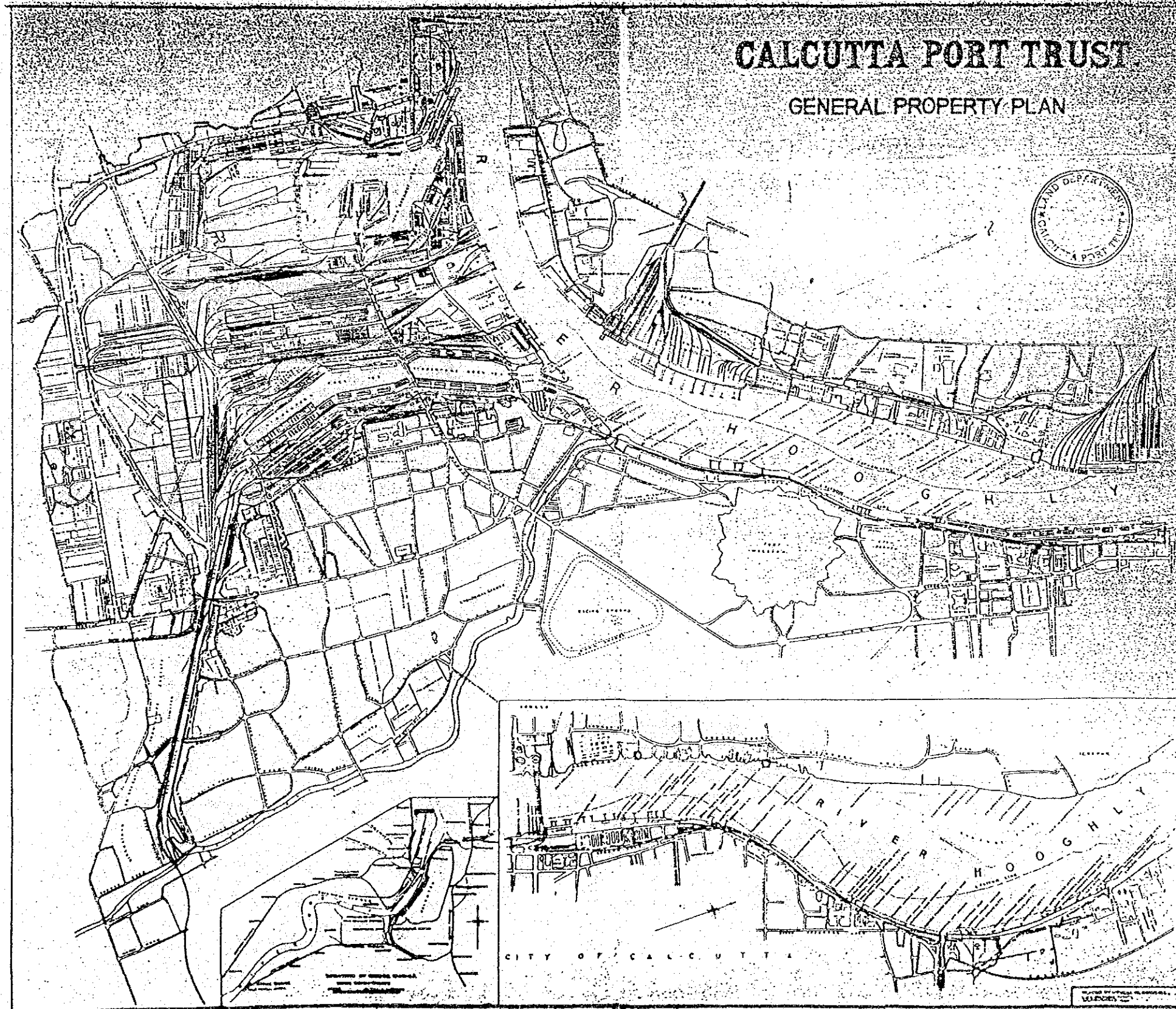
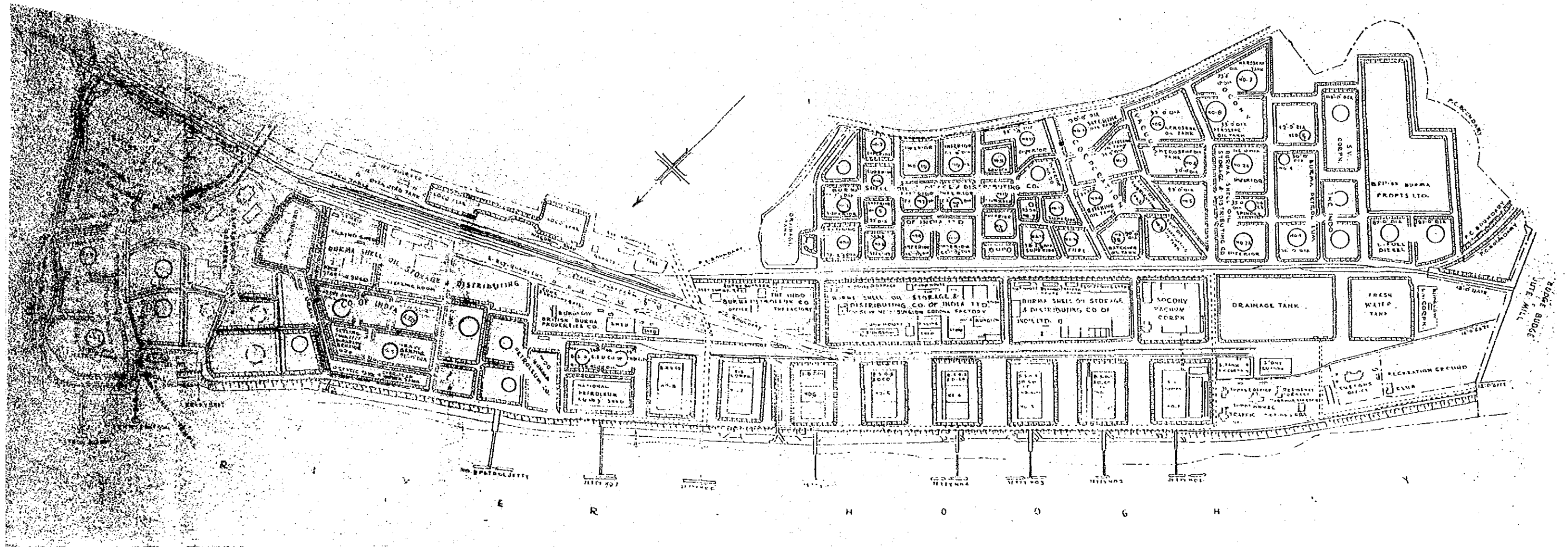


Appendix 11-1-13 CPT's Land Property Plans

The following maps show the CPT's land property plans.







Appendix 11-1-14 Check Calculation of Special Berth Allotment

In the case of the special berth allotment as in the followings, we checked the possibility of allotment.

Special Berth Allotment

Dock	Berth Name	Container	Fertilizer/Raw	Iron	Break Bulk
NSD	D/5	Fully	-	-	-
	4	Partly	-	Partly	Partly
	2/3	-	Partly	Partly	Partly
	1	Partly	-	Partly	Partly
	A/B	-	Partly	Partly	Partly
KPD	3/4	Fully	-	-	-
	Rest	-	-	Partly	Partly

- ① As for container cargoes, the required No. of berths for the conventional plan is 3. As the No. of container berths of the above allotment is 4, so the above allotments is sufficient for container cargoes.
- ② As for fertilizer and raw materials for fertilizer cargoes, the total forecast cargo volume in 2004/05 is 660,000 tons. The parcel size per ship is 9,529 tons/ship, so the prospect No. of ships may be as follows.

No. of fertilizer and raw

$$\text{materials for fertilizer} = \frac{660,000}{9,529} = 69.26 \text{ ships}$$

$$\text{Then } \frac{1}{\lambda} = \frac{365}{69.26} = 5.27 \text{ days/ship} \quad \lambda = 0.190 \text{ ships/day}$$

The improved cargo handling productivity  $\mu$  is 0.1339, the result of queueing calculation is as follows.

No. of Berth	$\rho$	Lq	Wq	$\bar{W}q$	TWT	Lost Cost
4	0.3547	0.0346	0.1819	0.5811	40.25	37.7 MY
3	0.4730	0.1873	0.9859	3.1500	218.2	204.4 MY

In the above calculation, the required No. of berths shall be 4, because the average waiting time for 3 berths seems to belong. Accordingly, it is not possible to use berth 2, 3, A and B NSD for other cargoes, viz as multi-purpose berths.

But, if the demand of fertilizer and raw materials for fertilizer in 2004/05 stays in the same level as in 1994/95, viz. 495,000 tons, the result of queueing calculation will be as follows.

No. of Berth	$\rho$	$Lq$	$Wq$	$\bar{W}q$	TWT	Lost Cost
4	0.2657	0.0090	0.0635	0.2029	10.54	9,874
3	0.3542	0.0579	0.4066	1.2991	67.47	63,200

In this case, the required No. of berths would be 3, so it may possible to use berth 2, 3, A and B NSD as multi-purpose berths.

Appendix 11-1-15 D Berth utilization

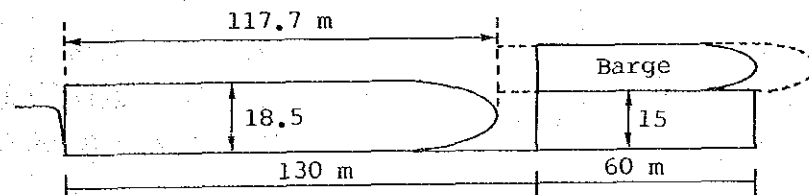
- ① Presently, the average vessel size of container vessels is as follows.  
(From Appendix 11-1-6).

GRT	DWT	La (m)	B (m)	df (m)
3,786	6,500	117.7	18.5	6.6

- ② The dimension of floating cranes is as follows.

Floating Crane	La (m)	B (m)	D (m)
	50	15	4

- ③ Accordingly, the operating situation at berth D in NSD is as shown in the following figure.



Appendices 13 Preliminary Design and Cost Estimate

Table 13A-7-1T9000 Project Cost Estimate of MASTER Plan up to 2005

1988 prices with Import Duty

※

OF CALCUTTA 2005

No.	Description	Q'ty	Unit cost (M.Rs)	Amount (M.Rs)	Foreign		Note
					portion %	(M.Rs)	
C01	Replacement of Swing Bridge S:70 m W:18 m			70.0 [70.0]	33	23.0 [23.0]	Cost sharing(CPT & State),Bascule type
C02	Widening of Hasting Bridge S:80 m W:10.2m			[15.0]	7	[ 1.0]	by State Government
C03	Flyover Bridge S:50m		10.0	[10.0]	10	[ 1.0]	-do- , at BRT
C04	Replacement of Bascule Bridge S:50 m W:18 m			50.0 [50.0]	34	17.0 [17.0]	Cost sharing(CPT & State),Bascule type
C05	New Roads W:24 m	1.5 km	11.0	[16.4]	9	[ 1.5]	by State Government with ditch,light etc
C06	Widening Roads W:10.2m	4.15 km	6.0	[24.9]	9	[ 2.3]	-do-
C07	Railway Works	LS		93.1	9	8.0	Refer Table 13-7-1M
C08	Rehabilitation Works	LS		604.7	16	95.7	Refer Table 13-7-2M
C09	Barge Berth	80 m	0.53	[48.0]	17	[7.2]	1 berth -6.0m by IWT
C10	Replacement of Hide Bridge S:50 m W:18 m			3.3 [ 6.6]	10	0.3 [ 0.6]	Cost sharing(CPT, State & Railway)
C11	Container Park & Equipment			[68.9]			by ADB
C12	CFS	9,040 sq.m		32.0	16	5.0	at NSD No.4 & 5
C13	Cargo Handling Equipment	LS		776.6 (105.4)		0	Refer Table 13-7-5M
C14	Port Service Vessels	LS		499.8	80	400.3	Refer Table 13-7-6M
Sub-total(Calcutta)				2,129.5 (105.4)	26	549.3	-continuing

[Remarks] 1) All costs except the floating equipment include import duty(90%) except the floating crafts. 2) Figures in ( ) show the cost borne by CPT & in [ ] by other organizations, and both costs are not included in this total amount.

Haldia		2005					
H01	Container Berth	600 m	0.94	564.0	17	96.0	3 berths, W:25m
H02	Waiting Berth	LS		2.9	24	1.0	2 dolphins w/h piles
H03	Multi-Berth	220 m	0.94	206.8	17	35.2	1 berth, W:25m
H04	Barge Berth	80 m	0.94	75.2	17	12.8	1 berth -10.4m
H05	Oil Waiting Berth	LS	48.9	48.9	43	21.0	7 Buoys at river
H06	2nd Oil Jetty	LS		[274.6]			by OECF
H07	Lighting System for navigation	LS	17.7	17.7	17	3.0	5 towers etc.
H08	Yard Works	LS		374.4	11	40.0	Refer Table 13-7-3M
H09	Lock Entrance	LS		1,016.0	24	240.0	includ. mecha.etc with 350m jetty
H10	Capital Dredging	5M.cu.m	63.7Rs	318.5	24	75.0	dump to deep sea
H11	General Cargo berth	200 m	0.71	142.0	17	24.0	1 berth
H12	Coking Coal yard	45,000 sq.m	300 Rs	[14.8]	9	[1.4]	Pavement, by SAIL
H13	Railway Works	LS		148.7	9	12.1	Refer Table 13-7-1M
H14	Parking Basin & Jetty for Small Craft	LS		30.0	20	6.0	
H15	Slipway & Workshop for Small Craft	LS		20.0	25	5.0	
H16	Jetty in River	LS		25.0	22	5.5	for Tug-boats
H17	Cargo Handling Equipment	LS		1,338.8 (51.7)	31	441.4	Refer Table 13-7-5M
H18	Port Service Vessels	LS		1,016.1	95	971.2	Refer Table 13-7-6M
Sub-total (Haldia)				5,345.0 (51.7)	37	1,989.2	

-continuing

[Remarks] 1) All costs except the floating equipment include import duty(90%) except the floating crafts. 2) Figures in ( ) show the cost borne by CPT & in [ ] by other organizations, and both costs are not included in this total amount.

9th Revision/19890922



Calcutta/Haldia					
CHH Channel Navigation System	LS		467.2	51	236.5
Refer Table 13-7-4M					
Total ( C+H+CH )			7,941.7	35	2,775.0
			(157.1)		
Engineering & Contingency					
Consulting Services	3 %		238.3	90	214.5
Physical Contingencies	10 %		794.2	35	277.5
Price Contingency	%				
Grand Total			8,972.2	36	3,267.0
			(157.1)		

[Remarks] 1) All costs except the floating equipment include import duty(90%) except the floating crafts. 2) Figures in ( ) show the cost borne by CPT & in [ ] by other organizations, and both costs are not included in this total amount.

