



Estimating Course

Information Sheet No. 6b Basis of Cost

CLIENT:-
ENQUIRY NO:-
PLANT:-
LOCATION:-

For all Add On Costs the following basis is the preferred option:-

Consumables	As % of base labour
Support Personnel:-	By MPP
Support Facilities:-	By detailed resource schedule by quantity & duration
Plant:-	By detailed resource schedule by quantity & duration
Other:-	By detailed resource schedule by quantity & duration

Information Sheet No. 6b All in Rate Inclusions

CLIENT:-
ENQUIRY NO:-
PLANT:-
LOCATION:-

Element	Notes	Basic Data Prepared by	Enquiry Issued by
Consumables	Covers, welding gases, welding rods, cutting discs & blades hand tools, testing hoses and the like. Would normally be based on a %		
Support Personnel Associated with Sub Contractor ONLY NOT EPC Contractor	Covers:- General foremen Trade Supervisors Craft Supervisors Trade Superintendents Area Superintendents Site Managers Site Engineers Sub Contract Staff HSE Staff QA / QC Staff Inspectors Amdinistration Staff	Construction Department to prepare an organisation chart based on approximate number of manhours. Estimating to price using Average" world rates	
Support Facilities	Cover:- Site Offices incd toilets Communications equipment Site Warehousing Compound Set up Fencing Temporary water, power & sewage connections Site office running costs & general expenses Warehouse labour, plant and facilities Warehouse racking General site labour (non productive) Plant maintainance labour Security Janitorial services	Estimating to prepare list of equipment required. Construction to give number or totals required based on approximate number of manhours	Construction Department
Plant:-	Covers:- Cranes up to 100 tonnes ? (depends on basis of Heavy lift Sub Contrac General site transport (excluding large multi axle movers) Forklifts Tractor & trailers 9flat & pipe) Welding machines (both diesel & gas) Cutting equipment Pipe prep equipment Pipe clamps Tirfors Chain blocks Hoists Specialist spanner sets Jacks as required Heavy duty Slings (normal slings included in consumables) Test pumps Other testing equipment Civils:- Earth moving equipment Graders Rollers Cement batching plants Dump trucks Excavators	Estimating to prepare list of equipment required. Construction to give number or totals required based on approximate number of manhours	Construction Department
Others:-	At the descretion of the Contractor		
Camp & Living	Covers:- Camp set up Power generation Water treatment Sewage disposal Compound set up Fencing Medical facilities Recreational facilities Laundry facilities Camp removal on completion Camp running costs Food and food preparation Laundry operation Camp maintainance	Construction to prepare list of equipment required. Construction to give number or totals required based on approximate number of manhours	Construction Department
EXCLUSIONS			
Base Labour	EPC Contractor site establishment EPC Contractor site supervision Contractors Camp & living accomodation Heavy lift cranes Heavy transport equipment Specialist Sub Contractors I.e. site survey laser cutting Ground surveys etc		



