2. Financial Analysis for Proposed Projects(Water Supply)

(7a) Projected Income Statements for Water Operation

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Operating revenue:																					
Service revenue	3,301	4,637	5,441	6,315	7,258	8,266	9,216	10,206	11,229	12,278	13,343	14,490	15,715	17,023	18,419	19,908	21,634	23,479	25,449	27,553	29,799
Other operating revenue	76	81	93	105	117	131	151	172	194	218	241	269	298	329	362	397	442	490	541	595	653
	3,378	4,718	5,533	6,420	7,376	8,397	9,367	10,378	11,424	12,495	13,585	14,759	16,013	17,352	18,780	20,304	22,075	23,968	25,990	28,149	30,452
Operating expenses:																					
Personnel	449	426	465	507	549	592	646	702	759	817	875	942	1,014	1,089	1,169	1,254	1,361	1,475	1,596	1,725	1,863
Power & illumination	168	176	204	235	269	306	343	383	425	469	515	565	618	675	737	804	883	968	1,060	1,159	1,265
Chemicals	78	82	92	103	114	126	137	148	159	171	182	192	203	214	226	239	252	266	281	296	313
Other expenses	443	432	466	360	398	439	490	545	602	663	725	788	856	928	1,006	1,090	1,195	1,308	1,430	1,562	1,704
Depreciation	1,243	1,494	1,717	1,972	2,304	2,683	3,035	3,408	3,821	4,233	4,559	4,812	5,083	5,376	5,677	5,984	6,264	6,514	6,774	7,047	7,333
Provision for bad debts	165	223	250	278	305	331	350	367	382	393	400	435	471	511	553	597	649	704	763	827	894
	2,547	2,833	3,196	3,455	3,939	4,476	5,001	5,554	6,149	6,745	7,256	7,735	8,245	8,794	9,368	9,967	10,603	11,235	11,905	12,616	13,371
Operating profit	831	1,885	2,337	2,965	3,437	3,921	4,366	4,825	5,275	5,750	6,328	7,024	7,768	8,557	9,412	10,337	11,472	12,733	14,085	15,533	17,081
Non-operating revenue -																					
Interest income	245	223	250	290	259	296	379	447	551	667	792	1,007	1,238	1,498	1,793	2,133	2,527	2,980	3,500	4,099	4,780
Non-operating expenses:																					
Interest expenses	341	678	797	823	1,030	1,324	1,534	1,709	1,878	2,020	2,055	2,151	2,147	2,155	2,170	2,173	2,164	2,097	1,973	1,852	1,750
Foreign exchange difference	102	110	122	123	106	90	95	104	111	95	104	103	97	93	86	83	92	100	93	102	19
	443	788	919	946	1,136	1,413	1,629	1,813	1,990	2,114	2,158	2,254	2,244	2,248	2,255	2,257	2,256	2,197	2,066	1,954	1,769
Net income	633	1,321	1,669	2,309	2,559	2,804	3,117	3,458	3,836	4,303	4,962	5,777	6,762	7,807	8,950	10,214	11,744	13,516	15,519	17,678	20,092
ROR	3.8%	6.4%	6.6%	7.0%	6.7%	6.3%	6.1%	6.0%	5.8%	5.7%	5.8%	6.2%	6.6%	6.9%	7.3%	7.7%	8.3%	9.0%	9.7%	10.4%	11.2%
Debt service ratio	63%	127%	123%	132%	135%	144%	139%	135%	133%	142%	151%	155%	162%	171%	185%	202%	222%	246%	278%	309%	380%

(7b) Projected Balance Sheets for Water Operation

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Fixed assets:																						
Cost	30,260	40,823	46,557	54,986	62,943	76,178	87,499	98,855	111,549	125,454	138,120	146,405	154,831	164,251	174,204	184,143	194,575	202,846	211,417	220,355	229,745	239,612
Accumulated depreciation	-13,105	-13,827	-14,773	-15,911	-17,272	-18,927	-20,923	-23,230	-25,866	-28,869	-32,234	-35,873	-39,712	-43,764	-48,051	-52,575	-57,342	-62,347	-67,603	-73,118	-78,906	-84,980
Net	17,155	26,996	31,784	39,075	45,672	57,251	66,575	75,625	85,683	96,585	105,886	110,531	115,119	120,487	126,153	131,567	137,233	140,499	143,814	147,236	150,839	154,631
Construction in progress	6,692	1,508	4,316	6,912	9,330	6,579	7,153	8,636	9,676	8,312	3,963	3,821	4,527	4,234	4,376	4,528	2,007	1,976	2,000	2,095	2,196	2,285
	23,847	28,504	36,100	45,986	55,001	63,830	73,729	84,261	95,359	104,897	109,849	114,352	119,646	125,221	130,529	136,096	139,240	142,475	145,814	149,332	153,035	156,916
Current assets:																						
Cash	3,407	3,267	3,865	4,743	4,489	5,476	7,528	9,551	12,759	16,853	21,999	27,967	34,384	41,610	49,816	59,259	70,206	82,790	97,232	113,867	132,771	154,780
Accounts receivable	1,307	1,376	1,855	2,086	2,316	2,540	2,755	2,919	3,062	3,182	3,274	3,336	3,623	3,929	4,256	4,605	4,977	5,408	5,870	6,362	6,888	7,450
Allowance for bad debts	-456	-69	-89	-96	-102	-107	-110	-111	-110	-108	-105	-100	-109	-118	-128	-138	-149	-162	-176	-191	-207	-223
Other current assets	694	553	410	267	267	267	267	267	267	267	267	267	267	267	267	267	267	267	267	267	267	267
	4,952	5,127	6,040	7,000	6,970	8,177	10,441	12,626	15,979	20,194	25,435	31,471	38,165	45,689	54,211	63,993	75,301	88,303	103,193	120,306	139,721	162,274
Other assets	912	912	912	912	912	912	912	912	912	912	912	912	912	912	912	912	912	912	912	912	912	912
Total assets	29,710	34,542	43,052	53,898	62,883	72,918	85,081	97,799	112,249	126,003	136,196	146,734	158,723	171,821	185,652	201,000	215,453	231,690	249,919	270,549	293,667	320,102
Long-term loans	7,592	7,848	11,511	16,445	21,204	26,069	31,503	38,089	45,343	50,963	52,382	53,472	54,873	56,082	56,646	57,176	55,169	53,009	50,719	48,466	46,163	44,436
Current liabilities:																						
Short-term borrowing		720	782	1,826	1,074	731	1,162	341														
Accounts payable	634	641	642	697	757	822	891	968	1,049	1,135	1,224	1,316	1,411	1,513	1,622	1,739	1,865	2,017	2,181	2,357	2,547	2,751
Other current liabilities	246	243	254	278	304	332	361	404	450	498	548	600	659	721	788	859	935	1,033	1,136	1,247	1,364	1,489
	880	1,603	1,677	2,802	2,136	1,884	2,414	1,713	1,499	1,633	1,772	1,916	2,070	2,234	2,410	2,598	2,800	3,049	3,317	3,604	3,912	4,241
Intercompany account and others	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655
Total liabilities	10,127	11,106	14,844	20,901	24,995	29,608	35,572	41,457	48,497	54,250	55,808	57,043	58,598	59,971	60,711	61,429	59,624	57,714	55,691	53,725	51,730	50,332
Equity:																						
Capital stock	5,723	7,102	8,511	9,731	10,565	11,720	13,000	14,401	15,960	17,689	19,607	21,759	24,239	27,128	30,509	34,413	38,888	43,995	49,867	56,625	64,384	73,224
Donated capital	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Grant-in-aid	24	601	904	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221
Appraisal Capital	8,160	9,841	12,145	14,641	17,469	20,535	24,094	27,939	31,985	36,213	40,580	44,933	49,590	54,554	59,865	65,544	71,589	77,992	84,727	91,804	99,239	107,049
Retained earnings	5,620	5,835	6,593	7,347	8,576	9,778	11,138	12,724	14,529	16,573	18,922	21,722	25,018	28,891	33,290	38,337	44,076	50,712	58,357	67,118	77,037	88,220
	19,583	23,435	28,208	32,996	37,888	43,310	49,509	56,341	63,751	71,752	80,387	89,691	100,124	111,850	124,941	139,570	155,829	173,976	194,227	216,824	241,937	269,770
Total liabilities and equity	29,710	34,542	43,052	53,897	62,882	72,918	85,081	97,798	112,248	126,002	136,195	146,734	158,722	171,821	185,652	200,999	215,453	231,690	249,918	270,549	293,667	320,101