9th Revision/19890922

Table 13A-7-319000 INVESTMENT SCHEDULE SHORT-TERM PLAN up to 1995 1988 prices with Import Duty

Item No.	Description	Quantity	Cost (Mill.Rs)	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	Note
1	F/S by JICA									
2	E/S ( D/D & Survey )									
3	Tender Documentation/Tender/Evaluation/Contract Signing									for loan projects Evaluation:3 months
	Replacement of Swing Bridge	Span : 70 m	70.0[7.0]			15[1.5]	25[2.5]	25[2.5]	5[.5]	Cost sharing 50 %
	Railway Works	LS	80.9	1.5		8.6	57.2	13.6		
	Rehabilitation works	LS	335.2	22.7		94.0	142	76.5		
	Replacement of Hide Bridge	LS	3.3[6.6]	3.3						Cost sharing 33 %
	CFS	9,040 sq.m	32.0			32.0				at NSD No.4 & 5
	Cargo Handling Equipment	LS	331.7(31.5)	28(15)		82.2(5)	36(2.5)	145.5(9)	40	Refer Table 13A-7-5IC
	Port Service Vessels	LS	270.0			127.0	96.0	47		Refer Table 13A-4-6I
	Sub-total(CPI own exp nces)		1,123.1(31.5)	55.5(15.0)		358.8(5)	356.2(2.5)	307.6(9)	45.0	
	Container Berth	200 m	188.0				100	88		
	Waiting Berth	LS	2.9					2.9		
	Multi-purpose Berth	220 m	206.8			80	100	26.8		
	Lighting for navigation	LS	17.7			17.7				
	Yard Works	LS	203.5			30	30	116.5		
	Railway Works	LS	120.6	14		84.8		41.8		
	Capital Dredging	350,000 cu.m	22.3					22.3		
	Parking Basin for small craft	LS	30.0	15.0		15.0				
	Slipway, Workshop for small craft	LS	20.0			20.0				
	Jetty in River	80 m	25.0			25.0				for Tug-boats
	Cargo Handling Equipment	LS	491.9(13.4)	23.5(6.4)		131.1	40(4.5)	297.2(2.5)		Refer Table 13A-7-5IH
	Port Service Vessels	LS	526.3			98.1	193.0	235.2		Refer Table 13A-7-6I
	Sub-total(CPT own expences)		1,855.0(13.4)	97.2(6.4)		464.0	463.0(4.5)	830.7(2.5)		
	Channel Navigation System	LS	217.2			56.0	148.1	13.1		
	Total + (CPT own expences) + 13 %		3,195.3(44.9) 3,610.2(44.9)	152.7(21.4) 172.6(21.4)		878.8(5.0) 983.0(5.0)	967.3(7.0) 1093.0(7.0)	1,151.4(11.5) 1,301.0(11.5)	45.0 50.6	

[ Remarks ] 1) 13 % : 3 % Consulting Services + 10 % Physical Contingencies 2) Import duty : 90 % except the floating crafts. 18th Revision/890821

Table 13A-7-1TC9000 BREAKDOWN OF PROCUREMENT SCHEDULE OF RAILWAY WORKS

Item No.	Description	Required nos. in 1994/95		Exist. nos. as of 1989	Retired / Replaced nos.	Newly Procured nos.	Total nos. to buy	Unit Cost Rupee	Amount Mil. Rupees	Amount (Mil. Rs.)				Note	
		GC	CTN							Number to buy by year					
										1990/91	1991/92	1992/93	1993/94		1994/95
A	Block Rake Loading Terminal Track (new railway)		1440			1440m	1440m	2,500	3.6		3.6				
2)	Pavement		30,600			30,600	30,600	400	12.2		5 12,500	7.2 18,100			Grade 2
3)	Road		9000			9000	9000	400	3.6				3.6		Grade 2
4)	Reclaiming		15,000			15,000	15,000	100	1.5		-1.5				
B	Locomotive High powered Low powered		2			2	2	25.0	50.0			50			
			2			2	2	5.0	10.0			2	10	2	
	Total (Calcutta)								80.9	1.5	8.6	57.2	13.6		

[Remarks] i) All items are procured locally.

1st Revision/880826

Table 13A-7-1TH900 BREAKDOWN OF PROCUREMENT SCHEDULE OF RAILWAY WORKS

Item No.	Description	Required nos. in 1994/95		Exist. nos. as of 1989	Retired Replaced nos.	Newly Procured nos.	Total nos. to buy	Unit Cost Rupees	Amount Mil. Rupees	Amount (Mil.Rs.)				Note
		GC	CTN I							Number to buy by year				
										1990/91	1991/92	1992/93	1993/94	
A 1)	General Marshaling Yard Track (new railway)		4320 <sup>m</sup>			4320 <sup>m</sup>	2,500	10.8	5.0	5.8				
B 1)	Bulk Handling Yard		1440 <sup>m</sup>			1440 <sup>m</sup>	2,500	3.6		3.6				
2)	Wagon Pusher		2			2	5.0 M.Rs	10.0	10.0					
C 1)	Sorting Yard Track		2160 <sup>m</sup>			2,160 <sup>m</sup>	2,500	5.4		5.4				
D 1)	Coking Coal Terminal Track		2300 <sup>m</sup>			2,300 <sup>m</sup>	2,500	[5.76]						by SAIL
E 1)	Container Loadings Terminal Track		1580 <sup>m</sup>			1,580 <sup>m</sup>	2,500	3.95					3.95	
2)	Crane Rail		720 <sup>m</sup>			720 <sup>m</sup>	3,500	2.52					2.52	
3)	Pavement		10,800 <sup>sq.m</sup>			10,800 <sup>sq.m</sup>	400	4.32					4.32	Grade 2
F	Locomotive		3			3	25.0 M.Rs	75.0		50.0			25.0	
G	Work-shop		1			1		5.0					5.0	
	Total (Maldia)							(120.59) 120.6	15.0	64.8			40.8	

[Remarks] 1) All items are procured locally.

1st Revision/890826

Table 13A-7-2TC9000 BREAKDOWN OF PROCUREMENT SCHEDULE OF REHABILITATION WORKS

Item No.	Description	Required nos. in 1984/85		Exist. nos. as of 1989	Retired Replaced nos.	Newly Procured nos.	Total Unit nos. to buy	Amount Mil. Rupee	Amount (Mil.Rs.)				Note	
		GC	CN						T	Number to buy by year				
										1990/91	1991/92	1992/93		1993/94
A 1)	G1 Pavement Heavy Cargo			4,000 sq.m		4,000 sq.m	4,000 sq.m	2.0						
	G2 Containers			80,000 sq.m		80,000 sq.m	80,000 sq.m	32.0	6.0	12.0	12.0	2.0		
	G3 Break Bulk			390,000 sq.m		390,000 sq.m	390,000 sq.m	97.5	40.0	40.0	17.5			
	G4 Car Park			30,000 sq.m		30,000 sq.m	30,000 sq.m	6.0	6.0					
	G5 Undisposed Materials			8,000 sq.m		8,000 sq.m	8,000 sq.m	2.7	2.7					
2)	Quarters/Fences & Demolish works							15.0				15.0		
3)	Fender System & KPD/NSD Approach Jetties							70.0	30.0	40.0				
4)	Communication/Computer							20.0	10			10.0		
5)	Dock Gate							30.0			30.0			
6)	Replacement of existing rail							40.0			20.0	20.0		
7)	Reinforcement of NSD No.5 Berth							15.0					15.0	
8)	Modernization of work-shop							5.0					5.0	
	Total (Calcutta) CPI own expenses							335.2	84.0	142.0	76.5			

[Remarks] 1)

1st Revision/890926

Table 13A-7-3TH900 BREAKDOWN OF PROCUREMENT SCHEDULE OF YARD WORKS

Item No.	Description	Required nos. in 1994/95		Exist. nos. as of 1989	Retired / Replaced nos.	Newly Procured nos.	Total nos. to buy	Unit Cost	Amount (Mill. Rs.)	Amount (Mill. Rs.)				Note		
		GC	CTN							I	M.I. Rupees	Number to buy by year				
												1990/91	1991/92		1992/93	1993/94
A	Container Yard			1		1	1	19.8								
	CFS															
	Pavement			125,000		125,000	125,000	330	41.2				19.8			
	Soil Improvement			125,000		125,000	125,000	380	47.5				41.2			
	Lighting			4		4	4	11.0	44.0				17.5			
	A D Building			1200		1,200	1,200	5,000	6.0				6.0			
	Computer etc.			1		1	1	10.0	10.0				10.0			
B	Truck Terminal			1		1	1	5.0	5.0							
C	Quarters			226		226	226	30.0	30.0							
	Total ( Haldia )							203.5	27.0	30.0	30.0	116.5				
	CPI own expenses															

1st Revision/890926

[Remarks] 1)

Table 13A-7-4 T9000 BREAKDOWN OF PROCUREMENT SCHEDULE OF CHANNEL NAVIGATION WORKS

Item No.	Description	Required nos. in 1994/95		Exist. nos. as of 1989	Retired Replaced nos.	Newly Procured nos.	Total Unit Cost to buy	Amount Mil. Rupees	Amount (Mil. Rs.)				Note
		GC	TN						Number to buy by year				
									1990/91	1991/92	1992/93	1993/94	
C	Tug-Boats 200GT		2			2	2	66.0		-22	44.0		1,800 ps
D	Pilot Station												
	1) Building		500 sq.m			500 sq.m	500 sq.m	3.0			3.0		
	2) Basin & Pontoon for Pilot Boats							40.0			40.0		
	3) Car for Pilots			2		2	2	0.6			0.6		
E	Navigation Aids												
	1) Beacon		4			4	4	10.5		-5	5.5		
	2) Light Buoy		12			12	12	25.0		-10	15.0		
F	Buoys at anchorage							9.0		-4	5.0		
G	Traffic Control System												
	1) Communication System							42.0		-15	27.0		
	2) Tower for antennas							8.0			8.0		
H	Wave Protection							13.1				13.1	
	Total (C & H)							217.2	56.0	148.1	13.1		
	CPI own expenses												

[Remarks] 1)

1st Revision/890926

Table 13A-7-5TC9000 BREAKDOWN OF PROCUREMENT SCHEDULE OF HANDLING EQUIPMENT 7th Revision/890929  
 ★ CALCUTTA SHORT-TERM PLAN up to 1995 1988 prices with Import Duty

Item No.	Description	Required nos. in 1994/85		Exist. nos. as of 1989	Retired Replaced nos.	Newly Procured nos.	Total nos. to buy	Unit Cost Mil. Rupee	Amount Mil. Rupees	Amount (Mil.Rs.)				Note
		GC	CTN							1990/91	1991/92	1992/93	1993/94	
01c	Forklift 2.0t	0	30	0		[30]	0							
01c	-do- 2.0t			12	12/0	[32]	[32]							
02c	-do- 3.0t	49	16	35	35/35	30-[2] =28	63	0.5	(31.5)	(15.0) * 30	(5.0) 10	(2.5) * 5	(9.0) 18	CPI own expense
03c	-do- 5.0t	18	1	19		19	19	0.8	15.2		5.6 7		9.6 12	
04c	-do- 10.0t	3	0	3		[2]+1	[2]	2.0	2.0		2.0 1			2 nos by ADB
05c	-do- 45.0t	1	0	1		1	1	14.0	14.0		14.0 1			
06c	Mobile Crane 10.0t	12	0	12	4/4	0	4	4.0	16.0	16.0 * 4				
07c	-do- 16.0t	5	0	5	0/0	5	5	4.5	22.5		9.0 2		13.5 3	
08c	-do- 30.0t	5	0	4	2/2	1	3	6.0	18.0	12.0 * 2			6.0 1	
09c	-do- 45.0t	2	0	2	0/0	2	2	10.0	20.0		10.0 1		10.0 1	
10c	Chassis 20 ft	0	69	69		18 [36]	18	0.2	3.6		1.2 6		2.4 12	
11c	-do- 40 ft					15 [30]	15	0.4	6.0		2.0 5		4.0 10	36 nos. by ADB
12c	Tractor	0	25	25		8 [17]	8	0.8	6.4		2.4 3		4.0 5	17 nos. by ADB
14c	Yard Crane 30.0t 20.0t			1 1	0/0 0/0	1 1	1 1	22.0 18.0	22.0 18.0				22.0 18.0	Between KPD 28 & 29 Between KPD 27 & 28
21c	Transfer Crane (Rubber)	0	12	12	0/0	9 [3]	9	12.0	108.0		36.0 3		36.0 3	3 nos. by ADB
22c 23c	Shore Crane -do- (Fertilizer)			3		3	3	20.0	60.0				20.0	At NSD A & B
	Total (Calcutta) CPI own expenses							331.7 (31.5)	28.0 (15.0)	82.2 (8.0)	36.0 (2.5)		145.5 (9.0)	40.0

[Remarks] 1) The figures indicated \* show number of replacements. 2) Regarding nos. of Existing Handling Equipment, please refer to Table 3-3-1.



Table 13A-7-5TH9000 BREAKDOWN OF PROCUREMENT SCHEDULE OF HANDLING EQUIPMENT

Item No.	Description	Required nos. in 1994/95		Exist. nos. as of 1989	Retired Replaced nos.	Newly Procured nos.	Total Unit nos. to buy	Amount Mil. Rupees	Amount (Mil. Rs.)				Number to buy by year			Note		
		GC	CTN						I	1980/81	1991/92	1992/93	1993/94	1994/95	1988 prices with Import Duty			
															1980/81		1991/92	1992/93
01h	Forklift 2.0t	0	16	16	0/0	16	16	0.4	(6.4)	(2.4)	(2.0)	(2.0)						
02h	-do- 3.0t	5	9	14	8/8	8	14	0.5	(7.0)	(4.0)	(2.5)	(0.5)						
03h	-do- 5.0t	1	1	1		1	1	0.8	0.8	0.8								
05h	-do- 45.0t	1	1	1		1	1	14.0	14.0	14.0								
06h	Mobile Crane 10.0t	1	1	3	1/1	0	1	4.0	4.0	4.0	4.0						for G/C	
07h	-do- 16.0t	1	1	1		1	1	4.5	4.5	4.5		4.5						
08h	-do- 30.0t	1	1	1		1	1	6.0	6.0	6.0		6.0						
10h	Chassis 20 ft	0	43	43	5/5	23	23	0.2	4.6	1.6								
11h	-do- 40 ft	0	20	20		15	20	0.4	8.0	2.8								
12h	Tractor	0	20	20	4/4	16	20	0.8	16.0	5.6								
13h	Truck Scale 50t	2	2	2		2	2	3.5	7.0	3.5								
14h	Boulder Removal equipment	1	1	1		1	1	20.0	20.0	20.0							for Coal Plant	
15h	Stacker/Reclaimer	2	2	2	2/2	2	2	85.0									-do- in 8th plan	
17h	Watering Facilities	1	1	1		1	1	10.0	10.0	10.0							-do-	
21h	Quay Crane for Container	4	4	1		3	3	96.3	288.8	96.3							for container	
22h	Transfer Crane (Rubber)	9	9	9		9	9	12.0	108.0								for container	
	Sub-total (Haldia)								491.9	23.5	131.1	40.0	297.2	0.0				
	CPI own expenses								(13.4)	(6.4)	(4.5)	(2.5)						

[Remarks] 1) The figures indicated \* show number of replacements. 2) All costs include Import Duty. 7th Revision/890929

Table 13A-7-6T9000 BREAKDOWN OF PROCUREMENT SCHEDULE OF PORT SERVICE VESSELS

CALCUTTA

SHORT-TERM PLAN up to 1995

1988 prices with Import Duty

Item No.	Description	Required nos. in 1984/85		Exist. nos. as of 1989	Retired Replaced nos.	Newly Procured nos.	Total nos. to buy	Unit Cost to Mil. Rupee	Amount Mil. Rupees	Amount (Mil.Rs.)				Note	
		T								1990/91	1991/92	1992/93	1993/94		1994/95
01c	Grab Dredger 750 cu.m	1		1		1	1	35	35.0			35	1		with Hoppers Self-propelled
02c	Tug-boat 2500ps 37t B/P	10		11	3/0	2	2	43.0	86.0	43.0	1	43.0	1		360 degree steerable nozzle propeller
03c	River Survey Launch	6		8	4/2	2	2	6.0	12.0	6.0	1	6.0	1		
04c	Pilot/Harbour/Dock Launch	11		13	5/3	3	3	6.0	18.0	6.0	1	6.0	1		
05c	Floating Crane 60t			1	1/1	1	1	37.0	37.0	37.0	1	37.0	1		Self-propelled Swing type
06c	Multi-purpose ship				1/1	2	2	41.0	82.0	41.0	1	41.0	1		
	Sub-total(Calcutta)								270.0	127.0	96.0	47.0			

Haldia:

Item No.	Description	Required nos. in 1984/85		Exist. nos. as of 1989	Retired Replaced nos.	Newly Procured nos.	Total nos. to buy	Unit Cost to Mil. Rupee	Amount Mil. Rupees	Amount (Mil.Rs.)				Note	
		T								1990/91	1991/92	1992/93	1993/94		1994/95
01h	Hopper Dredger 1,700 cu.m	3		4	2/1	1	1		307.2	150	* 1	157.2			
02h	Grab Dredger 750 cu.m	1		1		1	1	35	35.0			35	1		with Hoppers Self-propelled
03h	Tug-boat 2500ps 37t B/P	8		5		3	3	43	129.0	43	1	43	1		360 degree steerable nozzle propeller
04h	Floating Crane 60t					1	1	15	15.0	15	1	15	1		Non-propeller fixed type
05h	Multi-purpose Ship					1	1	40.1	40.1	40.1	1	40.1	1		
	Total(Haldia)								526.3	96.1	183.0	235.2			

[Remarks] 1) The figures indicated \* show number of replacements. 2) No Import Duty for the floating equipmeny.

