Appendix A

Table a1

Total investment resources required for infrastructure development to the year 2000, by sub region (in billions of US dollars)

Infrastructure type	Central Asia	South Asia	*South East Asia*	East Asia	Pacific islands
Power Supply	80	136	*83*	334	1
Telecommunications	8	37	*32*	55	0
Railways	1	15	*1*	61	0
Roads	5	47	*64*	45	1
Urban transport	0	3	*13*	52	0
Airports	0	1	*15*	29	0
Seaports	0	4	*6*	15	0
Total	**94**	**243**	***214***	**591**	**2**

Source : UN Economic and Social Commission for Asia and the Pacific (ESCAP) secretariat

Table a2

Electricity consumption and capacity scenarios to the year 2000

	Consumption (gigawatt hour)			Capacity (megawatt)
Year	**1980**	**1990**	**2000**	**2000**
East Asia	358,016	776,027	1,459,326 - 1,600,127	346,716 - 380,498
South East Asia	*51,077*	*132,179*	*308,362 - 331,233*	*85,604 - 92,192*
South Asia	109,325	268,299	546,005 - 574,529	180,257 - 189,764
Central Asia	124,315	215,278	261,824 - 288,660	65,456 - 72,165
Pacific islands	750	1,149	1,701 - 1,890	773 - 859

Source : ESCAP secretariat

Table a3

Telecommunications, growth projections and investment requirement to the year 2000

	Main line supply (in thousands)	Unmet demand (in thousands)	Total demand (in thousands)	Funding required (millions of US dollars)
Central Asia	7,765	2,273	10,038	**7,821**
South Asia	23,493	11,328	34,821	**37,426**
South East Asia	*17,945*	*10,241*	*28,186*	***32,344***
East Asia	59,959	3,255	63,214	**54,830**
Pacific islands	436	37	472	**384**

Source : ESCAP secretariat

Table a4

Transportation data in comparison with countries of similar size

Paved roads (in kilometres)

Country	**1960**	**1970**	**1980**	**1990**
Malaysia	*9,646*	*15,351*	*20,461*	*27,720*
Italy	NA	262,188	285,319	303,906
Japan	37,785	152,033	511,044	782,041
Thailand	2,740	9,656	23,613	39,910

Railroad tracks (in kilometres)

Country	**1960**	**1970**	**1980**	**1990**
Malaysia	*2,100*	*2,160*	*2,082*	*2,222*
Italy	21,277	20,212	16,133	25,858
Japan	27,902	27,104	22,235	23,962
Thailand	2,100	2,160	3,375	3,940

Source : Malaysia Infrastructure, 1995

Table a5

Telephone main lines - Number of connections in countries of similar size

Country	1975	1980	1990
Malaysia	*194,000*	*396,000*	*1,585,744*
Italy	10,166,000	13,017,000	22,350,000
Japan	34,444,000	39,934,000	54,523,952
Iraq	NA	275,000	675,000

Source : Malaysia Infrastructure, 1995

Table a6

Electric power (IPP) data in comparison with countries of similar size

Electricity-generating capacity (in thousands of kilowatts)

Country	1960	1970	1980	1990
Malaysia	*NA*	*936*	*2,430*	*5,037*
Italy	17,686	30,408	46,824	17,441
Japan	23,770	68,710	143,698	194,763
Thailand	191	1,336	4,010	9,722

Electricity production (in millions of kilowatt hours)

Country	1960	1970	1980	1990
Malaysia	*NA*	*3,543*	*10,186*	*24,722*
Italy	56,240	117,421	185,741	216,922
Japan	115,498	359,539	577,521	857,347
Thailand	594	4,545	15,112	46,180

Source : Malaysia Infrastructure, 1995

Appendix B

Interview questions

The following is a summary of some of the core questions or issues discussed in the interviews with the bankers. The actual questions asked in the interviews conducted and their sequence may differ, and in addition, supplemental questions (specific questions) were also asked, depending on the responses obtained:

FEATURES OF PROJECT FINANCE

1. What is project finance? Is there a definition?
2. What are the common characteristics of project finance? Compare with other types of financing?
3. What kind of projects that are "project-finance"?
4. From your experience, what are the projects that have been financed using this method?
5. Do you know of any potential projects suitable for this type of financing?
6. Can you describe the process or stages of a project finance?
7. Who are the people involved in a project finance? What are their roles?