Estimating Course

Information Sheet No. 6b Agents Rates

CLIENT:-
ENQUIRY NO:-
PLANT:-
LOCATION:-

ALL RATES ARE END QUARTER 1998

Agent																
INDIAN BASE									PHILIPPINO BASE							
Category	Base Rate	Burden	Mob/Demob	Total Burden	Burden @ %	Agent Fee	Fee @ %	Total	Base Rate	Burden	Mob/Demob	Total Burden	Burden @ %	Agent Fee	Fee @ %	Total
Structural Welder	1.99	0.58	0.45	1.03	51.61%	0.28	14.10%	\$3.29	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
Pipe Welder	3.26	0.78	0.45	1.23	37.75%	0.44	15.50%	\$4.94	3.16	1.15	0.54	1.69	53.44%	0.50	15.81%	\$5.35
Fabricator	2.67	0.69	0.45	1.14	42.71%	0.36	15.51%	\$4.17	3.16	1.15	0.54	1.69	53.44%	0.50	15.81%	\$5.35
Pipefitter	1.99	0.58	0.45	1.03	51.61%	0.28	16.21%	\$3.29	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
Electrician	2.38	0.64	0.45	1.09	46.00%	0.33	15.96%	\$3.80	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
Instrument Fitter	2.18	0.61	0.45	1.06	48.69%	0.30	15.86%	\$3.54	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
Painter	1.88	0.56	0.45	1.01	53.77%	0.27	16.47%	\$3.17	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
Shotblaster	1.88	0.56	0.45	1.01	53.77%	0.27	16.47%	\$3.17	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
Scaffolder	1.88	0.56	0.45	1.01	53.77%	0.27	16.47%	\$3.17	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
Rigger	1.39	0.48	0.45	0.93	67.05%	0.20	16.53%	\$2.52	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
H'vy Plant Operator	2.97	0.74	0.45	1.19	39.90%	0.40	15.47%	\$4.56	3.76	1.24	0.54	1.78	47.43%	0.58	15.44%	\$6.12
Crane Operator	3.55	0.83	0.45	1.28	35.95%	0.47	15.21%	\$5.30	3.55	1.22	0.54	1.76	49.48%	0.55	15.47%	\$5.86
Mech Fitter	3.55	0.83	0.45	1.28	35.95%	0.47	15.21%	\$5.30	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
Mechanic	3.55	0.83	0.45	1.28	35.95%	0.47	15.21%	\$5.30	3.36	1.18	0.54	1.72	51.25%	0.53	15.75%	\$5.62
Joiner	1.99	0.58	0.45	1.03	51.61%	0.28	16.21%	\$3.29	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
Rebar Fixer	1.59	0.52	0.45	0.97	60.70%	0.23	16.59%	\$2.79	2.38	1.02	0.54	1.56	65.74%	0.40	16.82%	\$4.34
Insulator	1.88	0.56	0.45	1.01	53.77%	0.27	16.47%	\$3.17	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
Helper	1.10	0.44	0.45	0.89	80.60%	0.17	17.76%	\$2.16	1.78	0.93	0.54	1.47	82.50%	0.32	17.94%	\$3.58
Driver	1.99	0.58	0.45	1.03	51.61%	0.28	16.21%	\$3.29	2.77	1.09	0.54	1.63	58.93%	0.45	16.24%	\$4.85
Labourer	0.95	0.41	0.45	0.86	91.07%	0.15	18.18%	\$1.96	1.59	0.90	0.54	1.44	90.16%	0.29	18.19%	\$3.32
Foremen																
Welding	5.14	1.08	0.45	1.53	29.81%	0.67	15.00%	\$7.34	5.14	1.46	0.54	2.00	38.95%	0.76	14.80%	\$7.90
Mech Fitting	5.14	1.08	0.45	1.53	29.81%	0.67	15.00%	\$7.34	4.74	1.40	0.54	1.94	40.96%	0.71	14.97%	\$7.40
Crane	5.14	1.08	0.45	1.53	29.81%	0.67	15.00%	\$7.34	4.74	1.40	0.54	1.94	40.96%	0.71	14.97%	\$7.40
Instrument	5.14	1.08	0.45	1.53	29.81%	0.67	15.00%	\$7.34	4.74	1.40	0.54	1.94	40.96%	0.71	14.97%	\$7.40
Rigging	4.74	1.01	0.45	1.46	30.82%	0.62	15.03%	\$6.83	4.74	1.40	0.54	1.94	40.96%	0.71	14.97%	\$7.40
Painting	4.74	1.01	0.45	1.46	30.82%	0.62	15.03%	\$6.83	4.74	1.28	0.54	1.82	38.29%	0.61	12.86%	\$7.17
Scaffolding	4.74	1.01	0.45	1.46	30.82%	0.62	15.03%	\$6.83	4.74	1.40	0.54	1.94	40.96%	0.71	14.97%	\$7.40
Fabricating	4.74	1.01	0.45	1.46	30.82%	0.62	15.03%	\$6.83	4.74	1.40	0.54	1.94	40.96%	0.71	14.97%	\$7.40
Electrical	4.74	1.01	0.45	1.46	30.82%	0.62	15.03%	\$6.83	4.74	1.40	0.54	1.94	40.96%	0.71	14.97%	\$7.40
Pipefitter	4.74	1.01	0.45	1.46	30.82%	0.62	15.03%	\$6.83	4.74	1.40	0.54	1.94	40.96%	0.71	14.97%	\$7.40
Joinery	4.74	1.01	0.45	1.46	30.82%	0.62	15.03%	\$6.83	4.74	1.40	0.54	1.94	40.96%	0.71	14.97%	\$7.40

Burdens Include

Taxes
Insurance
Medical costs
Pensions
Condition money

Base Rates Exclude

Living & accomodation

Estimating Course

Information Sheet No. 6b Base Labour Rates

CLIENT:-
ENQUIRY NO:-
PLANT:-
LOCATION:-

Note: All figures in "No. of men" column are arbitrary - input to demonstrate calculation only.