(7c) Projected Cash Flow Statements for Water Operation

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Receipts:																					
Internal cash generation:																					
Operation receipts	2,680	3,955	4,966	5,813	6,733	7,724	8,704	9,695	10,726	11,789	12,876	13,777	14,947	16,195	17,528	18,949	20,566	22,327	24,208	26,217	28,361
Other op income	76	81	93	105	117	131	151	172	194	218	241	269	298	329	362	397	442	490	541	595	653
Interest income	245	223	250	290	259	296	379	447	551	667	792	1,007	1,238	1,498	1,793	2,133	2,527	2,980	3,500	4,099	4,780
Other receipts	-4	11	24	26	28	29	43	46	48	50	52	59	63	67	71	76	97	104	110	118	125
Operating disbursements	990	973	1,030	1,145	1,266	1,394	1,540	1,697	1,860	2,030	2,205	2,393	2,589	2,798	3,022	3,260	3,538	3,853	4,190	4,552	4,940
	2,009	3,298	4,303	5,089	5,871	6,786	7,738	8,663	9,659	10,694	11,757	12,719	13,956	15,290	16,732	18,295	20,094	22,048	24,169	26,476	28,979
Financing:																					
Long-term loans	1,080	4,190	5,494	5,352	5,466	6,010	7,398	8,331	7,066	3,154	3,280	4,013	4,173	3,818	3,971	1,626	1,691	1,758	1,843	1,932	2,009
Short-term borrowing	720	782	1,826	1,074	731	1,162	341														
Grant in Aid	577	303	317																		
OECF equity	1,117	1,093	560																		
	3,493	6,367	8,198	6,427	6,197	7,172	7,739	8,331	7,066	3,154	3,280	4,013	4,173	3,818	3,971	1,626	1,691	1,758	1,843	1,932	2,009
Total receipts	5,502	9,665	12,501	11,516	12,068	13,959	15,477	16,994	16,725	13,848	15,037	16,731	18,129	19,108	20,703	19,920	21,785	23,806	26,012	28,408	30,988
Disbursements:																					
Debt service payments:																					
Long-term debts	1,719	1,664	2,107	2,467	2,733	2,928	3,404	3,892	4,374	4,528	4,727	5,169	5,551	5,887	6,044	6,185	6,303	6,395	6,318	6,351	5,746
Short-term borrowing	86	836	938	1,966	1,196	783	1,176	341													
	1,805	2,500	3,044	4,433	3,929	3,711	4,580	4,233	4,374	4,528	4,727	5,169	5,551	5,887	6,044	6,185	6,303	6,395	6,318	6,351	5,746
Capital expenditures:																					
Replacement	514	551	590	629	668	707	745	783	819	855	888	923	959	997	1,036	1,076	1,119	1,119	1,119	1,119	1,119
Ongoing projects	3,322	2,992	3,345	1,074	731	1,162	341														
Master plan projects		3,024	4,645	5,634	5,754	6,327	7,788	8,770	7,438	3,320	3,453	4,224	4,393	4,019	4,180	1,711	1,780	1,851	1,940	2,033	2,115
	3,836	6,568	8,579	7,337	7,152	8,195	8,874	9,552	8,257	4,175	4,341	5,147	5,352	5,016	5,215	2,788	2,898	2,970	3,059	3,152	3,233
Total disbursements	5,641	9,067	11,623	11,770	11,081	11,907	13,454	13,785	12,631	8,703	9,068	10,315	10,902	10,902	11,260	8,973	9,201	9,364	9,377	9,503	8,979
Cash increase/decrease	-140	597	878	-254	987	2,052	2,023	3,209	4,094	5,146	5,969	6,416	7,227	8,206	9,443	10,948	12,584	14,442	16,635	18,905	22,009
Cash balance:																					
At beginning	3,407	3,267	3,865	4,743	4,489	5,476	7,528	9,551	12,759	16,853	21,999	27,967	34,384	41,610	49,816	59,259	70,206	82,790	97,232	113,867	132,771
At end	3,267	3,865	4,743	4,489	5,476	7,528	9,551	12,759	16,853	21,999	27,967	34,384	41,610	49,816	59,259	70,206	82,790	97,232	113,867	132,771	154,780

Part III

Sewerage and Sanitation

Part III

Sewerage and Sanitation

1. Water Quality, Usage and Classifications

Table 1 Water Quality Usage and Classifications (DENR A.O. 34)

(a) Fresh Surface Waters (rivers, lakes, reservoirs, etc.)

Classification	Beneficial Use (1)
Class AA	Public Water Supply Class I. This class is intended primarily for waters having watersheds which are uninhabited and otherwise protected and which require only approved disinfection in order to meet the National Standards for Drinking Water (NSDW) of the Philippines.
Class A	Public Water Supply Class II. For sources of water supply that will require complete treatment (coagulation, sedimentation, filtration, and disinfection) in order to meet the NSDW.
Class B	Recreational Water Class I. For primary contact recreation such as bathing, swimming, skin diving, etc. (particularly those designated for tourism purposes).
Class C	1) Fishery Water for the propagation and growth of fish and other aquatic resources; 2) Recreational Water Class II (boating, etc.) 3) Industrial Water Supply Class I (For manufacturing processes after treatment)
Class D	1) For agriculture, irrigation, livestock watering, etc. 2) Industrial Water Supply Class II (e.g. cooling, etc); 3) Other inland waters, by their quality, belong to this classification.

Table 1 (continued)

(b) Coastal and Marine Waters

Classification		Beneficial Use
Class SA	1)	Waters suitable for the propagation, survival and harvesting of shellfish for commercial purposes;
	2)	Tourist zones and national marine parks and reserves established under Presidential Proclamation No. 1801; existing laws and/or declared as such by appropriate government agency.
	3)	Coral reef parks and reserves designated by laws and concerned authorities.
Class SB	1)	Recreational Water Class I (Areas regularly used by the public for bathing, swimming, skin diving, etc.);
	2)	Fishery Water Class I (Spawning areas for Chanos chanos or "Bangus" and similar species).
Class SC	1)	Recreational Water Class II (e.g. boating, etc.)
	2)	Fishery Water Class II (Commercial and sustenance fishing);
	3)	Marshy and/or mangrove areas declared as fish and wildlife sanctuaries;
Class SD	1)	Industrial Water Supply Class II (e.g. cooling, etc.);
	2)	Other coastal and marine waters, by their quality belong to this classification.

Notes:

1. In general, this refers to current best beneficial use that is expected to last, at least, for the next 10 to 20 years. In special cases when dictated by political, economic, social, public health, environmental and other considerations, certain waters may be classified according to the intended or future beneficial use (e.g. Pasig River, Tullahan-Tenejeros, etc.)

2. For purposes of classification or reclassification the following minimum water quality parameters are to be considered:

   i) Dissolved Oxygen (DO)
   ii) pH
   iii) Biochemical Oxygen Demand (BOD)
   iv) Total Coliform Organisms

Table 2 WATER QUALITY CRITERIA. a) FOR CONVENTIONAL AND OTHER POLLUTANTS CONTRIBUTING TO AESTHETICS AND OXYGEN DEMAND FOR FRESH WATERS

PARAMETER	UNIT	CLASS AA	CLASS A	CLASS B	CLASS C	CLASS (b) D
Color	PCU	15	50	(c)	(c)	(c)
Temperature (d) (max. rise in degree Celcius)	C rise	-	3	3	3	3
pH (range)		6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.0-9.0
Dissolved Oxygen (e) (Minimum)	% satn	70	70	70	60	40
	mg/L	5.0	5.0	5.0	5.0	3.0
5-day 20°C BOD	mg/L	1	5	5	7(10)	10(15)
Total Suspended Solids	mg/L	25	50	(f)	(g)	(h)
Total Dissolved Solids	mg/L	500 (i)	1,000 (i)	-	-	1,000 (i)
Surfactants (MBAS)	mg/L	nil	0.2(0.5)	0.3(0.5)	0.5	-
Oil/Grease (Petroleum Ether Extract)	mg/L	nil	1	1	2	5
Nitrate as Nitrogen	mg/L	1.0	10	nr	10 (j)	-
Phosphate as Phosporus	mg/L	nil	0.1 (k)	0.2 (k)	0.4 (k)	-
Phenolic Substances as Phenols	mg/L	nil	0.002	0.005 (l)	0.02 (l)	-
Total Coliforms	MPN/ 100mL	50 (m)	1,000 (m)	1,000 (m)	5,000 (m)	-
Fecal Coliforms	MPN/ 100mL	20 (m)	100 (m)	200 (m)	-	-
Chloride as Cl	mg/L	250	250	-	350	-
Copper	mg/L	1.0	1.0	-	0.05 (o)	-

Table .3 WATER QUALITY CRITERIA. b) FOR TOXIC AND OTHER DELETERIOUS SUBSTANCES FOR FRESH WATERS (For the Protection of Public Health)

PARAMETER	UNIT	CLASS AA	CLASS A	CLASS B	CLASS C	CLASS D
Arsenic (i)	mg/L	0.05	0.05	0.05	0.05	0.1
Cadmium (i)	mg/L	0.01	0.01	0.01	0.01	0.05
Chromium (i) (hexavalent)	mg/L	0.05	0.05	0.05	0.05	0.1
Cyanide	mg/L	0.05	0.05	0.05	0.05	-
Lead (i)	mg/L	0.05	0.05	0.05	0.05	0.5
Total Mercury (i)	mg/L	0.002	0.002	0.002	0.002	0.002
Organophosphate	mg/L	nil	nil	nil	nil	nil
Aldrin	mg/L	0.001	0.001	-	-	-
DDT	mg/L	0.05	0.05	-	-	-
Dieldrin	mg/L	0.001	0.001	-	-	-
Heptachlor	mg/L	nil	nil	-	-	-
Lindane	mg/L	0.004	0.004	-	-	-
Toxaphane	mg/L	0.005	0.005	-	-	-
Methoxychlor	mg/L	0.10	0.10	-	-	-
Chlordane	mg/L	0.003	0.003	-	-	-
Endrin	mg/L	nil	nil	-	-	-
PCB	mg/L	0.001	0.001	-	-	-

Table .4 WATER QUALITY CRITERIA. c) FOR CONVENTIONAL AND OTHER POLLUTANTS AFFECTING AESTHETICS AND EXERTING OXYGEN DEMAND FOR COASTAL AND MARINE WATERS.