EVALUATION PROCESS

1. Can you describe the evaluation process practised by your bank with regards to project financing?
2. How do you determine feasibility of a project for financing?
3. What are the risks involved in a project? How do you identify them? How do you assess or quantify the risks?
4. What are the methods of analysis used by you or your colleagues in determining feasibility for financing?

FINANCIAL ANALYSIS

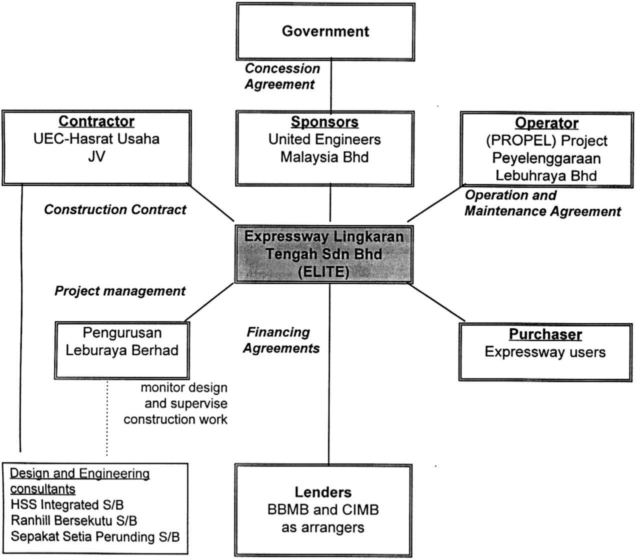
1. What are the discount rate or rates you used to calculate the Net Present Value (NPV) of the project being evaluated?
2. How are the rates estimated or derived at?
3. Do you estimate the cost of capital or required return of the project?
4. What is the minimum IRR you will accept? On what basis?