PHILIPPINO BASE

Discipline	No Men	%	Overall Avg Rate US \$ / HR	Overall Composite US \$ / Hr	Consumables 25%	Support Personnel 50%	Support Facilities 30%	Plant 95%	Other 10%	TOTAL All In Rate US \$	Contractors GO & P 25%	GROSS RATE US \$
Civil & Industrial Buildings												
Foremen	1	10%	\$7.40	\$ 0.74								
Rigger	1	10%	\$4.85	\$ 0.49								
Concrete Worker	2	20%	\$4.34	\$ 0.87								
Carpenter	2	20%	\$4.85	\$ 0.97								
Specialist	1	10%	\$4.34	\$ 0.43								
Labourer	3	30%	\$3.32	\$ 1.00								
	10	100%		\$ 4.49	\$ 1.12	\$ 2.25	\$ 1.35	\$ 4.27	\$ 0.45	\$ 13.93	\$ 3.48	\$ 17.42

Discipline	No Men	%	Overall Avg Rate US \$ / HR	Overall Composite US \$ / Hr	Consumables 20%	Support Personnel 60%	Support Facilities 35%	Plant 95%	Other 10%	TOTAL All In Rate US \$	Contractors GO & P 25%	GROSS RATE US \$
Piping & Equipment Erection												
Foremen	1	7%	\$7.40	\$ 0.49								
Fabricator	2	13%	\$5.35	\$ 0.71								
Pipe Fitter	3	20%	\$4.85	\$ 0.97								
Pipe Welder	2	13%	\$5.35	\$ 0.71								
Rigger	2	13%	\$4.85	\$ 0.65								
Labourer	2	13%	\$3.32	\$ 0.44								
Crane Operator	1	7%	\$5.86	\$ 0.39								
Mechanic	2	13%	\$5.62	\$ 0.75								
	15	100%		\$ 5.12	\$ 1.02	\$ 3.07	\$ 1.79	\$ 4.86	\$ 0.51	\$ 16.39	\$ 4.10	\$ 20.48

Discipline	No Men	%	Overall Avg Rate US \$ / HR	Overall Composite US \$ / Hr	Consumables 20%	Support Personnel 60%	Support Facilities 35%	Plant 95%	Other 10%	TOTAL All In Rate US \$	Contractors GO & P 25%	GROSS RATE US \$
Steelwork Erection												
Foremen	1	8%	\$7.40	\$ 0.62								
Structural Welder	2	17%	\$4.85	\$ 0.81								
Rigger	2	17%	\$4.85	\$ 0.81								
Labourer	3	25%	\$3.32	\$ 0.83								
Scaffolder	2	17%	\$4.85	\$ 0.81								
Crane Operator	1	8%	\$5.86	\$ 0.49								
Mechanic	1	8%	\$5.62	\$ 0.47								
	12	100%		\$ 4.83	\$ 0.97	\$ 2.90	\$ 1.69	\$ 4.59	\$ 0.48	\$ 15.46	\$ 3.86	\$ 19.32

Discipline	No Men	%	Overall Avg Rate US \$ / HR	Overall Composite US \$ / Hr	Consumables 20%	Support Personnel 60%	Support Facilities 35%	Plant 95%	Other 10%	TOTAL All In Rate US \$	Contractors GO & P 25%	GROSS RATE US \$
Electrical & Instrumentation												
Foremen	1	10%	\$7.40	\$ 0.74								
Structural Welder	1	10%	\$4.85	\$ 0.49								
Rigger	1	10%	\$4.85	\$ 0.49								
Labourer	3	30%	\$3.32	\$ 1.00								
Electrician	2	20%	\$4.85	\$ 0.97								
Instrument Technician	2	20%	\$4.85	\$ 0.97								
	10	100%		\$ 4.65	\$ 0.93	\$ 2.79	\$ 1.63	\$ 4.42	\$ 0.46	\$ 14.87	\$ 3.72	\$ 18.59

Discipline	No Men	%	Overall Avg Rate US \$ / HR	Overall Composite US \$ / Hr	Consumables 20%	Support Personnel 60%	Support Facilities 35%	Plant 85%	Other 10%	TOTAL All In Rate US \$	Contractors GO & P 25%	GROSS RATE US \$
Insulation & Painting												
Foremen	1	8%	\$7.17	\$ 0.55								
Scaffolder	2	15%	\$4.85	\$ 0.75								
Cladder	2	15%	\$4.85	\$ 0.75								
Lagger	2	15%	\$4.85	\$ 0.75								
Painter	2	15%	\$4.85	\$ 0.75								
Labourer	4	31%	\$3.32	\$ 1.02								
	13	100%		\$ 4.56	\$ 0.91	\$ 2.74	\$ 1.60	\$ 3.88	\$ 0.46	\$ 14.14	\$ 3.53	\$ 17.67