PARAMETER	UNIT	CLASS SA	CLASS SB	CLASS SC	CLASS SD
Color	PCU	(c)	(c)	(c)	(c)
Temperature (d) (max. rise in degree Celcius)	°C rise	3	3	3	3
pH (range)	-	6.5-8.5	6.5-8.5	6.5-8.5	6.0-9.0
Dissolved Oxygen (e) (Minimum)	% satn	70	70	70	50
	mg/L	5.0	5.0	5.0	2.0
5-day 20°C BOD	mg/L	3	5	7(10)	-
Total Suspended Solids	mg/L	(f)	(g)	(g)	(h)
Surfactants (MBAS)	mg/L	0.2	0.3	0.5	-
Oil/Grease (Petroleum Ether Extract)	mg/L	1	2	3	5
Phenolic Substances as Phenols	mg/L	nil	0.01	(l)	-
Total Coliforms	MPN/ 100mL	70 (m)	1,000(m)	5,000(m)	-
Fecal Coliforms	MPN/ 100mL	nil	200(m)	-	-
Copper	mg/L	-	0.02(n,o)	0.05(o)	-

Table ..5 WATER QUALITY CRITERIA. d) FOR TOXIC AND OTHER DELETERIOUS SUBSTANCES FOR COASTAL AND MARINE WATERS (For the Protection of Public Health)

PARAMETER	UNIT	CLASS SA	CLASS SB	CLASS SC	CLASS SD
Arsenic (i)	mg/L	0.05	0.05	0.05	-
Cadmium (i)	mg/L	0.01	0.01	0.01	-
Chromium (i) (hexavalent)	mg/L	0.05	0.1	0.1	-
Cyanide	mg/L	0.05	0.05	0.05	-
Lead (i)	mg/L	0.05	0.05	0.05	-
Total Mercury (i)	mg/L	0.002	0.002	0.002	-
Organophosphate	mg/L	nil	nil	nil	-
Aldrin	mg/L	0.001	-	-	-
DDT	mg/L	0.05	-	-	-
Dieldrin	mg/L	0.001	-	-	-
Heptachlor	mg/L	nil	-	-	-
Lindane	mg/L	0.004	-	-	-
Toxaphane	mg/L	0.005	-	-	-
Methoxychlor	mg/L	0.10	-	-	-
Chlordane	mg/L	0.003	-	-	-
Endrin	mg/L	nil	-	-	-
PCB	mg/L	0.001	-	-	-

Table 5 WATER QUALITY CRITERIA. (continued)
FOOTNOTES TO PRECEEDING TABLES.

(a) - Except as otherwise indicated, the numerical limits in Tables 1 and 3 are yearly average values. Values enclosed in parentheses are maximum values.

(b) - For irrigation purposes, SAR should have a minimum value of 8 and a maximum value not to exceed 18. Boron should not exceed 0.75 mg/l.

(c) - No abnormal discoloration from unnatural causes.

(d) - The allowable temperature increase over the average ambient temperature for each month. This rise shall be based on the average of the maximum daily temperature readings recorded at the site but upstream of the mixing zone over a period of one (1) month.

(e) - Sampling taken between 9:00 AM and 4:00 PM.

(f) - Not more than 30% increase.
(g) - Not more than 30 mg/L increase.
(h) - Not more than 60 mg/L increase.

(i) - Do not apply if natural background is higher in concentration . The latter will prevail and will be used as baseline.

(j) - Applicable only to lakes, reservoirs, and similarly impounded water.

(k) - When applied to lakes or reservoirs, the Phosphate (as P)concentration should not exceed an average of0.05 mg/L nor a maximum of 0.1 mg/L.

(l) - Not present in concentrations to affect fish flavor/taste.

(m) - These values refer to the geometric mean of the most probable number of coliform organisms during a 3-month period and that the limit indicated shall not be exceeded in 20 percent of the samples taken during the same period.

(n) - For spawning areas for Chanos chanos and other similar species.

(o) - Limit is in terms of dissolved copper.

nil - Extremely low concentration and not detectable by existing equipment.

- - Means the standard of these substances are not considered necessary for the present time, considering the stage of the country's development and DENR capabilities, equipment and resources.

nr - Means No Recommendation made.

Table 6 (a) EFFLUENT STANDARDS: TOXIC AND OTHER DELETERIOUS SUBSTANCES

(Maximum Limits for the Protection of Public) (a) Health

Parameter	Unit	Protected Waters Category I (Class AA & SA)		Protected Waters Category II (Class A,B, & SB)		Inland Waters Class C		Marine Waters Class SC		Marine Waters Class SD	
		OEI	NPI	OEI	NPI	OEI	NPI	OEI	NPI	OEI	NPI
Arsenic	mg/L	(b)	(b)	0.2	0.1	0.5	0.2	1.0	0.5	1.0	0.5
Cadmium	mg/L	(b)	(b)	0.05	0.02	0.1	0.05	0.2	0.1	0.5	0.2
Chromium (hexavalent)	mg/L	(b)	(b)	0.1	0.05	0.2	0.1	0.5	0.2	1.0	0.5
Cyanide	mg/L	(b)	(b)	0.2	0.1	0.3	0.2	0.5	0.2	--	--
Lead	mg/L	(b)	(b)	0.2	0.1	0.5	0.3	0.1	0.5	--	--
Mercury (Tot.)	mg/L	(b)	(b)	.005	.005	.005	.005	.005	.005	0.05	0.01
PCB	mg/L	(b)	(b)	.003	.003	.003	.003	.003	.003	--	--
Formaldehyde	mg/L	(b)	(b)	2.0	1.0	2.0	1.0	2.0	1.0	--	--

NOTE:

(a) Except as otherwise indicated, all limiting values in Table 3-5 (a) are maximum and therefore shall not be exceeded,

(b) Discharge of sewage and/or trade effluents are prohibited or not allowed.

Table 7 (b) EFFLUENT STANDARDS: Conventional and Other Pollutants in Protected Waters Category I & II and in Inland Waters Class

Parameter	Unit	Protected Waters Category I (Class AA & SA)		Protected Waters Category II (Class A,B, & SB)		Inland Waters Class C	
		OEI	NPI	OEI	NPI	OEI	NPI
Color	PCU	(b)	(b)	150	100	200 (c)	150 (c)
Temperature °C rise (max. rise in degree Celsius in RBW)	-----	(b)	(b)	3	3	3	3
pH (range)	-----	(b)	(b)	6.0-9.0	6.0-9.0	6.0-9.0	6.5-9.0
COD	mg/L	(b)	(b)	100	60	150	100
Settleable Solids (1-hour)	mg/L	(b)	(b)	0.3	0.3	0.5	0.5
5-Day 20°C BOD	mg/L	(b)	(b)	50	30	30	50
Total Suspended Solids	mg/L	(b)	(b)	70	50	90	70
Total Dissolved Solids	mg/L	(b)	(b)	1,200	1,000	--	--
Surfactants (MBAS)	mg/L	(b)	(b)	5.0	2.0	7.0	5.0
Oil/Grease (Petroleum Ether Extract)	mg/L	(b)	(b)	5.0	5.0	10.0	5.0
Phenolic Substances as Phenols	mg/L	(b)	(b)	0.1	0.05	0.5	0.1
Total Coliform	MPN/ 100mL	(b)	(b)	5,000	3,000	15,000	10,000

Table .8 (c) EFFLUENT STANDARDS: Conventional and Other Pollutants in Inland Waters Class D, Coastal Waters Class SC & SD and Other Coastal Waters not yet Classified)

Parameter	Unit	Inland Waters (Class D)		Coastal Waters (Class SC)		Class SD & Other Coastal Waters Not Classified	
		OEI	NPI	OEI	NPI	OEI	NPI
Color	PCU	--	--	(c)	(c)	(c)	(c)
Temperature °C rise (max. rise in degree Celsius in RBW)	°C rise	3	3	3	3	3	3
pH (range)	-----	5.0-9.0	6.0-9.0	6.0-9.0	6.0-9.0	5.0-9.0	5.0-9.0
COD	mg/L	250	200	250	200	300	200
5-Day 20°C BOD	mg/L	150(d)	120	120(d)	100	150(d)	120
Total Suspended Solids	mg/L	200	150	200	150	(g)	(f)
Total Dissolved Solids	mg/L	2,000(h)	1,500(h)	--	--	--	--
Surfactants (MBAS)	mg/L	--	--	15	10	--	--
Oil/Grease (Petroleum Ether Extract)	mg/L	--	--	15	10	15	15
Phenolic Substances as Phenols	mg/L	--	--	1.0 (i)	0.5 (i)	5.0	1.0
Total Coliform	MPN/ 100mL	(j)	(j)	--	--	--	--

Table 9 (a) INTERIM EFFLUENT STANDARDS. For BOD Applicable to Old or Existing Industries Producing Strong Industrial Waste, (1990-1994)

Industry Classification Based on BOD of Raw Wastewaters Produced	Maximum Allowable Limits in mg/L[1], according to Time Period and Receiving Body of Water			
	Effectivity date-Dec.31,1991		Jan.1, 1992 - Dec.31, 1994	
	Inland Waters (Class C & D)	Coastal Waters (Cl.SC & SD)	Inland Waters (Class C & D)	Coastal Waters (Cl.SC & SD)
1. Industries producing BOD within 3,000 to 10,000 mg/L	320 or 95% removal	650 or 90% removal	320 or 97% removal	320 or 95% removal
2. Industries producing BOD within 10,000 to 30,000 mg/L	1,000 or 95% removal	2,000 or 90% removal	600 or 97% removal	1,000 or 95% removal
3. Industries producing more than 30,000 mg/L	1,000 or 95% removal	3,000 or 90% removal	900 or 97% removal	1,500 or 95% removal

NOTE: 1. Use either the numerical limit or percentage removal whichever is lower (or whichever is more strict).

