

ESTIMATION FOR CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT FUEL SUPPLY SYSTEM

Fuel Storage Depot--Laboratory (Water Supply and Fire Fighting)

A.	NORMAL DIRECT EXPENSE	6358.88
B.	EXPENSE OF LABOR	763.52
C.	OTHER DIRECT EXPENSE	175.61
D.	SUB-TOTAL OF DIRECT EXPENSE	6534.49
E.	COMBINED INDIRECT EXPENSE	1374.34
F.	PROFIT	496.29
G.	INITIAL EXPENSE	196.03
H.	ADJUSTMENT FOR EXPENSE OF LABOUR	154.90
I.	SUBSIDY FOR CHANGE OF CONSTRUCTION SITE	161.35
J.	MATERIAL AGIO	1905.16
K.	MECHANICAL AGIO	47.24
L.	EQUIPMENT COST	200.00
M.	EQUIPMENT TRANSPORTION COST	6.00
N.	TOTAL	11075.81
O.	ESTABLISHMENT CHARGE OF NORM COMPILATION	3.27
P.	ENGINEERING QUALITY SUPERVISION COST	16.61
Q.	MANAGEMENT COST	16.61
R.	TAX AND DUTIES	348.93
S.	CONSTRUCTION COST	11461.23

$$(B) \times 2.3\%$$

$$(A) + (C)$$

$$(B) \times 1.80\%$$

$$(B) \times 6.5\%$$

$$(D) \times 3\%$$

$$(B) \div 1.83 \times 2.4$$

$$(B) \div 1.83 \times 2.5$$

$$\text{MATERIAL COST SUM} \times 80\%$$

$$\text{MECHANICAL COST SUM} \times 116\%$$

$$(L) \times 3\%$$

$$(D) + (E) + \dots + (L) + (M)$$

$$(D) \times 0.5\%$$

$$(N) \times 1.5\%$$

$$(N) \times 1.5\%$$

$$[(N) + (O) + (P) + (Q) + (R)] \times 3.41\%$$

$$(N) + (O) + (P) + (Q) + (R)$$

TABLE OF COST ESTIMATES FOR EQUIPMENT INSTALLATION ENGINEERING

Shanghai Pudong International Airport Project Fuel Supply System
Fuel Storage Depot ---Laboratory (Water Supply and Fire Fighting)

序号	定额编号	设备及安装工程名称	单位	数量	设备费 (元)			安装费 (元)			人工费 (元)			材料费 (元)			机械 (元)			其他			合计					
					单价	合价	合价	单价	合价	合价	单价	合价	合价	单价	合价	合价	单价	合价	合价	单价	合价	合价	单价	合价	合价	单价	合价	合价
1	24-32	镀锌钢管	10米	8	0.00	0.00	1102.32	137.79	0.00	54.91	439.28	77.85	622.80	5.03	40.24													
2	24-20	截止阀	个	4	100.00	400.00	17.20	4.30	3.55	14.20	0.63	2.52	0.12	0.48														
3	24-87	水龙头	10个	0.1	200.00	20.00	0.41	4.14	3.51	0.35	0.63	0.06																
4	24-103	地漏	10个	0.4	500.00	200.00	65.39	163.47	21.18	8.47	142.29	56.92																
5	24-104	痰扫口	10个	0.2	500.00	100.00	14.43	72.14	14.79	2.96	57.35	11.47																
6	24-88	蹲式大便器	10组	0.2	3000.00	600.00	94.00	470.00	108.24	21.65	362.74	72.55																
7	24-93	移动式小便斗	10组	0.2	1500.00	300.00	356.10	178.51	87.54	17.51	1692.97	338.59																
8	24-71	洗面盆	10组	0.1	2500.00	250.00	85.71	85.71	58.44	5.84	797.27	79.73																
9	24-81	双联化验盆	10组	0.4	6000.00	2400.00	148.59	371.47	55.36	22.14	1139.66	455.86																
10	24-102	污水池	10组	0.1	1500.00	150.00	16.35	163.47	21.18	2.12	142.29	14.23																
11	24-37	排水铸铁管	10米	4		0.00	955.72	238.93	57.25	229.00	181.68	726.72																
		合计:				4420.00	2856.08			763.52	2381.45	40.72															3360.00	
		零星工程费:					142.80																					

ESTIMATION FOR CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT FUEL SUPPLY SYSTEM
 Fuel Storage Depot—Electrical Building And Control Room (Water Supply and Fire Fighting)

A.	NORMAL DIRECT EXPENSE		2894.34
B.	EXPENSE OF LABOR		334.31
C.	OTHER DIRECT EXPENSE	(B) X 23%	76.89
D.	SUB-TOTAL OF DIRECT EXPENSE	(A) + (C)	2971.23
E.	COMBINED INDIRECT EXPENSE	(B) X 180%	601.76
F.	PROFIT	(B) X 65%	217.30
G.	INITIAL EXPENSE	(D) X 3%	89.14
H.	ADJUSTMENT FOR EXPENSE OF LABOUR	(B) ÷ 1.83 X 2.4	67.82
I.	SUBSIDY FOR CHANGE OF CONSTRUCTION SITE	(B) ÷ 1.83 X 2.5	70.65
J.	MATERIAL AGIO	MATERIAL COST SUM X 80%	775.09
K.	MECHANICAL AGIO	MECHANICAL COST SUM X 116%	17.92
L.	EQUIPMENT COST		1620.00
M.	EQUIPMENT TRANSPORTION COST	(L) X 3%	48.60
N.	TOTAL	(D) + (E) + ... + (L) + (M)	6479.51
O.	ESTABLISHMENT CHARGE OF NORM COMPILATION	(D) X 0.5%	1.49
P.	ENGINEERING QUALITY SUPERVISION COST	(N) X 1.5%	9.72
Q.	MANAGEMENT COST	(N) X 1.5%	9.72
R.	TAX AND DUTIES	[(N) + (O) + (P) + (Q)] X 3.41%	204.11
S.	CONSTRUCTION COST	(N) + (O) + (P) + (Q) + (R)	6704.55

TABLE OF COST ESTIMATES FOR EQUIPMENT INSTALLATION ENGINEERING

Shanghai Pudong International Airport Project Fuel Supply System

Fuel storage depot ---Electrical Building and Control Room (Water Supply and Fire Fighting)

序号	定额编号	设备及安装工程名称	单位	数量	设备费 (元)		安装费 (元)		其他		材料费 (元)		机械费 (元)		名称		单位	数量	单价	总价		
					单价	合价	单价	合价	单价	合价	单价	合价	单价	合价	单价	合价						
		变电台																				
1	24-32	镀锌钢管	10米	3	0.00	0.00	137.79	413.37	54.91	164.73	77.85	233.55	5.03	15.09		镀锌管	米	30.00	17.00		510.00	
2	24-20	截止阀	个	3	100.00	300.00	4.30	12.90	3.55	10.65	0.63	1.89	0.12	0.36								
3	24-87	水龙头	10个	0.1	200.00	20.00	4.14	0.41	3.51	0.35	0.63	0.06										
4	24-103	地漏	10个	0.2	500.00	100.00	163.47	32.69	21.18	4.24	142.29	28.46										
5	24-104	清扫口	10个	0.1	500.00	50.00	72.14	7.21	14.79	1.48	57.35	5.74										
6	24-88	蹲式大便器	10组	0.2	3000.00	600.00	470.00	94.00	108.24	21.65	362.74	72.55										
7	24-93	挂式小便斗	10组	0.1	1500.00	150.00	1780.51	178.05	87.54	8.75	1692.97	169.30										
8	24-71	洗面盆	10组	0.1	2500.00	250.00	855.71	85.57	58.44	5.84	797.27	79.73										
9	24-81	双联化验盆	10组	0	6000.00	0.00	371.47	0.00	55.36	0.00	1139.66	0.00										
10	24-102	污水池	10组	0.1	1500.00	150.00	163.47	16.35	21.18	2.12	142.29	14.23										
11	24-37	排水铸铁管	10米	2		0.00	238.93	477.86	57.25	114.50	181.68	363.36				排水铸铁管	米	20.00	50.00		1000.00	
		合计:				1620.00		1318.42		334.31		968.86		15.45								1510.00
		零星工程费:						65.92														

ESTIMATION FOR CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT FUEL SUPPLY SYSTEM

Fuel Storage Depot--Dining Hall (Water Supply and Fire Fighting)

A.	NORMAL DIRECT EXPENSE		15083.82
B.	EXPENSE OF LABOR		1655.25
C.	OTHER DIRECT EXPENSE	$(B) \times 2.3\%$	380.71
D.	SUB-TOTAL OF DIRECT EXPENSE	$(A) + (C)$	15464.52
E.	COMBINED INDIRECT EXPENSE	$(B) \times 1.80\%$	2979.45
F.	PROFIT	$(B) \times 6.5\%$	1075.91
G.	INITIAL EXPENSE	$(D) \times 3\%$	463.94
H.	ADJUSTMENT FOR EXPENSE OF LABOUR	$(B) \div 1.83 \times 2.4$	335.81
I.	SUBSIDY FOR CHANGE OF CONSTRUCTION SITE	$(B) \div 1.83 \times 2.5$	349.80
J.	MATERIAL AGIO	MATERIAL COST SUM $\times 80\%$	5193.91
K.	MECHANICAL AGIO	MECHANICAL COST SUM $\times 116\%$	83.08
L.	EQUIPMENT COST		31370.00
M.	EQUIPMENT TRANSPORTION COST		941.10
N.	TOTAL	$(L) \times 3\%$	58257.52
O.	ESTABLISHMENT CHARGE OF NORM COMPILATION	$(D) + (E) + \dots + (L) + (M)$	7.73
P.	ENGINEERING QUALITY SUPERVISION COST	$(D) \times 0.5\%$	87.39
Q.	MANAGEMENT COST	$(N) \times 1.5\%$	87.39
R.	TAX AND DUTIES	$(N) \times 1.5\%$	1835.02
S.	CONSTRUCTION COST	$[(N) + (O) + (P) + (Q)] \times 3.41\%$	60275.04
		$(N) + (O) + (P) + (Q) + (R)$	

TABLE OF COST ESTIMATES FOR EQUIPMENT INSTALLATION ENGINEERING

Shanghai Pudong International Airport Project Fuel Supply System
Fuel Storage Depot ---Dining Hall (Water Supply and Fire Fighting)

序号	定额编号	设备及安装工程名称	单位	数量	设备费 (元)		安装费 (元)		人工费 (元)		材料费 (元)		机械 (元)		名称		单位	总量	单价	总价	
					单价	合价	单价	合价	单价	合价	单价	合价	单价	合价	单价	合价					
		餐厅部分																			
1	24-32	镀锌钢管	10米	14	0.00	0.00	137.79	1929.06	54.91	768.74	77.85	1089.90	5.03	70.42		镀锌管	米	140.00	17.00	2380.00	
2	24-19	闸阀	个	0	200.00	0.00	128.05	0.00	74.02	0.00	8.47	0.00	45.56	0.00							
3	24-20	截止阀	个	10	100.00	1000.00	4.30	43.00	3.55	35.50	0.63	6.30	0.12	1.20		型钢	kg	140	7.67	1073.80	
4	24-107	电开水器	台	1	15000.00	15000.00	25.68	25.68	21.14	21.14	4.54	4.54									
5	24-87	水龙头	10个	0.6	200.00	120.00	4.14	2.48	3.51	2.11	0.63	0.38									
6	24-103	地漏	10个	0.8	500.00	400.00	163.47	130.78	21.18	16.94	142.29	113.83									
7	24-104	清扫口	10个	1	500.00	500.00	72.14	72.14	14.79	14.79	57.35	57.35									
8	24-88	蹲式大便器	10组	0.2	3000.00	600.00	470.00	94.00	108.24	21.65	362.74	72.55									
9	24-93	挂式小便斗	10组	0.2	1500.00	300.00	1780.51	356.10	87.54	17.51	1692.97	338.59									
10	24-71	洗面盆	10组	0.2	2500.00	500.00	855.71	171.14	58.44	11.69	797.27	159.45									
11	24-85	电淋浴器	10组	1.6	8000.00	12800.00	590.47	944.75	62.23	99.57	528.24	845.18									
12	24-102	污水池	10组	0.1	1500.00	150.00	163.47	16.35	21.18	2.12	142.29	14.23									
13		隔油池	座	1		0.00	3000.00	3000.00	300.00	300.00	2700.00	2700.00									
14	24-37	排水铸铁管	10米	6		0.00	238.93	1433.58	57.25	343.50	181.68	1090.08				排水铸铁管	米	60.00	50.00	3000.00	
		合计:				31370.00		8219.06		1655.25	6492.39	71.62									6453.80
		零星工程费:					410.95														

ESTIMATION FOR CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT FUEL SUPPLY SYSTEM
 Fuel Storage Depot—Main Office Building (Water Supply and Fire Fighting)

A.	NORMAL DIRECT EXPENSE	4599.44
B.	EXPENSE OF LABOR	1057.87
C.	OTHER DIRECT EXPENSE	243.31
D.	SUB-TOTAL OF DIRECT EXPENSE	8278.99
E.	COMBINED INDIRECT EXPENSE	2989.64
F.	PROFIT	7.30
G.	INITIAL EXPENSE	933.11
H.	ADJUSTMENT FOR EXPENSE OF LABOUR	971.99
I.	SUBSIDY FOR CHANGE OF CONSTRUCTION SITE	12545.72
J.	MATERIAL AGIO	447.57
K.	MECHANICAL COST	75120.00
L.	EQUIPMENT COST	2253.60
M.	EQUIPMENT TRANSPORTATION COST	67.61
N.	TOTAL	103615.52
O.	ESTABLISHMENT CHARGE OF NORM COMPILATION	0.10
P.	ENGINEERING QUALITY SUPERVISION COST	0.10
Q.	MANAGEMENT COST	3255.66
R.	TAX AND DUTIES	106938.99
S.	CONSTRUCTION COST	213810.37

$$(B) \times 2.3\%$$

$$(A) + (C)$$

$$(B) \times 1.80\%$$

$$(B) \times 6.5\%$$

$$(D) \times 3\%$$

$$(B) \div 1.83 \times 2.4$$

$$(B) \div 1.83 \times 2.5$$

$$\text{MATERIAL COST SUM} \times 80\%$$

$$\text{MECHANICAL COST SUM} \times 116\%$$

$$(L) \times 3\%$$

$$(D) + (E) + \dots + (L) + (M)$$

$$(D) \times 0.5\%$$

$$(N) \times 1.5\%$$

$$(N) \times 1.5\%$$

$$[(N) + (O) + (P) + (Q)] \times 3.41\%$$

$$(N) + (O) + (P) + (Q) + (R)$$

TABLE OF COST ESTIMATES FOR EQUIPMENT INSTALLATION ENGINEERING

Shanghai Pudong International Airport Project Fuel Supply System
Fuel Storage Depot --Main Office Building (Water Supply and Fire Fighting)

序号	定额编号	设备及安装工程名称	单位	数量	设备费 (元)		安装费 (元)		其他 (元)		材料费 (元)		机械费 (元)		名称		单位	总量	材料
					单价	合价	单价	合价	单价	合价	单价	合价	单价	合价	单价	合价			
1	24-32	镀锌钢管	10米	40	0.00	0.00	137.79	5511.60	54.91	2196.40	77.85	3114.00	5.03	201.20	镀锌管	米	400.00	17.00	6800.00
2	24-19	阀门	个	4	200.00	800.00	128.05	512.20	74.02	296.08	8.47	33.88	45.56	182.24	型钢	kg	400	7.67	3068.00
3	24-20	截止阀	个	20	100.00	2000.00	4.30	86.00	3.55	71.00	0.63	12.60	0.12	2.40					
4	24-107	电开水器	台	3	15000.00	45000.00	25.68	77.04	21.14	63.42	4.54	13.62							
5	24-87	水龙头	10个	0.6	200.00	120.00	4.14	2.48	3.51	2.11	0.63	0.38							
6	24-54	室内消火栓	套	6	1500.00	9000.00	496.40	2978.40	12.42	74.52	483.98	2903.88							
7	24-103	地漏	10个	2	500.00	1000.00	163.47	326.94	21.18	42.36	142.29	284.58							
8	24-104	清扫口	10个	1	500.00	500.00	72.14	72.14	14.79	14.79	57.35	57.35							
9	24-88	蹲式大便器	10组	3	3000.00	9000.00	470.00	1410.00	108.24	324.72	362.74	1088.22							
10	24-93	挂式小便斗	10组	1.5	1500.00	2250.00	1780.51	2670.77	87.54	131.31	1692.97	2539.46							
11	24-71	洗面盆	10组	2	2500.00	5000.00	855.71	1711.42	58.44	116.88	797.27	1594.54							
14	24-102	污水池	10组	0.3	1500.00	450.00	163.47	49.04	21.18	6.35	142.29	42.69							
15		隔油池	座	0		0.00	3000.00	0.00	300.00	0.00	2700.00	0.00							
16	24-37	排水铸铁管	10米	22		0.00	238.93	5256.46	57.25	1259.50	181.68	3996.96			排水铸铁管	米	220.00	50.00	11000.00
17																			
		合计:				75120.00		20664.49		4599.44		15682.15		385.84					20868.00
		零星工程费:						1033.22											

