighting the main points of this course.

ASSOCIATION OF PROJECT MANAGERS

Seminar – People and Computers in Project Management

This one day seminar will be held at the Waldorf Hotel, Aldwych, London, on Tuesday, 13th March 1979. Four expert speakers will discuss various aspects of using computers in project management. Problems at the interface between the man and the machine will be featured. The chairman will be David Firnberg, Director of the National Computing Centre. Details and registration forms from: Association of Project Managers Ltd., 108 Horseferry Road, London SW1P 2EF (Tel: 01-799 3182).

UNIVERSITY OF MANCHESTER INSTITUTE OF SCIENCE AND TECHNOLOGY

Short Course – Time and Money in Construction Control

This five day residential course from 23rd to 27th April 1979, is for engineers, quantity surveyors and architects in mid-career. Planning, measurement and financial control will be considered separately and then integrated to illustrate the interaction of time and money. Course will include lectures, case studies, group exercises and discussion. Enquiries to the Registrar, UMIST, PO Box 88, Sackville Street, Manchester M60 1QD.

Practice and Parliamentary

INFRASTRUCTURE COST PLANNING OF MAJOR DEVELOPMENTS

By **B. L. Atkin, BSc, AIQS**, Warrington New Town Development Corporation and **A. J. Wilson, PhD, BEng, MIOB**, Department of Surveying, Liverpool Polytechnic.

Abstract

This paper comprises the initial report of a research project which is attempting to develop predictive costing techniques for use in the strategic planning of service infrastructures for large scale developments. This branch of cost prediction is seen as being of considerable importance and yet appears to have been little considered by Quantity Surveyors in the past.

The paper demonstrates the nature of the problem, highlighting the not insignificant problems, and describes some of the various approaches which have been used with varying degrees of success.

Introduction

Just as any living organism requires a comprehensive life support system to survive, so a building requires a varied and complex system of services if it and the people in it are to function effectively. In the case of a building these services

include water, gas, electricity, sewerage, telephones, transport systems and more subtly but no less important are other elements of infrastructure such as bus, train and taxi routes, shops, police, hospital and the whole panoply of social services.

Generally the designer of an individual building is presented with a *fait accompli* in the sense that the building must fit into the service structure already existing. However, in the case of large multi-building developments the optimal design of this complex web of service components presents considerable problems. A sub optimal design means considerable additional expense to be borne by the scheme which may even transform individual buildings within the total development from profitability to non-profitability.

The significance of the more tangible components of service infrastructure for a New Town Development is seen in Figure 1 in which it is seen to account for over 21% of the total capital budget of the New Town (1).

In order to make this research into the economic implications of service infrastructures more manageable it was decided to concentrate upon that subset of the total infrastructure usually known as engineering services i.e. gas, electricity, water, telephone and sewerage. The work draws heavily upon information supplied by Warrington New Town Development Corporation, a Mark III New Town, and while it is not suggested that this is the same as, or even typical of, all large develop-