2. Starting January 1, 1995, the applicable effluent requirements for old or existing industries are indicated in Table 3-6 (b).

Table 10 (b) EFFLUENT STANDARDS. For New* Industries Producing Strong Wastes upon Effectivity of these Regulations, and for All Industries Producing Strong Wastes starting January 1, 1995.

Industry Classification Based on BOD of Raw Wastewater	Maximum Allowable Limits in mg/L Based on Receiving Body of Water	
	Inland Waters (Class C and D)	Coastal Waters (Class SC and SD)
1. Industries producing within 3,000 to 10,000 mg BOD/L	130 or 98% removal	200 or 97% removal
2. Industries producing within 10,000 to 30,000 mg BOD/L	200 or 99% removal	600 or 97% removal
2. Industries producing more than 30,000 mg BOD/L	300 or 99% removal	900 or 97% removal

Note: * Including old or existing industries producing strong waste whose wastewater treatment plants are still to be constructed.

1. Use either numerical limits or percentage removal whichever is lower (or whichever is more strict).

Table 11 **Clay Standard**

Item	unit	EMB	LLDA		Remark
			A	B	
Cd	mg/kg	0.16	20 - 40	1 - 3	
Cu	ditto	0 - 20	1000 - 1750	50 - 140	
Ni	ditto	~	300 - 400	30 - 75	
Pb	ditto	0 - 20	750 - 1200	50 - 300	
Zn	ditto	0 - 1000	2500 - 4000	150 - 300	
Hg	ditto	0.3	16 - 25	1 - 1.5	
Cr	ditto	~	~	~	

EMB standard : Thai land, Chao Phrya River Study.
LLDA standard : A;Sludge for use in agriculture, B;Soil standard both come from European Communities limit (E.C. 1986)
Note; EMB unit in wet base , LLDA dry base

2. Wastewater Quality Data

Table 12 Tondo Pump Station Inflow water quality (1994)

		Nov.16	Oct.19	Sep.7	Aug.5	July.13	June.30	May.25	Apr.28	Mar.24	Jan.12	Average
item	unit											
color	units	40	40	60	35	20	50	30	40	50	45	41
turbidity	units	36	33	32.5	33	33	42	25	30	46	40	35.05
pH		7.1	6.9	7.1	7.1	7.1	7.2	7.1	7.2	7.3	7.1	7.12
settleable matter	mL/L	3	1	1.5	1.25	2.25	2	1.4	0.9	3	0.5	1.68
MBAS	mg/L	20.4	13.8	7.4	3.1	7.4	6.9	7.1	1.9	16.2	3.9	8.81
oil&grease	mg/L	20	50	0.05	0.04							
phenols	mg/L	0.12	0.1	0.6								
DO	mg/L	0	0	0	0.7	1.5	0.6	0.3	0	1.5	0.8	0.54
BOD5	mg/L	121.7	106.2	102.6	58.5	103.3	128.3	78	82.7	113.7	104.3	99.93
COD	mg/L	253.6	274.1	234.4	296.3	252	448	371.7	300	259.3	290.3	297.97
SS	mg/L	40	55	40	40	40	55	73	35	43	60	48.1
DS	mg/L	430	5040	1075	500	1145	770	4126	6525	422	325	2035.8
Total Coliform	MPN/100ml	1E+08		3E+08	1E+08	8E+08	1E+08	1E+08	2E+08	3E+07	2E+09	4.2E+08
Fecal Coliform	MPN/100ml	5E+07		3E+08	1E+08	8E+08	1E+08	8E+07	2E+08	3E+07	2E+09	4.1E+08

Table A-3 Ayala STP water quality (1994)

		Jan.5	Jan.19	Feb.2	Mar.2	Apr.6	May.4	May.18	June.1	July.28	Aug.10	Aug.24	Sep.14	Oct.12	Nov.9	Average
(Influent)																
item	unit															
color	units	60	100	65	90	90	60	30	80	40	60	90	40	70	40	65.4
turbidity	units	55	80	55	85	80	54	50	67	57	47.5	50	55	73	50	61.3
pH		6.9	7	7.1	7	6.9	7	7.2	7.1	7	7.1	7	7	7	6.9	7.0
settleable matter	mL/L	2.5	15	6	2	5	2.5	6.5	7.5	1.5	2	9	9	6	10	6.0
MBAS	mg/L	8.3	9.5	23	1.7	0.9	1.9	2.2	1.5	0.4	3.2	0.9	10.6	11.4	11.2	6.2
oil&grease	mg/L										0.02	0.02	0.04	50	20	5.0
phenols	mg/L											0.5	0.3	0.2	0.2	0.1
DO	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
BOD5	mg/L	149.7	155.8	241.7	160	310	167.7	186.7	182.5	119.7	255.8	167.5	154.2	255	240	196.2
COD	mg/L	240.5	346.2	318.6	269.2	674.1	325	271.2	422.2	236.2	348.2	307.7	281.5	323.3	478.6	345.9
SS	mg/L	65	90	50	95	83	60	162	70	67	50	55	65	80	60	75.1
DS	mg/L	295	310	285	310	307	348	352	280	598	590	520	540	520	545	414.3
Total Coliform	MPN/100ml	5E+07	8E+07	2E+08	2E+09	1E+08	5E+07	2E+06	8E+07	1E+07	1E+08	8E+07	8E+07	5E+07	3E+07	
Fecal Coliform	MPN/100ml	5E+07	8E+07	1E+08	2E+09	1E+08	5E+07	2E+06	8E+07	8E+06	3E+07	8E+07	8E+07	2E+07	3E+07	
(Effluent)																
item	unit															
color	units	45	50	40	80	35	45	30	45	30	40	80	30	60	30	45.7
turbidity	units	40	43	35	83	31	38	33	37	21	27	26	22	34	23	35.2
pH		7.3	7.4	7.4	7.1	7.5	7.6	7.5	7.6	7.3	7.2	7.1	7.1	7	7	7.3
settleable matter	mL/L	0.3	3	0.1	0.3	1	0.3	0.1	0.1	0.1	0	0.1	0.1	0.1	3	0.6
MBAS	mg/L	4.2	5.8	0	1.4	0.5	1.3	1.4	0.4	0.2	2.4	0.1	2.2	5.3	5.3	2.2
oil&grease	mg/L										0.01	0.01	0.02	40	10	3.6
phenols	mg/L											0.5	0.3	0.17	0.14	0.1
DO	mg/L	1.2	0	2.45	0.7	2	0.6	1.1	1.5	2.4	0	2.1	2.2	0	2.6	1.3
BOD5	mg/L	61.9	83.9	81.4	98	61.9	73.4	81.7	59.9	47.8	81	44.5	56.1	91.9	81.7	71.8
COD	mg/L	189.9	200	141.6	153.9	214.8	183.3	135.6	237	126	111.1	153.8	133.3	225.6	142.9	167.8
SS	mg/L	50	55	45	85	35	40	77	40	30	35	35	25	40	30	44.4
DS	mg/L	320	350	305	315	325	325	299	340	570	615	600	600	635	640	445.6
Total Coliform	MPN/100ml	3E+07	3E+07	2E+07	1E+08	5E+07	2E+07	1E+07	1E+07	8E+06	9E+06	3.5E+07	2E+07	1E+07	1.3E+07	
Fecal Coliform	MPN/100ml	2E+07	2E+07	2E+07	1E+08	5E+07	2E+07	1E+07	1E+07	8E+06	9E+06	3.5E+07	1E+07	1E+07	1.3E+07	

Table 1/4: Dagat-Dagatan STP water quality (1994)