Appendix C

Contractual structure of projects

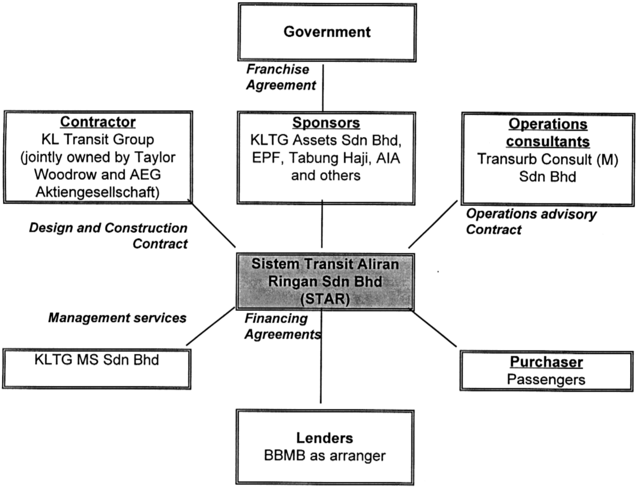
Highway project

North-South Expressway Central Link



LRT project

STAR LRT System 1 - Phase 2



Appendix D

PERFORMANCE															
Dependable Capacity (kW)	32,809	47,944	47,872	47,800	47,728	47,657	47,585	47,514	47,443	47,372	47,301	47,230	47,159	47,088	47,017
Output to LLS (GWh)	233	340	340	339	339	338	338	337	337	336	336	335	335	334	334
PPA Net Heat Rate (Btu/kWh)	8,636	8,636	8,636	8,636	8,636	8,636	8,636	8,636	8,636	8,636	8,636	8,636	8,636	8,636	8,636
Actual Heat Rate at Interconnect (BTU/kWh)	8,492	8,447	8,453	8,460	8,466	8,473	8,479	8,486	8,492	8,499	8,505	8,512	8,518	8,525	8,531
Fuel Consumption (Billion BTU)	1,977	2,873	2,871	2,869	2,867	2,865	2,863	2,861	2,859	2,857	2,855	2,852	2,850	2,848	2,846
FUEL & ELECTRICITY TARIFF															
Fuel Rate (sen/kWh)	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17
Variable O&M Rate (sen/kWh)	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Fixed O&M Rate (RM/kW/month)	14.82	14.82	14.82	14.82	14.82	14.82	14.82	14.82	14.82	14.82	14.82	14.82	17.33	17.33	17.33
Capacity Rate Financial (RM/kW/month)	63.56	63.56	63.56	63.56	63.56	63.56	63.56	63.56	63.56	63.56	63.56	63.56	39.10	39.10	39.10
Price of Fuel (RM/mmBTU)	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15
REVENUES (RM 000)															
Fuel Payment	14,375	21,006	20,974	20,943	20,911	20,880	20,849	20,818	20,786	20,755	20,724	20,693	20,662	20,631	20,600
Variable O&M Payment	1,932	2,824	2,819	2,815	2,811	2,807	2,802	2,798	2,794	2,790	2,786	2,782	2,777	2,773	2,769
Fixed O&M Payment	5,076	7,418	7,407	7,396	7,385	7,373	7,362	7,351	7,340	7,329	7,318	7,307	8,532	8,519	8,507
Capacity Financial Payment	21,771	31,814	31,766	31,718	31,671	31,623	31,576	31,529	31,481	31,434	31,387	31,340	19,250	19,222	19,193
Availability Bonus/Penalty	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues	43,154	63,061	62,966	62,872	62,778	62,684	62,590	62,496	62,402	62,308	62,215	62,122	51,222	51,145	51,068
EXPENSES (RM 000)															
Fuel	14,135	20,545	20,530	20,515	20,500	20,485	20,470	20,455	20,440	20,425	20,410	20,395	20,380	20,365	20,351
Variable O&M Expenses															
Lubricating Oil	927	1,402	1,458	1,517	1,577	1,640	1,706	1,774	1,845	1,919	1,996	2,075	2,158	2,245	2,335
Variable Spare Parts and Materials	946	978	1,017	1,058	1,100	1,144	1,190	1,237	1,287	1,338	1,392	1,447	1,505	1,565	1,628
Variable Inspections	183	277	288	299	311	324	337	350	364	379	394	410	426	443	461
Import Levies & Sales Taxes	161	243	253	263	273	284	296	307	320	333	346	360	374	389	405
Variable Contingency	56	145	151	157	163	170	176	183	191	198	206	215	223	232	241
Total Variable O&M	2,013	3,045	3,166	3,293	3,425	3,562	3,704	3,852	4,006	4,167	4,333	4,507	4,687	4,874	5,069
Fixed O&M Expenses															
Foreign Overheads	365	380	395	411	427	444	462	481	500	520	0	0	0	0	0
Local Overheads	753	784	815	847	881	917	953	991	1,031	1,072	1,115	1,160	1,206	1,254	1,305
Fixed Spare Parts	865	901	937	974	1,013	1,054	1,096	1,140	1,186	1,233	1,282	1,334	1,387	1,442	1,500
Foreign Fixed O&M Labor	517	538	559	582	605	629	654	680	708	730	0	0	0	0	0
Local Fixed O&M Labor	1,107	1,152	1,198	1,246	1,295	1,347	1,401	1,457	1,515	1,576	1,639	1,705	1,773	1,844	1,917
Foreign Administration & General	216	225	234	243	253	263	273	284	296	308	0	0	0	0	0
Local Administration & General	147	153	159	166	172	179	186	194	201	210	218	227	236	245	255
Lenders Agency Fees	60	60	60	60	60	60	60	60	60	60	60	60	60	60	0
Insurance	0	1,252	1,302	1,354	1,408	1,464	1,523	1,584	1,647	1,713	1,781	1,853	1,927	2,004	2,084
Communications	46	47	49	51	53	55	58	60	62	65	67	70	73	76	79
Import Levies/Sales Taxes	215	224	233	242	252	262	272	283	295	306	319	331	345	358	373
Site Lease	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Operating Licence Fee	50	52	54	56	58	61	63	66	68	71	74	77	80	83	87
Fixed O&M Contingency	218	289	301	313	325	338	351	365	379	394	329	342	355	369	381
O&M Fee	451	600	624	649	675	701	729	758	788	819	681	708	736	765	789
Total Fixed O&M	5,033	6,676	6,940	7,213	7,498	7,795	8,103	8,423	8,757	9,103	7,586	7,886	8,198	8,522	8,790
Total Expenses	21,180	30,266	30,636	31,021	31,423	31,841	32,277	32,731	33,203	33,695	32,329	32,788	33,265	33,762	34,210
OPERATING CASH FLOW	21,974	32,795	32,331	31,851	31,355	30,842	30,313	29,765	29,199	28,613	29,886	29,334	17,957	17,383	16,859