ESTIMATION FOR CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT FUEL SUPPLY SYSTEM
 FUEL STORAGE DEPOT--WATER SUPPLY AND FIRE FIGHTING
 FIRE PUMP HOUSE

A.	NORMINAL DIRECT EXPENSE	32990
B.	EXPENSE OF LABOR	6741
C.	OTHER DIRECT EXPENSE	1550
D.	SUB-TOTAL OF DIRECT EXPENSE	34541
E.	COMBINED INDIRECT EXPENSE	12134
F.	PROFIT	4382
G.	INITIAL EXPENSE	1036
H.	ADJUSTMENT FOR EXPENSE OF LABOUR	1368
I.	SUBSIDY FOR CHANGE OF CONSTRUCTION SIT	1425
J.	MATERIAL AGIO	18120
K.	MECHANICAL AGIO	2666
L.	EQUIPMENT COST	1287414
M.	EQUIPMENT TRANSPORTION COST	38622
N.	TOTAL	1401706
O.	ESTABLISHMENT CHARGE OF NORM COMPILA	17
P.	ENGINEERING QUALITY SUPERVISION COST	2103
Q.	MANAGEMENT COST	2103
R.	TAX AND DUTIES	44146
S.	CONSTRUCTION COST	1450075

	(B) X 2.3%	
	(A) + (C)	
	(B) X 1.8 0 %	
	(B) X 6.5 %	
	(D) X 3 %	
	(B) ÷ 1 1.8 3 X 2.4	
	(B) ÷ 1 1.8 3 X 2.5	
	Material Cost SUM X 80%	
	Mechanical Cost SUM X 116%	
	(L) X 3 %	
	(D) + (E) + ... + (L) + (M)	
	(D) X 0.5 %	
	(N) X 1.5 %	
	(N) X 1.5 %	
	[(N) + (O) + (P) + (Q)] X 3.4 1 %	
	(N) + (O) + (P) + (Q) + (R)	

TABLE OF COST ESTIMATES FOR EQUIPMENT INSTALLATION ENGINEERING

Shanghai Pudong International Airport Project Fuel Supply System
Fuel Storage Depot--Water Supply And Fire Fighting

NO.1

No.	Norm No.	Name of equipment installation engineering	Unit	Cost for equipment (RMB/yr)			Cost for installation (RMB/yr)			Among						Not including material			
				Price	Total cost	Amount	Price	Total cost	Amount	Labor fee (RMB/yr)	Material fee (RMB/yr)	Machine fee (RMB/yr)	Name	Unit	Total Amount	Price	Total cost		
		Fire Pump House																	
1	1-903	Pump and motor 200D-43x3	ea.	3	42000.00	126000.00	702.38	2107.14											
2	1-902	Pump and motor 8Sh-6	ea.	4	36663.00	144252.00	495.04	1980.16											
3	1-898	Form concentrate lift pump IS50-32-125A	ea.	1	3500.00	3500.00	163.08	163.08											
4		Self priming pump 51-4A	ea.	1	6000.00	6000.00	0.00	0.00											
5	8-250	Self actuated ON-OFF valve 700X-0200	ea.	7	37000.00	259000.00	218.89	1532.23											
6	8-252	Self actuated ON-OFF valve 600X-0300	ea.	7	52000.00	364000.00	390.49	2733.43											
7	8-254	Valve RVHX-0400	ea.	1	13000.00	13000.00	689.24	689.24											
8	8-252	Valve RVHX-0300	ea.	9	7500.00	67500.00	390.49	3514.41											
9	8-251	Valve RVHX-0250	ea.	2	5500.00	11000.00	340.50	681.00											
10	8-250	Valve RVHX-0200	ea.	7	3900.00	27300.00	218.89	1532.23											
11	8-249	Valve RVHX-0150	ea.	2	2340.00	4680.00	140.05	280.10											
12	8-246	Valve RVHX-080	ea.	2	1240.00	2480.00	73.23	146.46											
13	8-245	Valve RVHX-065	ea.	1	1120.00	1120.00	62.51	62.51											
14	8-244	Valve RVHX-050	ea.	7	1000.00	7000.00	46.05	322.35											
15	8-244	Electric motor JR116-4	ea.	1	1650.00	1650.00	46.05	46.05											
16	8-244	Ball valve Q41F-16 Dg50	ea.	15	100.00	1500.00	46.05	690.75											
17	11-107	Air foam proportioning blender PH48	ea.	6	700.00	4200.00	148.77	892.62											
18	11-109	High pressure foam generator PCY1800G	ea.	1	2000.00	2000.00	101.91	101.91											
19	8-244	Electric motor Y315S	ea.	1	1650.00	1650.00	46.05	46.05											
20	24-13	Quick joint	ea.	2	5641.00	11282.00	178.39	356.78											
21	21-83	Manual single-track cart	ea.	1	300.00	300.00	615.47	615.47											
22	21-84	Manual hinge hoist SG-2	ea.	1	1000.00	1000.00	433.51	433.51											
23	21-94	"T" steel 36a	10m	4	1100.00	4400.00	1884.41	7537.64											
24		Concentric reducer Dg200*1225	ea.	4	5500.00	22000.00	0.00	0.00											
25		Eccentric reducer Dg300*200	ea.	7	5800.00	40600.00	75.00	525.00											
26		Foam concentrate tank SWB-10	set	2	80000.00	160000.00	3000.00	6000.00											
27		Total				1287614.00		32990.12											

ESTIMATION FOR CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT FUEL SUPPLY SYSTEM
FUEL STORAGE DEPOT--WATER SUPPLY AND FIRE FIGHTING
TANK AREA AND DEPOT AREA

A.	NORMAL DIRECT EXPENSE	1670368.95
B.	EXPENSE OF LABOR	541453.01
C.	OTHER DIRECT EXPENSE	124534.19
D.	SUB-TOTAL OF DIRECT EXPENSE	1794903.15
E.	COMBINED INDIRECT EXPENSE	974615.42
F.	PROFIT	351944.46
G.	INITIAL EXPENSE	53847.09
H.	ADJUSTMENT FOR EXPENSE OF LABOUR	109846.76
I.	SUBSIDY FOR CHANGE OF CONSTRUCTION SITE	114423.71
J.	MATERIAL AGIO	926162.00
K.	MECHANICAL AGIO	37015.93
L.	EQUIPMENT COST	945730.00
M.	EQUIPMENT TRANSPORTATION COST	28371.90
N.	TOTAL	5336860.42
O.	ESTABLISHMENT CHARGE OF NORM COMPILATION	897.45
P.	ENGINEERING QUALITY SUPERVISION COST	8005.29
Q.	MANAGEMENT COST	8005.29
R.	TAX AND DUTIES	168108.33
S.	CONSTRUCTION COST	5521876.78

	(B) X 23%	
	(A) + (C)	
	(B) X 180%	
	(B) X 65%	
	(D) X 3%	
	(B) ÷ 1.83 X 2.4	
	(B) ÷ 1.83 X 2.5	
	Material Cost SUM X 80%	
	Mechanical Cost SUM X 116%	
	(L) X 3%	
	(D) + (E) + ... + (L) + (M)	
	(D) X 0.5%	
	(N) X 1.5%	
	(N) X 1.5%	
	[(N) + (O) + (P) + (Q)] X 3.41%	
	(N) + (O) + (P) + (Q) + (R)	

TABLE OF COST ESTIMATES FOR EQUIPMENT INSTALLATION ENGINEERING

Shanghai Pudong International Airport Project Fuel Supply System
 Fuel Storage Depot-- Water Supply And Fire Fighting

NO.1

NO.	Norm	Name of equipment installation engineering	Unit	Amount	Cost for equipment (RMB/yr)			Cost for installation (RMB/yr)			Among			Not including material			Total cost		
					Price	Total cost	Price	Total cost	Price	Total cost	Material fee (RMB/yr)	Manhour fee (RMB/yr)	Price	Total cost	Unit	Amount		Price	
Tank area and Depot area																			
1	24-27	Seamless steel pipe Dg300	10m	83.5			246.01	20541.84	121.77	10167.80	89.17	7445.70	35.07	2928.35	Seamless steel pipe Dg300	■	835.0	383.30	320055.50
2	24-27	" " Dg250	"	82.0			246.01	20172.82	121.77	9985.14	89.17	7311.94	35.07	2875.74	" " Dg250	■	820.0	240.10	196882.00
3	24-27	" " Dg200	"	78.0			246.01	19188.78	121.77	9498.06	89.17	6955.26	35.07	2735.46	" " Dg200	■	780.0	196.80	153504.00
4	24-27	" " Dg150	"	42.0			246.01	10332.42	121.77	5114.34	89.17	3745.14	35.07	1472.94	" " Dg150	■	420.0	87.40	36708.00
5	24-27	" " Dg100	"	76.0			246.01	18696.76	121.77	9254.52	89.17	6776.92	35.07	2665.32	" " Dg100	■	760.0	52.00	39520.00
6	24-27	" " Dg70	"	80.0			246.01	19680.80	121.77	9741.60	89.17	7133.60	35.07	2805.60	" " Dg70	■	800.0	137.40	109920.00
9	8-249	Moor Valve Z942H-16C Dg150	set	18.0	10000.00	18000.00	210.37	3786.66	12.31	221.58	112.44	2023.92	12.11	217.98					
10	8-247	Moor Valve Z942H-16C Dg100	"	12.0	8000.00	9600.00	123.18	1478.16	8.93	107.16	66.61	799.32	10.9	130.80					
11	8-251	Valve RVHX-0300 Dg300	set	6.0	5000.00	3000.00	340.50	2043.00	30.76	184.56	260.6	1563.60	49.14	294.84					
12	8-252	Valve RVHX-0300 Dg250	"	4.0	7500.00	3000.00	390.49	1561.96	37.86	151.44	293.4	1173.60	59.23	236.92					
13	8-250	Valve RVHX-0300 Dg200	"	18.0	3900.00	7020.00	218.89	3940.02	26.14	470.52	166.11	2989.98	26.64	479.52					
14	8-252	Valve RVHX-0300 Dg50	"	12.0	7500.00	9000.00	390.49	4685.88	37.86	454.32	293.4	3520.80	59.23	710.76					
15	8-250	Ball Valve Q41F-16 Dg200	"	12.0	3000.00	3600.00	218.89	2626.68	26.14	313.68	166.11	1993.32	26.64	319.68					
16	8-249	Ball Valve Q41F-16 Dg150	set	12.0	2000.00	2400.00	140.05	1680.60	15.50	186.00	112.44	1349.28	12.11	145.32					
17	8-247	Ball Valve Q41F-16 Dg100	"	12.0	1500.00	1800.00	88.75	1065.00	11.24	134.88	66.61	799.32	10.9	130.80					
18	8-244	Ball Valve Q41F-16 Dg50	"	6.0	200.00	1200.00	46.05	276.30	5.21	31.26	35.59	213.54	5.25	31.50					
19	8-226	Post fire hydrant SS100	set	25.0	1500.00	37500.00	122.54	3063.50	15.54	388.50	107	2675.00		0.00					
20		Air foam-water monitor PP32A	"	8.0	10000.00	80000.00	190.00	800.00	36.55	292.40	60	480.00	120	960.00					
21		High foam generator PCT1800C	"	16.0	2000.00	32000.00	210.37	3365.92	36.55	584.80	41.43	662.88	23.95	383.20					
22		High foam generator PCT1350G	"	16.0	1800.00	28800.00	210.37	3365.92	12.31	196.96	41.43	662.88	23.95	383.20					
23		Pressure meter Y150	ea.	24.0	120.00	2880.00	63.12	1514.88	4.14	99.36									
24		Pipe connection KM65	"	32.0	90.00	2880.00	23.00	800.00	2.00	64.00									
25		Water outlet cover KM65	"	32.0	60.00	1920.00	20.00	640.00	2.00	64.00									
26		Foam nozzle PQ16	ea.	24.0	500.00	12000.00	0	0.00	0.00	0.00									
27		Fire hose nozzle with valve QZ19	"	24.0	200.00	4800.00	0	0.00	0.00	0.00									
28		Fire hose Dg65	set	20.0	360.00	7200.00	0	0.00	0.00	0.00									
29		Check valve ZSXH Dg200	set	18.0	1070.00	19260.00	182.73	3289.14	72.64	1307.52									
					507640.00	148597.04	59014.40	60276.00	19907.93	856589.50									

TABLE OF COST ESTIMATES FOR EQUIPMENT INSTALLATION ENGINEERING

Shanghai Pudong International Airport Project Fuel Supply System

NO.2

NO.	Norm NO.	Name of equipment installation engineering	Unit	Amount	Cost for equipment (RMB yen)			Cost for installation (RMB yen)			Among				Not including material		
					Price	Total cost	Price	Price	Total cost	Price	Total cost	Price	Total cost	Machine	Total cost	Name	Unit
30		Vertical round valve well Dg1600	ea.	6.0	5000.00	30000.00	75.00	450.00	7.50	45.00	0.00	0.00	0.00	0.00			
31		Wheeled powder fire extinguisher	set	30.0	1300.00	39000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
32		Wheeled foam fire extinguisher	"	30.0	700.00	21000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
33		Portable powder fire extinguisher MFS	"	40.0	120.00	4800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
34		Portable foam fire extinguisher MP9	"	40.0	40.00	1600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
35		Flexible hose 162R4200F L2000	set	12.0	5000.00	60000.00	3612.10	43345.20	103.61	1243.32	3448.58	41382.96	59.91	718.92			
36	24-31	Water supply cast iron pipe Dg200	m	25.5	300.00	7650.00	1320.32	33668.16	156.11	3980.81	1164.21	29687.36	0.00	0.00			
37	24-31	Water supply cast iron pipe Dg100	m	43.0	200.00	8600.00	638.08	27437.44	632.70	27206.10	0.00	0.00	0.00	0.00			
38		Septic tank NO.1	ea.	4.0	5000.00	20000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
39		Grease separator No.2	ea.	2.0	5000.00	10000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
40		Grease separator No.3	ea.	2.0	5000.00	10000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
41	S5-1-2	Sewage drain manholep	10m	6.2	0.00	0.00	63.08	391.10	63.00	390.60	50.74	314.59	0.00	0.00			
42	S5-3-2	Storm sewage drain manhole	ea.	68.0	0.00	0.00	1640.82	111575.76	347.84	23653.12	1292.98	87922.64	4.61	313.48	normal brick	1000ea.	704.6
43	S5-3-2	Duplex storm inlet	ea.	83.0	0.00	0.00	1640.82	136188.06	347.84	28870.72	1292.98	107317.34	25.13	2085.79	normal brick	1000ea.	704.6
44	S5-3-2	Duplex storm inlet dg1000	ea.	2.0	0.00	0.00	1640.82	3281.64	347.84	695.68	1292.98	2385.96	5.76	11.52	normal brick	1000ea.	704.6
45	S5-3-2	Drainage manhole	ea.	18.0	0.00	0.00	1640.82	29534.76	347.84	6261.12	1292.98	23273.64	5.76	103.68	normal brick	1001ea.	704.6
46	S5-3-2	Drainage valve well	ea.	1.0	0.00	0.00	1640.82	1640.82	347.84	347.84	1292.98	1292.98	5.76	5.76			
47	24-27	Galvanize steel pipe Dg15	"	0.3	0.00	0.00	246.01	73.80	67.67	20.30	47.37	14.21	5.76	1.73	Galvanize steel pipe	m	3.00
48	24-38	Drainage cast iron pipe Dg200	"	40.5	0.00	0.00	238.93	9676.67	57.25	2318.63	181.68	7358.04	0.00	0.00	Drainage cast iron pipe	m	3.00
49	24-38	Drainage cast iron pipe Dg100	"	1.5	0.00	0.00	238.93	358.40	57.25	85.88	181.68	272.52	0.00	0.00			
50	24-25	Galvanize steel pipe Dg80	10m	7.0	0.00	0.00	120.80	845.60	67.67	473.69	47.37	331.59	5.76	40.32	Galvanize steel pipe	m	70.00
51	24-25	Galvanize steel pipe Dg65	10m	8.8	0.00	0.00	120.80	1063.04	67.67	595.50	47.37	416.86	5.76	50.69	Section steel	kg	38.00
52	24-25	Galvanize steel pipe Dg50	10m	1.0	0.00	0.00	121.80	121.80	68.67	68.67	48.37	48.37	6.76	6.76	Section steel	kg	10.00
53	24-25	Galvanize steel pipe Dg32	10m	7.0	0.00	0.00	122.80	859.60	69.67	487.69	49.37	345.59	7.76	54.32	Section steel	kg	72.00
54	24-25	Galvanize steel pipe Dg25	10m	4.0	0.00	0.00	123.80	495.20	70.67	282.68	50.37	201.48	8.76	35.04	Section steel	kg	40.00
55	24-25	Galvanize steel pipe Dg20	10m	6.0	0.00	0.00	124.80	748.80	71.67	410.02	51.37	308.22	9.76	38.56	Section steel	kg	60.00
52	S5-3-1	Water meter Well	"	1.0	5000.00	5000.00	3938.83	3938.83	412.26	412.26	3393.80	3393.80	133.01	133.01			
53	S5-3-1	Water supply valve Well Dg1600	set	17.0	5000.00	85000.00	1620.00	27540.00	327.65	5570.05	1292.59	21974.03	0.00	0.00			
54		Water meter LXL200	ea.	1.0	800.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
55	S5-1-46	Drainage concrete pipe Dg500	100m	2.6	0.00	0.00	1620.00	4276.80	327.65	865.00	1292.59	3412.44	126.66	334.38	Concrete pipe	m	264
56	S5-1-46	Drainage concrete pipe Dg400	100m	17.0	0.00	0.00	1621.00	27557.00	328.65	5587.05	1293.59	21991.03	127.66	2170.22	Concrete pipe	m	1700
57	S5-1-46	Drainage concrete pipe Dg300	100m	5.1	0.00	0.00	1622.00	8272.20	329.65	1681.22	1294.59	6602.41	128.66	656.17	Concrete pipe	m	510
58	S5-1-46	Drainage concrete pipe Dg200	100m	12.9	0.00	0.00	1623.00	20855.55	330.65	4248.85	1295.59	16648.33	129.66	1666.13	Concrete pipe	m	1285
59	S5-3-2	Outfall valve well	set	4.0	0.00	0.00	1620.00	6480.00	327.65	1310.60	1292.59	5170.36	0.00	0.00	1:2 concrete	10m ³	206.7
60		High efficient oil-water separator CYL-5	set	1.0	200000.0	200000.0	1200.00	1200.00	5000.00	5000.00	0.00	0.00	0.00	0.00			
61	8-250	Stoip valve Dg32	ea.	1	5000	5000	218.89	218.89	26.14	26.14	166.11	166.11	26.64	26.64			
62		Cleanout Dg100	ea.	2	0.00	0.00	219.89	439.78	27.14	54.28	167.11	334.22	27.64	55.28			