		Jan.12	Jan.26	Feb.9	Feb.23	Mar.24	Apr.28	May.11	May.25	June.30	July.20	Aug.3	Aug.17	Sep.7	Oct.5	Oct.19	Average
(inflow)																	
item	unit																
color	units	100	140	135	80	133	120	80	40	80	20	35	65	35	90	100	83.5
turbidity	units	95	130	120	125	125	110	70	80	71	36	39	98	13	41	55	80.5
pH		7	7.2	7.2	7.4	7.5	7.4	7.3	7.35	7.2	7	7.3	7.5	8	7	6.9	7.3
settleable matter	mL/L	0.5	0.4	0.2	0.1	4	0.3	0.4	1.5	1.25	0.5	1	0.1	0.1	0.6	0.5	0.8
MBAS	mg/L	9.5	9.1	5.9	8.5	1	0.8	2.2	2.1	1.8	0.4	0.9	1.7	1.4	1.8	3.7	3.4
oil&grease	mg/L											0.1	0.03	0.02	50	30	5.3
phenols	mg/L												0.4	0.6	0.13	0.1	0.1
DO	mg/L	0	0	0	0	0	0	0	0	0	0.3	0	0	4	0	0	0.3
BOD5	mg/L	56.7	59	103.3	84	67	51.3	54.6	68.7	78	85.2	45.7	30.3	9.9	58	70.5	61.5
COD	mg/L	154.8	233.9	166.7	153.8	307.4	330.3	360	256.6	224	280	192.6	142.9	136	133.3	177.8	216.7
SS	mg/L	110	135	115	18	130	113	75	88	75	45	50	100	15	45	60	78.3
DS	mg/L	1140	1270	1325	1246	1030	787	865	828	1230	1265	1305	620	1265	2470	3285	1328.7
Total Coliform	MPN/100ml	5E+07	2E+07	3E+07	5E+07	2E+07	3E+07	2E+07	5E+07	3E+06	3E+07	3E+07	2E+06	2E+07	2E+07		
Fecal Coliform	MPN/100ml	3E+07	2E+07	3E+07	5E+07	2E+07	2E+07	2E+07	5E+07	3E+06	2E+07	3E+07	1E+06	2E+07	2E+07		
(Effluent)																	
item	unit																
color	units	25	25	20	30	20	20	30	20	20	15	30	40	35	10	30	24.7
turbidity	units	15	15	12	7.7	13	10	20	18	10	10	8.2	9.4	9	6	8	11.4
pH		9.2	9.4	9.6	9.5	9.1	9.6	9.3	8.9	9	8.8	8.6	9.5	9.3	8.6	8.7	9.1
settleable matter	mL/L	0.2	0	0.1	0.1	1	0.1	0.2	0.1	0.2	0.1	0.1	0	0.1	0.1	0.1	0.2
MBAS	mg/L	5.2	0	0	0.6	1.1	0.3	0.5	0.5	0.4	0.3	0.4	0.3	0.7	0.6	0.4	0.8
oil&grease	mg/L											0.01	0.01	0.02	40	20	4.0
phenols	mg/L												0.3	0.6	0.06	0.07	0.1
DO	mg/L	9.7	11.4	17.8	14.6	8.3	12.3	11.6	6.2	13.4	7.8	8	10.9	12	10.4	11.1	11.0
BOD5	mg/L	8.4	7.9	9.7	11.5	10.5	9.5	10.1	11.2	11.5	9.7	4.2	8	5.3	7.2	10.4	9.0
COD	mg/L	129	104.8	100.3	84.6	170.4	146.7	120	79.6	112	160	74.1	71.4	88	88.9	111.1	109.4
SS	mg/L	25	20	14	13	15	15	25	45	20	20	10	15	15	15	15	18.8
DS	mg/L	1090	1220	1123	1164	1191	1085	960	891	695	1225	935	415	700	1270	1530	1032.9
Total Coliform	MPN/100ml	70000	80000	50000	2E+05	13000	23000	30000	23000	7000	23000	23000	50000	3000	50		
Fecal Coliform	MPN/100ml	50000	23000	23000	1E+05	13000	13000	30000	23000	7000	23000	23000	50000	3000	50		

3. Financial Analysis for Proposed Projects(Sewerage/Sanitation)

(8a) Projected Income Statements for Sewerage/Sanitation Operation

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Operating revenue:																					
Service revenue	660	1,391	1,632	1,895	2,177	2,480	2,765	3,062	3,369	3,683	4,003	4,347	4,715	5,107	5,526	5,972	6,490	7,044	7,635	8,266	8,940
Other operating revenue	11	15	18	23	27	32	34	36	37	39	41	49	58	68	79	90	94	98	101	106	110
	671	1,406	1,651	1,917	2,205	2,512	2,799	3,098	3,406	3,722	4,044	4,396	4,773	5,175	5,605	6,063	6,584	7,141	7,736	8,372	9,050
Operating expenses:																					
Personnel	149	192	206	219	233	247	264	280	297	313	329	346	364	383	403	424	445	466	488	511	536
Desludging	245	310	391	480	577	682	721	758	794	829	863	1,045	1,240	1,450	1,674	1,914	1,990	2,070	2,153	2,239	2,328
Chemicals	2	2	3	4	4	5	5	6	6	6	7	8	9	11	13	15	15	16	16	17	18
Other expenses	58	88	97	107	117	127	140	154	167	181	196	210	224	240	256	274	295	317	341	365	391
Depreciation	180	194	215	250	296	359	452	559	646	708	771	866	978	1,096	1,205	1,294	1,386	1,495	1,614	1,734	1,852
Provision of allowance	33	67	75	83	91	99	105	110	115	118	120	130	141	153	166	179	195	211	229	248	268
	667	854	988	1,143	1,319	1,520	1,687	1,867	2,025	2,156	2,284	2,605	2,958	3,333	3,717	4,099	4,325	4,575	4,840	5,114	5,394
Operating profit	4	552	663	774	886	992	1,112	1,230	1,381	1,566	1,759	1,791	1,815	1,842	1,888	1,963	2,259	2,566	2,896	3,257	3,656
Non-operating revenue																					
Interest income	1	135	124	133	79	101	122	92	127	167	206	265	327	389	458	533	611	698	800	920	1,064
Non-operating expenses:																					
Interest expenses	189	291	266	218	197	242	264	337	434	452	413	430	509	579	670	717	734	743	781	806	838
Foreign exchange difference	20	21	22	23	20	12	12	13	14	16	8										
	209	312	288	241	218	254	276	350	448	467	421	430	509	579	670	717	734	743	781	806	838
Net income	-204	375	499	666	747	838	958	973	1,060	1,266	1,544	1,626	1,633	1,652	1,676	1,780	2,135	2,521	2,915	3,371	3,882
ROR	0.2%	24.8%	24.5%	21.5%	18.3%	15.1%	12.1%	10.0%	9.5%	9.8%	10.2%	9.1%	8.1%	7.2%	6.7%	6.6%	7.1%	7.6%	8.0%	8.4%	8.9%
Debt service ratio	24%	140%	110%	89%	61%	43%	57%	124%	250%	141%	75%	105%	81%	191%	202%	207%	142%	226%	201%	401%	1285%

(8b) Projected Balance Sheets for Sewerage/Sanitation Operation

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Fixed assets:																						
Cost	2,798	3,099	3,345	4,118	5,221	6,741	8,984	12,416	15,638	17,743	19,276	21,411	25,152	28,400	32,494	35,198	37,938	40,815	44,691	48,136	52,123	55,428
Accumulated depreciation	-984	-987	-1,004	-1,038	-1,101	-1,203	-1,359	-1,597	-1,932	-2,341	-2,799	-3,305	-3,894	-4,580	-5,371	-6,258	-7,219	-8,258	-9,393	-10,632	-11,976	-13,424
Net	1,814	2,112	2,342	3,080	4,120	5,539	7,626	10,819	13,706	15,402	16,478	18,106	21,259	23,819	27,123	28,940	30,719	32,556	35,298	37,504	40,146	42,004
Construction in progress	90	23	544	836	1,199	1,851	2,941	2,588	1,366	765	1,374	2,896	2,253	2,971	1,416	1,346	1,372	2,258	1,671	2,077	1,236	477
	1,904	2,135	2,886	3,916	5,319	7,390	10,567	13,407	15,072	16,166	17,852	21,002	23,512	26,790	28,539	30,286	32,092	34,815	36,970	39,581	41,382	42,481
Current assets:																						
Cash	6	1,645	1,597	1,807	1,141	1,553	2,023	1,635	2,447	3,510	4,763	6,144	7,563	8,995	10,605	12,336	14,133	16,153	18,518	21,302	24,631	28,589
Accounts receivable	170	275	556	626	695	762	827	876	919	954	982	1,001	1,087	1,179	1,277	1,381	1,493	1,623	1,761	1,909	2,067	2,235
Allowance for bad debts		-14	-27	-29	-31	-32	-33	-33	-33	-32	-31	-30	-33	-35	-38	-41	-45	-49	-53	-57	-62	-67
Other current assets	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	178	1,908	2,128	2,405	1,805	2,284	2,818	2,478	3,333	4,432	5,714	7,115	8,618	10,139	11,844	13,676	15,582	17,728	20,226	23,154	26,636	30,758
Other assets	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Intercompany account	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651	1,651
Total assets	3,735	5,696	6,667	7,974	8,777	11,327	15,037	17,538	20,058	22,252	25,219	29,770	33,782	38,582	42,036	45,616	49,327	54,195	58,849	64,388	69,672	74,892
Long-term loans	918	817	1,179	1,756	2,629	4,116	6,604	8,680	9,618	10,037	10,991	13,258	14,784	16,935	17,588	18,173	18,674	19,898	20,406	21,248	21,240	20,496
Current liabilities:																						
Short-term borrowing		2,000	2,000	2,000	1,000	1,000	1,000															
Accounts payable	60	112	132	151	171	194	218	229	239	250	260	270	311	355	402	453	507	527	548	571	594	618
	60	2,112	2,132	2,151	1,171	1,194	1,218	229	239	250	260	270	311	355	402	453	507	527	548	571	594	618
Total liabilities	978	2,928	3,310	3,907	3,801	5,310	7,823	8,909	9,858	10,287	11,252	13,528	15,095	17,291	17,990	18,626	19,180	20,425	20,954	21,819	21,834	21,114
Equity:																						
Donated capital	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
Appraisal surplus	418	632	846	1,058	1,301	1,594	1,953	2,410	3,009	3,714	4,450	5,181	6,000	6,970	8,073	9,341	10,719	12,207	13,811	15,570	17,468	19,525
Retained earnings	2,019	1,815	2,190	2,689	3,355	4,103	4,941	5,899	6,871	7,931	9,197	10,741	12,367	14,001	15,652	17,328	19,107	21,243	23,763	26,679	30,050	33,932
	2,757	2,767	3,357	4,067	4,977	6,016	7,214	8,629	10,200	11,965	13,967	16,242	18,687	21,291	24,045	26,989	30,146	33,770	37,894	42,569	47,838	53,777
Total liabilities and equity	3,735	5,696	6,667	7,974	8,777	11,327	15,037	17,538	20,058	22,252	25,219	29,770	33,782	38,582	42,036	45,616	49,327	54,195	58,849	64,388	69,672	74,892