7th Revision/890929

Table 13A-7-U0000 PROJECT COST ESTIMATE

URGENT PLAN UP TO 1995

1988 prices without Import Duty

CALCUTTA 1995						
No.	Description	Q'ty	Unit cost (M.Rs)	Amount (M.Rs)	Foreign portion % (M.Rs)	Note
C01	Replacement of Swing Bridge S:70 m W:18 m			52.0 [52.0]	44 [23.0]	23.0 [23.0] Cost sharing (CPT & State), Bascule type
C02	Widening of Hasting Bridge S:80 m W:10.2m			[15.0]	10 [1.0]	by State government
C03	Flyover Bridge S:50 m	LS				-do-, in M/P
C04	Replacement of Bascule Bridge					Schedule in M/P
C05	New Roads W:24 m	1.5 km	10.0	[15.0]	10 [1.5]	by State government
C06	Widening Roads W:10.2m	0.65km	6.0	[4.0]	10 [0.4]	-do-
C07	Railway Works	LS		80.9	9 7.1	Refer Table 13-7-1S
C08	Rehabilitation Works	LS		306.4	20 61.5	Refer Table 13-7-2S
C09	Barge berth	80 m				Schedule in M/P
C10	Replacement of Hide Bridge S:50 m W:18 m			3.3 [6.6]	10 [0.6]	Cost sharing (CPT, State & Railway)
C11	Container Park & Equipment			[68.9]		by ADB
C12	CFS	9,040 sq.m		29.6	17 5.0	at NSD No.4 & 5
C13	Handling Equipment	LS		161.0 (31.5)	0	Refer Table-13-7-5U
C14	Port Service Vessels	LS		203.2	94 192.0	Refer Table-13-7-6U
Sub-total (C:Calcutta)				836.4 (31.5)	35 288.9	
HALDIA 1995						
H01	Container Berth	200 m	0.85	170.0	19 32.0	1 berth, w:25m Monolith type
H02	Waiting Berth	LS				2 dolphins with 3 piles each
H03	Multi-Berth	220 m	0.85	187.0	19 35.2	1 berth, w:25m Monolith type
H04	Barge Berth	80 m				Schedule in M/P

H05	Oil Waiting Berth	LS					Schedule in M/P
H06	2nd Oil Berth	LS		[274.6]			by OECF
H07	Lighting for night navigation	LS		17.7	17	3.0	5 lowers etc.
H08	Yard Works	LS		197.2	11	22.6	Refer Table 13-7-3S
H09	Lock Entrance	LS					Schedule in M/P
H10	Capital Dredging	0.35 M.cu.m	63.7 Rs	22.3	24	5.3	Basin & Berth front dump to deepsea
H11	General Cargo Berth	LS					Schedule in M/P
H12	Coking Coal Yard	45,000 sq.m	330 Rs	[14.8]	9	[1.4]	SAIL project
H13	Railway Works	LS		120.6	9	9.6	Refer Table 13-7-1S
H14	Parking Basin & Jetty for small crafts	LS		26.4	23	6.0	Basin & Jetty
H15	Slipway & Workshop for small crafts	LS		17.3	29	5.0	At the above site
H16	Jetty in River			21.8	25	5.5	for Tug-boats
H17	Cargo Handling Equipment	LS		197.9 (13.4)	52	102.3	Refer Table 13-7-5U
H18	Port Services Vessels	LS		184.1	94	173.8	Refer Table 13-7-6U
Sub-total (Haldia)				1,162.3 (13.4)	34	400.3	

☞ CALCUTTA/HALDIA ☜

CH1	Channel Navigation	LS		172.5	62	123	Refer Table 13-7-4S
Total (C+H+CH)				2,171.2 (44.9)	37	812.2	

Engineering & Contingency							
Consulting Services	3 %			65.1	90	58.6	
Physical Contingencies	10 %			217.1	37	81.2	
Price Contingency	- %						
<u>Grand Total</u>				<u>2,453.4</u>	<u>39</u>	<u>952.0</u>	
				(44.9)			

[Remarks] 1) All costs exclude import duty. 2) Figures in ( ) show the cost borne by CPT & in [ ] by other organizations, and both costs are not included in the total amount.

9th Revision/890929

Table 13A-7-500000 Breakdown of HANDLING EQUIPMENT  
 URGENT PLAN UP TO 1995 1988 prices  
 OF CALCUTTA/HALDIA 1995

	Description	Q'ty	Unit Cost 000 Rs	Amount		Imp. Duty M.Rs	Note
				M.Rs	M.Rs		
01c	Forklift 2.0 t	(30)					by ADB for CTN
02c	-do- 3.0 t	63	500	(31.5)			by CPT
03c	-do- 5.0 t	6	800	4.8			
04c	-do- 10.0 t						2 nos. by ADB
05c	-do- 45.0 t	1	14,000	14.0			
	Sub-total(Forklift)				18.8	0	
				(31.5)			
06c	Mobile Crane 10.0 t	1	4,000	4.0			
07c	-do- 16.0 t	2	4,500	9.0			
08c	-do- 30.0 t	1	6,000	6.0			
09c	-do- 45.0 t	1	10,000	10.0			
	Sub-total(Mobile Crane)				29.0	0	
10c	Chassis 20 ft	6	200	1.2			for CTN
11c	-do- 40 ft	5	400	2.0			for CTN
	Sub-total(Chassis)				3.2	0	
12c	Tractor	5	800	4.0			for CTN
13c	Truck-Scale 50 t	-	-	-			
14c	Yard Crane 30.0 t	1	22,000	22.0	0		Bct. KPD 28&29
	20.0 t	1	18,000	18.0	0		27&28
21c	Transfer Crane	3	12,000	36.0	0		Rubber mounted
22c	Shore Crane (Fertilizer)	3	20,000	60.0	0		At NSD A & B
	Total (Calcutta)				191.0	0	
				(31.5)			

[Remarks] 1) The prices above are based upon local procurement.

Foreign Currency : 0

12th Revision/890929

Table 13A-7-5U0000 Breakdown of HANDLING EQUIPMENT

URGENT PLAN UP TO 1995 1988 prices

CALCUTTA/HALDIA 1995

	Description	Q'ty	Unit Cost	Amount		Imp. Duty	Fore-ign Cu'cy	Note
				'000 Rs	M.Rs			
01h	Forklift	2.0 t	16	400	(6.4)			by CPT for CTN
02h	-do-	3.0 t	14	500	(7.0)			by CPT
	(Initial 5 + Replace 0) for G/C + (Initial 1 + Replace 8) for CTN = 14							
03h	-do-	5.0 t	1	800	0.8			
	(Initial 1 + Replace 0) for CTN = 1							
04h	-do-	10.0 t	0	2,000	0			
05h	-do-	45.0 t	1	14,000	14.0			
	Sub-total (Forklift)				14.8	0	0	
					(13.4)			
06h	Mobile Crane	10.0 t		4,000				Replace for GC
		16.0 t		4,500				
		30.0 t		6,000				
	Sub-total (Mobile Crane)				0	0	0	
10h	Chassis	20 ft	8	200	1.6			
11h	-do-	40 ft	6	400	2.4			
	Sub-total (Chassis)				4.0	0	0	
12h	Tractor		7	800	5.6			for CTN
13h	Truck-Scale	50 t	1	2.3M.Rs	2.3	1.2	1.47	
14h	Boulder Removal Equipment		1		20.0		1.5	
15h	Stacker/Reclaimer							Schedule in 9th plan
17h	Watering Facility	LS			10.0			
18h	Unloader for Coking Coal	2 sets			[137.0]	[117]		by SAIL
	-do- Stacker/Reclaimer	2 sets			[98.0]	[72]		-do-
	-do- Belt-conveyor	1,700 m			[62.0]			-do- 1,400 L/h
	-do- Tripper				[2.2]			Wagons loader
20h	Quay Crane	2 sets		52.6M.R	105.2	87.5	99.3	for CTN Berth
21h	Transfer Crane	3		12 M.Rs	36.0	0		Rubber mounted
	Total (Haldia, 1995) without Import Duty				197.9	88.7	102.3	
					(13.4)			
	Total (Haldia, 1995) with Import Duty				286.6			14th Revision/890929

Table 13A-7-6U0000 Breakdown of PORT SERVICE VESSELS

URGENT PLAN UP TO 1995 1988 prices

Calcutta/Haldia 1995

Description	Capacity	Q'ty	Unit Cost		Imp.D For.		Note
			000 R	M.Rs	M.Rs	C'cy	
01h							
02c Tug-Boat	2,500 ps	2	43,000	86.0		82.5	1,250 ps X 2
03c River Servey Launch							
04c Pilot/Harbour/ Dock Launch							
05c Anchor Vessel							
06c Floating Crane							Non-propellar fixed type
07c -do-	100 t						-do-
08c -do-	60 t	1	37,000	37.0		35.5	Self-pro.swing
09c Multi-Purpose Ship		2	40,100	80.2		74	
10c General Service							
Sub-total (Calcutta)					203.2	192.0	

Haldia 1995

01h Hopper Dredger							
02h -do-	1,700 cu.m						
03h Grab Dredger	750 cu.m						with hoppers
04h Tug-Boat	2,500 ps	3	43,000	129.0		123	1,250 ps X 2
05h Floating Crane	60 t	1	15,000	15.0		13.8	Non-propellar fixed type
06h Multi-Purpose Ship		1	40,100	40.1		37	
07c General Service							
Sub-total (Haldia)					184.1	173.8	

[Remarks] 1) No import duty for the floating equipment.

8th Revision/890929

Cost Comparison of Container Handling Facility

( Cost : Million Rs.)

Item	Alternative 1 (Trend Case) New Berth at Calcutta	Alternative 2 (Shifting Case) New Berth at Haldia
Container Berth	230m x 0.65 = 149.5 Water depth ; 9 m Toe depth of Quay structure ; -15 m	200m x 0.85 = 170.0 Water depth ; 12 m Toe depth of Quay structure ; -20 m
Reclamation	900,000 m <sup>3</sup> x 80 Rs. = 72.0	—
Soil Improvement for C.Y.	—	60,000 m <sup>3</sup> x 340 Rs. = 20.4
Dredging	50,000 m <sup>3</sup> x 50 Rs. = 2.5	70,000 m <sup>3</sup> x 63.7 Rs. = 4.5
Quay Crane	2 Nos x 52.6 = 105.2	2 Nos x 52.6 = 105.2
<b>Total</b>	<b>329.2</b>	<b>300.1</b>

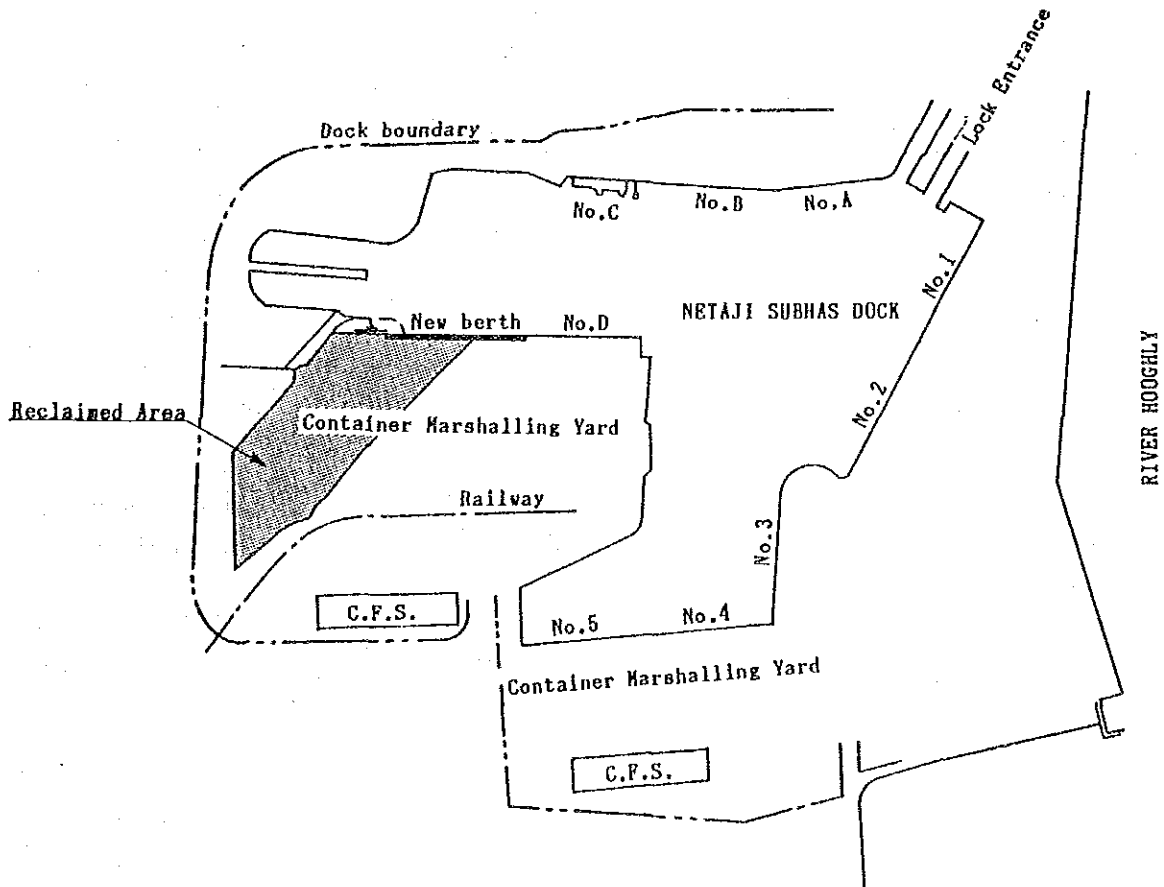


Fig. New Container Berth at N.S. Dock



## APPENDIX

### Re : The Working Load for Small Handling Equipment

The titled load is shown in the following table. The working load shown as the Table is generally applied to the design for the base and sub-base courses of the pavement. Although the ground pressure on the contacted area of wheels is higher than these loads, the pavement in the port area are generally designed for the handling equipment such as middle class mobil cranes & forklifts.

The load pressure on the contacted area for main handling equipment is shown as follows.

Description	Max.load per wheel (or out-rigger) (ton)	Contacted area (sq.cm)	Load pressure (kg/sq.cm)
Mobile Crane	30	1,750	17.2
	40	2,000	20.0
	50	2,300	21.7
Tractor/Trailer 40ft	7	1,000	7.0
Forklift	25 t 31	3,800	8.2
	35 t 45	5,000	9.0
Tranfer Crane 30	30	3,250	9.2
Straddle Carrier	11	1,200	9.2
Compressive Strength of Concrete			300.0

In order to avoid the damages on the pavement surface by the load pressure, it is generally taken to insert a steel (or wooden) plate between the wheel(or out-rigger) & the ground.

WORKING LOAD for SMALL HANDLING EQUIPMENT

Description	A Lifting Capacity (t)	B Dead Weight (t)	A+B=C Total Weight (t)	Dimention			Working Load q=C/a (t/sq.m)	Note
				Length l (m)	Width b (m)	Cbvered area a (sq.m)		
Forklift	1.5	2.67	4.17	3.19	1.065	3.397	1.23	
	2.0	3.47	5.47	3.38	1.145	3.870	1.41	
	3.0	4.39	7.39	3.79	1.27	4.813	1.54	
	5.0	7.58	12.58	4.81	1.89	9.091	1.38	
	10.0	13.9	23.9	5.51	2.23	12.287	1.95	
	40.0	50.0	90.0	10.45	3.75	39.188	2.30	
Mobil Crane (Wheel)	6.5	7.94	14.44	8.67	2.15	18.64	0.77	
	10.0	15.985	25.985	9.75	2.49	24.28	1.07	
	16.0	19.94	35.94	11.21	2.49	27.91	1.27	
	30.0	32.4	62.04	11.99	2.75	32.97	1.88	
	45.0	37.20	82.20	13.13	2.82	37.03	2.22	

[Remarks] 1) These working loads shows the uniformed load per unit area by mean value of the covered area, not the ground pressure on the contacted area of wheel loads.

## Appendices 14 Port Management and Operations

### Appendix 14-1 Privatization of Port Development

With the development of containerization, induction of private capital to the port development is expanding world wide. According to the MPRC Report, privatization can be of following three types:

- (A) Complete privatization which would mean provision by the private entrepreneur of all the facilities at the ports; in effect, creating a new port together with all the equipment needed and its operation and management left entirely to the entrepreneur.
- (B) In the second type, the entrepreneur would be left free to develop a berth in an existing port and provide the equipment for use therein.
- (C) In this type, the civil works viz. berths and back-up space would be provided by the port and other infrastructure like handling equipment etc. would be provided by the private parties.

Regarding item (C), it is now negotiated by CPT to allot the No. 4 KPD Dock and its back-up yard as preferential berth to SCI for container operation.