TABLE OF COST ESTIMATES FOR EQUIPMENT INSTALLATION ENGINEERING

Shanghai Pudong International Airport Project Fuel Supply System
 Fuel Storage Depot-- Water Supply And Fire Fighting

NO.3

NO.	Norm	Name of equipment installation engineering	Unit	Amount	Cost for equipment (RMB yen)			Cost for installation(RMB yen)			Among			Not including material						
					Price	Total cost	Total cost	Price	Total cost	Total cost	Price	Total cost	Price	Total cost	Price	Total cost	Unit	Total Amount	Price	Total cost
63	8-250	Valve	Dg100	set	4.00	12000.00	390.46	1561.84	37.86	151.44	293.40	1173.60	59.23	236.92						
64	8-250	Gate valve	Z44T-10 Dg200	set	3.00	8000.00	390.46	1171.38	37.86	113.58	293.40	880.20	59.23	177.69						
65	8-250	Gate valve	Z44T-10 Dg100	set	2.00	7000.00	390.46	780.92	37.86	75.72	293.40	586.80	59.23	118.46						
66	8-250	Gate valve	Z44T-10 Dg80	set	1.00	6500.00	390.46	390.46	37.86	37.86	293.40	293.40	59.23	59.23						
67	8-250	Gate valve	Z44T-10 Dg65	set	3.00	5000.00	390.46	1171.38	37.86	113.58	293.40	880.20	59.23	177.69						
68	8-250	Gate valve	Z44T-10 Dg50	set	1.00	4000.00	390.46	390.46	37.86	37.86	293.40	293.40	59.23	59.23						
69	8-250	Gate valve	Z44T-10 Dg32	set	1.00	3500.00	390.46	390.46	37.86	37.86	293.40	293.40	59.23	59.23						
70	8-250	Gate valve	Z44T-10 Dg25	set	2.00	3425.00	390.46	780.92	37.86	75.72	293.40	586.80	59.23	118.46						
71	8-250	Gate valve	Z44T-10 Dg200	set	4.00	2810.00	390.46	1561.84	37.86	151.44	293.40	1173.60	59.23	236.92						
72		Tank area and Depot area rain				0.00														
73	S5-1-46	Drain concrete pipe	DN500	100m	9.00		9157.41	82416.69	209.21	1882.89	8821.54	79393.86	126.66	1139.94	Drain concrete pipe D	m	900	87.74	78966.00	
74	S5-1-45	Drain concrete pipe	DN400	"	8.00		6057.00	48456.00	147.74	1181.92	5823.68	46589.44	85.58	684.64	Drain concrete pipe D	"	800	57.34	45872.00	
75	S5-1-44	Drain concrete pipe	DN300	"	4.10		3612.10	14809.61	103.61	424.80	3448.58	14139.18	59.91	245.63	Drain concrete pipe D	"	410	33.94	13915.40	
76	S5-1-43	Drain concrete pipe	DN200	"	5.20		1320.32	6865.66	156.11	811.77	1164.21	6053.89	59.91		Drain concrete pipe D	"	520	11.47	5964.40	
77	S5-3-2	Well of rain		cast	65.00		1640.82	101730.84	347.84	21566.08	1292.98	80164.76			Drain concrete M10	10m³	306.8	1183.40	363067.12	
78	S5-3-2	Well for drain valve		"	1.00		1640.82	1640.82	347.84	347.84	1292.98	1292.98			1:2 concrete	10m³	206.7	171.83	35517.26	
79	S5-3-2	Double rain cut		"	120.00		1640.82	196898.40	347.84	41740.80	1292.98	153157.60			brick	1000each	704.6	186.06	131097.88	
80	S5-3-2	Well of water close		"	1.00		1640.82	1640.82	347.84	347.84	1292.98	1292.98								
81	24-58	Drain valve		each	1.00	5000.00			174.33	16.11	136.60	136.60	21.62	21.62						
82	S5-1-2	Excavation		100m³	253.00		638.08	161434.24	632.70	160073.10		0.00		0.00						
83	S5-1-32	Pipe base		10m³	263.00		741.33	194969.79	61.42	16153.46	679.91	178816.33		0.00	sand	10m³	263	5201.80	1368073.40	
84	S5-1-30	Fill		100m³	190.00		490.17	93132.30	404.23	76807.50	404.25	76807.50		0.00						
85	S5-1-3	Slay board		100m	30.00		3415.87	102476.10	1173.03	35190.90	2242.84	67285.20		0.00	Slay board	ton	30	2324.93	69747.90	
86	S5-1-60	Cement mortar connect	DN200	10each	20.0		11.79	235.80	8.14	162.80	3.65	73.00		0.00						
87	S5-1-61	Cement mortar connect	DN300	10each	13.0		17.71	230.23	11.97	155.61	5.74	74.62		0.00						
88	S5-1-62	Cement mortar connect	DN400	10each	27.0		26.42	713.34	16.52	446.04	9.90	267.30		0.00						
89	S5-1-63	Cement mortar connect	DN500	10each	30.0		53.10	1593.00	30.28	908.40	22.82	684.60		0.00						
90	S5-1-83	Water injection of pipe		egment	30.0		53.98	1619.40	40.43	1212.90	8.94	268.20	4.61	138.30						
		Total					945730.00	1670368.95		541433.01		1157702.50		31910.28						
		Fragmentary project cost						83518.45												

RECOMBINATION CONSTRUCTION COST OF EQUIPENT INSTALLATION

SHANGHAI PUDONG INTERNATIONAL AIRPORT FUEL SUPPLY SYSTEM
FUEL STORAGE DEPOT (AIR-CONDITION)

(1)	Nominal Direct Expense		4,486
(2)	Expense of Labor		1,229
(3)	Other Direct Construction Cost	(2) X 23%	283
(4)	Sub-Total of Direct Expense	(1) + (3)	4,769
(5)	Combined Indirect Expense	(2) X 18.0%	2,213
(6)	Profit	(2) X 6.5%	799
(7)	Initial expense	(4) X 3%	143
(8)	Adjustment for Expense for Labor	(2) ÷ 1.83 X 2.4	249
(9)	Subsidy for Change of Construction Site	(2) ÷ 1.83 X 2.5	260
(10)	Material Agio	Material Cost SUM X 8.4%	2,304
(11)	Mechanical Agio	Mechanical Cost SUM X 116%	4,956
(12)	Equipment cost		1,627,910
(13)	Equipment Transportation Cost	(12) X 3%	48,837
(14)	Total	(4) + (5) + ... + (12) + (13)	1,692,441
(15)	Establishment Charge of Norm Completion	(4) X 0.5%	2
(16)	Engineering Quality Supervision Cost	(14) X 1.5%	2,539
(17)	Management Cost	(14) X 1.5%	2,539
(18)	Tax and Duties	[(14) + (15) + (16) + (17)] X 3.41%	53,302
(19)	Construction Cost	(14) + (15) + (16) + (17) + (18)	1,750,823

ESTIMATION CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT FUEL SUPPLY SYSTEM
FUEL STORAGE DEPOT

序 号	定 额 编 号	设备 及 安 装 工 程 名 称	单 位	数 量	设备费 (元)		安装费 (元)		其他 (元)		中 间 费 (元)		名 称	单 位	总 量	单 价	总 价		
					单 价	合 价	单 价	合 价	单 价	合 价	单 价	合 价						单 价	合 价
					材料费 (元)		机械费 (元)		人工费 (元)		材料费 (元)							机械费 (元)	
1	23-50	分体式VRV变频空调机 10HP	台	7	76100	532,700	51.11	358	22.19	155	27.15	190	1.77	12					
2	23-52	室内机FXYC50KV	台	21	16290	342,090	62.14	1,305	17.05	358	40.52	851	4.57	96					
3	23-52	室内机FXYC25KV	台	40	13660	546,400	62.14	2,486	17.05	682	40.52	1,621	4.57	183					
4	23-52	室内机FXFYF100KV	台	2	21150	42,300	62.14	124	17.05	34	40.52	81	4.57	9					
5		VRV变频空调机配件				164,420													
合 计						1,627,910		4,273		1,229		2,743		4,273				0	
安装工程费 5%								214											

ESTIMATION CONSTRUCTION COST OF EQUIPMENT FACILITIMES

SHANGHAI PUDONG INTERNATIONAL AIRPORT (FUEL SUPPLY SYSTEM)
PROJECT NAME: POWER SUPPLY AND INSTRUMENT (FUEL STORAGE DEPOT)

NO.	Norm Code	Description of Works	Unit	Qty	Equipment Costs		Installation Work Costs		Including (in Installation Work Costs)		Mechanical expense			
					Unit VALUE	Total Value	Unit VALUE	Total Value	Unit VALUE	Total Value	Unit VALUE	Total Value	Unit VALUE	Total Value
1		Section-2 Power Supply and Instrument				0					0	0		
2	2-4	Dry-type transformer 1600/100.1 Dyn11	set	2	36,000	72,000	675.52	1,351	316.33	633	148.96	298	210.23	420
3	2-438	H.V. switchgear	set	8	380,000	3,040,000	80.47	644	43.77	350	12.97	104	23.73	190
4	2-438	L.V. switchboard	set	24	120,000	2,880,000	80.47	1,931	43.77	1,050	12.97	311	23.73	570
5		Frequency conversion control panel				0	0	0	0	0	0	0	0	0
6	2-438	of fuel pump (V.V.V.F) *	set	2	2,130,000	4,260,000	241.41	483	43.77	88	12.97	26	23.73	47
7	2-438	Power distribution cabinet	set	2	50,000	100,000	80.47	161	43.77	88	12.97	26	23.73	47
8	2-438	Reduced voltage start cabinet	set	7	50,000	350,000	80.47	563	43.77	306	12.97	91	23.73	166
9	2-439	Flush mount lighting distribution box	set	14	2,000	28,000	73.14	1,024	37.86	530	11.55	162	23.73	332
10	2-438	Explosion-proof lighting distribution	set	1	11,960	11,960	80.47	80	43.77	44	12.97	13	23.73	24
11	2-466	Soft starter for oil pump PSD-210	set	2	50,000	100,000	25.76	52	23.66	47	2.1	4		0
12	2-439	Signal cabinet box	set	16	2,000	32,000	73.14	1,170	37.86	606	11.55	185	23.73	380
13	22-94	Flood Light 8*100W	set	2	60,000	120,000	212.68	425	106.34	213	56.33	113	50.01	100
14	22-90	Garden lamp 3*100W H-5.5m	set	60	4,000	240,000	383.38	23,003	217.22	13,033	141.36	8,482	24.8	1,488
15	22-86	Pendant lighting fitting 200W	set	12	2,000	24,000	749.46	8,994	653.04	7,836	96.42	1,157		0
16	2-1009	Flame-proof lighting fitting 200W	set	77	800	61,600	94.17	7,251	50.04	3,853	44.13	3,398		0
17	22-83	Fluorescent lighting fitting 2*40W	set	618	150	92,700	103.76	64,124	40.81	25,221	62.95	38,903		0
18		Flush-mount 3-phase receptacle 20A	set	8	20	160	0	0	0	0	0	0		0
19		Flush-mount 1-phase receptacle 10A	set	229	10	2,290	0	0	0	0	0	0		0
20		Explosion-proof 3-phase receptacle 20A	set	5	50	250	0	0	0	0	0	0		0
21		Explosion-proof 1-phase receptacle 10A	set	35	30	1,050	0	0	0	0	0	0		0
22		Flush-mount switch 10A	set	149	15	2,235	0	0	0	0	0	0		0
23		Explosion-proof switch 10A	set	19	30	570	0	0	0	0	0	0		0
24	22-151	Grounding conductor	10m	300	36	10,665	30.1	9,020	16.44	4,922	9.22	2,766	4.44	1,332
25	22-140	Earth electrode	set	150	200	29,984	148.53	22,280	92.75	13,913	5.13	770	50.65	7,598
26	22-137	Lightning protection	10m	57	36	2,026	43.23	2,464	27.71	1,579	7.45	425	8.07	460
27	5-138	Cable manhole	set	16	8,000	128,000	539.04	8,625	531.64	8,506	7.4	118		0
28	2-653	Concrete duck bank	10m	300		165,000	15.77	5,204	12.42	4,099	3.35	1,106		0
29						0	0	0	0	0	0	0		0
30		SUM				11,754,490		158,858		86,926		58,456		13,154

ESTIMATION CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT (FUEL SUPPLY SYSTEM)
PROJECT NAME: POWER SUPPLY AND INSTRUMENT (FUEL STORAGE DEPOT)

NO.	Norm Code	Description of Works	Unit	Qty	Equipment Costs		Installation Work Costs		Including (in Installation Work Costs)				
					Unit VALUE	Total Value	Unit VALUE	Total Value	Expense of Labor	Material expense	Mechanical expense	Total Value	
31		Power cable And Wire				0	0	0	0	0	0	0	0
32		PVCSWA/PVC-1KV 3*150+1*70	KM	1.092	200,000	218,400	0	0	0	0	0	0	0
33		PVCSWA/PVC-1KV 3*95+1*50	KM	1.291	139,300	179,836	0	0	0	0	0	0	0
34		PVCSWA/PVC-1KV 3*70+1*35	KM	0.23	96,300	22,149	0	0	0	0	0	0	0
35		PVCSWA/PVC-1KV 3*50+1*25	KM	0.122	72,400	8,833	0	0	0	0	0	0	0
36		PVCSWA/PVC-1KV 3*35+1*16	KM	0.285	51,400	14,649	0	0	0	0	0	0	0
37		PVCSWA/PVC-1KV 3*16+1*10	KM	0.517	28,300	14,631	0	0	0	0	0	0	0
38		PVCSWA/PVC-1KV 3*10+1*6	KM	0.626	20,500	12,833	0	0	0	0	0	0	0
39		PVCSWA/PVC-1KV 3*6+1*4	KM	1.17	15,100	17,667	0	0	0	0	0	0	0
40		PVCSWA/PVC-1KV 3*4+1*2.5	KM	14.091	11,300	159,228	0	0	0	0	0	0	0
41		PVCSWA/PVC-0.5KV 14*1.5	KM	9.1	18,940	172,354	0	0	0	0	0	0	0
42		PVCSWA/PVC-0.5KV 7*1.5	KM	0.88	13,840	12,179	0	0	0	0	0	0	0
43		PVCSWA/PVC-0.5KV 6*1.5	KM	0.58	13,080	7,586	0	0	0	0	0	0	0
44		PVCSWA/PVC-0.5KV 5*2.5	KM	0.88	11,250	9,900	0	0	0	0	0	0	0
45		PVCSWA/PVC-0.5KV 4*1.5	KM	1.45	9,890	14,341	0	0	0	0	0	0	0
46		PVCSWA/PVC-0.5KV 2P*1	KM	1.32	12,105	15,979	0	0	0	0	0	0	0
47		PVC 2.5	KM	22.04	1,040	22,922	0	0	0	0	0	0	0
48		Optic fiber cable OGLAP-CMZE 1C	KM	7.6	47,792	363,219	0	0	0	0	0	0	0
49		SYV-75-5-2	KM	1.25	7,600	9,500	0	0	0	0	0	0	0
50		RVP-3*0.2	KM	1.25	5,700	7,125	0	0	0	0	0	0	0
51		RVP-7*0.2	KM	1.25	6,400	8,000	0	0	0	0	0	0	0
52	2-1036	Explosion-proof control station	10set	1	1,500	1,500	18.57	19	9.82	10	8.75	9	0
53		Sleeve Pipe	Kg	20000	5	90,000	0	0	0	0	0	0	0
54						0	0	0	0	0	0	0	0
55						0	0	0	0	0	0	0	0
56						0	0	0	0	0	0	0	0
57						0	0	0	0	0	0	0	0
58						0	0	0	0	0	0	0	0
59						0	0	0	0	0	0	0	0
60		SUM				1,382,831	19	10	9	9	0	0	0