(8c) Projected Cash Flow Statements for Sewerage/Sanitation Operation

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Receipts:																					
Internal cash generation:																					
Operating receipts	536	1,056	1,490	1,744	2,020	2,317	2,611	2,908	3,218	3,537	3,863	4,133	4,484	4,859	5,258	5,685	6,170	6,698	7,262	7,865	8,508
Other op income	11	15	18	23	27	32	34	36	37	39	41	49	58	68	79	90	94	98	101	106	110
Interest income	1	135	124	133	79	101	122	92	127	167	206	265	327	389	458	533	611	698	800	920	1,064
Operating disbursements	401	572	678	789	909	1,038	1,119	1,187	1,254	1,320	1,384	1,567	1,794	2,037	2,296	2,572	2,724	2,847	2,975	3,109	3,249
	147	633	955	1,110	1,217	1,413	1,648	1,849	2,128	2,423	2,726	2,880	3,075	3,279	3,499	3,736	4,150	4,646	5,189	5,782	6,433
Financing receipts:																					
Long-term loans	21	492	714	1,016	1,591	2,551	2,164	1,066	603	1,225	2,628	1,955	2,633	1,165	1,159	1,205	2,027	1,442	1,835	1,043	367
Short-term borrowing	2,000	2,000	2,000	1,000	1,000	1,000															
	2,021	2,492	2,714	2,016	2,591	3,551	2,164	1,066	603	1,225	2,628	1,955	2,633	1,165	1,159	1,205	2,027	1,442	1,835	1,043	367
Total receipts	2,168	3,125	3,669	3,127	3,808	4,963	3,812	2,915	2,731	3,648	5,354	4,835	5,708	4,444	4,658	4,941	6,177	6,089	7,023	6,824	6,801
Disbursements:																					
Debt service payments:																					
Long-term loans	213	241	293	360	402	483	633	722	762	823	912	1,055	1,189	1,281	1,370	1,525	1,661	1,831	1,919	1,995	2,039
Short-term borrowing	120	2,228	2,216	2,153	1,096	1,090	1,042														
	333	2,469	2,509	2,513	1,498	1,573	1,675	722	762	823	912	1,055	1,189	1,281	1,370	1,525	1,661	1,831	1,919	1,995	2,039
Capital expenditures:																					
Replacement	174	186	198	210	223	235	247	259	271	283	294	304	315	326	338	350	362	375	389	402	417
Master plan projects	22	518	751	1,070	1,674	2,685	2,278	1,122	635	1,290	2,767	2,058	2,772	1,227	1,220	1,269	2,134	1,518	1,931	1,097	387
	197	704	950	1,280	1,897	2,920	2,525	1,382	906	1,572	3,060	2,362	3,087	1,552	1,558	1,618	2,496	1,893	2,320	1,500	804
Total disbursements	529	3,173	3,459	3,793	3,395	4,493	4,201	2,103	1,668	2,395	3,973	3,416	4,276	2,834	2,927	3,144	4,157	3,724	4,239	3,495	2,843
Cash increase/decrease	1,639	-47	210	-667	412	470	-388	812	1,063	1,253	1,381	1,419	1,432	1,610	1,731	1,797	2,020	2,364	2,784	3,329	3,958
Cash balance:																					
At beginning	6	1,645	1,597	1,807	1,141	1,553	2,023	1,635	2,447	3,510	4,763	6,144	7,563	8,995	10,605	12,336	14,133	16,153	18,518	21,302	24,631
At end	1,645	1,597	1,807	1,141	1,553	2,023	1,635	2,447	3,510	4,763	6,144	7,563	8,995	10,605	12,336	14,133	16,153	18,518	21,302	24,631	28,589

Part IV

Institution, Organization and Operation

1. Republic Act No. 6234 (MWSS Charter).

REPUBLIC ACT NO. 6234

(As amended by Presidential Decree Nos. 425, 1269 and 1406, Executive Order No. 796, Batas Pambansa Blg. 799, Presidential Decree No. 1940; Executive Order No. 1036, 1063/197.

AN ACT CREATING THE METROPOLITAN WATERWORKS AND SEWERAGE SYSTEM AND DISSOLVING THE NATIONAL WATERWORKS AND SEWERAGE AUTHORITY; AND FOR OTHER PURPOSES.

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled;

SECTION 1, Declaration of Policy - The Proper operation and maintenance of waterworks systems to insure an uninterrupted and adequate supply and distribution of potable water. for domestic and other purposes and the proper operation and maintenance of sewerage systems are essential public services because they are vital to public health and safety. It is therefore declared a policy of the state that the establishment, operation and maintenance of such systems must be supervised and controlled by the state.

SECTION 2. Creation, Name, Domicile and Jurisdiction -

(a) There is hereby created a government corporation to be known as the Metropolitan Waterworks and Sewerage System, hereinafter referred to as the System, which shall be organized within thirty days after the approval of this Act.

(b) The domicile and principal place of business of the system shall be in the City of Manila. The system shall have such branches and agencies as may be necessary for the proper conduct of its affairs.

(c) The System shall own and/or have jurisdiction, supervision and control over all waterworks and sewerage systems in the territory comprising the cities of Manila, Pasay, Quezon, Cavite and Caloocan, the municipalities of Las Piñas, Makati, Malabon, Mandaluyong Marikina, Navotas, Parañaque, Pasig, Pateros, San Juan, Taguig, Valenzuela all of Metropolitan Manila, the entire province of Rizal, and the municpalities of Bacoor, Imus, Kawit, Noveleta, Rosario, all of Cavite Province. The System shall also own and/or have jurisdiction, supervision and control over all waterworks and sewerage systems in Lungsod Silanga, Muntinlupa and, subject to the approval of the President, other areas that may come within the development path of the expanding Metropolitan Manila Area, which areas the Board of Metropolitan waterworks and Sewerage System may, from time to time, determine and declare, as contiguous to its service area and requiring immediate attention by the System, under such terms and conditions as may be agreed upon by the parties concerned. All other waterworks and sewerage systems now under the supervision and control of the Metropolitan Waterworks and Sewerage System (MWSS), are hereby returned, ceded, transferred and turned over to the provinces, cities and municipalities for their supervision, control and administration, until such time that they qualify within the program of development under the Local Water Utilities Administration (LWUA). The transfer and turn-over to the local governments concerned shall be completed within the period of ninety (90) days from the promulgation of the decree.

(d) Any provision of law to the contrary notwithstanding, all existing waterworks systems or any system that may hereafter be established by provinces, cities and municipalities shall have priority in the use and supervision over all sources of water supply for domestic purposes in their respective jurisdictions, and any water right now being enjoyed by the Metropolitan Waterworks and Severage System (MWSS) in such provinces, cities and municipalities shall likewise be turned over to the said provinces, cities and municipalities concerned.

Section 2 - A. Capital Stock of the System. The System is hereby authorized a capital stock of Eight Billion Pesos (₱8,000,000,000,00) divided into Eighty Million (80,000,000) shares at a par value of One Hundred Pesos (₱100.00) each, which shares shall not be transferred, negotiated, pledged, mortgaged, or otherwise given as security for the payment of any obligation. The sum of Two Billion, One Hundred Thirty Five Million, Four Hundred Sixty Seven Thousand Pesos (₱2,135,467,000.00), which as of October 31, 1985 has already been subscribed and fully paid by the Government of the Republic of the Philippines in accordance with the provisions of Presidential Decree Nos. 425 and 1406, shall be the initial paid-in capital of the authorized capital stock provided herein.

