Reg 4
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Evaluation sheet 'B'

DOUBLING BETWEEN ET - TINAIGHAT (UBL DIVISION)

Year	Amount in thousands of Rs.	Trial rate at 1%	Present value	Trial rate at 10%	Present value	Trial rate at 20%	Present value	Trial rate at 30%	Present value	Trial rate at 40%	Present value
1	1879991	0.99	1861377	0.91	1709083	0.83	1566659	0.77	1446147	0.71	1220773
2	1936360	0.98	1898235	0.83	1600322	0.69	1344715	0.59	1145793	0.51	987954
3	1992789	0.97	1934181	0.75	1497212	0.58	1153234	0.46	907050	0.36	726235
4	2049186	0.96	1969229	0.68	1399623	0.48	988227	0.35	717478	0.98	1998038
5	2105587	0.95	2003394	0.62	1307404	0.40	846188	0.27	567096	0.19	391501
6	2161990	0.94	2036692	0.56	1220387	0.33	724046	0.21	447913	0.13	287135
7	2208989	0.93	2060364	0.51	1133561	0.28	616488	0.16	352038	0.09	209555
8	2255988	0.92	2083367	0.47	1052435	0.23	524671	0.12	276560	0.07	152867
9	2302987	0.91	2105713	0.42	976691	0.19	446334	0.09	217171	0.05	111465
10	2349986	0.91	2127412	0.39	906021	0.16	379536	0.07	170464	0.03	81243
11	2396989	0.90	2148476	0.35	840130	0.13	322606	0.06	133749	0.02	59191
12	2434588	0.89	2160573	0.32	775735	0.11	273055	0.04	104497	0.02	42943
13	2472167	0.86	2172218	0.29	716105	0.09	231060	0.03	81624	0.01	31147
14	2509786	0.87	2183421	0.26	660905	0.08	195479	0.03	63743	0.01	22586
15	2547365	0.86	2194189	0.24	609824	0.06	165339	0.02	49767	0.01	16375
16 to 30	2584988		0	1.82	4704678	0.32	827196	0.06	158460	0.016	41360
			30938844		21110115		10604835		6839549		6380367

APPENDIX 'A'

Section			Commodity	No. of wagons	Average lead km	Average load in tonnes	NTKM moved annually
RNJP-VSG			I.ORE	290	398	66	2766495600
VSG-JVSL			COAL	290	374	55	2177334500

EARNINGS :

ORE $\frac{77.2}{100}$ X 2766495600 : Rs 2135734603

77.2 paise per NTKM as per Stt.13 of IRASS OF2002-03)-col.11pg.80

COAL $\frac{96.6}{100}$ X 2177334500 : Rs 2103305127

96.6 paise per NTKM as per Stt.13 of IRASS OF2002-03)-col.11pg.80

Total 4239039730

APPENDIX 'B'

EARNINGS - PROJECTION FOR 6th, 11th & 16th YEAR

(Figures in thousands of Rupees)

(a)	Earnings for 1st year	:	Rs	4239039
(b)	Earnings for 6th year assuming 15% increase at the rate of 3% per annum over that of 1st year	:	Rs	635855
				4874894
(c)	Earnings for 11th year assuming 12.5% increase at the rate of 2.5% per annum over that of 1st year	:	Rs	529879
				5404773
(d)	Earnings for 16th year assuming 10% increase at the rate of 2% per annum over that of 1st year	:	Rs	423903
	TOTAL	:	Rs	5828676

APPENDIX - C

UNIT COST - 2002 - 03 FREIGHT SERVICES

I.	**Terminal Services**				
1	No. of wagons per day				290
2	No. of invoices prepared per annum with assumption that 5 wagons can be booked per invoice				21170
3	Cost of documentation per invoice(Unit Cost 2002-03 SR 11)			Rs	129.43
4	Cost of documentation per annum		:	Rs	6850082.5
II	**Terminal services**				
1	No. of wagons handled per annum				105850
2	Cost of Terminal services per wagon (Full load) (Unit Costs 2002-03 SR 15)		:	Rs.	395.38
3	Cost of Terminal services for	105850 wagons		Rs	104627432.5
III	**Cost of Marshalling yard handled (SR 18)**				
1	No. of wagons handled daily (one yard)				290
2	No. of wagons handled per annum	290 x		365	105850
3	Cost of marshalling per wagon per year handled (Unit Cost 2002-03 SR 18)		:	Rs	482.28
4	Cost of Marshalling for	105850 wagons	:	Rs	127623345
IV	**Carrying Unit**				
1	No. of wagons handled per day	290 x		2	580
2	Total No. of wagons KM. per day		:		229680
3	Wagon Kms. per wagon day (page 167 of IRASS of 2002-03)- Statement 24)		:	Rs	149.4
4	No. of wagons per day		:		614.94
5	No. of wagons per year		:		224453
6	Cost of Provision & maintenance per wagon day (Stt.19 of Unit Cost 2002-03)		:	Rs	195.61
7	Cost of provision & maintenance of wagon per annum		:	Rs	43905251