ESTIMATION CONSTRUCTION COST OF EQUIPMENT FACILITIMES

SHANGHAI PUDONG INTERNATIONAL AIRPORT (FUEL SUPPLY SYSTEM)
PROJECT NAME: POWER SUPPLY AND INSTRUMENT (FUEL STORAGE DEPOT)

NO.	Norm Code	Description of Works	Unit	Qty	Equipment Costs		Installation Work Costs		Including (in Installation Work Costs)									
					Unit VALUE	Total Value	Unit VALUE	Total Value	Expense of Labor	Material expense	Mechanical expense	Total Value						
61		Instrument Equipment				0	0											
62		Computer monitoring system (DCS)*	set	1	25,800,000	25,800,000	0	0	0	0	0	0	0	0	0	0	0	0
63	2-438	Master station for MOV*	set	2	35,000	70,000	80.47	161	43.77	88	12.97	26	23.73	47				
64		ITV System*	set	1	1,300,000	1,300,000	0	0	0	0	0	0	0	0	0	0	0	0
65	10-324	Power box 24V/5A	set	2	2,500	5,000	66.44	133	41.88	84	5.66	11	18.9	38				
66		Flow transmitter			0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	10-199	Turbine Meter 3**	set	2	37,050	74,100	105.21	210	84.47	169	3.41	7	17.33	35				
68	10-199	Turbine Meter 6**	set	10	54,100	541,000	105.21	1,052	84.47	845	3.41	34	17.33	173				
69	10-199	Turbine Meter 8**	set	1	78,990	78,990	105.21	105	84.47	84	3.41	3	17.33	17				
70	10-199	Turbine Meter 12**	set	2	145,320	290,640	108.21	216	85.47	171	4.41	9	18.33	37				
71	10-291	Pressure transmitter	set	16	11,000	176,000	57.33	917	37.38	598	0.98	16	18.97	304				
72		Hand held brain terminal	set	1	10,000	10,000	0	0	0	0	0	0	0	0	0	0	0	0
73	10-187	Pressure gauge Y-100 0-1.6MPa	set	2	250	500	8.65	17	5.92	12	1.79	4	0.94	2				
74	10-187	Pressure gauge Y-100 0-5.4MPa	set	1	500	500	8.65	9	5.92	6	1.79	2	0.94	1				
75	10-187	Vacuum pressure gauge YZ-100	set	21	300	6,300	8.65	182	5.92	124	1.79	38	0.94	20				
76	10-485	Multi-function needle valve for PG	set	38	250	9,500	22.75	865	12.54	477	4.34	165	5.87	223				
77		Integrative temperature transmitter			0	0	0	0	0	0	0	0	0	0	0	0	0	0
78	10-290	with RTD P100 I=250mm	set	1	1,400	1,400	57.33	57	37.38	37	0.98	1	18.97	19				
79	10-290	P100 I=450mm	set	2	1,800	3,600	57.33	115	37.38	75	0.98	2	18.97	38				
80	10-226	Explosion-proof float level controller	set	14	1,800	25,200	19.79	277	10.65	149	3.79	53	5.35	75				
81	10-224	Glass level meter L=1400mm	set	6	7,850	47,100	17.68	106	10.53	63	7.15	43	0	0				
82	10-224	Glass level meter L=800mm	set	6	4,500	27,000	17.68	106	10.53	63	7.15	43	0	0				
83	10-233	Radar level meter for dome-roof tank*	set	6	110,000	660,000	252.2	1,513	152.61	916	68.64	412	30.95	186				
84	10-183	Multi-point average temperature meter*	set	6	32,000	192,000	23.93	144	22	132	1.93	12	0	0				
85		Date collection unit of level controller*	set	6	28,000	168,000	0	0	0	0	0	0	0	0	0	0	0	0
86		Explosion-proof junction box for level meter	set	19	2,700	51,300	0	0	0	0	0	0	0	0	0	0	0	0
87		Connection unit for level meter	set	1	29,000	29,000	0	0	0	0	0	0	0	0	0	0	0	0
89		Level measure software package	set	1	11,000	11,000	0	0	0	0	0	0	0	0	0	0	0	0
90		SUM				29,677,130		6,185		4,992		879		1,214				

ESTIMATION CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT (FUEL SUPPLY SYSTEM)
PROJECT NAME: POWER SUPPLY AND INSTRUMENT (FUEL STORAGE DEPOT)

NO.	Norm Code	Description of Works	Unit	Qty	Equipment Costs		Installation Work Costs		Expense of Labor		Material expense		Mechanical expense	
					Unit VALUE	Total Value	Unit VALUE	Total Value	Unit VALUE	Total Value	Unit VALUE	Total Value	Unit VALUE	Total Value
91		Level computer display system*	set	1	230,000	230,000	0	0	0	0	0	0	0	0
92		Explosion-proof electric actuator for MOV				0	0	0	0	0	0	0	0	0
93	10-116	EX DN500	set	18	15,000	270,000	120.7	2,173	86.24	1,552	10.35	186	24.11	434
94	10-116	EX DN600	set	2	18,000	36,000	120.7	241	86.24	172	10.35	21	24.11	48
95	22-195	Fire alarm panel	set	4	12,000	48,000	396.71	1,587	141.67	567	193.45	774	61.59	246
96	10-314	Vale controller	set	30	800	24,000	44.38	1,331	28.98	869	0.92	28	14.48	434
97	10-116	Electric actuator for MOV*	set	30	55,000	1,650,000	362.1	10,863	86.24	2,587	10.35	311	24.11	723
98	10-314	Control board for pump control valve*	set	7	92,000	644,000	133.14	932	28.98	203	0.92	6	14.48	101
99	10-136	Fire alarm push button box	set	4	500	2,000	547.32	2,189	358.09	1,432	8.67	35	180.56	722
100						0	0	0	0	0	0	0	0	0
101						0	0	0	0	0	0	0	0	0
102						0	0	0	0	0	0	0	0	0
103						0	0	0	0	0	0	0	0	0
104						0	0	0	0	0	0	0	0	0
105						0	0	0	0	0	0	0	0	0
106						0	0	0	0	0	0	0	0	0
107						0	0	0	0	0	0	0	0	0
108						0	0	0	0	0	0	0	0	0
109						0	0	0	0	0	0	0	0	0
110						0	0	0	0	0	0	0	0	0
111						0	0	0	0	0	0	0	0	0
112						0	0	0	0	0	0	0	0	0
113						0	0	0	0	0	0	0	0	0
114						0	0	0	0	0	0	0	0	0
115						0	0	0	0	0	0	0	0	0
116						0	0	0	0	0	0	0	0	0
117						0	0	0	0	0	0	0	0	0
118						0	0	0	0	0	0	0	0	0
119		SUM				2,904,000	19,317		7,383		1,360		2,710	
120		TOTAL				45,718,451	184,379		98,412		60,704		17,078	

ESTIMATION CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT (FUEL SUPPLY SYSTEM)

PROJECT NAME: POWER SUPPLY AND INSTRUMENT (FUEL STORAGE DEPOT)

A	NORMAL DIRECT EXPENSE		184,379
B	EXPENSE OF LABOR	0.0	98,412
C	OTHER DIRECT EXPENSE	Bx23%	22,635
D	SUB-TOTAL OF DIRECT EXPENSE	A+C	207,014
E	COMBINED INDIRECT EXPENSE	Bx180%	177,142
F	PROFIT	Bx65%	63,968
G	INITIAL EXPENSE	Dx3%	6,210
H	ADJUSTMENT FOR EXPENSE OF LABOUR	E/1.83x2.4	19,965
I	SUBSIDY FOR CHANGE OF CONSTRUCTION SITE	E/1.83x2.5	20,797
J	MATERIAL AGIO	MATERIAL COST SUM x 66%	40,065
K	MECHANICAL AGIO	MECHANICAL COST SUM x 97%	16,566
L	EQUIPMENT COST		45,718,451
M	EQUIPMENT TRANSPORTATION COST	Lx3%	1,371,554
N	TOTAL	D+E+F+G+H+I+J+K+L+M	47,641,731
O	ESTABLISHMENT CHARGE OF NORM COMPILATION	Dx0.5%	104
P	ENGINEERING QUALITY SUPERVISION COST	Nx1.5%	71,463
Q	MANAGEMENT COST	Nx1.5%	71,463
R	TAX AND DUTIES	(N+O+P+Q)3.41%	1,629,460
S	CONSTRUCTION COST	N+O+P+Q+R	49,414,220



FUEL SUPPLY DEPOT

Table of Cost Estimates For Equipment & Installation Engineering

Shanghai Pudong International Airport Project Fuel Supply System

Unit: RMB Yuan

Page 1

Item No.	Target number	Title of equipment material or fee	unit amount	Weight(t)		Price					Total cost				
				unit weight	Total weight	Purchase of equipment	Installation engineering	Main material	Construction	Labor fee in construction	Purchase of equipment	Installation engineering	Main material	Construction	Labor fee in construction
Fuel Supply Depot															
1		Process pipeline													
1-1	3-2001	X52 Seamed pipe Dg200	m	100	0.063	6.30		11,572	10,087	1,485	470	72,904	63,548	9355.5	2,961
1-2	3-2001	X52 Seamed pipe Dg250	m	55	0.046	2.53		10,356	8,871	1,485	470	26,201	22,444	3757.05	1,189
1-3	3-2001	X52 Seamed pipe Dg200	m	100	0.032	3.20		11,912	10,427	1,485	470	38,118	33,366	4752	1,504
1-4	3-2001	X52 Seamed pipe Dg150	m	95	0.019	1.81		9,074	7,589	1,485	470	16,379	13,698	2680.425	888
1-5	3-2001	20" Seamless steel pipe Dg100	m	10	0.010	0.10		9,074	7,589	1,485	470	907	759	148.5	47
1-6	3-2001	20" Seamless steel pipe Dg80	m	45	0.009	0.41		9,074	7,589	1,485	470	3,675	3,074	601.425	190
1-7	3-2001	20" Seamless steel pipe Dg50	m	10	0.005	0.05		9,074	7,589	1,485	470	454	379	74.25	24
1-8	3-2001	20" Seamless steel pipe Dg30	m	85	0.002	0.17		9,422	7,937	1,485	470	1,602	1,349	252.45	80
1-9	3-2001	20" Seamless steel pipe Dg:5	m	20	0.001	0.02		9,422	7,937	1,485	470	188	159	29.7	9
		Sub-total										160,428	136,776	21,651	6,853
2		Valve													
2-1	3-4003	Gate valve Pg16 Dg200	set	7				16		16	5	112	64,540	112	35
2-2	3-4003	Gate valve Pg16 Dg150	set	10				16		16	5	160	55,400	160	50
2-3	3-4003	Globe valve Pg16 Dg200	set	8				16		16	5	128	71,200	128	40
2-4	3-4003	Globe valve Pg16 Dg150	set	4				16		16	5	64	33,200	64	20

Table of Cost Estimates For Equipment & Installation Engineering

Shanghai Pudong International Airport Project Fuel Supply System

Unit: RMB Yuan

Page 2

Item No.	Target No.	Title of equipment material or fee	unit amount	Weight(t)		Price						Total cost						
				unit	weight	Purchase of equipment	Installation engineering	Including(in installation engineering)		Installation engineering	Purchase of equipment	Material	Including(in installation engineering)					
								weight	weight				Main material	Construction	Labor fee in construction	Main material	Construction	Labor fee in construction
2-5	3-4003	Globe valve Pg16 Dg100	set	1		6,820	16					16	6,820		16	5		
2-6	3-4003	Globe valve Pg16 Dg80	set	1		5,200	16					16	5,200		16	5		
2-7	3-4003	Ball valve Pg16 Dg25	set	8		3,780	16					128	30,240		128	40		
2-8	3-4003	Needle valve Pg16 Dg15	set	7		206	16					112	1,442		112	35		
2-9	3-4003	Check valve Pg16 Dg200	set	4		7,280	16					64	29,120		64	20		
		Sub-total										800	297,162	0	800	250		
3		Filter																
3-1	1-1091	Filter separator Q=120M ³ /h	set	2		238,095	1,500					1,500	476,190		3,000	900		
3-2	1-1091	Pre-filter Q=120M ³ /h	set	2		22,500	500					500	45,000		1,000	300		
3-3	4-1151	Breather Valve	set	4			2212					12	0		48	16		
		Sub-total											521,190		12,948	1,216		
4		Tank																
4-1		25M ³ Drum tank	set	1	2.85		7,648					1,348	6,300		21,774	17,936	3,838	1,014
5		Tank Accessories																
5-1		Manhole Dg600	set	1			2,275					75	0		2,275	2,200	75	13
5-2		T type gauge cap Dg100	set	1		150	8					8	150		8	0	8	3
		Sub-total											150		2,283	2,200	83	16

Table of Cost Estimates For Equipment & Installation Engineering

Shanghai Pudong International Airport Project Fuel Supply System

Unit: RMB Yuan

Page 3

Item No.	Target number	Title of equipment material or fee	unit amount	Weight(t)		Price				Total cost								
				unit weight	Total weight	Purchase of equipment	Installation engineering	Main material	Construction	Labor fee in construction	Installation engineering	Main material	Construction	Labor fee in construction				
6		Equipment																
6-1	3-42113	Hose connection	set 2			600	16		1,200		32	0						
6-2		Refueling hose	set 4			890			3,560		0	0						
6-3	2-1045	Unit valve	set 4			2,210	170		8,840		680	0						
6-4	1-1181	Hydrant pit box	set 1			4,400	250	100	4,400		250	100						
6-5	2-1045	Hydrant trip valve	set 1			5,000	170		5,000		170	0						
6-6	3-42113	4" API base coupler	set 4			600	16		2,400		64	0						
6-7		4" refueling hose	set 1			890			890		0	0						
6-8		Hand pump	set 1			1,200			1,200		0	0						
		Sub-total							27,450		1,196	100						355
7		Airport equipment																
7-1	2-1045	Pressure regulator Dg150	set 1			2,254 US\$	170		2,254 US\$		170							
7-2	3-42113	Surge absorber	set 1			500 US\$	16		500 US\$		16							
7-3	2-1045	Hydrant valve API	set 1			17,190 US\$	510		17,190 US\$		510							
7-5	3-42113	Millipore sampler	set 2			236 US\$	16		472 US\$		32							
		Sub-total \$							18,162 US\$		728	0						215
		US\$/RMB Yuan=1:7.3							150,745									

Table of Cost Estimates For Equipment & Installation Engineering

Item No.		Target	Title of equipment material or fee	unit amount	Weight(t)		Price				Total cost								
					unit weight	Total weight	Purchase of equipment	Installation engineering		including(in installation engineering)		Installation engineering	Main material	Labor fee in construction	Construction	Labor fee in construction			
								unit weight	weight	Main material	Labor fee in construction						Material	Labor fee in construction	
			Importing equipment extra charge 0.51757																
			Grand-total																
			Section-1 to Section-7 total																
			Expenses with no adjustment																
			Pipe corrosion prevention																
1			Pipe internal surface:Q36 four layers	m ²	620				75										
2			Under ground pipe external surface:	m ²	657				143										
			Fusion bonded epoxy power coating																
3			Above ground pipe external surface:	m ²	88				75										
			Chlorosulfonation polyethylene four layers																
			Sub-total																
			Tank corrosion prevention																
1			Tank internal surface:Q36 four layers	m ²	55				75										
2			Tank external surface:fusion bonded epoxy power coating	m ²	55				143										
			Sub-total																
			Grand-total																

Shanghai Pudong International Airport Project Fuel Supply System

Unit: RMB Yuan

Table of Cost Estimates For Equipment & Installation Engineering

Unit: RMB Yuan

Shanghai Pudong International Airport Project Fuel Supply System

Item No.	Target number	Title of equipment material or fee	unit amount	Weight(t)		Price				Total cost								
				unit weight	Total weight	Purchase of equipment	Installation engineering	Including(in installation engineering)		Installation engineering	Material	Including(in installation engineering)						
								Main material	Construction				Labor fee in construction					
		Vehicles																
1		Import Refueler 47M ³ USS:RMBYuan=1:8.3	No 4			679,518	2,718,072	2,718,072										
2		Import 1000CPM service USS:RMBYuan=1:8.3	No 6			5,639,999	2,082,000	2,082,000										
3		Local-built Servicer	No 6			1,250,000	7,500,000	7,500,000										
4		Local-built Refueler 47M ³	No 3			1,850,000	5,550,000	5,550,000										
5		Multipurpose Vehicle	No 2			400,000	800,000	800,000										
6		10M ³ Tank rally	No 2			141,000	282,000	282,000										
7		10M ³ transport truck	No 1			132,000	132,000	132,000										
8		Truck for pumping oil	No 1			300,000	300,000	300,000										
9		Cleaning Vehicle	No 1			2,500,000	2,500,000	2,500,000										
		Sub-total							(Include 301,205 US\$)									
		Grand-total							(Include 5,101,277 US\$)									
									(Include 5,101,277 US\$)									