The remaining Five Billion, Eight Hundred Sixty Four Million, Five Hundred Thirty-Three Thousand Pesos (₱5,864,533,000.00), shall be subscribed by the Government of the Republic of the Philippines and, paid from a continuing appropriation which is hereby made out of any funds in the National Treasury not otherwise appropriated, be they collections from any or all taxes accruing to the General Fund, or proceeds from loans, the issuance of bond, treasury bills or notes which are hereby authorized to be incurred or to be issued by the Minister of Finance for the purpose, such annual appropriation to be programmed and released in accordance with pertinent budget laws: Provided, that, this continuing appropriation shall remain in force until the balance of the unpaid subscription of the government to the capital stock of the System have been paid in full.

SECTION 3. Attributes, Powers and Functions - The System shall have the following attributes, powers and functions:

(a) To exist and have continuous succession under its corporate name for a term of fifty (50) years from and after the date of approval of this Act, notwithstanding any provision of the law to the contrary: Provided, however, that at the end of the said period, the System shall automatically continue to exist for another fifty (50) years, unless otherwise provided by law;

(b) To prescribe its by-laws;

(c) To adopt and use a seal and alter it at its pleasure;

(d) To sue and be sued;

(e) To establish the basic and broad policies and goals of the System;

(f) To construct, maintain, and operate dams, reservoirs, conduits, aqueducts, tunnels, purification plants, water mains, pipes, fire hydrants, pumping stations, machineries and other waterworks for the purpose of supplying water to the inhabitants of its territory, for domestic and other purposes; and to purify, regulate and control the use, as well as prevent the wastage of water;

(g) To construct, maintain, and operate such sanitary sewerages as may be necessary for the proper sanitation and other uses of the cities and town comprising the System;

(h) To fix periodically water rates and sewerage service fees as the System may deem just and equitable in accordance with the standards outlined in Section 12 of this Act;

(i) To construct, develop, maintain and operate such artesian wells and springs as may be needed in its operation within its territory;

(j) To acquire, purchase, hold, transfer, sell, lease, rent mortgage, encumber, and otherwise dispose of real and personal property, including rights and franchises, consistent with the purpose for which the System is created and reasonable required for the transaction of the lawful business of the same;

(k) To construct works across, over, through, and/or alongside any stream, watercourse, canal, ditch, flume, street, avenue, highway or railways, whether public or private, as the location of said works may require; Provided, that such works be constructed in such manner as to afford security to life and property; and Provided, further, that the stream, watercourse, canal, ditch, flume, street, avenue, highway, railway so crossed or intersected be restored as near as possible to their former state or in a manner not to impair unnecessaryly their usefulness. Every person or entity whose right-of-way or property is lawfully crossed or intersected by said works shall not obstruct any such crossing or intersection and shall grant the System or its representatives the proper authority to execute such work. The System is hereby given the right-of-way to locate, construct and maintain such works over and throughout the lands, including any street, avenue, or higway owned by the Republic of the Philippines or any of its branches and political subdivisions, and is given right of immediate entry and to prosecute any undertaking thereon without any further requirement or restriction

other than due notice to the office or entity concerned. The System, or its representatives, may also enter upon private property in the lawful performance or prosecution of its business or purposes, including the construction of water mains and distributions pipes thereon, provided that the owner of such private property shall be compensated as follows:

(1) In case the land shall be acquired by purchase, the fair market value thereof, which shall be the value of land based on the tax declaration that is valid and effective at the time of the filing of the complaint for eminent domain or of the taking of said land by the system, whichever is earlier; and

(2) In addition, the owner shall be compensated for the improvements such as houses, buildings, structures, or agricultural crops and the like, if any, actually damaged during the construction, operation, and maintenance of such works on the land, in amounts based on the value of such improvements appearing on the tax declaration that is valid and effective and/or prevailing valuation of such agricultural crops and the like made by the appropriate appraisal body authorized by law at the time of filing of the said complaint for eminent domain or of the taking of said improvements by the System, whichever is earlier; provided, further, that any action for compensation and/or damages under (1) and (2) above, shall be filled within five yrs. from the date the right-of-way, pipelines structures or other facilities shall have been established; provided, finally, that after said period of five years, no suit shall be brought to question said right-of-way, pipelines structures or other facilities nor the amounts of compensation and/or damages involved.

(l) To exercise the right of eminent domain for the purpose for which the System is created;

(m) To contract indebtedness in any currency and issued bonds to finance projects now authorized for the National Waterworks and Sewerage Authority under existing laws and as may hereafter be; expressly authorized by law with the approval of the President of the Philippines upon the recommendation of the Secretary of Finance;

(n) To approve, regulate, and supervise the establishment, operation and maintenance of waterworks and deep-wells within its jurisdiction operated for commercial, industrial and governmental purposes and to fix just and equitable rates or fees that may be charged to customers thereof;

(0) To assist in the establishment, operation and maintenance of waterworks and sewerage systems within its jurisdiction under cooperative basis.

(p) To approved and regulate the establishment and construction of waterworks and sewerage systems in privately owned and subdivisions within its jurisdiction;

(q) To have exclusive and sole right to test, mount, dismount, and remount water meters within its jurisdiction;

(r) To render annual reports to the President of the Philippines and the Presiding Officers of the two Houses of Congress not later than January thirty-first of every year.

(s) In the prosecution and maintenance of its projects and plants the System shall adopt measures to prevent environmental pollution and enhance the conservation, development and maximum utilization of national resources, including the improvement and beautification of its reservoirs, filter plants, and other areas to promote tourism and related purposes, and shall provide for the necessary corporate funds therefor.

SECTION 4. The Board of Trustees, Composition; Qualifications; Tenure; Powers and Duties - The corporate powers and functions of the System shall be vested in and exercised by a Board of Trustees composed of nine (9) members consisting of the Secretary of Public Works and Highways as ex-officio Chairman, unless the President of the Philippines shall appoint another person as Chairman, the Administrator of the System as Vice-Chairman, six (6) members who shall be appointed by the President of the Philippines, and the Government Corporate Counsel as ex-officio member who shall be the legal adviser of the Board.

The Chairman, if appointed, and the six (6) appointive members of the Board shall hold office for a period of five (5) years, except that any person appointed to fill a vacancy shall serve only for the unexpired portion of the terms of the member whom he succeeds.

Every member of the Board shall possess any one or a combination of the following qualifications: A duly licensed professional of recognized competence in engineering, in business management and finance, or in law with at least ten years of actual and distinguished experience in their respective fields of expertise, and of good moral character.

The Board of Trustees shall adopt rules and Procedures in the conduct of its meetings, A majority of the Board shall constitute a quorum for the transaction of business and the affirmative vote of five (5) members shall be required for the adoption of any action.

The Board, moreover, shall have the following specific powers and duties :

(a) To formulate and adopt policies and measures for the management and operation of the System;

(b) To adopt an annual and supplemental budget of receipts and expenditues of the System according to its requirements;

(c) Subject to the provisions of existing laws and regulations and upon the recommendation of the Administrator, or motu propio to organize, re-organize in a manner other than what is provided for under this Act and Section 3 of Republic Act No. 4177 , and determine the System's staffing pattern and the number of personnel, to fix their salaries including other emoluments, and to define their power and duties. WAPCO rules and regulations shall not apply to the System; However, for the above purpose, the Board shall take into consideration similar staffing patters and salary ranges obtaining in other government corporations of the same category as the System;

(d) To recommend to the President of the Philippines the appointment of the Administrator of the System and to fix his compensation which shall be not less than ninety six thousand pesos per annum;

(e) To appoint and fix the compensation of the Senior Deputy Administrator and the Deputy Administrator;

(f) By a majority vote of all its members, to suspend or remove for cause the Senior Deputy Administrator or any Deputy Administrator, subject to the provisions of the Civil Service law, rules and regulations;

(g) To adopt and establish guidelines for the employment of personnel on the basis of merit, technical competence and moral character;

(h) To issue such rules and regulations as may be necessary for the sanitary protection of watersheds, reservoirs, conduits, springs and other water sources; for the proper operations of water supply lines and sanitary sewers; for the preservation and protection of water and sewer service as soon as established; and for proper procedures in applying for approval of, and connection to, water and/or sewer services which rules shall take effect after publication at least once a week for three consecutive weeks in a newspaper of general circulation in the territory served by the System.

SECTION 5. The Suspension and Removal of Trustees - Any member of the Board of trustees may for cause be suspended or removed by the President of the Philippines upon the recommendation of the Secretary of Justice after due notice and hearing.

SECTION 6. Meetings of the Board, quorum, required votes, per diems and allowances - The Board of Trustees shall adopt the rules and procedures in the conduct of its meetings. A majority of the Board shall constitute a quorum for the transaction of business and the affirmative vote of five (5) members shall be required for the adoption of any action. For actual attendance at meetings, the Chairman, the Vice-Chairman and the members of the Board shall each receive a per diem of not less than five hundred pesos for every regular or special Board meeting; Provided, that the total number of said meetings shall not exceed five a month; Provided, further, that all the members of the Board shall be entitled to reasonable transportation, representation and/or other allowances as shall be fixed by the Board.

The Chairman shall preside over all regular and special meetings of the Board, and, in case of his absence or disability, the Vice-Chairman shall preside. In the event of the absence or disability of both, the members present may choose from among themselves the one who shall preside.