Project Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Operating Revenues		43,154	63,061	62,966	62,872	62,778	62,684	62,590	62,496	62,402	62,309	62,215	62,122	51,222	51,145
Operating Expenses		21,180	30,266	30,636	31,021	31,423	31,841	32,277	32,731	33,203	33,695	32,329	32,788	33,265	33,762
Operating Cash Flow		21,974	32,795	32,331	31,851	31,355	30,842	30,313	29,765	29,199	28,613	29,886	29,334	17,957	17,383
Contributed to Construction		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cash Flow Available for Debt Service		21,974	32,795	32,331	31,851	31,355	30,842	30,313	29,765	29,193	28,613	29,886	29,334	17,957	17,383
SENIOR DEBT SERVICE															
Repayment Profile	100.00%	4.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	4.00%	4.00%
Average Life	6.62														
Beginning Balance		163,232	156,703	143,644	130,586	117,527	104,469	91,410	78,352	65,293	52,234	39,176	26,117	13,059	6,529
Ending Balance		156,703	143,644	130,586	117,527	104,469	91,410	78,352	65,293	52,234	39,176	26,117	13,059	6,529	0
Principal Repaid		6,529	13,059	13,059	13,059	13,059	13,059	13,059	13,059	13,059	13,059	13,059	13,059	6,529	6,529
Interest Paid @	8.50%	8,094	13,042	11,932	10,822	9,712	8,602	7,492	6,382	5,272	4,162	3,052	1,942	971	416
Total Senior Debt Service		14,623	26,101	24,991	23,881	22,771	21,661	20,551	19,441	18,331	17,221	16,111	15,001	7,501	6,946
Cash Flow after Senior Debt Service		7,351	6,695	7,340	7,970	8,584	9,181	9,762	10,324	10,868	11,392	13,775	14,393	10,457	10,438
DEBT SERVICE RESERVE FUND															
Beginning Balance		0	3,675	7,023	10,693	11,385	10,830	10,275	9,720	9,165	8,611	8,056	7,501	7,501	3,473
Contribution from Cash Flow		3,675	3,947	3,670	693	0	0	0	0	0	0	0	0	0	0
less: release to cashflow		0	0	0	0	555	555	555	555	555	555	555	0	4,028	3,473
Ending Balance		3,675	7,023	10,693	11,385	10,830	10,275	9,720	9,165	8,611	8,056	7,501	7,501	3,473	0
Cash Flow after Debt Service Reserve		3,675	3,947	3,670	7,277	9,139	9,736	10,317	10,879	11,423	11,947	14,330	14,333	14,484	13,911