Table of Cost Estimates For Equipment & Installation Engineering

Shanghai Pudong International Airport Project Fuel Supply System

Unit: RMB Yuan

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Item No.	Title of equipment material or fee	unit amount	Weight(t)		Purchase of equipment	Price				Total cost			
			unit	Total weight		Installation engineering	including (in installation engineering)		Installation engineering	including (in installation engineering)			
							Main material	Construction		Main material	Construction	Labor fee in construction	
1	Normal direct expense				1,074,782					200,056	167,812	32,244	9,918
2	Equipment transportation cost	0.07		Equipment cost*7%	75,235								
3	Adjustment fare for expense of labour	2.60		labor fee*260%						25,787		25,787	25,787
4	Adjustment fare for minor material and machinery	1.36		(Construction-labour fee)*136%						30,363		30,363	
5	Sub-total			Installation engineering*(3)+(4)						256,207	167,812	88,394	35,705
6	Out-of-pocket expense	0.05		(5)*5%						12810			
7	Total			(5)+(6)						269,017			
8	Other direct expense	0.1684		(5) labors *16.84%						6,013			
9	Expense of labour in 8	0.0498		(5) labors *4.98%						1,778			1,778
10	Adjustment fare for expense of labour in 8	2.60		(9)*260%						4,623			4,623
11	Sub-Total of direct expense			(7)+(8)+(9)+(10)						281,431			42,107
12	Combined expense	1.827		(Direct fare+Other direct fare) labour fee*102.7%						68,507			
13	Total			(11)+(12)	1,150,017					349,938			
14	Engineering supervision cost of quality	0.0015		(13)*0.15%						2,250			
15	Administrative management cost	0.0015		(13)*0.16%						2,250			
16	Total			(13)+(14)+(15)	1,150,017					354,438			
17	Tax and Duties	0.0341		(16)*3.41%						51,302			
18	Engineering cost including tax			(16)+(17)						1,553,757			
19	Expenses with no adjustment									57,063,639			
20	Equipment engineering cost of Fuel Supply Depot			(18)+(19)						58,619,396			(include 5,119,439 US\$)

Estimated Total Quantity

Shanghai Pudong International Airport Project (Fuel Supply System)
Fuel Supply Depot (Plot Plan)

序 号	定 编 号	额 号	名 称	数 量	单 价	合 价	其中						主 材 价 差	工 日	
							人 工 费 (元)		材 料 费 (元)		机 械 费 (元)				定 额 量
							单 价	合 价	单 价	合 价	单 价	合 价			
1			土方工程			8788.00	3400.72		10.86		5376.42				
1.1	S2-1-4		沟渠清淤	3.78	1141.79	4315.97	628.31	2375.01			513.48	1940.95		55.85	211.11
1.2	民航1-19		挖台阶	16.00	53.88	862.08	53.88	862.08						5.72	91.52
1.3	民航1-65		填土夯实	15.51	232.75	3609.95	10.55	163.63	0.70	10.86	221.50	3435.47		1.12	17.37
2			道路及路面			957262.02	105543.93	769914.60			81803.48	349476.05			
2.1	S3-1-11		机械挖路槽土方50CM	52.80	176.61	9225.01	11.70	617.76			164.91	8707.25		1.04	54.91
2.2	S3-1-2		人工挖土方14CM	145.00	50.40	7308.00	50.40	7308.00						4.48	649.60
2.3	S3-1-23		土方运输200M	67.30	426.98	28755.75	122.63	8253.00			304.35	20482.76		10.90	733.57
2.4	S3-1-24		土方运输增加300M	67.30	74.81	5034.71	21.44	1442.91			53.37	3591.80		1.91	128.54
2.5	S3-1-57		维修路槽	96.00	31.66	3039.36	16.09	1544.64			15.57	1494.72		1.43	137.28
2.6	S3-3-28		路面拉毛	90.00	120.42	10837.80	76.51	6885.90	10.01	900.90	33.90	3051.00		6.44	579.60
2.7	S3-3-68		C30混凝土路面24CM	90.00	5092.65	458338.50	547.56	49280.40	4314.49	385304.10	230.60	20754.00	210150.16	46.72	4204.80
2.8	S3-3-69		C30混凝土路面增2CM	90.00	389.12	35020.80	37.26	3353.40	334.32	30088.80	17.54	1578.60	17507.70	1.59	143.10
2.9	民航1-205		2CM石屑拟平层	96.00	76.97	7389.12	6.59	632.64	63.21	6068.16	7.17	688.32		0.70	67.20
2.10	民航1-175,176换		18CM水泥石灰砂浆稳定层	96.00	2661.19	255474.24	138.52	13297.92	2347.48	225358.08	175.19	16818.24	42147.71	12.14	1165.44
2.11	S3-2-24		19CM二次稳定碎石	96.00	1191.77	114409.92	116.84	11216.64	1034.88	99348.48	40.05	3844.80	66428.24	10.24	983.04
2.12	S3-2-27		二次稳定碎石增加3CM	96.00	232.80	22348.80	17.82	1710.72	206.73	19846.08	8.25	792.00	13242.24	0.52	49.92
3	建15-70		围墙	11.80	7502.53	88529.85	1521.16	17949.69	5885.55	69449.49	95.84	1130.91			
4	综5025		铁栅栏门	52.00	167.55	8712.60	12.92	671.84	140.18	7289.36			2679.04		
5	估		站内绿化	35.00	4000.00	140000.00									
6			合计			1194504.47							352155.09		
7			零星工程(合计*5%)			59725.223							17607.755		
8			定额直接费合计			1254229.69							369762.84		

ESTIMATED TOTAL QUANTITY

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT (FUEL STORAGE SYSTEM)

FUEL SUPPLY DEPOT (PLOT PLAN)

UNIT : RMB YUAN

NO.	ITEM	FORMULA	COST
(1)	DIRECT EXPENSE		1254229.69
(2)	OTHER DIRECT EXPENSE	(1) × 4.87%	61080.99
(3)	SUB-TOTAL OF DIRECT EXPENSE	(1)+(2)	1315310.68
(4)	COMBINED INDIRECT EXPENSE	(3) × 7.9%	103909.54
(5)	TOTAL	(3)+(4)	1419220.22
(6)	PROFIT	(5) × 5%	70961.01
(7)	INITIAL EXPENSE	(3) × 3%	39459.32
(8)	COMPENSATION FOR MATERIAL		369762.84
(9)	TOTAL	(5)+(6)+(7)+(8)	1899403.39
(10)	OTHER EXPENSE		6881.99
	ESTABLISHMENT CHARGE OF NORM COMPIATION	(3) × 0.09%	1183.78
	ENGINEERING QUALITY SUPERVISION COST	(9) × 0.15%	2849.11
	MANAGEMENT COST	(9) × 0.15%	2849.11
(11)	TAX AND DUTIES	((9)+(10)) × 3.41%	65004.33
(12)	CONSTRUCTION COST	(9)+(10)+(11)	1971289.71

ESTIMATION FOR CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT FUEL SUPPLY SYSTEM

Fuel Supply Depot--Servicer & Refueler Parking (Water Supply and Fire Fighting)

A.	NORMAL DIRECT EXPENSE	4685.55
B.	EXPENSE OF LABOR	461.98
C.	OTHER DIRECT EXPENSE	106.25
D.	SUB-TOTAL OF DIRECT EXPENSE	4791.80
E.	COMBINED INDIRECT EXPENSE	831.56
F.	PROFIT	300.28
G.	INITIAL EXPENSE	143.75
H.	ADJUSTMENT FOR EXPENSE OF LABOUR	93.72
I.	SUBSIDY FOR CHANGE OF CONSTRUCTION SITE	97.63
J.	MATERIAL AGIO	1275.87
K.	MECHANICAL AGIO	17.78
L.	EQUIPMENT COST	1970.00
M.	EQUIPMENT TRANSPORTION COST	59.10
N.	TOTAL	9581.50
O.	ESTABLISHMENT CHARGE OF NORM COMPILATION	2.40
P.	ENGINEERING QUALITY SUPERVISION COST	14.37
Q.	MANAGEMENT COST	14.37
R.	TAX AND DUTIES	301.84
S.	CONSTRUCTION COST	9914.48

$$(B) \times 23\%$$

$$(A) + (C)$$

$$(B) \times 180\%$$

$$(B) \times 65\%$$

$$(D) \times 3\%$$

$$(B) \div 1.83 \times 2.4$$

$$(B) \div 1.83 \times 2.5$$

$$\text{MATERIAL COST SUM} \times 80\%$$

$$\text{MECHANICAL COST SUM} \times 116\%$$

$$(L) \times 3\%$$

$$(D) + (E) + \dots + (L) + (M)$$

$$(D) \times 0.5\%$$

$$(N) \times 1.5\%$$

$$(N) \times 1.5\%$$

$$[(N) + (O) + (P) + (Q)] \times 3.41\%$$

$$(N) + (O) + (P) + (Q) + (R)$$

TABLE OF COST ESTIMATES FOR EQUIPMENT INSTALLATION ENGINEERING

Shanghai Pudong International Airport Project Fuel Supply System
 Fuel Supply Depot --- Servicer & Refueler Parking (Water Supply and Fire Fighting)

序号	定额编号	设备及安装工程名称	单位	数量	设备费 (元)		安装费 (元)		共		中		未		料				
					单价	合价	单价	合价	人工费 (元)	材料费 (元)	机械费 (元)	名称	单位	总量		单价	总价		
1	24-32	镀锌钢管	10米	3	0.00	0.00	137.79	413.37	54.91	164.73	77.85	233.55	5.03	15.09	镀锌管	米	30.00	17.00	510.00
2	24-20	截止阀	个	2	100.00	200.00	4.30	8.60	3.55	7.10	0.63	1.26	0.12	0.24					
3	24-87	水龙头	10个	0.1	200.00	20.00	4.14	0.41	3.51	0.35	0.63	0.06							
4	24-103	地漏	10个	0.3	500.00	150.00	163.47	49.04	21.18	6.35	142.29	42.69							
5	24-104	清扫口	10个	0.1	500.00	50.00	72.14	7.21	14.79	1.48	57.35	5.74							
6	24-88	碟式大便器	10组	0.2	3000.00	600.00	470.00	94.00	108.24	21.65	362.74	72.55							
7	24-93	柱式小便斗	10组	0.2	1500.00	300.00	1780.51	356.10	87.54	17.51	1692.97	338.59							
8	24-71	洗面盆	10组	0.2	2500.00	500.00	855.71	171.14	58.44	11.69	797.27	159.45							
9	24-102	污水池	10组	0.1	1500.00	150.00	163.47	16.35	21.18	2.12	142.29	14.23							
10	24-37	排水铸铁管	10米	4		0.00	238.93	955.72	57.25	229.00	181.68	726.72			排水铸铁管	米	40.00	50.00	2000.00
		合计:				1970.00		2071.95		461.98	1594.84	15.33							2510.00
		零星工程费:						103.60											

ESTIMATION FOR CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT FUEL SUPPLY SYSTEM
FUEL SUPPLY DEPOT—OUTDOOR WATER SUPPLY AND DRAINAGE

A.	NOMINAL DIRECT EXPENSE	115660
B.	EXPENSE OF LABOR	16779
C.	OTHER DIRECT EXPENSE	3859
D.	SUB-TOTAL OF DIRECT EXPENSE	119519
E.	COMBINED INDIRECT EXPENSE	30202
F.	PROFIT	10906
G.	INITIAL EXPENSE	3586
H.	ADJUSTMENT FOR EXPENSE OF LABOUR	3404
I.	SUBSIDY FOR CHANGE OF CONSTRUCTION SITE	3546
J.	MATERIAL AGIO	74261
K.	MECHANICAL AGIO	2171
L.	EQUIPMENT COST	6500
M.	EQUIPMENT TRANSPORTION COST	195
N.	TOTAL	254291
O.	ESTABLISHMENT CHARGE OF NORM COMPILATION	60
P.	ENGINEERING QUALITY SUPERVISION COST	381
Q.	MANAGEMENT COST	381
R.	TAX AND DUTIES	8011
S.	CONSTRUCTION COST	263124

	(B) X 23%	
	(A) + (C)	
	(B) X 180%	
	(B) X 65%	
	(D) X 3%	
	(B) ÷ 1.83 X 2.4	
	(B) ÷ 1.83 X 2.5	
	Material Cost SUM X 80%	
	Mechanical Cost SUM X 116%	
	(L) X 3%	
	(D) + (E) + ... + (L) + (M)	
	(D) X 0.5%	
	(N) X 1.5%	
	(N) X 1.5%	
	[(N) + (O) + (P) + (Q)] X 3.41%	
	(N) + (O) + (P) + (Q) + (R)	

TABLE OF COST ESTIMATES FOR EQUIPMENT INSTALLATION ENGINEERING

**Shanghai Pudong International Airport Project Fuel Supply System
Fuel Supply Depot — Outdoor (Water Supply and Fire Fighting)**

NO.	Name of equipment installation engineering	Unit	Amount	Cost for equipment (RMB yen)		Cost for installation (RMB yen)		Among				Not including material				
				Price	Total cost	Price	Total cost	Labor fee (RMB yen)	Material fee (RMB yen)	Machine fee (RMB yen)	Name	Unit	Amount	Price	Total cost	
室外给排水消防部分:																
1	Galvanized steel pipe	10m	6.0		246.01	1476.06	121.77	730.62		89.17	535	35.07	210			
2	Cast iron pipe for water supply Dg80	10m	6.5		246.01	1599.07	121.77	791.51		89.17	580	35.07	228			
3	Cast iron pipe for water supply Dg100	10m	9.0		246.01	2214.09	121.77	1095.93		89.17	803	35.07	316			
4	Cast iron pipe for water supply Dg200	10m	1.5		246.01	369.02	121.77	182.66		89.17	134	35.07	53			
5	Ferrocconcrete pipe for drainage Dg300	10m	20.0		246.01	4920.20	121.77	2435.40		89.17	1783	35.07	701			
6	Ferrocconcrete pipe for drainage Dg400	10m	10.0		246.01	2460.10	121.77	1217.70		89.17	892	35.07	351			
7	Gate valve Dg25	ea.	1.0	200.00	128.05	128.05	74.02	74.02	8.47	8.47	8.47	45.56	45.56			
8	Gate valve Dg80	ea.	5.0	100.00	4.30	21.50	3.55	17.75	0.63	3.15	0.12	0.60	0.60			
9	Fire hydrant SS100	set	2.0	1500.00	122.54	245.08	15.54	31.08	107.00	214.00			0.00			
10	Well for water supply Dg1000	"	5.0	0.00	1620.00	8100.00	327.65	1638.25	1292.59	6462.95			0.00			
11	Well for water supply Dg1200	"	5.0	0.00	1620.00	8100.00	327.65	1638.25	1292.59	6462.95			0.00			
12	Well for water supply Dg1200	"	5.0	0.00	1620.00	8100.00	327.65	1638.25	1292.59	6462.95			0.00			
13	Drainage well Dg1000	set	9.0	0.00	1620.00	14580.00	327.65	2948.85	1292.59	11633.31			0.00			
14	Well for water indicator	"	2.0	500.00	3938.83	7877.66	412.26	824.52	3393.80	6787.60	133.01	266.02	266.02			
15	Storm water inlet	set	7.0		7137.36	49961.52	216.33	1514.31	4500.00	31500.00			0.00			
16	Water indicator LXL type	ea.	1.0	800												
17	Water indicator LXL type	ea.	1.0	1000												
						2762.92										
Total					0.00	65000.00	110152.34	16779.09	74261.39				2170.89			
Out of Packing							5507.62									
							115659.96									

ESTIMATION FOR CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT FUEL SUPPLY SYSTEM

Fuel Supply Depot--Office Building (Water Supply and Fire Fighting)

A.	NORMAL DIRECT EXPENSE		24735.54
B.	EXPENSE OF LABOR		2713.35
C.	OTHER DIRECT EXPENSE	(B) X 2.3%	624.07
D.	SUB-TOTAL OF DIRECT EXPENSE	(A) + (C)	25359.61
E.	COMBINED INDIRECT EXPENSE	(B) X 1.80%	4894.03
F.	PROFIT	(B) X 6.5%	1763.68
G.	INITIAL EXPENSE	(D) X 3%	760.79
H.	ADJUSTMENT FOR EXPENSE OF LABOUR	(B) ÷ 1.83 X 2.4	550.47
I.	SUBSIDY FOR CHANGE OF CONSTRUCTION SITE	(B) ÷ 1.83 X 2.5	573.40
J.	MATERIAL AGIO	MATERIAL COST SUM X 80%	7822.15
K.	MECHANICAL AGIO	MECHANICAL COST SUM X 116%	368.25
L.	EQUIPMENT COST		19770.00
M.	EQUIPMENT TRANSPORTATION COST	(L) X 3%	593.10
N.	TOTAL	(D) + (E) + (G) + (H) + (I) + (J) + (K) + (L) + (M)	62445.48
O.	ESTABLISHMENT CHARGE OF NORM COMPILATION	(D) X 0.5%	12.68
P.	ENGINEERING QUALITY SUPERVISION COST	(N) X 1.5%	93.67
Q.	MANAGEMENT COST	(N) X 1.5%	93.67
R.	TAX AND DUTIES	[(N) + (O) + (P) + (Q)] X 3.41%	1967.07
S.	CONSTRUCTION COST	(N) + (O) + (P) + (Q) + (R)	64612.56