In this case, CPT reserves the right to utilize the berth as and when vacant either for working vessels or for waiting vessels, and CPT/CDLB labour will have to be used for handling of loaded/empty containers, slinging/unslinging of containers and stuffing/unstuffing of containers.

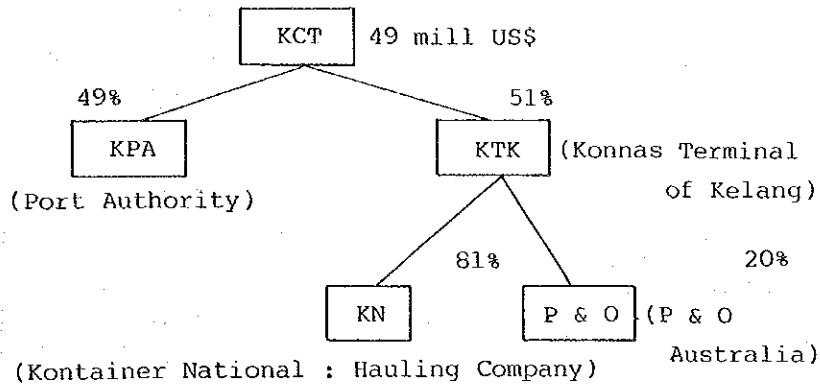
For long time, CPT has functioned as so-called "Comprehensive Port" or operating port. On the other hand, "Landlord Port" can be operated by minimum number of workers and the personnel cost is minimized accordingly.

Taking into consideration the long history of CPT as "Comprehensive Port", it seems to be difficult for CPT to shift to "Landlord Port", however, the possibility of induction of other sectors' viability to the port activity would be advisable to be investigated furthermore.

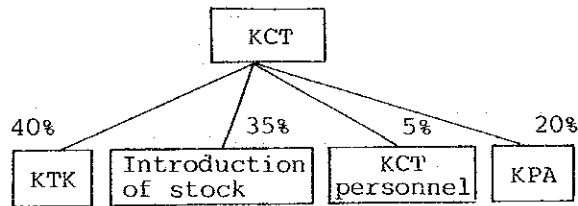
In addition to the three types of privatization mentioned above, there is another way of induction of private capital to the port development.

The port of Kelan, for instance, has privatised the operation of its container terminal. The Kelan Container Terminal was established in 1986

and the share of capital is as follows:



This share of capital is planned to be changed as follows in 1989.

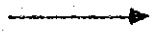
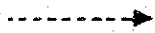

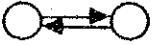





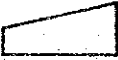




The Port of Oakland, California U.S.A is a typical "Landlord Port" and its container terminals are developed by the port and they are leased out to two types of private sectors, i.e. shipping companies and the terminal operator based on the so-called "Mini-Max" contract.

"Mini-Max" contract requires the company to guarantee the minimum cargo volume per annum and when the cargo volume exceeds the maximum, certain percentage of the charges is paid back to the company.

## Appendix 14-2 Computerized Container Handling System

The example of the computerized container handling system is shown in Fig. A-14-2. The symbols used in this Fig. for the operation activity are as follows:

	Symbol	Description
Flow		Flow of Information, documents, or operation
		Movement of cargo/containers
Work		Operation or processing of Information/documents
		Exchanging or conveying of Information
		Information transfer ○ : Source ● : Recipient
		Collation/checking of Information, documents, cargo/container
		Storing of documents or cargo/container
		Continuation of operation or cargo/container movement to the same symbol on the following page
		Extraction of the stored information/documents or cargo/containers
Input/Output		Data input into key board
		Display information on the CRT display
		Hand written and computer- printed documents

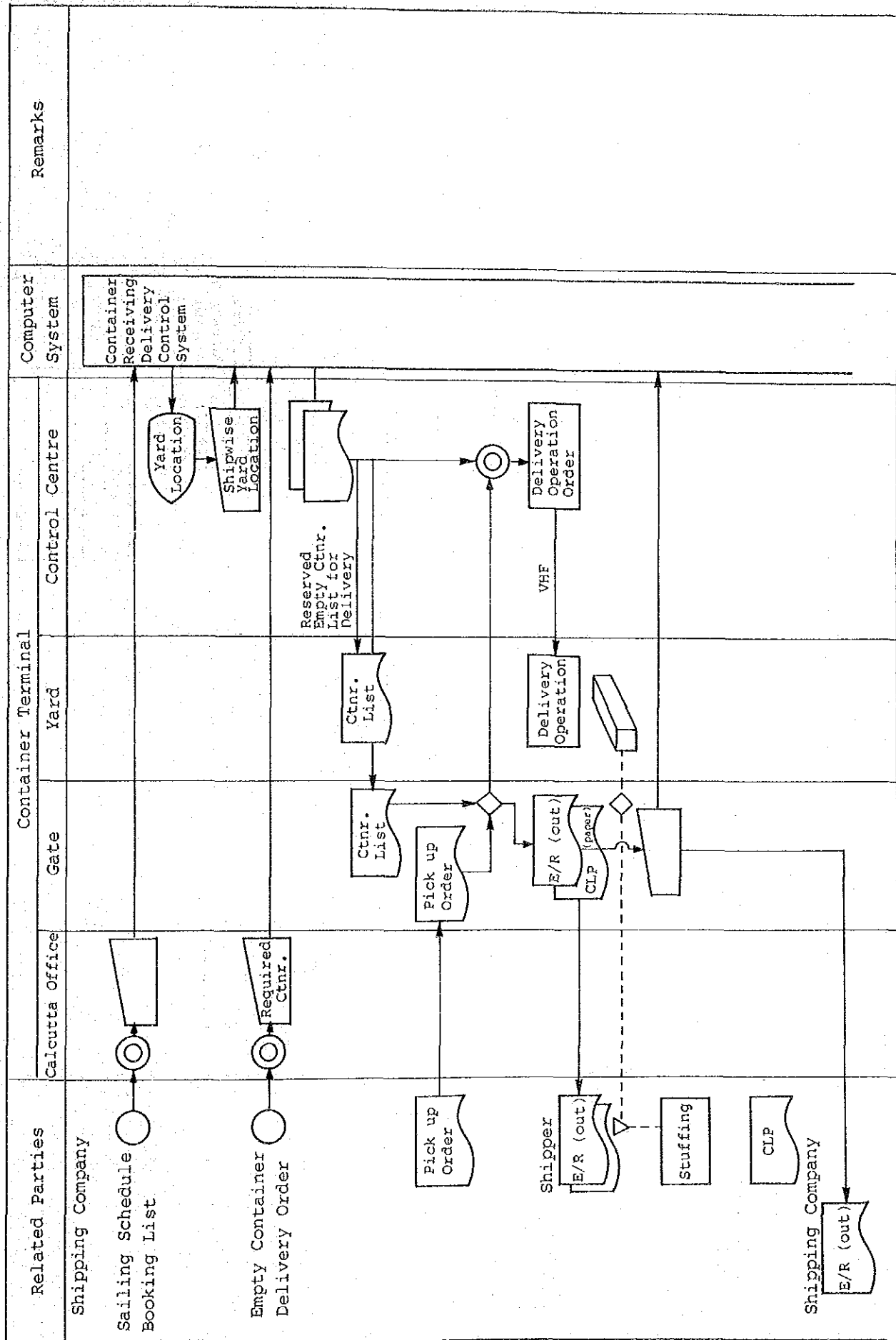
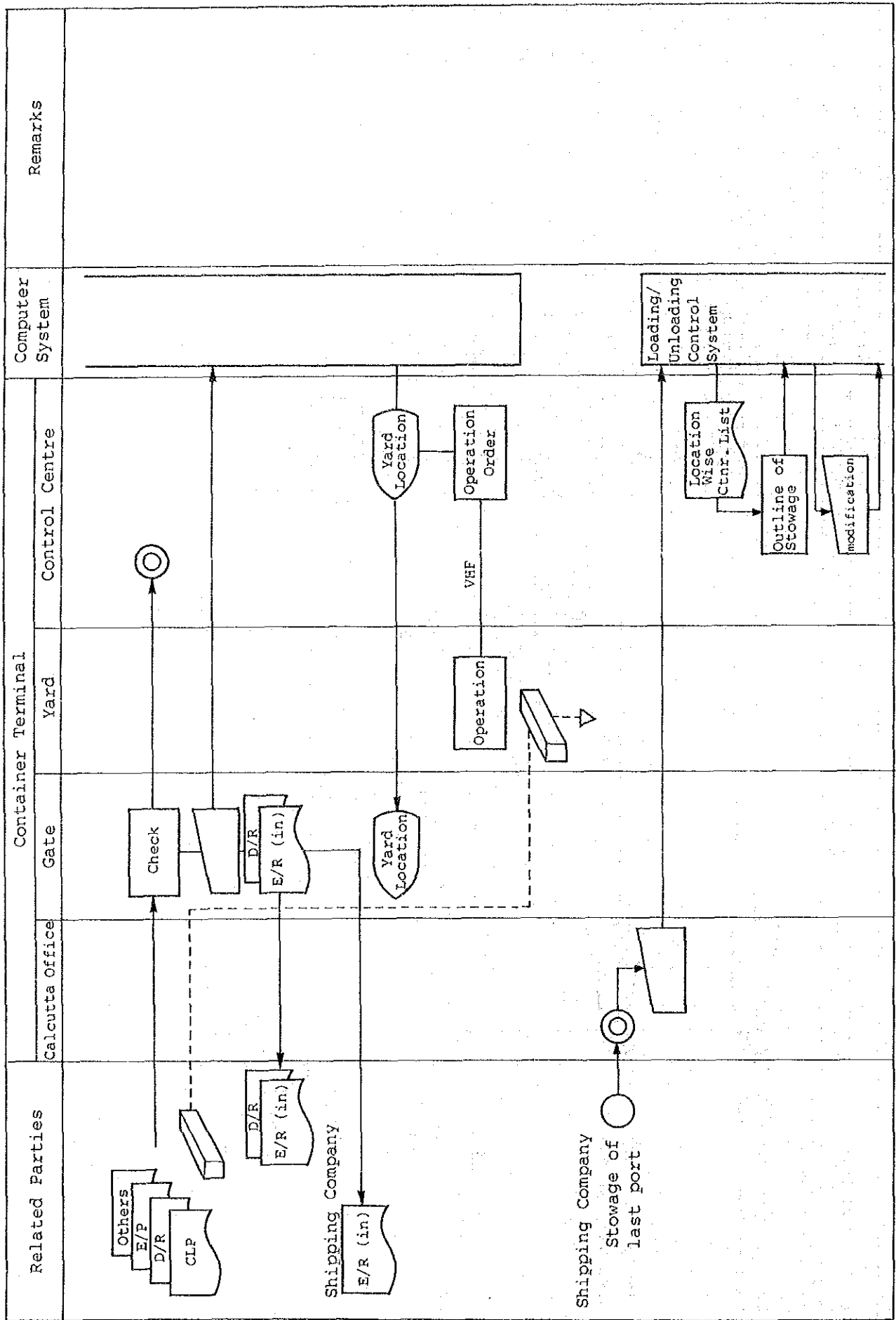
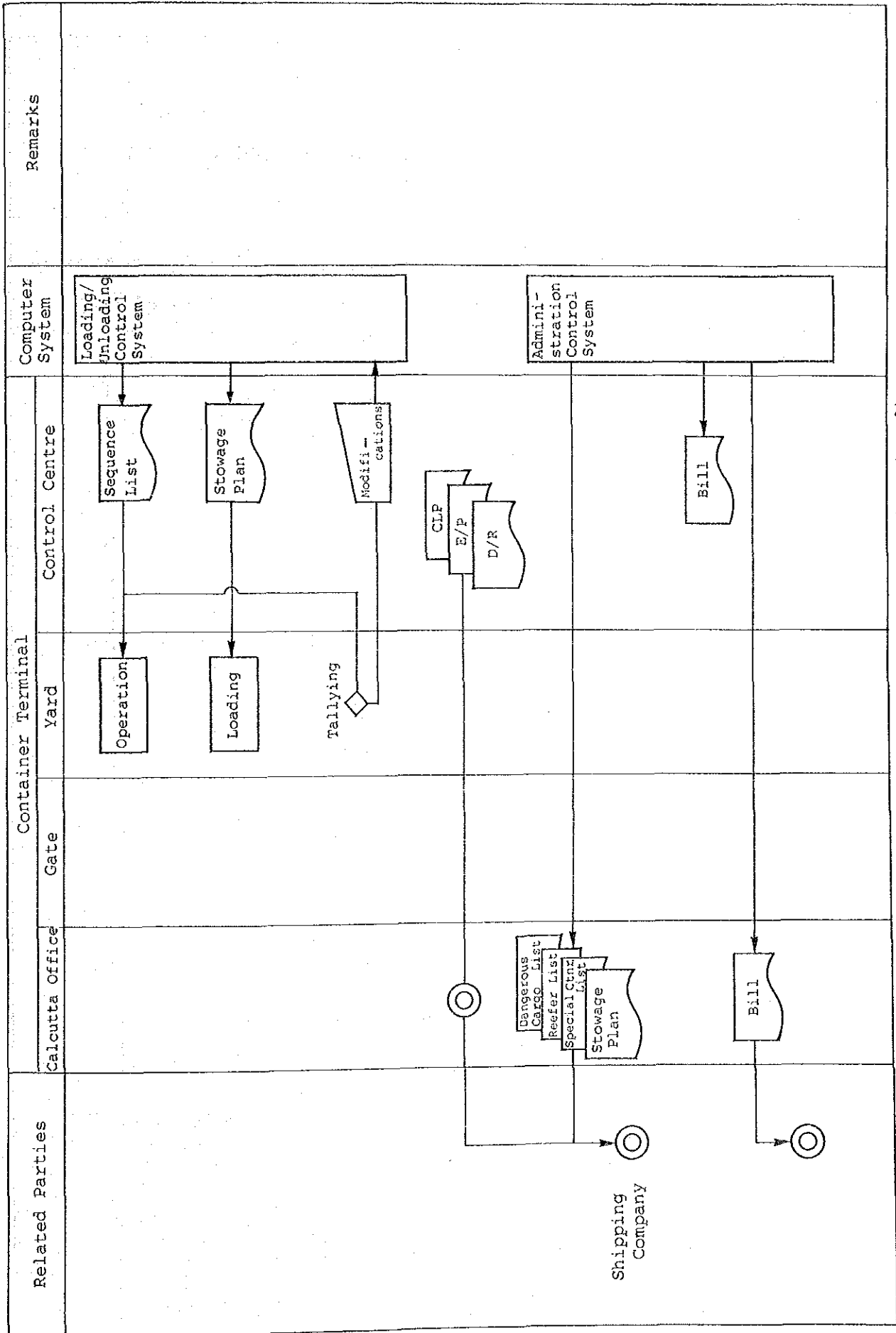


Fig. A-14-2 Container Handling System (Export)



(Continued)



(Continued)





Consignor (Exporter)		Date; Reference No. etc.		
Consignee		Buyer (if other than consignee) or other address		
Notify or delivery address		Country whence consigned		
		Country of origin	Country of destination	
Transport details		Terms of delivery and payment		
Shipping marks; Container No.	Number & kind of packages; Goods description	Commodity No.	Gross weight	Cube
			Net quantity	Value
Free disposal				
Place and date of issue; Authentication				

Fig. A-14-2 United Nations Layout Key for Trade Documents

Appendix 14-3 Handling of Dangerous Cargo

In Japan, the restrictions on handling dangerous cargo at the public berths are as follows:

- 1) Each public berth is classified into the following four classes.

Classification	Standard
A	Passenger berth and adjacent berth Berth which is close to the urban area (100 meters)
B	Other berth excluding A, C <sub>1</sub> and C <sub>2</sub> , and away from the urban area more than 300 meters
C <sub>1</sub>	Berth which is located away from the urban area more than 500 meters
C <sub>2</sub>	Exclusive berth for containers

- 2) Permissible volume of dangerous cargo are determined as follows;

Description		(in Ton)				
		A	B	C <sub>1</sub>	C <sub>2</sub>	
Explosives		0 - 0.2	5	20	20	
Compressed gases	Inflammable Compressed gases	1	20	100	200	
	Non-inflammable Compressed gases	5	100	500	1,000	
	Poisonous Compressed gases	1	20	100	200	
Corrosives		10	250	1,000	2,000	
Poisonous substances		10	250	1,000	2,000	
Radioactive substances		0	0	-	-	
Inflammable liquids	having a flash point of less than -18°C	2	50	250	500	
	having a flash point of -18°C ~ 23°C	5	100	500	1,000	
	having a flash point of 23°C ~ 61°C	10	250	1,000	2,000	
Inflammable substances	Inflammable solids	10	250	1,000	2,000	
	Others	5	100	500	1,000	
Oxidizing substances	Oxidizing substances	5	100	500	1,000	
	Organic peroxide	Explosives	0.5	10	50	100
		Others	1	20	100	200
Hazardous articles		10	250	1,000	2,000	

3) procedures for handling dangerous cargo in the port are prescribed as follows in the Japan Port Regulations Law:

#### Chapter IV. Dangerous Objects

Article 21. 1. When a vessel having explosive or other dangerous cargo on board (except for that provided for use of the ship, the same shall apply hereinafter) intends to enter a Specified Port, she shall remain outside the harbor limits until the Captain of the Port is so informed and special instructions concerning entry are received from him.