INDIAN BASE

Discipline	No Men	%	Overall Avg Rate US \$ / HR	Overall Composite US \$ / Hr	Consumables 20%	Support Personnel 50%	Support Facilities 30%	Plant 85%	Other 10%	TOTAL All In Rate US \$	Contractors GO & P 25%	GROSS RATE US \$
Civil & Industrial Buildings												
Foremen	1	8%	\$6.83	\$ 0.53								
Rigger	2	15%	\$2.52	\$ 0.39								
Concrete Worker	3	23%	\$2.79	\$ 0.64								
Carpenter	2	15%	\$3.29	\$ 0.51								
Specialist	1	8%	\$2.79	\$ 0.21								
Labourer	4	31%	\$1.96	\$ 0.60								
	13	100%		\$ 2.88	\$ 0.58	\$ 1.44	\$ 0.86	\$ 2.45	\$ 0.29	\$ 8.50	\$ 2.13	\$ 10.63

Discipline	No Men	%	Overall Avg Rate US \$ / HR	Overall Composite US \$ / Hr	Consumables 20%	Support Personnel 60%	Support Facilities 35%	Plant 95%	Other 10%	TOTAL All In Rate US \$	Contractors GO & P 25%	GROSS RATE US \$

Piping & Equipment Erection												
Foremen	1	6%	\$7.34	\$ 0.46								
Fabricator	2	13%	\$4.17	\$ 0.52								
Pipe Fitter	2	13%	\$3.29	\$ 0.41								
Pipe Welder	2	13%	\$4.94	\$ 0.62								
Rigger	2	13%	\$2.52	\$ 0.32								
Labourer	4	25%	\$1.96	\$ 0.49								
Crane Operator	1	6%	\$5.30	\$ 0.33								
Mechanic	2	13%	\$5.30	\$ 0.66								
	16	100%		\$ 3.81	\$ 0.76	\$ 2.29	\$ 1.33	\$ 3.62	\$ 0.38	\$ 12.19	\$ 3.05	\$ 15.23

Discipline	No Men	%	Overall Avg Rate US \$ / HR	Overall Composite US \$ / Hr	Consumables 20%	Support Personnel 60%	Support Facilities 35%	Plant 95%	Other 10%	TOTAL All In Rate US \$	Contractors GO & P 25%	GROSS RATE US \$
Steelwork Erection												
Foremen	1	8%	\$6.83	\$ 0.57								
Structural Welder	2	17%	\$3.29	\$ 0.55								
Rigger	2	17%	\$2.52	\$ 0.42								
Labourer	3	25%	\$1.96	\$ 0.49								
Scaffolder	2	17%	\$3.17	\$ 0.53								
Crane Operator	1	8%	\$5.30	\$ 0.44								
Mechanic	1	8%	\$5.30	\$ 0.44								
	12	100%		\$ 3.44	\$ 0.69	\$ 2.06	\$ 1.20	\$ 3.27	\$ 0.34	\$ 11.01	\$ 2.75	\$ 13.76

Discipline	No Men	%	Overall Avg Rate US \$ / HR	Overall Composite US \$ / Hr	Consumables 20%	Support Personnel 60%	Support Facilities 35%	Plant 95%	Other 10%	TOTAL All In Rate US \$	Contractors GO & P 25%	GROSS RATE US \$
Electrical & Instrumentation												
Foremen	1	10%	\$6.83	\$ 0.68								
Structural Welder	1	10%	\$3.29	\$ 0.33								
Rigger	1	10%	\$2.52	\$ 0.25								
Labourer	3	30%	\$1.96	\$ 0.59								
Electrician	2	20%	\$3.80	\$ 0.76								
Instrument Technician	2	20%	\$3.54	\$ 0.71								
	10	100%		\$ 3.32	\$ 0.66	\$ 1.99	\$ 1.16	\$ 3.15	\$ 0.33	\$ 10.63	\$ 2.66	\$ 13.28

Discipline	No Men	%	Overall Avg Rate US \$ / HR	Overall Composite US \$ / Hr	Consumables 20%	Support Personnel 60%	Support Facilities 35%	Plant 85%	Other 10%	TOTAL All In Rate US \$	Contractors GO & P 25%	GROSS RATE US \$
Insulation & Painting												
Foremen	1	7%	\$6.83	\$ 0.49								
Scaffolder	2	14%	\$3.17	\$ 0.45								
Cladder	2	14%	\$3.17	\$ 0.45								
Lagger	2	14%	\$3.17	\$ 0.45								
Painter	3	21%	\$3.17	\$ 0.68								
Labourer	4	29%	\$1.96	\$ 0.56								
	14	100%		\$ 3.09	\$ 0.62	\$ 1.85	\$ 1.08	\$ 2.62	\$ 0.31	\$ 9.56	\$ 2.39	\$ 11.95