TABLE OF COST ESTIMATES FOR EQUIPMENT INSTALLATION ENGINEERING

Shanghai Pudong International Airport Project Fuel Supply System
 Fuel Supply Depot --Office Building (Water Supply and Fire Fighting)

序号	定数	设备名称	单位	数量	设备费 (元)		安装费 (元)		其		中		材		料	总价			
					单价	合价	单价	合价	人工费 (元)	材料费 (元)	机械费 (元)	名称	单位	总量			单价		
		办公楼																	
1	24-32	镀锌钢管	10米	26.5	0.00	0.00	137.79	3651.44	54.91	1455.12	77.85	2063.03	5.03	133.30	镀锌管	米	265.00	17.00	4505.00
2	24-19	阀门	个	4	200.00	800.00	128.05	512.20	74.02	296.08	8.47	33.88	45.56	182.24	型钢	kg	265	7.67	2032.55
3	24-20	截止阀	个	16	100.00	1600.00	4.30	68.80	3.55	56.80	0.63	10.08	0.12	1.92					
4	24-87	水龙头	10个	0.6	200.00	120.00	4.14	2.48	3.51	2.11	0.63	0.38							
5	24-54	室内消火栓	套	6	1500.00	9000.00	496.40	2978.40	12.42	74.52	483.98	2903.88							
6	24-105	地漏	10个	1.2	500.00	600.00	163.47	196.16	21.18	25.42	142.29	170.75							
7	24-104	清扫口	10个	0.6	500.00	300.00	72.14	43.28	14.79	8.87	57.35	34.41							
8	24-88	蹲式大便器	10组	0.9	3000.00	2700.00	470.00	423.00	108.24	97.42	362.74	326.47							
9	24-93	柱式小便斗	10组	0.9	1500.00	1350.00	1780.51	1602.46	87.54	78.79	1692.97	1523.67							
10	24-71	洗面盆	10组	1.2	2500.00	3000.00	855.71	1026.85	58.44	70.13	797.27	956.72							
11	24-102	污水池	10组	0.2	1500.00	300.00	163.47	32.69	21.18	4.24	142.29	28.46							
12	24-37	排水铸铁管	10米	9.5		0.00	238.93	2269.84	57.25	543.88	181.68	1725.96			排水铸铁管	米	95.00	50.00	4750.00
		合计:				19770.00		12807.61		2713.35		9777.68		317.46					11287.55
		零星工程费:					640.38												

RECOMBINATION CONSTRUCTION COST OF EQUIPMENT INSTALLATION

SHANGHAI PUDONG INTERNATIONAL AIRPORT FUEL SUPPLY SYSTEM
FUEL SUPPLY DEPOT (AIR-CONDITION)

(1)	Nominal Direct Expense		18,542
(2)	Expense of Labor		6,636
(3)	Other Direct Construction Cost	(2) X 23%	1,526
(4)	Sub-Total of Direct Expense	(1) + (3)	20,068
(5)	Combined Indirect Expense	(2) X 18.0%	11,945
(6)	Profit	(2) X 6.5%	4,313
(7)	Initial expense	(4) X 3%	602
(8)	Adjustment for Expense for Labor	(2) ÷ 1.83 X 2.4	1,346
(9)	Subsidy for Change of Construction Site	(2) ÷ 1.83 X 2.5	1,402
(10)	Material Agio	Material Cost SUM X 8.4%	6,123
(11)	Mechanical Agio	Mechanical Cost SUM X 116%	17,607
(12)	Equipment cost		165,000
(13)	Equipment Transportation Cost	(12) X 3%	4,950
(14)	Total	(4) + (5) + + (12) + (13)	233,367
(15)	Establishment Charge of Norm Compilation	(4) X 0.5%	10
(16)	Engineering Quality Supervision Cost	(14) X 1.5%	350
(17)	Management Cost	(14) X 1.5%	350
(18)	Tax and Duties	[(14) + (15) + (16) + (17)] X 3.41%	7,350
(19)	Construction Cost	(14) + (15) + (16) + (17) + (18)	241,427

ESTIMATION CONSTRUCTION COST OF EQUIPMENT FACILITIES

SIANGHAI PUDONG INTERNATIONAL AIRPORT (FUEL SUPPLY SYSTEM)
PROJECT NAME: POWER SUPPLY AND INSTRUMENT (FUEL SUPPLY DEPOT)

NO.	Norm Code	Description of Works	Unit	Qty	Equipment Costs		Installation Work Costs		Including (in Installation Work Costs)						
					Unit Value	Total Value	Unit Value	Total Value	Expense of Labor		Material expense		Mechanical expense		
									Unit Value	Total Value	Unit Value	Total Value	Unit Value	Total Value	
1		Flow meter			0	0	0	0	0	0	0	0	0	0	0
2	10-199	Type turbine meter 6"	Set	1	54,100	54,100	105.21	105	84.47	84	3.41	3	17.33	0	17
3	10-199	Type turbine meter 4"	Set	2	45,680	91,360	105.21	210	84.47	169	3.41	7	17.33	0	35
4	10-199	Standard flow meter 6"	Set	1	85,100	85,100	105.21	105	84.47	84	3.41	3	17.33	0	17
5	10-187	Boundon pressure gauge Y-1000-1.6Pa	Set	6	250	1,500	8.65	52	5.92	36	1.79	11	0.94	0	6
6	10-485	Needle valve M20*1.5 G1/2 PN 1.6MPa	Set	6	250	1,500	22.75	137	12.54	75	4.34	26	5.87	0	35
7		Control cable PVC/SW/PVC-0.5KV 2*2.5	Km	0.07	3,650	256	0	0	0	0	0	0	0	0	0
8		PVC/SW/PVC-0.5KV 2*1.5	Km	0.1	2,960	296	0	0	0	0	0	0	0	0	0
9		Power cable			0	0	0	0	0	0	0	0	0	0	0
10		PVC/SW/PVC-1KV 3*6*1*4	Km	0.67	15,100	10,117	0	0	0	0	0	0	0	0	0
11		Sleeve Pipe	Kg	1100	5	5,500	0	0	0	0	0	0	0	0	0
12	2-1036	Explosion-proof control station	10Set	0.2	1,500	300	18.57	4	9.82	2	8.75	2	4.44	0	0
13	22-151	Grounding conductor copper 40*4	10m	35	36	1,244	30.1	1,054	16.44	575	9.22	323	4.44	155	
14	22-140	Earth electrode	set	53	200	10,594	148.53	7,872	92.75	4,916	5.13	272	50.65	2,684	
15	22-137	Lightning protection copper Ø8	m	53	36	1,884	43.23	2,291	27.71	1,469	7.45	395	8.07	428	
16	2-438	Power distribution board	Set	2	200,000	400,000	80.47	161	43.77	88	12.97	26	23.73	47	
17	22-83	Fluorescent fitting 2*40W	Set	201	150	30,150	103.76	20,856	40.81	8,203	62.95	12,653	0	0	
18	22-90	Street lighting 4*40W H=5.5m	Set	12	4,000	48,000	383.38	4,601	217.22	2,607	141.36	1,696	24.8	298	
19	22-94	Fixed light 4*100W H=15m	Set	2	60,000	120,000	212.68	425	106.34	213	56.33	113	50.01	100	
20		2-Change receptacle	Set	105	20	2,100	0	0	0	0	0	0	0	0	
21		Flush mounted switch 250V,10A	Set	41	15	615	0	0	0	0	0	0	0	0	
22		Wire cable PVC/SW/PVC-0.5KV 2.5	Km	1.15	1,040	1,196	0	0	0	0	0	0	0	0	
23		PVC/SW/PVC-0.5KV 4	Km	1.1	1,300	1,430	0	0	0	0	0	0	0	0	
24	10-324	Distribution board	Set	1	2,500	2,500	66.44	66	41.88	42	5.66	6	18.9	19	
25															
26															
27															
28															
29						0	0	0	0	0	0	0	0	0	0
30		TOTAL				869,742		37,939		18,562		15,535		3,842	

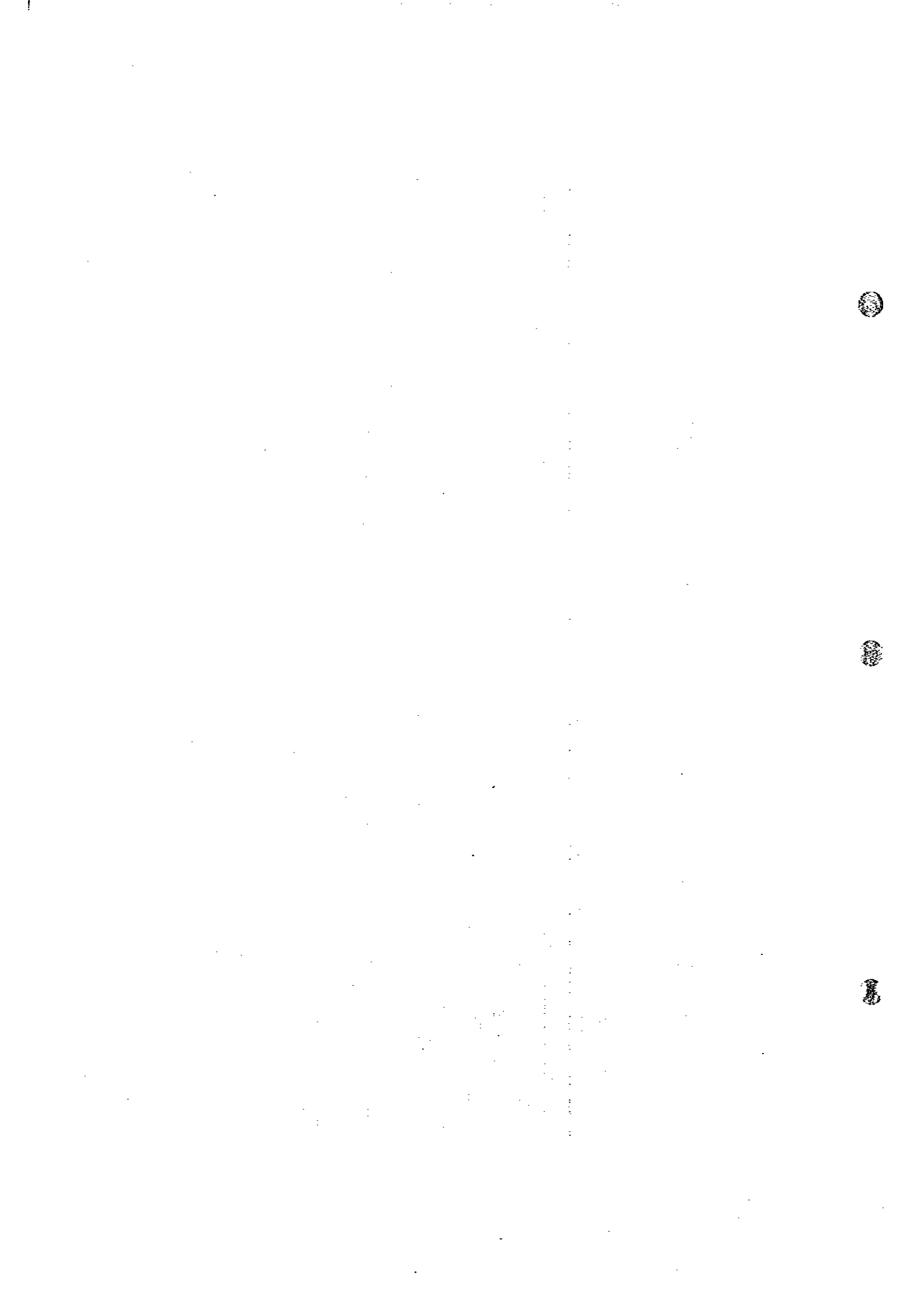
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ESTIMATION CONSTRUCTION COST OF EQUIPMENT FACILITIMES

SHANGHAI PUDONG INTERNATIONAL AIRPORT (FUEL SUPPLY SYSTEM)

PROJECT NAME: POWER SUPPLY AND INSTRUMENT (FUEL SUPPLY DEPOT)

A	NORMAL DIRECT EXPENSE	ii	37,939
B	EXPENSE OF LABOR	0.0	18,562
C	OTHER DIRECT EXPENSE	Bx23%	4,269
D	SUB-TOTAL OF DIRECT EXPENSE	A+C	42,208
E	COMBINED INDIRECT EXPENSE	Bx180%	33,411
F	PROFIT	Bx65%	12,065
G	INITIAL EXPENSE	Dx3%	1,266
H	ADJUSTMENT FOR EXPENSE OF LABOUR	B/1.83x2.4	3,766
I	SUBSIDY FOR CHANGE OF CONSTRUCTION SITE	B/1.83x2.5	3,923
J	MATERIAL AGIO	MATERIAL COST SUM x 66%	10,253
K	MECHANICAL AGIO	MECHANICAL COST SUM x 97%	3,726
L	EQUIPMENT COST		869,742
M	EQUIPMENT TRANSPORTION COST	Lx3%	26,092
N	TOTAL	D+E+F+G+H+I+J+K+L+M	1,006,453
O	ESTABLISHMENT CHARGE OF NORM COMPILATION	Dx0.5%	21
P	ENGINEERING QUALITY SUPERVISION COST	Nx1.5%	1,510
Q	MANAGEMENT COST	Nx1.5%	1,510
R	TAX AND DUTIES	(N+o+P+Q)3.41%	34,424
S	CONSTRUCTION COST	N+O+P+Q+R	1,043,918



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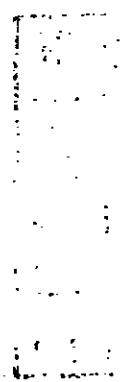
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一九九六年十二月

ESTIMATED TOTAL QUANTITY

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT FUEL SUPPLY SYSTEM
FUEL SUPPLY DEPOT--- OFFICE BUILDING (BUILDING WORKS)

UNIT : RMB YUAN

NO.	ITEM	FORMULA	COST
(1)	DIRECT EXPENSE (BUILDING WORKS)		1,418,872
(2)	OUT-OF-POCKET EXPENSE (BUILDING WORKS)	(1) X 5%	70,944
(3)	OTHER DIRECT EXPENSE (BUILDING WORKS)	((1)+(2)) X 3.5%	52,144
(4)	SUB-TOTAL OF DIRECT EXPENSE	(1)+(2)+(3)	1,541,959
(5)	COMBINED INDIRECT EXPENSE	((1)+(2)+(3)) X 12%	185,035
(6)	TOTAL (BUILDING WORKS)	(1)+(2)+(3)+(5)	1,726,994
(7)	PROFIT	(6) X 9%	155,429
(8)	INITIAL EXPENSE	(4) X 3%	46,259
(9)	ADJUSTMENT EXPENSE OF LABOR	LABOR-DAY X 2.4	33,600
(10)	SUBSIDY FOR CHARGE OF CONSTRUCTION SITE	LABOR-DAY X 2.5	35,000
(11)	COMPENSATION FOR MAIN MATERIAL	TOTAL CONTRACT PRICE FOR MAIN MATERIAL - TOTAL BUDGETARY PRICE FOR MAIN MATERIAL	495,846
(12)	COMPENSATION FOR MACHINE-TEAM	TOTAL BUDGETARY PRICE (96) - TOTAL BUDGETARY PRICE (97)	30,159
(13)	COMPENSATION FOR MINOR MATERIAL	MATERIAL EXPENSE FOR BUILDING WORKS 1.18%+FOR HOISTING X 4.81%+ FOR PILING X 17.25%	13,479
(14)	TOTAL	(6)+(7)+(8)+(9)+(10)+(11)+(12)+(13)	2,536,766
(15)	OTHER EXPENSE	(4) X 0.5% + (14) X 3%	8,381
(16)	TAX AND DUTIES	((14)+(15)) X 3.41%	86,790
(17)	CONSTRUCTION COST	(14)+(15)+(16)	2,631,937

Estimated Total Quantity

Shanghai Pudong International Airport Project (Fuel Supply D
Office Building (Building Works)