2. Dangerous objects, within the meaning of the above paragraph are listed in Annex Three to the Port Regulations Law Enforcement Regulations.

Article 22. A vessel carrying dangerous cargo will anchor or berth only at the place specifically designated by the Captain of the Port. However, if the cargo is other than explosives, the Captain of the Port may remove this restriction if, in view of the duration of ship's stay in port, type of cargo, and method of safeguarding cargo, he considers it in the best interest.

Article 23. 1. In a Specified Port, prior to loading, discharging or transshipping dangerous cargo, permission from the Captain of the Port must be obtained.

2. When the Captain of the Specified Port considers that handling of dangerous cargo as specified above is unsafe in the ship's designated berth, he may designate a safe place for transfer outside the harbor limits and grant permission for the requested operation to be accomplished.

3. When such permission is granted the vessel transferring cargo is still considered to be within the limits of the Specified Port insofar as the Captain of the Port's authority and responsibility are concerned.

4. When a vessel wants to transport a dangerous object within a Specified Port or near the limits of a Specified Port, the permission of the Captain of the Port must first be obtained.

Example of the shipping list of dangerous goods in container is attached in Fig. A-14-3.

## コンテナ危険物明細書

### SHIPPING LIST OF DANGEROUS GOODS IN CONTAINER

1. コンテナ番号及び引受自船社 Container Number & Container Operator	コンテナ番号(Container Number)	引受自船社名(Container Operator)	
2. 船名及び航海番号 Ship's Name & Voy. No.	船名(Ship's Name)	航海番号(Voy. No.)	
3. 積込港 / 降揚港 Loading port / Discharging port	積込港>Loading port)	降揚港(Discharging port)	
4. 危険物の品名 Description of Goods			United Nations No.
5. 危険物の個数 Number of Packages			
6. 容積及び包装の名称 Kind of Packages			
7. 重量 Weight	総重量(Gross) kg	正味(Net) kg	粉末量(Powder) kg
8. 容積 Measurement			
9. 危険物船舶分類 運送及び貯蔵規則による 項目 Item 品名 Article	危険物船舶分類 Classification		
	項目 Item		
	品名 Article		
	検査済(Inspected) <input type="checkbox"/>	未検査(Not yet inspected) <input type="checkbox"/>	検査不要(Not necessary) <input type="checkbox"/>
10. IMCO Codeによる分類 IMCO Classification			
11. 化学名及び閃火点、その他の危険性 Correct Technical Name, Flash Point, Nature of property	化学名(Correct Technical Name)	閃火点(Flash point)	
12. 荷送人の氏名又は名称 Shipper's name	その他の危険性(Dangerous nature of property)		
13. 荷送人の住所 Shipper's address			
14. 荷受人の氏名又は名称 Consignee's name			
15. 荷受人の住所 Consignee's address			

上記の危険物の容積、包装、梱包、表示及び積込方法並びにコンテナの表示は「危険物船舶運送及び貯蔵規則」に適合し、且つ、運送に適した状態であることを通告します。

住所及び氏名又は名称 (Address & Name)

We hereby declare that the Receipts, Packing, Labelling, Declaration, Packing arrangement in container and Declaration of container for the above mentioned dangerous goods are in compliance with the Rules for the Carriage and Storage of Dangerous Goods in Ship, and that the Goods and Container are in suitable condition for carriage at sea.

署名 (Signature)

Fig. A-14-3 Shipping List of dangerous Goods in Container

Appendix 15 Economic Analysis

Appendix 15-6-1 (1) Calculation of Internal Rate of Return

Project Name : CALCUTTA/HALDIA ( BASE CASE )  
I.R.R. (%) : 18.88

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P. COST	P. BNFT	P. VALUE
1	1990	91.50	0.00	-91.50	91.50	0.00	-91.50
2	1991	649.00	75.80	-573.20	545.95	63.76	-482.18
3	1992	771.60	202.50	-569.10	546.02	143.30	-402.72
4	1993	918.50	348.70	-568.80	546.77	208.17	-338.60
5	1994	89.80	435.40	345.60	44.97	218.03	173.06
6	1995	60.80	450.10	389.30	25.61	189.60	163.99
7	1996	89.60	464.60	375.00	31.75	164.64	132.88
8	1997	57.60	479.30	421.70	17.17	142.88	125.71
9	1998	76.80	493.80	417.00	19.26	123.83	104.57
10	1999	57.60	508.50	450.90	12.15	107.26	95.11
11	2000	65.60	523.00	457.40	11.64	92.81	81.16
12	2001	92.00	537.70	445.70	13.73	80.26	66.53
13	2002	57.60	552.20	494.60	7.23	69.34	62.11
14	2003	88.80	566.90	478.10	9.38	59.88	50.50
15	2004	57.60	581.40	523.80	5.12	51.66	46.54
16	2005	68.80	581.40	512.60	5.14	43.46	38.32
17	2006	127.20	581.40	454.20	8.00	36.56	28.56
18	2007	78.40	581.40	503.00	4.15	30.75	26.61
19	2008	108.80	581.40	472.60	4.84	25.87	21.03
20	2009	57.60	581.40	523.80	2.16	21.76	19.61
21	2010	65.60	581.40	515.80	2.07	18.31	16.24
22	2011	92.00	581.40	489.40	2.44	15.40	12.96
23	2012	105.60	581.40	475.80	2.35	12.95	10.60
24	2013	88.80	581.40	492.60	1.66	10.90	9.23
25	2014	57.60	581.40	523.80	0.91	9.17	8.26
26	2015	63.20	581.40	518.20	0.84	7.71	6.87
27	2016	160.00	581.40	421.40	1.79	6.49	4.70
28	2017	115.20	581.40	466.20	1.08	5.46	4.38
29	2018	329.60	581.40	251.80	2.60	4.59	1.99
30	2019	57.60	581.40	523.80	0.38	3.86	3.48
TOTAL		4800.40	14941.90	10141.50	1968.65	1968.66	0.01

UNIT = Million Rupees

Note : P.COST --- Present Value of Cost  
: P.BNFT --- Present Value of Benefit

Appendix 15-6-1 (2) Calculation of Internal Rate of Return

Project Name : CALCUTTA/HALDIA ( CASE A )  
I.R.R. (%) : 16.79

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P. COST	P. BNFT	P. VALUE
1	1990	100.60	0.00	-100.60	100.60	0.00	-100.60
2	1991	713.90	75.80	-638.10	611.29	64.91	-546.38
3	1992	848.70	202.50	-646.20	622.26	148.47	-473.79
4	1993	1010.30	349.70	-660.60	634.28	219.55	-414.73
5	1994	98.80	435.40	336.60	53.11	234.06	180.95
6	1995	66.90	450.10	383.20	30.79	207.18	176.39
7	1996	98.50	464.60	366.10	38.82	183.12	144.30
8	1997	63.40	479.30	415.90	21.40	161.76	140.36
9	1998	84.50	493.80	409.30	24.42	142.70	118.28
10	1999	63.40	508.50	445.10	15.69	125.83	110.14
11	2000	72.20	523.00	450.80	15.30	110.81	95.52
12	2001	101.20	537.70	436.50	18.36	97.55	79.19
13	2002	63.40	552.20	488.80	9.85	85.78	75.94
14	2003	97.70	566.90	469.20	13.00	75.41	62.41
15	2004	63.40	581.40	518.00	7.22	66.22	59.00
16	2005	75.70	581.40	505.70	7.38	56.70	49.32
17	2006	139.90	581.40	441.50	11.68	48.55	36.87
18	2007	86.20	581.40	495.20	6.16	41.58	35.41
19	2008	119.70	581.40	461.70	7.33	35.60	28.27
20	2009	63.40	581.40	518.00	3.32	30.48	27.16
21	2010	72.20	581.40	509.20	3.24	26.10	22.86
22	2011	101.20	581.40	480.20	3.89	22.35	18.46
23	2012	116.20	581.40	465.20	3.82	19.14	15.31
24	2013	97.70	581.40	483.70	2.75	16.39	13.63
25	2014	63.40	581.40	518.00	1.53	14.03	12.50
26	2015	69.50	581.40	511.90	1.44	12.01	10.58
27	2016	176.00	581.40	405.40	3.11	10.29	7.17
28	2017	126.70	581.40	454.70	1.92	8.81	6.89
29	2018	362.60	581.40	218.80	4.70	7.54	2.84
30	2019	63.40	581.40	518.00	0.70	6.46	5.75
TOTAL		5280.70	14941.90	9661.20	2279.39	2279.39	0.00

UNIT = Million Rupees

Note : P.COST --- Present Value of Cost  
: P.BNFT --- Present Value of Benefit

Appendix 15-6-1 (3) Calculation of Internal Rate of Return

Project Name : CALCUTTA/HALDIA ( CASE B )  
I.R.R. (%) : 16.58

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P. COST	P. BNFT	P. VALUE
1	1990	91.50	0.00	-91.50	91.50	0.00	-91.50
2	1991	649.00	68.20	-580.80	556.72	58.50	-498.22
3	1992	771.60	182.30	-589.30	567.78	134.14	-433.63
4	1993	918.50	314.70	-603.80	579.77	198.64	-381.13
5	1994	89.80	391.90	302.10	48.62	212.20	163.58
6	1995	60.80	405.10	344.30	28.24	188.16	159.92
7	1996	89.60	418.10	328.50	35.70	166.59	130.89
8	1997	57.60	431.40	373.80	19.69	147.44	127.76
9	1998	76.80	444.40	367.60	22.52	130.29	107.78
10	1999	57.60	457.70	400.10	14.49	115.11	100.62
11	2000	65.60	470.70	405.10	14.15	101.55	87.40
12	2001	92.00	483.90	391.90	17.03	89.55	72.53
13	2002	57.60	497.00	439.40	9.14	78.90	69.75
14	2003	88.80	510.20	421.40	12.09	69.48	57.39
15	2004	57.60	523.30	465.70	6.73	61.13	54.40
16	2005	68.80	523.30	454.50	6.89	52.44	45.54
17	2006	127.20	523.30	396.10	10.93	44.98	34.05
18	2007	78.40	523.30	444.90	5.78	38.59	32.80
19	2008	108.80	523.30	414.50	6.88	33.10	26.22
20	2009	57.60	523.30	465.70	3.13	28.39	25.27
21	2010	65.60	523.30	457.70	3.05	24.36	21.30
22	2011	92.00	523.30	431.30	3.67	20.89	17.22
23	2012	105.60	523.30	417.70	3.62	17.92	14.31
24	2013	88.80	523.30	434.50	2.61	15.37	12.77
25	2014	57.60	523.30	465.70	1.45	13.19	11.74
26	2015	63.20	523.30	460.10	1.37	11.31	9.95
27	2016	160.00	523.30	363.30	2.97	9.70	6.74
28	2017	115.20	523.30	408.10	1.83	8.32	6.49
29	2018	329.60	523.30	193.70	4.50	7.14	2.64
30	2019	57.60	523.30	465.70	0.67	6.13	5.45
TOTAL		4800.40	13448.40	8648.00	2083.52	2083.52	0.00

UNIT = Million Rupees

Note : P.COST --- Present Value of Cost  
: P.BNFT --- Present Value of Benefit

Appendix 15-6-1 (4) Calculation of Internal Rate of Return

Project Name : CALCUTTA/HALDIA ( CASE C )  
I.R.R. (%) : 14.67

NO.	YEAR	COST	BENEFIT	BNFT. -COST	P. COST	P. BNFT	P. VALUE
1	1990	100.60	0.00	-100.60	100.60	0.00	-100.60
2	1991	713.90	68.20	-645.70	622.59	59.48	-563.11
3	1992	848.70	182.30	-666.40	645.48	138.65	-506.83
4	1993	1010.30	314.70	-695.60	670.11	208.73	-461.37
5	1994	98.80	391.90	293.10	57.15	226.69	169.54
6	1995	66.90	405.10	338.20	33.75	204.36	170.61
7	1996	98.50	418.10	319.60	43.33	183.94	140.60
8	1997	84.50	444.40	368.00	24.32	165.51	141.19
9	1998	63.40	457.70	394.30	18.50	148.69	120.42
10	1999	72.20	470.70	398.50	18.37	133.56	115.06
11	2000	101.20	483.90	382.70	22.46	119.78	101.41
12	2001	63.40	497.00	433.60	12.27	107.39	84.93
13	2002	97.70	510.20	412.50	16.49	96.19	83.92
14	2003	63.40	523.30	459.90	9.33	86.12	69.62
15	2004	75.70	523.30	447.60	9.72	77.03	67.70
16	2005	139.90	523.30	383.40	15.66	67.18	57.46
17	2006	86.20	523.30	437.10	8.42	58.58	42.92
18	2007	119.70	523.30	403.60	10.19	51.09	42.68
19	2008	63.40	523.30	459.90	4.71	44.56	34.36
20	2009	72.20	523.30	451.10	4.68	38.86	34.15
21	2010	101.20	523.30	422.10	5.72	33.89	29.21
22	2011	116.20	523.30	407.10	5.72	29.55	23.84
23	2012	97.70	523.30	425.60	4.20	25.77	20.05
24	2013	63.40	523.30	459.90	2.37	22.48	18.28
25	2014	69.50	523.30	453.80	2.27	19.60	17.23
26	2015	176.00	523.30	347.30	5.01	17.09	14.82
27	2016	126.70	523.30	396.60	3.15	14.91	9.89
28	2017	362.60	523.30	160.70	7.86	13.00	9.85
29	2018	63.40	523.30	459.90	1.20	11.34	3.48
30	2019					9.89	8.69
TOTAL		5280.70	13448.40	8167.70	2413.90	2413.90	0.00

UNIT = Million Rupees

Note : P.COST --- Present Value of Cost  
: P.BNFT --- Present Value of Benefit



## Appendices 16 Financial Analysis

### Appendix 16-1 Financing Arrangement for Port Development in Japan

#### 1. Basic Concept

Port development in Japan is carried out as part of general public works with government grants and subsidies, whereby ports are not expected to fully recover development costs through their operations alone. This policy is significantly different from the widely accepted concept that ports should in principle be managed like a commercial entity. In other words, ports should be financially self-supporting by earning sufficient revenues from their operations. Financing for port development in Japan, however, is justified on the basis of its contribution to the social and economic development of the region rather than on the basis of a direct financial return from port operations. Consequently, Japanese port development relies on a substantial amount of funds from the national and local governments. It is not port users but the entire hinterland communities who are financially supporting the development of ports in Japan.

Construction and improvement works of public port facilities are financed based on annual government budgets in accordance with long-term port plans as well as five-year port improvement plans. Port facilities for private use are entirely financed by the private users except for container terminals which are owned by public corporations and leased out to the private parties. In general, the construction cost of public port facilities is shared by the central government and the port management body. The cost-sharing scheme at present is shown in Table A-16-1.

Regarding the construction works of basic port facilities such as channels, breakwaters, mooring facilities and port roads, the central government shares up to 75 % of the total cost for specially designated major ports, which mean major ports that are of special importance for the promotions of foreign trade and designated by government ordinance, and 50 % for major ports, which mean those ports that are specified by government ordinance as having great importance to the national interest. Development and maintenance works of waterways outside port areas are financed entirely by the central government.

Regarding the back-up facilities such as cargo handling equipment and transit sheds, port management bodies secure funds by issuing local government bonds. Their interest and principal are repaid by the port management bodies through collecting user charges from the new facilities.

Regarding environmental facility works such as waterfront parks and waste disposal facilities, port management bodies have primary responsibility for constructing and improving these facilities, receiving subsidies of varying rates from the central government.

In addition, there are several other schemes which must meet various special requirements. "Specially designated port facility works" are a form of construction undertaken by the central government in major ports in which specially designated major ports are included to develop specialized terminals for bulk cargoes such as timber, coal, ore and so on. With this arrangement, investments are made more efficiently and works are accelerated through a sharing of the costs between the central government, port management bodies and beneficiaries.