APPENDIX 'C' Contd

V	**Line haul cost movement**		Loaded		Return
1	No. of wagons to be handled per day		290		290
2	Gross tonnes in each direction		88		77
3	Gross load in tonnes per day		25520		22330
4	Gross load in tonnes per year		9314800		8150450
5	Lead in kms.		396		396
6	Percentage for empty haulage (code no. 327 of Engineering Manual Pg no. 34)				
7	GTKMs for loaded and empty wagons		3688660800		3227578200
8	Total GTKMs per annum			6916239000	
9	Traction cost per 1000 GTKMs (Dsl/Ele) Unit Cost 2002-03 SR 21/SR 22	:	Rs	140.3 (dsl)	94.76 Elec.
10	FOR	6916239000 GTKMs	: Rs	970348331	
VI &VII	**Line haul services (SR 24 & 26)**				
1 a)	Other transportation expenditure including train passing staff for 1000 GTKMs (Unit Costs 2002-03 SR 24)		: Rs	28.89	
b)	Cost of track and signalling for 1000 GTKMs (Unit Costs 2002-03 SR 26)		Rs	71.40	
	Total		: Rs	100.29	
2 For	6916239000 GTKMs		: Rs	693629609	
	TOTAL	Item I	: Rs	6850082.5	
		Item II	: Rs	104627433	
		Item III	: Rs	127623345	
		Item IV	: Rs	43905251	
		Item V	: Rs	970348331	
		Item VI &VII	: Rs	693629619	
	Total			1946984051	
ADD	28.93% for general overheads (Unit Costs 2002-03 SR 29)			563262436	
ADD	0.53% for central charges (Unit Costs 2002-03 SR 28)			10319015	
	TOTAL			2520565552	
ADD 16.99% (UNIT COST 2002-03 - Pg.2)	for escalation of cost		: Rs	428244087	
	Total (B)		: Rs	2948809640	
	80% of total (B)		: Rs	2359047712	

APPENDIX 'D'

Details	1st year	6th year	11th year	16th year
	(Figures in thousands of Rupees)			
Earnings due to additional traffic	4239039	4874894	5404773	5828676
Working expenditure	2359048	2712904	3007784	3243688
Net Gain	1879991	2161990	2396989	2584988

NOTE: Working expenses relating to the earnings during the first year working to 55.65 %
This percentage is adopted for 6th, 11th & 16th year.

APPENDIX - 'E'

COST OF ADDITIONAL LOCOS AND WAGONS

1 LOCOS

a)	Distance between : HPT-VSG		396		
b)	Additional loads		290		
c)	Additional trains required :		5.273		
d)	Train kms involved :		2088.00		
e)	Engine Kms per day per goods engine in use (Diesel (page 153 of IRASSof 2002-03 .stt.22)Col.18)		413 Dsl.	Elec	413 482
f)	No. of engines required(Diesel)		5.06		
g)	Add 8.84% for repairs (Page174 of IRASS 2002-03 stt.26 (a))		0.4469		
h)	Total No. of Diesel locos required		5.50		
i)	Cost of one BG loco (PB 2002 - 03)	Rs.	38750000 (Dsl.)		
j)	cost of 5.50 locos	Rs.	213226257		

II WAGONS

a)	Distance between HPT-VSG		396	
b)	Additional loads		290	
c)	Wagon Kms. per wagon day (Page 167 of IRASS 2002-03 Stt. 24, Col	Rs.	149.40	
d)	Turn round (a/c)		2.65	
e)	No. of wagons required		1921.69	
f)	Add 4.23% for repairs (Page 177 of IRASS 2002-03 Stt.26(a) Col.56)		81.29	
g)	Total number of wagons required		2002.97 OR SAY	2003
h)	Cost of one BG wagon (PB 2002 - 03)	Rs.	775000	
i)	Cost of 2003 wagons	Rs.	1552304925	

III Total Cost of additional locos and wagons:

a	Diesel loco	Rs.	213226257
b	Wagons	Rs.	1552304925
	Total	Rs.	1765531181

APPENDIX 'F'

ROLLING STOCK

(Rupees in thousands)

i	For earnings of 4239039 thousands, the requirement of rolling stock (1st year) is	Rs.	1765531
ii	Percentage of rolling stock to earnings st year) is		41.65%
iii	For earnings of 4874894 thousands, during the 6th year, the requirement of rollingstock is	Rs.	2030350
iv	For earnings of 5404773 thousands, during the 11th year, the requirement of rolling stock is	Rs.	2251051
v	For earnings of 5828676 thousands, during the 16th year, the requirement of rolling stock is	Rs	2427604
	TOTAL	Rs	8474546

FINANCIAL IMPLICATIONS UNDER DCF TECHNIQUE

Name of the work: DOUBLING BETWEEN HOSPET - TINAIGHAT

Cost:Rs. 94686 lakhs

(Figures in thousands of Rupees)

Details	Year			Timings in years	Cash out flow	Net cash flow	Trial rate at 10% Factor	Amount	Trial rate at 20% Factor	Amount
(A)	2008-09			4	1000000	1000000	1.46	1464100	2.07	2073600
	2009-10			3	2000000	2000000	1.33	2662000	1.73	3456000
	2010-11			2	2000000	2000000	1.21	2420000	1.44	2880000
	2011-12			1	2000000	2000000	1.10	2200000	1.20	2400000
	2012-13			0	2468600	2468600	1.00	2468600	1.00	2468600
i. Cash Outlay					9468600	9468600		-11214700		-13278200

		Net cash flow	Factor	Amount	Factor	Amount
ii. Rolling Stock						
1	1st year	1765531	0.91	1605028	0.83	1471275
6	6th year	264828	0.56	149486	0.33	88690
11	11th year	220691	0.35	77350	0.13	29702
16	16th year	176553	0.22	38423	0.05	9549
	Total	2427603		-1870289		-1599216
	TOTAL (A)			-13084989		-14877416
(B) Net gain for 30 years period assuming no increase beyond 16th year vide evaluation sheet 'B' attached				21110115		10604835
Difference between A and B				8025126		-4272581

= 20% - 10% 10%

Return $10\% + 10 \times \frac{8025126}{12297708} =$ 16.53%