编号	名称	工程量	单位	单价	合价	人工数	材料费	主材差	备注
基础、打桩工程									
1041	钢筋独立基础埋深1.5m以内C20	254.9700	立方米	425.9400	108,602	1,670.92	77,580.92	63,270.14	
1166	钢筋基础梁埋深钢筋基础梁C20	66.1100	立方米	557.5500	36,860	342.34	31,161.61	18,540.03	
	小计				145,462	2,013.26	108,751.54	81,819.17	
柱梁工程									
2007	现浇钢筋混凝土(矩形)周长1.8m以内C20	143.0200	立方米	702.6200	100,489	1,147.88	82,205.04	47,811.73	
2020	现浇钢筋混凝土(矩形)C30	189.0300	立方米	615.8100	116,407	1,187.11	95,981.87	57,426.54	
	小计				216,896	2,334.99	178,186.91	105,238.27	
墙身工程									
3012	框架外墙标准砖1砖	971.9300	平方米	43.5200	42,298	953.66	29,604.99	17,925.40	
3038	框架内墙标准砖1砖	2,521.3500	平方米	41.3200	104,182	1,587.44	81,213.54	43,307.46	
3002	标准砖外墙1砖	170.6200	平方米	62.6000	10,681	190.17	7,986.72	4,821.53	
3103	浴厕间壁预埋水磨石间壁育门	18.0000	间	158.2300	2,848	56.21	2,099.70	3,639.05	
3117	铁皮水落管45mm	61.6000	延长米	14.3200	882	11.22	753.37	1,266.43	
3126	女儿墙铸铁出水管φ100	10.0000	个	39.5700	395	3.27	398.10		
3134	钢管双排外脚手架高12m内	1,704.9700	平方米	4.4500	7,587	148.16	5,421.80	2,093.36	
3152	钢管满堂脚手架高3.61-5.80m	2,302.9000	平方米	2.2700	5,112	287.17	1,750.20	669.68	
	小计				173,985	3,237.30	129,288.42	73,722.91	
楼、地、屋面工程									
4096	块料面层花岗岩水泥石浆结合层	135.0700	平方米	402.5600	54,374	96.12	53,110.87	-6,917.30	
4001	平整场地	770.1200	平方米	4.2900	3,304	118.29	1,940.70	1,287.95	
4002	室内回填土室内外高差45cm内	770.1200	平方米	1.8400	1,417	129.61			
4009	垫层细砂垫层1cm厚	770.1200	平方米	0.8900	685	6.85	592.99	410.76	
4011	垫层砼(1cm厚)C15	762.5200	平方米	1.4800	1,129	9.53	1,006.53	714.33	
4020	地面防潮层沥清卷材二毡三油	84.9600	平方米	10.1900	866	5.74	787.58	516.31	
4111	现浇钢筋混凝土板厚10cmC30	2,351.7000	平方米	61.1600	143,830	1,751.31	114,457.24	67,541.76	
4283	砼散水C15	108.9900	平方米	26.7900	2,920	36.75	2,458.81	1,721.99	
425-252	多形涂料天棚抹灰面	1,884.5800	平方米	11.5850	21,833	166.60	19,221.96	855.79	
4325	空帮龙骨天棚墙面石膏板不上人	418.3200	平方米	44.2800	18,523	148.09	16,603.12	1,125.28	
4098	块料面层同原地面砂浆结合层	2,339.7700	平方米	60.8500	142,375	928.65	129,880.63	137,054.60	
4291	地面砼面层C20磨光花岗岩面	27.1200	平方米	779.2000	21,132	56.34	20,349.76	-1,715.14	
4064	找平层水泥石浆2cm厚	1,910.6600	平方米	3.6600	6,993	125.72	5,254.32	3,664.26	

Estimated Total Quantity

Shanghai Pudong International Airport Project (Fuel Supply D)
Office Building (Building Works)

编号	名称	工程量	单位	单价	合价	人工数	材料费	土材差	备注
4060	屋面防潮层三元乙丙丁基橡胶1mm厚	839.6200	平米	31.0700	25,666	42.40	28,936.52	799.15	
4009	垫层填砂厚度1cm厚	1,444.3800	平米	0.8900	1,285	12.85	1,112.17	770.29	
4262	预制钢筋混凝土平盖阳板	17,1600	平米	74.0600	1,271	21.24	900.75	617.63	
4239	现浇钢筋混凝土式楼梯C20向属地碎面	146.4600	平米	229.0600	33,548	624.42	24,549.65	20,993.45	
4271	铁艺栏杆扶手	47.2000	米	116.7800	5,512	38.95	5,000.84	1,199.89	
	小计				489,603	4,319.45	425,254.40	230,640.93	
门窗工程									
5103	银白色铝合金窗框	327.6000	平米	286.9500	97,281	248.03	93,071.16		
5040	深木框三夹板门	168.4800	平米	152.3100	25,661	269.27	23,075.02	644.28	
5073	窗台板预制水磨石	80.7300	平米	35.2700	2,847	91.14	1,751.84	805.48	
5104	银白色铝合金窗固定	59.0400	平米	178.9900	10,568	24.86	10,055.10		
5105	银白色铝合金窗平开	83.1000	平米	251.7100	20,917	63.16	19,846.77		
5088	银白色铝合金玻璃门双扇	15.7600	平米	379.6900	5,984	16.39	5,726.24		
5092	地弹簧	1.0000	副	124.4500	124	0.44	118.99		
	小计				163,382	653.29	153,645.12	1,449.76	
装饰工程									
6044	花岗岩(整价)水泥石浆150*150墙面	539.3500	平米	27.4800	14,821	212.45	12,054.47	26,732.61	
6148	多彩涂料(整价)墙面抹灰面	5,729.8800	平米	11.1700	64,003	402.29	57,126.90	2,601.94	
6049	无釉面砖(整价)水泥石浆95*45墙面	1,244.0500	平米	64.7300	80,527	738.09	70,985.49	2,265.04	
62-147	墙面墙裙饰面(木龙骨夹板基层)五夹板	61.9200	平米	63.8407	3,933	34.64	3,515.01	655.60	
	小计				163,304	1,407.47	143,681.87	32,255.19	
耐酸、防腐、保温隔热工程									
7138	现浇水泥砂浆	37.7800	立米	103.5300	3,911	34.49	3,451.96	877.65	
	小计				3,911	34.49	3,451.96	877.65	
	合计				1,356,543	14,000.25	1,142,260.21	526,003.88	
土方机械进出场费									
	履带式电动挖土机(履斗挖土机)	1.0000	台次	859.0000	859				
	小计				859				
土方及泥浆外运									
	土方运费(浦东及浦西内环线外)	2,049.0000	立米	30.0000	61,470				
	小计				61,470				

ESTIMATED TOTAL QUANTITY

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT FUEL SUPPLY SYSTEM
FUEL SUPPLY DEPOT--- SERVICER & REFUELER PARKING (BUILDING WORKS)

UNIT: RMB YUAN

NO.	ITEM	FORMULA	COST
(1)	DIRECT EXPENSE (BUILDING WORKS)		955,184
(2)	OUT-OF-POCKET EXPENSE (BUILDING WORKS)	(1)×5%	47,759
(3)	OTHER DIRECT EXPENSE (BUILDING WORKS)	((1)+(2))×3.5%	35,103
(4)	SUB-TOTAL OF DIRECT EXPENSE	(1)+(2)+(3)	1,038,046
(5)	COMBINED INDIRECT EXPENSE	((1)+(2)+(3))×12%	124,566
(6)	TOTAL (BUILDING WORKS)	(1)+(2)+(3)+(5)	1,162,612
(7)	PROFIT	(6)×9%	104,635
(8)	INITIAL EXPENSE	(4)×3%	31,141
(9)	ADJUSTMENT EXPENSE OF LABOR	LABOR-DAY×2.4	26,412
(10)	SUBSIDY FOR CHARGE OF CONSTRUCTION SITE	LABOR-DAY×2.5	27,513
(11)	COMPENSATION FOR MAIN MATERIAL	TOTAL CONTRACT PRICE FOR MAIN MATERIAL -TOTAL BUDGETARY PRICE FOR MAIN MATERIAL	304,383
(12)	COMPENSATION FOR MACHINE-TEAM	TOTAL BUDGETARY PRICE (96) -TOTAL BUDGETARY PRICE (93)	24,856
(13)	COMPENSATION FOR MINOR MATERIAL	MATERIAL EXPENSE FOR BUILDING WORKS 1.18%+FOR HOISTING ×4.81%+ FOR PILING ×17.25%	8,726
(14)	TOTAL	(6)+(7)+(8)+(9)+(10)+(11)+(12)+(13)	1,690,278
(15)	OTHER EXPENSE	(4)×0.5%+(14)×3%	5,590
(16)	TAX AND DUTIES	((14)+(15))×3.41%	57,829
(17)	CONSTRUCTION COST	(14)+(15)+(16)	1,753,697

Estimated Total Quantity

Shanghai Pudong International Airport Project (Fuel Supply Dc Servicer & Retailer Parking (Building Works))

编号	名称	工程量	单位	单价	合价	人工数	材料费	主材差	备注
基础、打桩工程									
1003	砼基础标准砖无钢筋防水带	165.1200	立方米	139.5700	23,046	201.28	20,671.37	13,497.37	
1041	砼柱独立基础埋深1.5m以内C20	90.9000	立方米	425.9400	38,718	595.70	27,661.78	22,556.60	
1027	有梁式砼柱带型基础埋深1.5m以内C20	195.7800	立方米	431.2100	84,422	833.16	68,231.29	48,978.83	
	小计			146,186		1,630.14	116,564.44	85,032.80	
柱梁工程									
2007	现浇砼柱(矩形)周长1.8m以内C20	36.4800	立方米	702.6200	25,632	292.79	20,967.97	12,193.30	
2009	现浇砼柱(矩形)周长2.5m以内C20	54.8000	立方米	638.8100	36,103	367.65	30,185.48	17,040.73	
2020	现浇砼梁(矩形)XC30	192.0200	立方米	615.8100	118,266	1,206.07	97,515.31	58,344.00	
2122	无轴面砖柱方柱	391.0000	平方米	82.0700	32,089	426.74	26,658.38	1,547.93	
2113	超3.6m每增3m以内方柱	73.0400	立方米	18.7700	1,371	84.14	389.30	78.01	
2114	超3.6m每增3m以内梁	131.0100	立方米	21.8500	2,863	130.59	1,341.54	392.30	
	小计			216,323		2,507.88	177,057.98	90,198.27	
墙身工程									
3012	框架外墙标准砖1砖	860.8600	平方米	43.5200	37,465	844.68	26,221.80	15,876.93	
3038	框架内墙标准砖1砖	1,785.6900	平方米	41.3200	73,785	1,124.27	57,588.50	30,671.55	
3103	浴厕间坐便器水箱石间壁有门	2.0000	间	158.2200	316	6.25	233.30	404.34	
3116	铁皮水管30cm	41.2000	延长米	10.2900	424	6.15	353.50	584.65	
3126	女儿墙铸铁出水管φ100	8.0000	个	39.5200	316	2.62	286.48		
3134	钢管双排外脚手架高12m内	1,328.2400	平方米	4.4500	5,911	115.42	4,223.80	1,630.81	
3147	砌墙用里脚手架3.6m以上钢管	1,791.3600	平方米	1.1900	2,132	122.71	376.19	373.14	
3152	钢管满堂脚手架高3.61-5.80m	1,908.6000	平方米	2.2200	4,237	238.00	1,450.54	555.02	
	小计			124,586		2,460.10	90,734.11	50,096.44	
楼、地、屋面工程									
4001	平整场地	1,908.6000	平方米	4.2900	8,188	293.16	4,809.67	3,191.94	
4002	室内回填土室内外高差45cm内	1,908.6000	平方米	1.8400	3,512	321.22			
4009	垫层现浇细石砼1cm厚	2,794.7400	平方米	0.8900	2,487	24.87	2,151.95	1,490.43	
4081	整体面层细石砼无筋4cm厚	2,648.7000	平方米	11.0500	29,374	601.78	21,533.93	15,111.10	
4083	整体面层细石砼每增减1cm厚	2,648.7000	平方米	1.8400	4,874	48.74	4,184.95	2,857.42	
4011	垫层砼(1cm厚)XC15	9.4300	平方米	1.4800	14	0.12	12.45	8.83	
4071	整体面层水泥砂浆抗压光2cm	78.0300	平方米	6.2500	488	12.91	324.60	238.87	
4098	块料面层河质地砖水泥砂浆结合层	30.6000	平方米	60.8500	1,862	12.15	1,698.61	1,792.43	

Estimated Total Quantity

Shanghai Pudong International Airport Project (Fuel Supply T) (t)
 Servicer & Refueller Parking (Building Works)

编号	名称	工程量	单位	单价	合价	人工数	材料费	主材差	备注
4020	地面防潮层沥青卷材1.5x2油	17.7300	平米	6.8800	122	0.79	111.17	72.66	
4066	找平层细石砼3cm厚无筋	15.0300	平米	6.1800	93	1.61	71.09	48.64	
4111	现浇砼有梁板厚10cmC20	1,908.6000	平米	61.1600	116,730	1,421.33	92,891.56	54,815.76	
4129	现浇板层高3.0m每增3m	1,908.6000	平米	2.1300	4,065	154.02	2,271.23	557.88	
4276	伸缝地面面层砂浆伸缝	21.6000	米	3.1700	68	1.52	51.19	28.54	
4281	伸缝墙面油灰麻丝嵌缝	10.8000	米	15.2000	164	2.77	132.62	157.14	
4280	伸缝屋面油灰麻丝嵌缝铁皮盖面不靠墙	21.6000	米	51.1500	1,105	23.12	816.05	845.47	
4283	砼散水C15	49.4900	平米	26.7900	1,326	16.69	1,116.49	781.92	
4284	砼散道C15	6.2300	平米	40.0700	250	3.15	210.81	147.69	
4325	多形涂料天棚抹灰面	1,893.5700	平米	11.5850	21,937	167.39	19,313.66	859.87	
4325	空响龙骨天棚纸面石膏板不上人	15.0300	平米	44.2800	666	5.32	596.54	40.43	
4046	屋面防潮层平型屋面板851焦油聚氨酯2.0mm ²	1,908.6000	平米	29.7800	56,838	237.05	53,574.40	5,270.03	
4060	屋面防潮层三元乙丙丁基橡胶1mm厚	1,908.6000	平米	34.0700	65,026	96.38	63,709.07	1,816.61	
4262	预制砼雨篷水平遮阳板	159.4000	平米	74.0600	11,139	186.07	7,894.90	5,413.26	
	小计			330,328	3,632.16		277,476.54	95,546.92	
门窗工程									
5103	银白色铝合金窗推位	17.4000	平米	296.9500	5,167	13.17	4,943.34		
5040	硬木框三夹板门	9.7200	平米	152.3100	1,480	12.07	1,331.25	37.17	
5073	窗台板预制水磨石	3.1400	平米	35.2700	111	3.55	68.14	31.35	
	小计			6,758	6,758	28.79	6,342.73	68.50	
装饰工程									
6044	花瓷砖(差价)水泥砂浆150*150墙面	73.6200	平米	27.4800	2,023	29.00	1,645.41	3,648.94	
6047	无釉面砖(差价)水泥砂浆150*75墙面	991.9400	平米	32.8100	32,546	386.76	27,446.98	1,268.49	
6148	多形涂料墙面抹灰面	3,532.8100	平米	11.1700	39,461	260.37	35,222.12	1,604.25	
	小计			74,030	74,030	676.13	64,314.51	6,521.68	
耐酸、防腐、保温隔热工程									
7138	现浇水泥珍珠岩	76.3400	立米	103.5300	7,903	69.70	6,975.19	1,773.42	
	小计			7,903	7,903	69.70	6,975.19	1,773.42	
合计				906,115	11,004.90		739,465.50	329,238.03	
土方机械进出场费									
	履带式挖土机(斗挖土机)	1.0000	台次	859.0000	859				

Estimated Total Quantity

Shanghai Pudong International Airport Project (Fuel Supply Depot)
 Servicer & Refueller Parking (Building Works)

编号	名称	工程量	单位	单价	合价	人工数	材料费	主材差	备注
	小计				859				
土方及泥浆外运									
	土方运费(浦东及浦西内环线外)	1,607.0000	立方米	30.0000	48,210				
	小计				48,210				

ESTIMATED TOTAL QUANTITY

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT FUEL SUPPLY SYSTEM
 FUEL SUPPLY DEPOT---GUARD (BUILDING WORKS)

UNIT: RMB YUAN

NO.	ITEM	FORMULA	COST
(1)	DIRECT EXPENSE (BUILDING WORKS)		27,701
(2)	OUT-OF-POCKET EXPENSE (BUILDING WORKS)	(1) X 5%	1,385
(3)	OTHER DIRECT EXPENSE (BUILDING WORKS)	((1)+(2)) X 3.5%	1,018
(4)	SUB-TOTAL OF DIRECT EXPENSE	(1)+(2)+(3)	30,104
(5)	COMBINED INDIRECT EXPENSE	((1)+(2)+(3)) X 12%	3,612
(6)	TOTAL (BUILDING WORKS)	(1)+(2)+(3)+(5)	33,717
(7)	PROFIT	(6) X 9%	3,034
(8)	INITIAL EXPENSE	(4) X 3%	903
(9)	ADJUSTMENT EXPENSE OF LABOR	LABOR-DAY X 2.4	614
(10)	SUBSIDY FOR CHARGE OF CONSTRUCTION SITE	LABOR-DAY X 2.5	640
(11)	COMPENSATION FOR MAIN MATERIAL	TOTAL CONTRACT PRICE FOR MAIN MATERIAL -TOTAL BUDGETARY PRICE FOR MAIN MATERIAL	6,830
(12)	COMPENSATION FOR MACHINE-TEAM	TOTAL BUDGETARY PRICE (96) -TOTAL BUDGETARY PRICE (93)	327
(13)	COMPENSATION FOR MINOR MATERIAL	MATERIAL EXPENSE FOR BUILDING WORKS 1.18%+FOR HOISTING X 4.81%+ FOR PILING X 17.25%	268
(14)	TOTAL	(6)+(7)+(8)+(9)+(10)+(11)+(12)+(13)	46,333
(15)	OTHER EXPENSE	(4) X 0.5% + (14) X 3%	154
(16)	TAX AND DUTIES	((14)+(15)) X 3.41%	1,585
(17)	CONSTRUCTION COST	(14)+(15)+(16)	48,072