Table A-16-1 Share of Construction Cost Borne by Central Government

(1) Basic Port Facilities

		Water facilities	Protective facilities	Mooring facilities	Waterfront traffic facilities	Land for port and harbor facilities	Remarks
Port classification (Mainland)	Specially designated major ports	5/10-10/10	5/10-10/10	5/10-7.5/10	-7.5/10	-	
	Major ports	5/10	5/10	5/10	-5/10	-	
	Minor ports	4/10	4/10	4/10	4/10	-	
	Harbors of refuge	7.5/10	7.5/10	-	-	-	
Special Zones	Hokkaido	9.5/10	9.5/10	7.5/10*	7.5/10*	7.5/10	*Excluding mooring and port traffic facilities for harbors of refuge. **Excluding port traffic facilities for harbors of refuge.
	Okinawa	10/10	10/10	10/10*	10/10*	10/10*	
	Remote islands	9.5/10	9.5/10	7.5/10	7.5/10**	-	
	Ogasawara islands	10/10	10/10	7.5/10	7.5/10	-	
	Amami Islands	9.5/10	9.5/10	9/10	9/10	9/10	
Specially designated port facilities work	Specialized cargo piers (Mainland)	4/10(2/10)	4/10	4/10(2/10)	-	-	The figures in parentheses indicate shares paid by beneficiaries.
	(Hokkaido)	8.55/10(1/10)	8.55/10(1/10)	6.75/10(1/10)	-	-	
Industry-related projects	Energy, iron and steel ports (Mainland)	-2.5/10(5/10)	2.5/10(5/10)	-	-	-	
	(Minor ports)	2.5/10(5/10)	2.5/10(5/10)	-	-	-	

(2) Container Terminals

National interest-free loans	Interest-free loans by Municipal government	Treasury investments & loans	Private capital
1/10	1/10	4/10	4/10

## 2. Container Terminals

There are three different types of the container terminal ownership in Japan as follows:

- (1) Local government or port authority
- (2) Port Terminal Corporation (Yokohama, Tokyo, Kobe and Osaka)
- (3) Container Berth Co., Ltd. (Nagoya)

At the beginning of containerization of the port where container cargo is not enough to build an exclusive use terminal, the local government prepares a public use container terminal.

Even at the four major ports in Japan, the minor container line operators are using the public owned terminal.

However, major container terminals in Japan are constructed and owned by Port Terminals Corporation which is established by the Local Government concerned.

The quays and background facilities such as container yard, container gantry cranes, freight stations, office buildings and maintenance shops are to be leased as an unit terminal for the exclusive use of shipping (container line) operators.

The lessees are selected by the Corporation from aspirants who replied to the public subscription. Terminals once leased are operated, under the name of shipping companies, by a terminal operator (some of them organize a new operating company, some operated by stevedoring and shipping company altogether).

Yokohama Port Terminals Corporation, for instances, was established by Yokohama Municipal Government as a construction and management body of exclusive-use container terminals in the Port of Yokohama.

The resources of funds for construction and improvement of the terminals consist of 10 % of interest free loans from the Central Government (Grace period : 3 years, Repayment Period : 17 years), 10 % of interest-free loans from the Municipal Government (Same conditions as above), 40 % of treasury investment and loans from the Municipal Government (Interest rate : 7.1 % - 5.0 %, Grace Period: 3 years, Repayment Period : 17 years) and 40 % of debenture loans from private sectors.

Table A-16-2-1 Increasing Period of Cargo Volume

	— With Case				..... Without Case
	1990	1995	2000	2005	2020
Calcutta					
Oil Jetty at BB					
Other Berths					
Haldia					
Oil Jetty					
Container Berth					
Other Berths					

Table A-16-2-2 Economic Service Life

Description	Year
Wharf	75
Transit Shed	40
Railway Works	30
Slipway	50
Gantry Crane	25
Transtainer	25
Forklift Truck	5
Chassis	5
Tractor	10
Mobile Crane	15
Locomotive	30
Heavy Machinery Plant	20
Vessel	30

Table A-16-3-1 Calculation Result of the Base Case

T = Traffic

D = Duty

CASE B-A PROJECT : CPT  
 MANPOWER NO-RE FIRR : 0.1214  
 T=0 D=0,90

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	113	0	-113	113	0	-113
2	1991/92	937	87	-850	836	78	-758
3	1992/93	1,074	177	-897	854	141	-713
4	1993/94	1,299	267	-1,032	921	189	-732
5	1994/95	123	374	251	78	237	159
6	1995/96	76	447	371	43	252	209
7	1996/97	112	540	428	56	272	215
8	1997/98	72	540	468	32	242	210
9	1998/99	96	540	444	38	216	178
10	1999/00	72	540	468	26	193	167
11	2000/01	82	540	458	26	172	146
12	2001/02	115	540	425	33	153	121
13	2002/03	72	540	468	18	137	118
14	2003/04	111	540	429	25	122	97
15	2004/05	72	540	468	14	109	94
16	2005/06	86	540	454	15	97	81
17	2006/07	159	540	381	25	86	61
18	2007/08	98	540	442	14	77	63
19	2008/09	136	540	404	17	69	51
20	2009/10	72	540	468	8	61	53
21	2010/11	82	540	458	8	55	46
22	2011/12	115	540	425	10	49	38
23	2012/13	132	540	408	11	43	33
24	2013/14	111	540	429	8	39	31
25	2014/15	72	540	468	5	35	30
26	2015/16	79	540	461	5	31	26
27	2016/17	200	540	340	10	27	17
28	2017/18	144	540	396	7	24	18
29	2018/19	412	540	128	17	22	5
30	2019/20	-805	540	1,345	-29	19	48
TOTAL		5,519	14,312	8,793	3,244	3,244	0

Table A-16-3-2

CASE B-A  
MANPOWER NO-RE  
T=0 D=0.0,90

PROJECT : CPT  
FIRR : 0.1299

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	113	0	-113	113	0	-113
2	1991/92	873	87	-786	773	77	-696
3	1992/93	1,051	177	-874	823	139	-685
4	1993/94	1,182	267	-915	819	185	-634
5	1994/95	123	374	251	75	229	154
6	1995/96	76	447	371	41	243	201
7	1996/97	112	540	428	54	260	206
8	1997/98	72	540	468	31	230	199
9	1998/99	96	540	444	36	203	167
10	1999/00	72	540	468	24	180	156
11	2000/01	82	540	458	24	159	135
12	2001/02	115	540	425	30	141	111
13	2002/03	72	540	468	17	125	108
14	2003/04	111	540	429	23	110	88
15	2004/05	72	540	468	13	98	85
16	2005/06	86	540	454	14	86	73
17	2006/07	159	540	381	23	77	54
18	2007/08	98	540	442	12	68	55
19	2008/09	136	540	404	15	60	45
20	2009/10	72	540	468	7	53	46
21	2010/11	82	540	458	7	47	40
22	2011/12	115	540	425	9	42	33
23	2012/13	132	540	408	9	37	28
24	2013/14	111	540	429	7	33	26
25	2014/15	72	540	468	4	29	25
26	2015/16	79	540	461	4	25	22
27	2016/17	200	540	340	8	23	14
28	2017/18	144	540	396	5	20	15
29	2018/19	412	540	128	13	18	4
30	2019/20	-805	540	1,345	-23	16	39
TOTAL		5,315	14,312	8,997	3,010	3,010	0

Table A-16-3-3

CASE B-A  
MANPOWER NO-RE  
T=0 D=90,90

PROJECT : CPT  
FIRR :

0.0946

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	113	0	-113	113	0	-113
2	1991/92	1,161	87	-1,074	1,061	79	-981
3	1992/93	1,379	177	-1,202	1,151	148	-1,003
4	1993/94	1,565	267	-1,298	1,193	204	-990
5	1994/95	123	374	251	86	261	175
6	1995/96	76	447	371	48	284	236
7	1996/97	112	540	428	65	314	249
8	1997/98	72	540	468	38	287	249
9	1998/99	96	540	444	47	262	215
10	1999/00	72	540	468	32	239	207
11	2000/01	82	540	458	33	219	185
12	2001/02	115	540	425	43	200	157
13	2002/03	72	540	468	24	183	158
14	2003/04	111	540	429	34	167	132
15	2004/05	72	540	468	20	152	132
16	2005/06	86	540	454	22	139	117
17	2006/07	159	540	381	37	127	90
18	2007/08	98	540	442	21	116	95
19	2008/09	136	540	404	27	106	79
20	2009/10	72	540	468	13	97	84
21	2010/11	82	540	458	13	89	75
22	2011/12	115	540	425	17	81	64
23	2012/13	132	540	408	18	74	56
24	2013/14	111	540	429	14	68	54
25	2014/15	72	540	468	8	62	53
26	2015/16	79	540	461	8	56	48
27	2016/17	200	540	340	19	51	32
28	2017/18	144	540	396	13	47	35
29	2018/19	412	540	128	33	43	10
30	2019/20	-805	540	1,345	-59	39	98
TOTAL		6,314	14,312	7,998	4,194	4,193	0

Table A-16-3-4

CASE B-B PROJECT : CPT  
 MANPOWER NO-RE FIRR : 0.1337  
 T=4 D=0, 90

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	113	0	-113	113	0	-113
2	1991/92	937	87	-850	827	77	-750
3	1992/93	1,074	184	-890	836	143	-692
4	1993/94	1,299	278	-1,021	891	191	-701
5	1994/95	123	405	282	74	245	171
6	1995/96	76	483	407	41	258	217
7	1996/97	112	584	472	53	275	222
8	1997/98	72	584	512	30	243	213
9	1998/99	96	584	488	35	214	179
10	1999/00	72	584	512	23	189	166
11	2000/01	82	584	502	23	167	143
12	2001/02	115	584	469	29	147	118
13	2002/03	72	584	512	16	130	114
14	2003/04	111	584	473	22	114	93
15	2004/05	72	584	512	12	101	88
16	2005/06	86	584	498	13	89	76
17	2006/07	159	584	425	21	78	57
18	2007/08	98	584	486	12	69	58
19	2008/09	136	584	448	14	61	47
20	2009/10	72	584	512	7	54	47
21	2010/11	82	584	502	7	47	41
22	2011/12	115	584	469	8	42	34
23	2012/13	132	584	452	8	37	29
24	2013/14	111	584	473	6	33	26
25	2014/15	72	584	512	4	29	25
26	2015/16	79	584	505	3	25	22
27	2016/17	200	584	384	8	22	15
28	2017/18	144	584	440	5	20	15
29	2018/19	412	584	172	12	17	5
30	2019/20	-805	584	1,389	-21	15	36
TOTAL		5,519	15,453	9,934	3,132	3,131	-1



Table A-16-3-5

CASE B-B  
MANPOWER NO-RE  
T=4 D=0,0,90

PROJECT : CPT  
FIRR : 0.1427

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	113	0	-113	113	0	-113
2	1991/92	873	87	-786	764	76	-688
3	1992/93	1,051	184	-867	805	141	-664
4	1993/94	1,182	278	-904	792	186	-606
5	1994/95	123	405	282	72	238	166
6	1995/96	76	483	407	39	248	209
7	1996/97	112	584	472	50	262	212
8	1997/98	72	584	512	28	230	201
9	1998/99	96	584	488	33	201	168
10	1999/00	72	584	512	22	176	154
11	2000/01	82	584	502	22	154	132
12	2001/02	115	584	469	27	135	108
13	2002/03	72	584	512	15	118	103
14	2003/04	111	584	473	20	103	84
15	2004/05	72	584	512	11	90	79
16	2005/06	86	584	498	12	79	67
17	2006/07	159	584	425	19	69	50
18	2007/08	98	584	486	10	60	50
19	2008/09	136	584	448	12	53	41
20	2009/10	72	584	512	6	46	41
21	2010/11	82	584	502	6	41	35
22	2011/12	115	584	469	7	35	28
23	2012/13	132	584	452	7	31	24
24	2013/14	111	584	473	5	27	22
25	2014/15	72	584	512	3	24	21
26	2015/16	79	584	505	3	21	18
27	2016/17	200	584	384	6	18	12
28	2017/18	144	584	440	4	16	12
29	2018/19	412	584	172	10	14	4
30	2019/20	-805	584	1,389	-17	12	29
TOTAL		5,315	15,453	10,138	2,904	2,904	0

Table A-16-3-6

CASE B-B  
 MANPOWER NO-RE  
 T=4 D=90, 90  
 PROJECT : CPT  
 FIRR : 0.1053

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	113	0	-113	113	0	-113
2	1991/92	1,161	87	-1,074	1,050	79	-972
3	1992/93	1,379	184	-1,195	1,129	151	-978
4	1993/94	1,565	278	-1,287	1,159	206	-953
5	1994/95	123	405	282	82	271	189
6	1995/96	76	483	407	46	293	247
7	1996/97	112	584	472	61	320	259
8	1997/98	72	584	512	36	290	254
9	1998/99	96	584	488	43	262	219
10	1999/00	72	584	512	29	237	208
11	2000/01	82	584	502	30	215	184
12	2001/02	115	584	469	38	194	156
13	2002/03	72	584	512	22	176	154
14	2003/04	111	584	473	30	159	129
15	2004/05	72	584	512	18	144	126
16	2005/06	86	584	498	19	130	111
17	2006/07	159	584	425	32	118	86
18	2007/08	98	584	486	18	106	89
19	2008/09	136	584	448	22	96	74
20	2009/10	72	584	512	11	87	76
21	2010/11	82	584	502	11	79	68
22	2011/12	115	584	469	14	71	57
23	2012/13	132	584	452	15	65	50
24	2013/14	111	584	473	11	58	47
25	2014/15	72	584	512	7	53	46
26	2015/16	79	584	505	6	48	41
27	2016/17	200	584	384	15	43	28
28	2017/18	144	584	440	10	39	29
29	2018/19	412	584	172	25	35	10
30	2019/20	-805	584	1,389	-44	32	76
TOTAL		6,314	15,453	9,139	4,058	4,057	-1

Table A-16-3-7

CASE B-C MANPOWER NO-RE T=10 D=0,90	PROJECT : CPT FIRR :	0.1521						
NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE	
1	1990/91	113	0	-113	113	0	-113	
2	1991/92	937	87	-850	813	76	-738	
3	1992/93	1,074	195	-879	809	147	-662	
4	1993/94	1,299	294	-1,005	849	192	-657	
5	1994/95	123	453	330	70	257	187	
6	1995/96	76	541	465	37	267	229	
7	1996/97	112	653	541	48	279	231	
8	1997/98	72	653	581	27	242	216	
9	1998/99	96	653	557	31	210	179	
10	1999/00	72	653	581	20	183	162	
11	2000/01	82	653	571	20	158	139	
12	2001/02	115	653	538	24	138	113	
13	2002/03	72	653	581	13	119	106	
14	2003/04	111	653	542	18	104	86	
15	2004/05	72	653	581	10	90	80	
16	2005/06	86	653	567	10	78	68	
17	2006/07	159	653	494	17	68	51	
18	2007/08	98	653	555	9	59	50	
19	2008/09	136	653	517	11	51	40	
20	2009/10	72	653	581	5	44	39	
21	2010/11	82	653	571	5	38	34	
22	2011/12	115	653	538	6	33	28	
23	2012/13	132	653	521	6	29	23	
24	2013/14	111	653	542	4	25	21	
25	2014/15	72	653	581	2	22	19	
26	2015/16	79	653	574	2	19	17	
27	2016/17	200	653	453	5	16	11	
28	2017/18	144	653	509	3	14	11	
29	2018/19	412	653	241	8	12	5	
30	2019/20	-805	653	1,458	-13	11	24	
TOTAL		5,519	17,242	11,723	2,982	2,983	1	

Table A-16-3-8

CASE B-C  
 MANPOWER NO-RE  
 T=10 D=0, 0, 90

PROJECT : CPT  
 FIRR : 0.1619

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	113	0	-113	113	0	-113
2	1991/92	873	87	-786	751	75	-676
3	1992/93	1,051	195	-856	779	144	-634
4	1993/94	1,182	294	-888	754	187	-566
5	1994/95	123	453	330	67	249	181
6	1995/96	76	541	465	36	255	220
7	1996/97	112	653	541	46	265	220
8	1997/98	72	653	581	25	228	203
9	1998/99	96	653	557	29	197	168
10	1999/00	72	653	581	19	169	151
11	2000/01	82	653	571	18	146	127
12	2001/02	115	653	538	22	125	103
13	2002/03	72	653	581	12	108	96
14	2003/04	111	653	542	16	93	77
15	2004/05	72	653	581	9	80	71
16	2005/06	86	653	567	9	69	60
17	2006/07	159	653	494	14	59	45
18	2007/08	98	653	555	8	51	43
19	2008/09	136	653	517	9	44	35
20	2009/10	72	653	581	4	38	34
21	2010/11	82	653	571	4	32	28
22	2011/12	115	653	538	5	28	23
23	2012/13	132	653	521	5	24	19
24	2013/14	111	653	542	4	21	17
25	2014/15	72	653	581	2	18	16
26	2015/16	79	653	574	2	15	13
27	2016/17	200	653	453	4	13	9
28	2017/18	144	653	509	3	11	9
29	2018/19	412	653	241	6	10	4
30	2019/20	-805	653	1,458	-10	8	19
TOTAL		5,315	17,242	11,927	2,763	2,764	1