OVERALL

Discipline	% From Philipines 75%	% From India 25%	Overall Avg Rate US \$ / HR
Civil & Industrial Buildings	\$ 13.06	\$ 2.66	\$ 15.72
Piping & Equipment Erection	\$ 15.36	\$ 3.81	\$ 19.17
Steelwork Erection	\$ 14.49	\$ 3.44	\$ 17.93
Electrical & Instrumentation	\$ 13.94	\$ 3.32	\$ 17.26
Insulation & Painting	\$ 13.25	\$ 2.99	\$ 16.24



Estimating Course

Information Sheet No. 6b Weighted Averages

CLIENT:-
ENQUIRY NO:-
PLANT:-
LOCATION:-

Discipline	Weighted %	Discipline Avg Rate	O/All Composite Rate
Civil & Ind Building	15%	\$ 15.72	\$ 2.36
Piping & Mechanical	45%	\$ 19.17	\$ 8.63
Steelwork	20%	\$ 17.93	\$ 3.59
Electrics & Instruments	10%	\$ 17.26	\$ 1.73
Insulation & Painting	10%	\$ 16.24	\$ 1.62
	100%		\$ 17.92



Estimating Course

CLIENT:-
ENQUIRY NO:-
PLANT:-
LOCATION:-

Information Sheet No. 6b
Location Factor Build up Short Form

DESCRIPTION	UK GENERIC SPLIT	ADJUSTMENT TO UK FACTOR	LOCATION X	
COMBINED ADJUSTMENT FACTOR				
MATERIALS	40.0%	100.1%	40.03%	
CONSTRUCTION	45.0%	72%	32.40%	
SERVICES	15.0%	72.4%	10.86%	
TOTALS	100.00%		83.29%	
ROUNDED	100.00%		83.00%	
SUMMARY BASIS:-				
MATERIALS				
PRICES	100.0%		100.0%	
IMPORT DUTIES	EXCLD		EXCLD	
SHIPPING	-		8.5%	
COMPOSITE	100.0%		100.1%	
CONSTRUCTION				
PRODUCTIVITY	100.0%		80.0%	
LABOUR RATE	100.0%		90.0%	
COMPOSITE	100.0%		72.0%	
SERVICES				
PRODUCTIVITY	100.0%			
LABOUR RATE	100.0%			
TAXES	EXCLD		EXCLD	
COMPOSITE	100.0%		72.4%	

MATERIALS				
PRICES	1,000,000	0%	1,000,000	
IMPORT DUTIES	EXCLD		-	
SHIPPING	10,000	8.50%	10,850	
COMPOSITE	1,010,000		1,010,850	
	100.0%		100.1%	
CONSTRUCTION				
PRODUCTIVITY	100.0%	80%	80.0%	
LABOUR RATE	100.0%	90.0%	90.0%	
COMPOSITE	100.0%		72.0%	
SERVICES				
PRODUCTIVITY	100.0%		See Service	
LABOUR RATE	100.0%		Adjustment	
TAXES	EXCLD		Calculation	
COMPOSITE	100.0%		72.4%	

SERVICES	Insert % Local Engineers	60%
	Insert % of UK Rate for locals	45%
	Insert local prod vs UK (see Note 1)	120%
MATERIALS		
	Insert material uplift over UK	0%
	Inser shipping uplift over UK	8.5%
CONSTRUCTION		
	Insert labour prod against UK (see Note 1)	80%
	Insert labour rate against UK (see Note 2)	90%

Note 1A figure of < 100% represents a better Productivity then UK

Note 2Over 100% represents a higher rate then UK

SERVICE ADJUSTMENT CALCULATION

BASE UK HOURS	100	
BASE UK RATE	£80.00	
BASE UK TOTAL	£8,000.00	
LOCAL HOUR %	60%	
LOCAL HOUR RATE	£36.00	UK PORTION:
LOCAL HOURS	60	DELTA UK HOURS40
LOCAL PROD	120%	UK PROD100%
LOCAL PROD HOURS	72	UK PROD HOURS40
LOCAL COST	£2,592.00	DELTA UK COST£3,200.00
REVISED TOTAL SERVICE COST	£5,792.00	
ADJUSTMENT TO BASE UK COST	72.40%	