Estimated Total Quantity

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT (FUEL SUPPLY DEPOT)

Guard (BUILDING WORKS)

编号	名称	工程量	单位	单价	合价	人工数	材料费	主材差	备注
装饰工程									
6049	无釉面砖(带价)水泥砂浆0.5-4.5厚面	85.8000	平米	64.7500	5,554	50.91	4,995.75	156.22	
6148	多彩涂乳胶漆柱面灰浆面	75.3700	平米	11.1700	842	555	751.44	34.23	
	小计				6,396	56.46	5,647.19	190.45	
耐酸、防腐、保温隔热工程									
7138	现浇水泥砂浆层	1.6400	立米	103.5300	170	1.50	149.85	38.10	
	小计				170	1.50	149.85	38.10	
	合计				26,332	256.26	22,687.65	7,156.65	
土方机械进出场费									
	履带式电动挖土机(蟹斗挖土机)	1.0000	台次	859.0000	859				
	小计				859				
土方及泥浆外运									
	土方运费(消东及浦西内环线外)	17.0000	立米	30.0000	510				
	小计				510				

SHANGHAI PUDONG INTERNATIONAL AIRPORT PROJECT (FUE. PPLY DEPOT)
Guard (BUILDING WORKS) Estimated Total Quantity

编号	名称	工程量	单位	单价	合价	人工数	材料费	主材差	备注
基础、打桩工程									
1003	混凝土灌注桩无钢筋桩水等	3.4200	立方米	139.5700	477	4.17	438.15	279.56	
1027	筒式钢筋混凝土桩基础直径1.5m以内C20	4.2800	立方米	431.2100	1,846	18.21	1,491.62	1,070.74	
	小计				2,323	22.38	1,919.77	1,350.30	
柱梁工程									
2111	构造柱(抗震)C20	0.8800	立方米	550.2300	484	4.53	408.58	256.43	
	小计				484	4.53	408.58	256.43	
墙身工程									
3002	标准砖外墙1砖	67.5400	平方米	62.6000	4,228	75.28	3,161.55	1,908.61	
3027	内墙标准砖1砖	11.2500	平方米	55.8500	628	9.13	492.55	291.66	
3117	浆灰水磨石45cm	6.7000	延长米	14.3200	96	1.22	81.94	137.25	
3126	女儿墙等铁出水管φ100	2.0000	个	39.5200	79	0.65	71.62		
3134	钢管顶海外脚手架12m内	107.1400	平方米	4.4500	477	9.31	340.71	131.55	
	小计				5,508	95.59	4,148.35	2,468.91	
楼、地、屋面工程									
4001	平整场地	36.5300	平方米	4.2900	157	5.61	92.06	61.09	
4002	室内回填土室内外高差45cm内	36.5300	平方米	1.8400	67	6.15			
4009	垫层道渣铺浆1cm厚	36.5300	平方米	0.8900	33	0.33	28.13	19.48	
4011	垫层砼(1cm厚)C15	33.2800	平方米	1.4800	49	0.42	43.93	31.18	
4098	块石面层间层地碎水泥砂浆结合层	33.2800	平方米	60.5500	2,023	13.21	1,847.37	1,949.41	
4283	轻散水C15	19.3600	平方米	26.7900	519	6.53	436.76	305.88	
4285	多彩涂布天棚抹灰面	36.5000	平方米	11.5850	423	3.23	372.29	16.57	
4064	找平层水泥砂浆2cm厚	73.0000	平方米	3.6600	267	4.80	200.75	140.00	
4060	屋面防水层三元乙丙丁卷材1mm厚	36.5000	平方米	34.0700	1,244	1.84	1,218.37	34.74	
4262	预制钢筋混凝土水平梁附筑	2.3400	平方米	74.0600	173	2.90	122.83	84.22	
4285	地面砼台阶C20水泥面	4.2800	平方米	59.8400	256	3.83	199.45	146.28	
	小计				5,213	48.85	4,561.94	2,788.85	
门窗工程									
S103	白色铝合金窗框粒	15.7100	平方米	296.9500	4,665	11.89	4,463.21		
S040	硬木框三夹板门	9.7200	平方米	152.3100	1,480	12.07	1,331.25	37.17	
S073	窗台板预制水磨石	2.6500	平方米	35.2700	93	2.99	57.51	26.44	
	小计				6,238	26.95	5,851.97	63.61	



HYDRANT PIPING

Table of Cost Estimates For Equipment & Installation Engineering

Unit: RMB Yuan

Shanghai Pudong International Airport Project Fuel Supply System

Page 1

Item No.	Target	Title of equipment material or fee	unit	amount	Weight(t)		Price				Total cost				
					unit weight	Total weight	Purchase of equipment	Installation engineering	Main material	Construction	Labor fee in construction	Installation engineering	Main material	Construction	Labor fee in construction
Fuel Hydrant Piping															
1		Process pipelines													
1-1	3-2001	X52 Seamed pipe Dg200	m	3,646	0.0700	255.22		10,368	8,883	1,485	470	2,646,121	2,287,119	379,002	119,953
1-2	3-2001	X52 Seamed pipe Dg250	m	2,608	0.0520	135.62		10,356	8,871	1,485	470	1,404,439	1,203,050	201,390	63,740
1-3	3-2001	X52 Seamed pipe Dg150	m	412	0.0230	9.48		9,780	8,295	1,485	470	92,675	78,603	14,072	4,454
1-4	3-2001	S240 Spiral welded pipe Dg700	m	130	0.1730	22.49		9,722	8,237	1,485	470	218,648	185,250	33,398	10,570
1-5	3-2001	S240 Spiral welded pipe Dg600	m	11,104	0.1530	1,698.91		9,722	8,237	1,485	470	16,516,822	13,993,938	2,522,884	798,489
1-6	3-2001	S240 Spiral welded pipe Dg400	m	53	0.0720	2.38		9,722	8,237	1,485	470	23,099	19,571	3,528	1,117
1-7	3-2001	S240 Spiral welded pipe Dg350	m	78	0.0640	4.99		9,722	8,237	1,485	470	48,532	41,119	7,413	2,346
		Sub-total										20,950,337	17,788,651	3,161,687	1,000,669
2 Cathodic Protection System															
2-1		Magnesium anode	set	164			733	550	183	46	120,212	90,200	30,012	7,544	
2-2		Packing: bentonite 55% gypsum 25% mirabilite 20%	kg	24,600			13	10	3	1	319,800	246,000	73,800	24,600	
2-3		Cable	m	1,910			16	12	4	1	30,560	22,920	7,640	1,910	
2-4	1-1091	D147 Dective well	set	14			250	100	150	75.00	61,640	3,500	1,400	2,100	1,050
2-5		Dective pole	set	18							3,600	0	0	0	0

Table of Cost Estimates For Equipment & Installation Engineering

Unit: RMB Yuan Page 2

Item No.	Target number	Title of equipment material or fee	unit amount	Weight(t)		Price				Total cost					
				unit weight	Total weight	Purchase of equipment	Installation engineering	Including(in installation engineering)		Installation engineering	Including(in installation engineering)				
								Main material	Construction		Main material	Construction			
						Purchase of equipment	Installation engineering	Main material	Construction	Main material	Construction	Labor fee in construction			
2-4		Copper-niulfat reference electrode	set	2		200					400	0	0	0	
		Sub-total								65,000	474,072	360,520	112,552	35,104	
3		Facilities for Appro Refuelling													
3-1	2-1091	Cover of refuelling well OD 700	set	16		8,500	100	300	100	100	136,000	1,600	0	1,600	480
3-2	2-1091	Cover of refuelling well OD 400	set	16		3,500	100	300	100	300	56,000	1,600	0	1,600	480
3-3	2-1091	D147 Pit box	set	28		4,400	250	100	150	75	123,200	7,000	2,800	4,200	2,100
3-4	1-1091	Vent Valve	set	5		2,300	16	5	16	5	11,000	80	0	80	25
3-5	3-4003	Drain Valve	set	23		2,200	16	5	16	5	50,600	368	0	368	115
3-6		4" API Hose coupler	set	2		950	90	6	90	6	1,900	180	0	180	12
		Sub-total								378,700	10,628	2,800	8,028	3,212	
4		Import equipment													
4-1	1-1091	Pit box	set	84		7,449 US\$	750	300	450	225	625,716 US\$	63,000	25,200	37,800	18,900
4-2	2-1045	4"Hydrant valve	set	84		17,190 US\$	510	150	510	150	1,443,960 US\$	42,840	0	42,840	12,400
4-3	2-1045	General valve Pg16 Dg600	set	14		25,046 US\$	510	150	510	150	363,244 US\$	7,140	0	7,140	2,100
4-4	2-1045	General valve Pg16 Dg700	set	10		4,042 US\$	510	150	510	150	49,420 US\$	5,100	0	5,100	1,500
		Sub-total								2,482,340 US\$	118,180	25,200	92,880	35,100	

Table of Cost Estimates For Equipment & Installation Engineering

Shanghai Pudong International Airport Project Fuel Supply System

Unit: RMB Yuan

Page 4

Item No.	Target	Title of equipment material or fee	unit	amount	Weight(t)		Price				Total cost									
					unit	weight	Purchase of equipment	Installation engineering	Main material	Construction	Labor fee in construction	Installation engineering	Main material	Construction	Labor fee in construction					
		Expenses with no adjustment																		
		Pipe corrosion prevention																		
1		Pipe internal surface:036 four layers	m ²	30,010				75							2,250,750					
2		Under ground pipe external surface: fusion bonded epoxy power coating	m ²	31,374				143							4,486,482					
		Sub-total													6,737,232					
		Civil work																		
1		Pipeline Excavation and subgrade treatment	m	16,020				55							881,100					
2		Header pit 2.5X1.5	set	13				10,000							130,000					
3		Header pit(Large type)	set	3				12,000							36,000					
		Sub-total													1,047,100					
		Grand-total													7,784,332					

Table of Cost Estimates For Equipment & Installation Engineering

Shanghai Pudong International Airport Project Fuel Supply System

Unit: RMB Yuan

Page 5

Item No.	Title of equipment material or fee	unit amount	Weight(%)		Price				Total cost			
			unit weight	Total weight	Purchase of equipment	Installation engineering	Main material	Construction	Labor fee in construction	Installation engineering	Main material	Construction
1	Normal direct expense						31,711,435			18,177,171	3,376,147	1,074,085
2	Equipment transportation cost	0.07		Equipment cost*7%			2,219,800					
3	Adjustment fare for expense of labour	2.60		labor fee*260%					2,792,630		2,792,630	2,792,630
4	Adjustment fare for minor material and machinery	1.36		(Construction-labour fee)**136%					3,130,805		3,130,805	
5	Sub-total			Installation engineering*(3)+(4)					27,476,742	18,177,171	9,299,571	3,866,704
6	Out-of-pocket expense	0.05		(5)*5%					137,837			
7	Total			(5)+(6)					28,850,579			
8	Other direct expense	0.1684		(5) labour *16.84%					651,153			
9	Expense of labour in 8	0.0498		(5) labour *4.98%					192,562			192,562
10	Adjustment fare for expense of labour in 8	2.60		(9)*260%					500,661			500,661
11	Sub-Total of direct expense			(7)+(8)+(9)+(10)					30,194,955			4,559,927
12	Combined expense	1.627		(Direct fare+Other direct fare) labour fee*162.7%					7,419,001			
13	Total			(11)+(12)					33,931,236			
14	Engineering supervision cost of quality	0.0015		(13)*0.15%					107,318			
15	Administrative management cost	0.0015		(13)*0.16%					107,318			
16	Total			(13)+(14)+(15)					33,931,236			
17	Tax and Duties	0.0341		(16)*3.41%					2,447,010			
18	Engineering cost including tax			(16)*(17)					74,206,837			
19	Expenses with no adjustment								8,498,709			
20	Equipment engineering cost of Fuel Hydrant Piping			(18)+(19)					82,705,546	(include	2,482,340 US\$)	

ESTIMATION CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT (FUEL SUPPLY SYSTEM)
PROJECT NAME: POWER SUPPLY AND INSTRUMENT (FUEL HYDRANT PIPING)

NO.	Norm Code	Description of Works	Unit	Qty	Equipment Costs		Installation Work Costs		Including (in Installation Work Costs)				Mechanical expense		
					Unit VALUE	Total Value	Unit VALUE	Total Value	Unit VALUE	Total Value	Unit VALUE	Total Value	Unit VALUE	Total Value	Unit VALUE
1		Control cable PVC/SWA/PVC-0.5KV 4*2.5	Km	7.79	9,890	77,043	0	0	0	0	0	0	0	0	0
2		Sleeve Pipe	Kg	200	5	1,000	0	0	0	0	0	0	0	0	0
3	2-653	Concrete cable duct 4 holes	10m	6.00		3,000	15.77	95	12.42	75	3.35	20	0	0	0
4	2-1036	Control button (ESB)	10set	2.50	1,500	3,750	18.57	46	9.82	25	8.75	22	0	0	0
5						0	0	0	0	0	0	0	0	0	0
6						0	0	0	0	0	0	0	0	0	0
7						0	0	0	0	0	0	0	0	0	0
8						0	0	0	0	0	0	0	0	0	0
9		Section-4 Flight Information System				0	0	0	0	0	0	0	0	0	0
10		Computer display system (out of scope)				0	0	0	0	0	0	0	0	0	0
11		LAN (Local Area Network) cable				0	0	0	0	0	0	0	0	0	0
12		PVC/SWA/PVC-0.5KV 1P*1	Km	4.40	12,105	53,262	0	0	0	0	0	0	0	0	0
13						0	0	0	0	0	0	0	0	0	0
14						0	0	0	0	0	0	0	0	0	0
15						0	0	0	0	0	0	0	0	0	0
16						0	0	0	0	0	0	0	0	0	0
17						0	0	0	0	0	0	0	0	0	0
18						0	0	0	0	0	0	0	0	0	0
19						0	0	0	0	0	0	0	0	0	0
20						0	0	0	0	0	0	0	0	0	0
21						0	0	0	0	0	0	0	0	0	0
22						0	0	0	0	0	0	0	0	0	0
23						0	0	0	0	0	0	0	0	0	0
24						0	0	0	0	0	0	0	0	0	0
25						0	0	0	0	0	0	0	0	0	0
26						0	0	0	0	0	0	0	0	0	0
27						0	0	0	0	0	0	0	0	0	0
28						0	0	0	0	0	0	0	0	0	0
29						0	0	0	0	0	0	0	0	0	0
30		TOTAL				138,055		141		99		42			0

ESTIMATION CONSTRUCTION COST OF EQUIPMENT FACILITIES

SHANGHAI PUDONG INTERNATIONAL AIRPORT (FUEL SUPPLY SYSTEM)

PROJECT NAME: POWER SUPPLY AND INSTRUMENT (FUEL HYDRANT PIPING)

A	NOMINAL DIRECT EXPENSE	j	141
B	EXPENSE OF LABOR	0.0	99
C	OTHER DIRECT EXPENSE	Bx23%	23
D	SUB-TOTAL OF DIRECT EXPENSE	A+C	164
E	COMBINED INDIRECT EXPENSE	Bx180%	178
F	PROFIT	Bx65%	64
G	INITIAL EXPENSE	Dx3%	5
H	ADJUSTMENT FOR EXPENSE OF LABOUR	B/11.83x2.4	20
I	SUBSIDY FOR CHANGE OF CONSTRUCTION SITE	B/11.83x2.5	21
J	MATERIAL AGIO	MATERIAL COST SUM x 66%	28
K	MECHANICAL AGIO	MECHANICAL COST SUM x 97%	0
L	EQUIPMENT COST		138,055
M	EQUIPMENT TRANSPORTION COST	Lx3%	4,142
N	TOTAL	D+B+F+G+H+I+J+K+L+M	142,677
O	ESTABLISHMENT CHARGE OF NORM COMPILATION	Dx0.5%	0
P	ENGINEERING QUALITY SUPERVISION COST	Nx1.5%	214
Q	MANAGEMENT COST	Nx1.5%	214
R	TAX AND DUTIES	(N+o+P+Q)x3.41%	4,880
S	CONSTRUCTION COST	N+O+P+Q+R	147,985



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