Table A-16-3-9

CASE B-C  
MANPOWER NO-RE  
T=10 D=90,90

PROJECT : CPT  
FIRR :

0.1213

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	113	0	-113	113	0	-113
2	1991/92	1,161	87	-1,074	1,035	78	-958
3	1992/93	1,379	195	-1,184	1,097	155	-942
4	1993/94	1,565	294	-1,271	1,110	209	-902
5	1994/95	123	453	330	78	287	209
6	1995/96	76	541	465	43	305	262
7	1996/97	112	653	541	56	329	272
8	1997/98	72	653	581	32	293	261
9	1998/99	96	653	557	38	261	223
10	1999/00	72	653	581	26	233	207
11	2000/01	82	653	571	26	208	182
12	2001/02	115	653	538	33	185	153
13	2002/03	72	653	581	18	165	147
14	2003/04	111	653	542	25	147	122
15	2004/05	72	653	581	15	131	117
16	2005/06	86	653	567	15	117	102
17	2006/07	159	653	494	25	105	79
18	2007/08	98	653	555	14	93	79
19	2008/09	136	653	517	17	83	66
20	2009/10	72	653	581	8	74	66
21	2010/11	82	653	571	8	66	58
22	2011/12	115	653	538	10	59	49
23	2012/13	132	653	521	11	53	42
24	2013/14	111	653	542	8	47	39
25	2014/15	72	653	581	5	42	37
26	2015/16	79	653	574	5	37	33
27	2016/17	200	653	453	10	33	23
28	2017/18	144	653	509	7	30	23
29	2018/19	412	653	241	17	26	10
30	2019/20	-805	653	1,458	-29	24	53
TOTAL		6,314	17,242	10,928	3,876	3,875	-1

Table A-16-3-10

CASE A-A PROJECT : CPT  
 MANPOWER REDUC FIRR : 0.1592  
 T=0 D=0,90

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	90	0	-90	90	0	-90
2	1991/92	894	87	-807	771	75	-696
3	1992/93	1,016	177	-839	756	132	-624
4	1993/94	1,221	267	-954	784	171	-612
5	1994/95	20	374	354	11	207	196
6	1995/96	-27	447	474	-13	214	226
7	1996/97	9	540	531	4	223	219
8	1997/98	-31	540	571	-11	192	203
9	1998/99	-7	540	547	-2	166	168
10	1999/00	-31	540	571	-8	143	151
11	2000/01	-7	540	547	-2	123	125
12	2001/02	-21	540	561	-4	106	110
13	2002/03	12	540	528	2	92	90
14	2003/04	-31	540	571	-5	79	84
15	2004/05	8	540	532	1	68	67
16	2005/06	-17	540	557	-2	59	61
17	2006/07	56	540	484	5	51	46
18	2007/08	-5	540	545	0	44	44
19	2008/09	33	540	507	2	38	35
20	2009/10	-31	540	571	-2	33	34
21	2010/11	-21	540	561	-1	28	29
22	2011/12	12	540	528	1	24	24
23	2012/13	29	540	511	1	21	20
24	2013/14	8	540	532	0	18	18
25	2014/15	-31	540	571	-1	16	16
26	2015/16	-24	540	564	-1	13	14
27	2016/17	97	540	443	2	12	10
28	2017/18	41	540	499	1	10	9
29	2018/19	309	540	231	5	9	4
30	2019/20	-908	540	1,448	-13	7	20
TOTAL		2,663	14,312	11,649	2,373	2,373	0

Table A-16-3-11

CASE A-A  
 MANPOWER REDUC  
 T=0 D=0,0,90

PROJECT : CPT  
 FIRR : 0.1701

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	0	0	-90	90	0	-90
2	1991/92	830	87	-743	709	74	-635
3	1992/93	993	177	-816	725	129	-596
4	1993/94	1,104	267	-837	689	167	-522
5	1994/95	20	374	354	11	200	189
6	1995/96	-27	447	474	-12	204	216
7	1996/97	9	540	531	4	210	207
8	1997/98	-31	540	571	-10	180	190
9	1998/99	-7	540	547	-2	154	156
10	1999/00	-31	540	571	-8	131	139
11	2000/01	-7	540	547	-1	112	114
12	2001/02	-21	540	561	-4	96	100
13	2002/03	12	540	528	2	82	80
14	2003/04	-31	540	571	-4	70	74
15	2004/05	8	540	532	1	60	59
16	2005/06	-17	540	557	-2	51	53
17	2006/07	56	540	484	5	44	39
18	2007/08	-5	540	545	0	37	38
19	2008/09	33	540	507	2	32	30
20	2009/10	-31	540	571	-2	27	29
21	2010/11	-21	540	561	-1	23	24
22	2011/12	12	540	528	0	20	20
23	2012/13	29	540	511	1	17	16
24	2013/14	8	540	532	0	15	14
25	2014/15	-31	540	571	-1	12	13
26	2015/16	-24	540	564	0	11	11
27	2016/17	97	540	443	2	9	7
28	2017/18	41	540	499	1	8	7
29	2018/19	309	540	231	4	7	3
30	2019/20	-908	540	1,448	-10	6	15
TOTAL		2,459	14,312	11,853	2,188	2,188	-1

Table A-16-3-12

CASE A-A PROJECT : CPT  
 MANPOWER REDUC FIRR :  
 T=0 D=90, 90 0.1256

NO.	YEAR	COST	BENEFIT	BNFT. - COST	P. COST	P. BNFT	P. VALUE
1	1990/91	0	0	-90	90	0	-90
2	1991/92	1,118	87	-1,031	993	77	-916
3	1992/93	1,321	177	-1,144	1,043	140	-903
4	1993/94	1,487	267	-1,220	1,043	187	-855
5	1994/95	20	374	354	12	233	221
6	1995/96	-27	447	474	-15	247	262
7	1996/97	9	540	531	4	266	261
8	1997/98	-31	540	571	-14	236	249
9	1998/99	-7	540	547	-3	210	212
10	1999/00	-31	540	571	-11	186	197
11	2000/01	-7	540	547	-2	165	168
12	2001/02	-21	540	561	-6	147	153
13	2002/03	12	540	528	3	131	128
14	2003/04	-31	540	571	-7	116	123
15	2004/05	8	540	532	2	103	102
16	2005/06	-17	540	557	-3	92	94
17	2006/07	56	540	484	8	81	73
18	2007/08	-5	540	545	-1	72	73
19	2008/09	33	540	507	4	64	60
20	2009/10	-31	540	571	-3	57	60
21	2010/11	-21	540	561	-2	51	53
22	2011/12	12	540	528	1	45	44
23	2012/13	29	540	511	2	40	38
24	2013/14	8	540	532	1	36	35
25	2014/15	-31	540	571	-2	32	33
26	2015/16	-24	540	564	-1	28	29
27	2016/17	97	540	443	4	25	20
28	2017/18	41	540	499	2	22	20
29	2018/19	309	540	231	11	20	8
30	2019/20	-908	540	1,448	-29	17	47
TOTAL		3,458	14,312	10,854	3,126	3,125	-1



Table A-16-3-13

CASE A-B  
 Manpower Reduc  
 Tariff=4  
 Duty=0,90

PROJECT : CPT  
 FIRR : 0.1712

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	90	0	-90	90	0	-90
2	1991/92	894	87	-807	763	74	-689
3	1992/93	1,016	184	-832	741	134	-607
4	1993/94	1,221	278	-943	760	173	-587
5	1994/95	20	405	385	11	215	205
6	1995/96	-27	483	510	-12	219	231
7	1996/97	9	584	575	3	226	223
8	1997/98	-31	584	615	-10	193	203
9	1998/99	-7	584	591	-2	165	157
10	1999/00	-31	584	615	-7	141	148
11	2000/01	-7	584	591	-1	120	122
12	2001/02	-21	584	605	-4	103	106
13	2002/03	12	584	572	2	88	86
14	2003/04	-31	584	615	-4	75	79
15	2004/05	8	584	576	1	64	63
16	2005/06	-17	584	601	-2	55	56
17	2006/07	56	584	528	4	47	42
18	2007/08	-5	584	589	0	40	40
19	2008/09	33	584	551	2	34	32
20	2009/10	-31	584	615	-2	29	31
21	2010/11	-21	584	605	-1	25	26
22	2011/12	12	584	572	0	21	21
23	2012/13	29	584	555	1	18	17
24	2013/14	8	584	576	0	15	15
25	2014/15	-31	584	615	-1	13	14
26	2015/16	-24	584	608	0	11	12
27	2016/17	97	584	487	2	10	8
28	2017/18	41	584	543	1	8	8
29	2018/19	309	584	275	4	7	3
30	2019/20	-908	584	1,492	-9	6	15

Table A-16-3-14

CASE A-B  
 Manpower Reduc  
 Tariff=4  
 Duty=0,0,90

PROJECT : CPT  
 FIRR : 0.1826

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	90	0	-90	90	0	-90
2	1991/92	830	87	-743	702	74	-628
3	1992/93	993	184	-809	710	132	-578
4	1993/94	1,104	278	-826	668	168	-499
5	1994/95	20	405	385	10	207	197
6	1995/96	-27	483	510	-12	209	220
7	1996/97	9	584	575	3	213	210
8	1997/98	-31	584	615	-10	181	190
9	1998/99	-7	584	591	-2	153	154
10	1999/00	-31	584	615	-7	129	136
11	2000/01	-7	584	591	-1	109	110
12	2001/02	-21	584	605	-3	92	96
13	2002/03	12	584	572	2	78	76
14	2003/04	-31	584	615	-4	66	70
15	2004/05	8	584	576	1	56	55
16	2005/06	-17	584	601	-1	47	49
17	2006/07	56	584	528	4	40	36
18	2007/08	-5	584	589	0	34	34
19	2008/09	33	584	551	2	29	27
20	2009/10	-31	584	615	-1	24	25
21	2010/11	-21	584	605	-1	20	21
22	2011/12	12	584	572	0	17	17
23	2012/13	29	584	555	1	15	14
24	2013/14	8	584	576	0	12	12
25	2014/15	-31	584	615	-1	10	11
26	2015/16	-24	584	608	0	9	9
27	2016/17	97	584	487	1	7	6
28	2017/18	41	584	543	0	6	6
29	2018/19	309	584	275	3	5	3
30	2019/20	-908	584	1,492	-7	5	12

Table A-16-3-15

CASE A-B  
 Manpower Reduc  
 Tariff=4  
 Duty=90, 90

PROJECT : CPT  
 FIRR : 0.1358

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	90	0	-90	90	0	-90
2	1991/92	1,118	87	-1,031	984	77	-908
3	1992/93	1,321	184	-1,137	1,024	143	-881
4	1993/94	1,487	278	-1,209	1,015	190	-825
5	1994/95	20	405	385	12	243	231
6	1995/96	-27	483	510	-14	256	270
7	1996/97	9	584	575	4	272	268
8	1997/98	-31	584	615	-13	240	252
9	1998/99	-7	584	591	-3	211	213
10	1999/00	-31	584	615	-10	186	196
11	2000/01	-7	584	591	-2	163	165
12	2001/02	-21	584	605	-5	144	149
13	2002/03	12	584	572	3	127	124
14	2003/04	-31	584	615	-6	112	117
15	2004/05	8	584	576	1	98	97
16	2005/06	-17	584	601	-3	86	89
17	2006/07	56	584	528	7	76	69
18	2007/08	-5	584	589	-1	67	68
19	2008/09	33	584	551	3	59	56
20	2009/10	-31	584	615	-3	52	55
21	2010/11	-21	584	605	-2	46	47
22	2011/12	12	584	572	1	40	39
23	2012/13	29	584	555	2	35	34
24	2013/14	8	584	576	0	31	31
25	2014/15	-31	584	615	-1	27	29
26	2015/16	-24	584	608	-1	24	25
27	2016/17	97	584	487	4	21	18
28	2017/18	41	584	543	1	19	17
29	2018/19	309	584	275	9	17	8
30	2019/20	-908	584	1,492	-23	15	37

Table A-16-3-16

CASE A-C  
MANPOWER REDUC  
T=10 D=0,90

PROJECT : CPT  
FIRR : 0.1895

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	90	0	-90	90	0	-90
2	1991/92	894	87	-807	752	73	-678
3	1992/93	1,016	195	-821	718	138	-580
4	1993/94	1,221	294	-927	725	175	-551
5	1994/95	20	453	433	10	226	216
6	1995/96	-27	541	568	-11	227	239
7	1996/97	9	653	644	3	231	227
8	1997/98	-31	653	684	-9	194	203
9	1998/99	-7	653	660	-2	163	165
10	1999/00	-31	653	684	-7	137	143
11	2000/01	-7	653	660	-1	115	115
12	2001/02	-21	653	674	-3	97	100
13	2002/03	12	653	641	2	81	80
14	2003/04	-31	653	684	-3	68	72
15	2004/05	8	653	645	1	58	57
16	2005/06	-17	653	670	-1	48	50
17	2006/07	56	653	597	3	41	37
18	2007/08	-5	653	658	0	34	34
19	2008/09	33	653	620	1	29	27
20	2009/10	-31	653	684	-1	24	25
21	2010/11	-21	653	674	-1	20	21
22	2011/12	12	653	641	0	17	17
23	2012/13	29	653	624	1	14	14
24	2013/14	8	653	645	0	12	12
25	2014/15	-31	653	684	0	10	11
26	2015/16	-24	653	677	0	9	9
27	2016/17	97	653	556	1	7	6
28	2017/18	41	653	612	0	6	6
29	2018/19	309	653	344	2	5	3
30	2019/20	-908	653	1,561	-6	4	10
TOTAL		2,663	17,242	14,579	2,264	2,264	0

Table A-16-3-17

CASE A-C  
 MANPOWER REDUC  
 T=10 D=0,0,90

PROJECT : CPT  
 FIRR : 0.2018

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	90	0	-90	90	0	-90
2	1991/92	830	87	-743	691	72	-618
3	1992/93	993	195	-798	688	135	-553
4	1993/94	1,104	294	-810	636	169	-467
5	1994/95	20	453	433	10	217	208
6	1995/96	-27	541	568	-11	216	227
7	1996/97	9	653	644	3	217	214
8	1997/98	-31	653	684	-9	180	189
9	1998/99	-7	653	660	-2	150	152
10	1999/00	-31	653	684	-6	125	131
11	2000/01	-7	653	660	-1	104	105
12	2001/02	-21	653	674	-3	86	89
13	2002/03	12	653	641	1	72	71
14	2003/04	-31	653	684	-3	60	63
15	2004/05	8	653	645	1	50	49
16	2005/06	-17	653	670	-1	41	43
17	2006/07	56	653	597	3	34	32
18	2007/08	-5	653	658	0	29	29
19	2008/09	33	653	620	1	24	23
20	2009/10	-31	653	684	-1	20	21
21	2010/11	-21	653	674	-1	17	17
22	2011/12	12	653	641	0	14	14
23	2012/13	29	653	624	1	11	11
24	2013/14	8	653	645	0	10	9
25	2014/15	-31	653	684	0	8	8
26	2015/16	-24	653	677	0	7	7
27	2016/17	97	653	556	1	5	5
28	2017/18	41	653	612	0	5	4
29	2018/19	309	653	344	2	4	2
30	2019/20	-908	653	1,561	-4	3	8
TOTAL		2,459	17,242	14,783	2,085	2,085	-1

Table A-16-3-18

CASE A-C PROJECT : CPI  
 MANPOWER REDUC FIRR : 0.1513  
 T=10 D=90,90

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	90	0	-90	90	0	-90
2	1991/92	1,118	87	-1,031	971	76	-896
3	1992/93	1,321	195	-1,126	997	147	-849
4	1993/94	1,487	294	-1,193	974	193	-782
5	1994/95	20	453	433	11	258	246
6	1995/96	-27	541	568	-13	267	281
7	1996/97	9	653	644	4	280	277
8	1997/98	-31	653	684	-12	244	255
9	1998/99	-7	653	660	-2	212	214
10	1999/00	-31	653	684	-9	184	192
11	2000/01	-7	653	660	-2	160	161
12	2001/02	-21	653	674	-4	139	143
13	2002/03	12	653	641	2	120	118
14	2003/04	-31	653	684	-5	105	110
15	2004/05	8	653	645	1	91	90
16	2005/06	-17	653	670	-2	79	81
17	2006/07	56	653	597	6	69	63
18	2007/08	-5	653	658	0	60	60
19	2008/09	33	653	620	3	52	49
20	2009/10	-31	653	684	-2	45	47
21	2010/11	-21	653	674	-1	39	40
22	2011/12	12	653	641	1	34	33
23	2012/13	29	653	624	1	29	28
24	2013/14	8	653	645	0	26	25
25	2014/15	-31	653	684	-1	22	23
26	2015/16	-24	653	677	-1	19	20
27	2016/17	97	653	556	2	17	14
28	2017/18	41	653	612	1	15	14
29	2018/19	309	653	344	6	13	7
30	2019/20	-908	653	1,561	-15	11	26
TOTAL		3,458	17,242	13,784	3,001	3,002	1

Table A-16-3-19 Reduction of Manpower

Reduction of Manpower

	90/91	91/92	92/93	93/94	94/95
Calcutta	Δ1,188	Δ1,380	Δ1,396	Δ1,501	Δ1,350
Haldia	150	150	300	300	-

Regarding impact of containerization on port employees, it is generally said that cargo handling efficiency of container vessels is more than 20 times that of conventional vessels. Following table shows the difference of cargo handling volume between these vessels.

	Container Vessel	Conventional Vessel
Number of Workers per gang	10 ~ 12	15 ~ 20
Cargo handling volume	500 tonnes	30 tonnes
Handling Volume per worker	About 50 tons	About 2 tonnes

Following table shows the registered number of workers in the Port of Yokohama where containerization has rapidly grown.

Year	73	78	83	88
Number of Workers	16,583	11,266	9,834	8,797
Container Cargo ('000 tonnes)	4,580	6,854	13,050	20,429

From the economic point of view, the number of workers in the container terminals should be reduced to the possible extent due to the huge amount of investment which is required for construction and maintenance of the facilities/equipment.





Table A-16-4-2 Case 2

FINANCIAL STATEMENTS case-b

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20		
<b>INCOME STATEMENT</b>																																
<b>OPERATING REVENUE</b>																																
Cargo	1,338	1,405	1,474	1,542	1,627	1,689	1,788	1,768	1,788	1,768	1,768	1,768	1,768	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	
Ship	857	871	885	901	915	923	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	
Others	224	230	237	243	251	254	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	
Total	2,419	2,506	2,596	2,686	2,793	2,866	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959		
<b>WORKING EXPENSES</b>																																
Personnel	974	933	898	855	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	
Operation	293	294	303	307	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	
Repair/Maintenance	338	340	361	371	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	
Administration	101	102	109	111	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	
Total	1,706	1,669	1,671	1,644	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623		
DEPRECIATION	91	111	133	164	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	
TOTAL OPERATING EXPENSES	1,797	1,780	1,804	1,808	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	
OPERATING INCOME	622	726	792	878	984	1,057	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150		
NON-OPERATING INCOME	86	88	88	100	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	
INTEREST ON LONG-TERM DEBT	213	244	321	389	479	482	475	465	449	430	411	392	373	353	334	316	298	279	282	245	228	211	195	180	165	150	138	127	122	122		
OTHER NON-OPERATING EXPENSES	184	204	224	248	268	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	
NET INCOME	322	374	343	331	341	411	511	521	538	556	575	594	613	633	652	670	688	707	724	741	758	775	791	808	821	836	850	859	864	864		

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20		
<b>FUND STATEMENT</b>																																
<b>SOURCES</b>																																
Net Income	322	374	343	331	341	411	511	521	538	556	575	594	613	633	652	670	688	707	724	741	758	775	791	808	821	836	850	859	864	864		
Interest on LT Loans	213	244	321	399	479	482	475	465	449	430	411	392	373	353	334	316	298	279	282	245	228	211	195	180	165	150	138	127	122	122		
Depreciation	91	111	133	164	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	
Total Internal Sources	625	729	797	884	1,008	1,079	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172		
Long-Term Loans	487	1,151	1,151	1,361	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Contribution	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	
Debt Charges-Capitalized	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	
Other Sources	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
TOTAL SOURCES	1,453	2,221	2,268	2,596	1,458	1,200	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293		
<b>APPLICATIONS</b>																																
Investment	707	1,371	1,371	1,581	331	4	64	0	40	0	10	69	1	59	0	14	102	51	110	0	10	69	61	59	0	7	189	108	492	0		
Capitalized Debt Charges	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	
Change in Working Capital	97	94	71	90	98	58	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Loan Repayment	80	54	97	57	52	92	154	197	258	251	254	254	254	254	245	244	238	231	229	228	221	217	213	210	208	182	125	67	7	2		
Interest on LT Debt	213	244	321	399	479	482	475	465	449	430	411	392	373	353	334	316	298	279	282	245	228	211	195	180	165	150	138	127	122	122		
Other Applications	340	312	282	322	345	421	378	512	425	189	498	458	545	308	594	389	534	608	573	702	714	676	704	724	802	834	723	871	552	1,049		
TOTAL APPLICATIONS	1,324	2,105	2,262	2,569	1,426	1,178	1,265	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293		
INCREASE(DECREASE)	129	28	27	27	32	22	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CASH AND DEPOSITS ENDING	726	752	779	806	838	860	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20		
<b>BALANCE SHEET</b>																																
<b>ASSETS</b>																																
<b>Current Assets</b>																																
Cash and Deposits	726	752	779	806	838	860	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	
Other Assets	1,210	1,253	1,298	1,343	1,397	1,433	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480		
Total Current Assets	1,936	2,005	2,077	2,149	2,234	2,293	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367	2,367		
<b>Fixed Assets</b>																																
Capital Assets	4,787	5,484	6,323	7,405	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906	9,906		
Accumulated Depreciation	1,519	1,830	1,762	1,928	2,112	2,298	2,484	2,870	2,858	3,042	3,228	3,415	3,601	3,787	3,973	4,159	4,345	4,531	4,717	4,903	5,089	5,275	5,461	5,647	5,833	6,020	6,208	6,392	6,578	6,764		
Net Fixed Assets	3,268	3,654	4,561	5,477	7,794	7,608	7,422	7,236	7,050	6,864	6,678	6,491	6,305	6,119	5,933																	

Table A-16-4-3 Case 3

FINANCIAL STATEMENTS

case-b

INCOME STATEMENT	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
<b>OPERATING REVENUE</b>																															
Cargo	1,338	1,405	1,474	1,542	1,627	1,689	1,788	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	1,768	
Ship	857	871	885	901	915	923	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	931	
Others	224	230	237	243	251	254	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	
<b>Total</b>	<b>2,419</b>	<b>2,506</b>	<b>2,596</b>	<b>2,686</b>	<b>2,793</b>	<b>2,866</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>	<b>2,959</b>		
<b>WORKING EXPENSES</b>																															
Personnel	974	933	896	855	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	809	
Operation	293	294	303	307	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	311	
Repair/Maintenance	338	340	361	371	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380
Administration	101	102	109	111	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	
<b>Total</b>	<b>1,706</b>	<b>1,669</b>	<b>1,871</b>	<b>1,644</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	<b>1,623</b>	
DEPRECIATION	91	111	133	164	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	
<b>TOTAL OPERATING EXPENSES</b>	<b>1,797</b>	<b>1,780</b>	<b>1,804</b>	<b>1,808</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	<b>1,809</b>	
<b>OPERATING INCOME</b>	<b>622</b>	<b>726</b>	<b>792</b>	<b>878</b>	<b>984</b>	<b>1,057</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	
NON-OPERATING INCOME	96	96	96	100	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	
INTEREST ON LONG-TERM DEBT	178	228	346	404	566	595	590	578	561	538	514	490	466	442	418	394	370	346	322	298	274	251	228	206	184	162	142	127	122	122	
OTHER NON-OPERATING EXPENSES	184	204	224	248	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	
<b>NET INCOME</b>	<b>356</b>	<b>390</b>	<b>318</b>	<b>266</b>	<b>234</b>	<b>298</b>	<b>396</b>	<b>408</b>	<b>425</b>	<b>448</b>	<b>472</b>	<b>496</b>	<b>520</b>	<b>544</b>	<b>568</b>	<b>592</b>	<b>616</b>	<b>640</b>	<b>664</b>	<b>688</b>	<b>712</b>	<b>735</b>	<b>758</b>	<b>780</b>	<b>802</b>	<b>824</b>	<b>844</b>	<b>859</b>	<b>884</b>	<b>864</b>	

FUND STATEMENT	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
<b>SOURCES</b>																															
Net Income	356	390	318	266	234	298	396	408	425	448	472	496	520	544	568	592	616	640	664	688	712	735	758	780	802	824	844	859	884	864	
Interest on LT Loans	178	228	346	404	566	595	590	578	561	538	514	490	466	442	418	394	370	346	322	298	274	251	228	206	184	162	142	127	122	122	
Depreciation	91	111	133	164	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	
<b>Total Internal Sources</b>	<b>625</b>	<b>726</b>	<b>797</b>	<b>894</b>	<b>1,006</b>	<b>1,078</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	<b>1,172</b>	
Long-Term Loans	487	1,151	1,151	1,361	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Contribution	220	220	220	220	220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Debt Charges-Capitalized	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	
Other Sources	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
<b>TOTAL SOURCES</b>	<b>1,453</b>	<b>2,221</b>	<b>2,289</b>	<b>2,598</b>	<b>1,458</b>	<b>1,200</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	
<b>APPLICATIONS</b>																															
Investment	707	1,371	1,371	1,581	331	4	84	0	40	0	10	68	1	58	0	14	102	54	110	0	10	69	61	59	0	7	189	108	492	0	
Capitalized Debt Charges	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	
Change in Working Capital	97	94	71	90	99	58	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Loan Repayment	26	23	67	30	25	65	127	170	234	0	230	230	230	230	235	235	230	230	228	225	220	216	213	210	206	182	125	67	7	2	
Interest on LT Debt	178	228	346	404	566	595	590	578	561	538	514	490	466	442	418	394	370	346	322	298	274	251	228	206	184	162	142	127	122	122	
Other Applications	344	359	287	284	265	335	280	425	338	495	419	384	478	442	420	530	471	543	513	650	689	837	671	698	783	822	717	871	552	1,049	
<b>TOTAL APPLICATIONS</b>	<b>1,295</b>	<b>2,105</b>	<b>2,262</b>	<b>2,509</b>	<b>1,426</b>	<b>1,178</b>	<b>1,265</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	<b>1,293</b>	
<b>INCREASE(DECREASE)</b>	<b>158</b>	<b>28</b>	<b>27</b>	<b>27</b>	<b>32</b>	<b>22</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

CASH AND DEPOSITS ENDING	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
	726	752	779	808	838	860	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888

BALANCE SHEET	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
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Table A-16-5-1 Sensitivity Case A

CASE B-A  
 MANPOWER NO-RE  
 T=0 D=0.90

PROJECT : CPT  
 FIRR : 0.1026

NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE
1	1990/91	124	0	-124	124	0	-124
2	1991/92	1,031	87	-944	935	79	-856
3	1992/93	1,181	177	-1,004	972	146	-826
4	1993/94	1,429	267	-1,162	1,066	199	-867
5	1994/95	135	374	239	92	253	162
6	1995/96	84	447	363	51	274	223
7	1996/97	150	540	390	83	301	217
8	1997/98	79	540	461	40	273	233
9	1998/99	123	540	417	56	247	191
10	1999/00	79	540	461	33	224	191
11	2000/01	90	540	450	34	203	169
12	2001/02	155	540	385	53	184	131
13	2002/03	80	540	460	25	167	142
14	2003/04	144	540	396	40	152	111
15	2004/05	79	540	461	20	138	117
16	2005/06	95	540	445	22	125	103
17	2006/07	191	540	349	40	113	73
18	2007/08	174	540	366	33	103	70
19	2008/09	200	540	340	35	93	59
20	2009/10	79	540	461	12	84	72
21	2010/11	90	540	450	13	77	64
22	2011/12	155	540	385	20	69	49
23	2012/13	146	540	394	17	63	46
24	2013/14	144	540	396	15	57	42
25	2014/15	79	540	461	8	52	44
26	2015/16	87	540	453	8	47	39
27	2016/17	287	540	253	23	43	20
28	2017/18	198	540	342	14	39	24
29	2018/19	620	540	-80	40	35	-5
30	2019/20	-886	540	1,426	-52	32	84
TOTAL		6,625	14,312	7,687	3,872	3,871	-1

Table A-16-5-2 Sensitivity Case B

CASE B-A MANPOWER NO-RE T=0 D=0.90	PROJECT : CPT FIRR : 0.101							
NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE	
1	1990/91	113	0	-113	113	0	-113	
2	1991/92	937	78	-859	851	71	-780	
3	1992/93	1,074	159	-915	886	131	-755	
4	1993/94	1,299	240	-1,059	973	180	-793	
5	1994/95	123	337	214	84	229	145	
6	1995/96	76	402	326	47	249	202	
7	1996/97	136	486	350	76	273	196	
8	1997/98	72	486	414	37	248	211	
9	1998/99	112	486	374	52	225	173	
10	1999/00	72	486	414	30	204	174	
11	2000/01	82	486	404	31	186	154	
12	2001/02	141	486	345	49	169	120	
13	2002/03	73	486	413	23	153	130	
14	2003/04	131	486	355	38	139	102	
15	2004/05	72	486	414	19	126	108	
16	2005/06	86	486	400	20	115	94	
17	2006/07	174	486	312	37	104	67	
18	2007/08	158	486	328	31	95	64	
19	2008/09	182	486	304	32	86	54	
20	2009/10	72	486	414	12	78	67	
21	2010/11	82	486	404	12	71	59	
22	2011/12	141	486	345	19	64	46	
23	2012/13	133	486	353	16	59	43	
24	2013/14	131	486	355	14	53	39	
25	2014/15	72	486	414	7	48	41	
26	2015/16	79	486	407	7	44	37	
27	2016/17	261	486	225	21	40	18	
28	2017/18	180	486	306	13	36	23	
29	2018/19	564	486	-78	38	33	-5	
30	2019/20	-805	486	1,291	-49	30	79	
TOTAL		6,023	12,881	6,858	3,540	3,539	-1	

Table A-16-5-3 Sensitivity Case C

CASE B-A MANPOWER NO-RE T=0 D=0,90	PROJECT : CPT FIRR :	0.0864						
NO.	YEAR	COST	BENEFIT	BNFT.-COST	P.COST	P.BNFT	P.VALUE	
1	1990/91	124	0	-124	124	0	-124	
2	1991/92	1,031	78	-952	949	72	-877	
3	1992/93	1,181	159	-1,022	1,001	135	-866	
4	1993/94	1,429	240	-1,189	1,114	187	-927	
5	1994/95	135	337	201	97	242	145	
6	1995/96	84	402	319	55	266	211	
7	1996/97	150	486	336	91	296	205	
8	1997/98	79	486	407	44	272	228	
9	1998/99	123	486	363	63	250	187	
10	1999/00	79	486	407	38	231	193	
11	2000/01	90	486	396	39	212	173	
12	2001/02	155	486	331	62	195	133	
13	2002/03	80	486	406	30	180	150	
14	2003/04	144	486	342	49	165	116	
15	2004/05	79	486	407	25	152	128	
16	2005/06	95	486	391	27	140	113	
17	2006/07	191	486	295	51	129	78	
18	2007/08	174	486	312	42	119	76	
19	2008/09	200	486	286	45	109	64	
20	2009/10	79	486	407	16	101	84	
21	2010/11	90	486	396	17	93	75	
22	2011/12	155	486	331	27	85	58	
23	2012/13	146	486	340	24	79	55	
24	2013/14	144	486	342	21	72	51	
25	2014/15	79	486	407	11	67	56	
26	2015/16	87	486	399	11	61	50	
27	2016/17	287	486	199	33	56	23	
28	2017/18	198	486	288	21	52	31	
29	2018/19	620	486	-134	61	48	-13	
30	2019/20	-886	486	1,372	-80	44	124	
TOTAL		6,625	12,881	6,256	4,111	4,110	-1	

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