SECTION 7. Other Officers and Employees; their appointment; qualifications - The Deputy Minister of Public Works and Highways for Construction and quality Control shall be the ex officio Administrator of the System, unless the President of the Philippines shall appoint another person as such Administrator. He shall receive a compensation of ninety-six thousand pesos per annum, unless the Board shall fix a higher amount therefor. He shall be assisted by a Senior Deputy Administrator and six Deputy Administrators -

one for Engineerings, one for Construction Management, one for Operations, one for finance one for Administration, and one for Customers' Service - and such other officers, all of whom shall perform managerial, highly technical and/or primarily confidential functions, and additional employees as the Board may provide. The Senior Deputy Administrator and the Deputy Administrators shall be appointed by the Board, upon recommendation of the Administrator of the System and the Senior Deputy Administrator shall received a basic compensation of eighty-four thousand pesos per annum and each Deputy Administrator shall receive a basic compensation of seventy-five thousand pesos per annum, unless the Board shall fix a higher amount therefor.

The Senior Deputy Administrator and the Deputy Administrators shall be persons of integrity, competence and experience in technical and executive fields related to the purpose of this Act. Their other qualifications, as well as powers and duties, shall be determined by the Board.

In case of temporary disability or absence of the Administrator, the Senior Deputy Administrator shall act as Administrator of the System. In case of temporary disability or absence of the Senior Deputy Administrator, the Administrator may designate any of the Six (6) Deputy Administrators as Acting Senior Deputy Administrator. In case of temporary disability or absence of any of the Deputy Administrators, the Administrator may designate any of the next lower ranking officers in the group as Acting Deputy Administrator.

SECTION 8. Other powers and duties of the Administrator -

(a) To execute and administer the policies and measures approved by the Board, and be responsible for the efficient discharge of management functions;

(b) To submit for the consideration of the Board such policies and measures which he deems are necessary to carry out the purposes and provisions of this Act;

(c) To direct and supervise the operation and internal administration of the System and, for the purpose, he may delegate some or any of his administrative responsibilities and duties to other officers of the Syste;;and

(d) Subject to the guidelines and policies set up by the Board;

(1) To appoint or promote upon recommendation of the proper Deputy Administrator with the approval of the Board, the department heads, division and section chiefs, and other officers of equivalent rank;

(2) To appoint or promote all other personnel, upon recommendation of the proper Deputy Administrator and to submit to the Board a monthly report on such appointments and non-disciplinary transfers made on the month immediately preceding;

(3) To remove, suspend or otherwise discipline for cause, or terminate by reason of incapacity, department heads, division and section chiefs, and other officers of equal rank, subject to the approval of the Board, and in accordance with the provisions of Article VII of the Civil Service Act, as amended;

(4) To remove, suspend or otherwise discipline for cause or terminate by reason of incapacity all other personnel in accordance with the provisions of Article VII of the Civil Service Act as amended.

(e) To detail any officer or employee when required by the exigencies of the service, for a period not exceeding six months, without reduction in salary, and his decision shall be final;

(f) To submit to the Board an annual budget and plantilla of personnel not later than sixty days prior to the beginning of a fiscal year, and thereafter such supplemental budgets as may be necessary;

(g) To submit to the Board, not later than the twentieth of every month, a financial and an operational report for the month preceeding, and not later than ninety days after the close of each fiscal year an annual report, and from time to time such partial reports as he may see fit to render or as may be required by the Board; and

(h) To perform such other powers and duties as may be assigned by the Board or prescribed either by law or by the By-Laws of the System.

SECTION 9. Authority to Incur Indebtedness and Issue Bonds; Their Conditions, Privileges, Exceptions; Sinking Funds; Guarantee -

(a) Domestic Indebtedness - Whenever the Board deems it necessary for the System to incur indebtedness or to issue bonds to carry out the purpose for which the System has been organized, it shall, be resolution, so declare and state the purpose for which the proposed debt is to be incurred. In order that such resolution be valid, it shall be passed by the affirmative vote of at least three members of the Board and approved by the President of the Philippines, upon recommendation of the Secretary of Finance.

The Board shall determine the amount, terms, and conditions of the domestic indebtedness, subject to approval by the Secretary of Finance.

The Bonds issued under the authority of the sub-section shall be exept from the payment of all taxes by the Republic of the Philippines, or by any authority, branch, division or political subdivision thereof which facts shall be stated upon the face of said bonds. Said Bonds shall be receivable as security on any transaction with the Government for which such security is required.

A sinking fund shall be created, the total thereof at each annual due date of the bonds to be equal to an amount of annuity earning an annual interest of nine-tenth of the rate of interest of the bonds as fixed by the Secretary of Finance. The sinking fund shall be under the custody of the Treasurer of the Philippines, who shall invest the same subject to the approval of the Board and the Secretary of Finance.

The Republic of the Philippines hereby guarantees the payment by the System both the principal and the interest of the bonds issued by said System by virtue of this Act, and shall pay such principal and interest in case the System fails to do so. There is hereby appropriated, out of the general funds in the National Treasury not otherwise appropriated, the sums necessary to make the payments guaranteed by the Act; Provided, that the sums paid by the Republic of the Philippines shall be refunded by the System; Provided, further that the System shall set aside five percentum of its annual net operating revenues before interests as a reserve or sinking fund to answer for amounts advanced by the National Government for any loan, credit and indebtedness contracted by the former for which the latter shall be held answerable as primary obligor or guarantor under the provisions of this Act; Provided, furthermore, that the setting aside of the amounts mentioned herein shall automatically cease the moment the accumulated sinking fund or reserve exceeds the amounts advanced to the System by the National Government under this Act; Provided, finally that the System may periodically make partial payments to the National Government out of the said reserve.

The total principal indebtedness of the System under this subsection, exclusive of interest, shall not exceed Three Billion Pesos (P3,000,000,000.00), at any given time..

(b) Foreign Loans - The System is hereby authorized to contract loans and credits, in any convertible foreign currency or capital goods, and to incur indebtedness from time to time from foreign governments, or any international financial institutions or fund sources or to issue bonds, the total outstanding amount of which, exclusive of interest, shall not exceed Six Hundred Million United States Dollar (US$600M) or the equivalent thereof in other currencies at any given time on such terms as it shall deem appropriate for the accomplishment of its purposes and to enter into and execute agreements and documents specifying such terms and conditions.

The President of the Philippines, by himself or through his duly authorized representative, is hereby authorized to negotiate and contract with foreign governments or any international financial institution or fund sources in the name and on behalf of the System, one or several loans, for the purpose of assisting in the reconstructions, or promoting the development of the country.

The President of the Philippines, by himself, or through his duly authorized representatives, is hereby further authorized to guarantee, absolutely and unconditionally, as primary obligor and not as surety merely, in the name and on behalf of the Repbulic of the Philippines, the payments of the loans, credits, indebtedness and bonds issued up to the amount herein authorized, which shall be over and above the amount which the President of the Philippines is authorized to guarantee under Republic Act 4860, as amended, as well as the performance of all or any of the obligations undertaken by the System in the territorial jurisdiction of the Republic of the Philippines pursuant to loan agreements entered into with foreign governments or any international financial institutions or fund sources.

The loans, credits and indebtedness contracted under this sub-section and the payments of the principal, interest and other charges thereon, as well as the importation of machinery, equipment, materials, supplies and services by the system, paid from the proceeds of any loan credit, or indebtedness incurred under this Act, shall also, be exempt from all direct and indirect taxes, fees, imposts, other charges and restrictions, including import restrictions previously and presently imposed and to be imposed by the Republic of the Philippines, or any of its agencies and political subdivisions.

SECTION 9-A. Construction, Repair, Works, Contracts for Services and Furnishing of Supplies, Materials and Equipment Awarded Upon Public Bidding, Exceptions - All works of construction or repair of the System as well as contracts for services and furnishing of supplies, materials and equipment shall be awarded by the Administrator in accordance with the ceilings and rules imposed by the Board, to the responsible bidder who made the lowest and most advantageous bid: Provided, however, that these do not conflict with existing executive orders and/or presidential issuances on awards of government contracts; Provided, further, that, any repair, construction or other works of an emergency nature may be authorized by the Board to be undertaken by Administration or by contract, and; Provided, finally, that, any single work of construction or a repair involving an estimated total cost of Five Hundred Thousand Pesos (₱500,000.00), may, at the option of the Administrator, be authorized by him to be undertaken by administration or by contract after a canvass of the market to determine the lowest and most advantageous bid.

SECTION 10. Administrative Jurisdiction for Disciplining other Officers and Employees - The Administrator may, for dishonesty, oppression, misconduct, neglect of duty, conviction of a crime involving moral turpitude, notoriously disgraceful or immoral conduct, improper or unauthorized solicitation of contributions from subordinate employees, lobbying for personal interest or gain in legislative halls and offices without authority from the Board, directly or indirectly obstructing, defeating or violating the civil rights and liberties of an individual; promoting the sale of tickets in behalf of private enterprises that are not intended for charitable or public welfare purposes and even in the latter cases if there is no prior authority, willful violation of reasonable office regulations, or in the interest of the service, remove after due notice and hearing, any subordinate officer or employee from the service, demote him in rank, suspend him for not more than one year without pay or fine in an amount not exceeding six months salary.

A transfer from one position to another without reduction in rank and salary shall not be considered disciplinary when made in the interest of public service and the action of the Administrator shall not be final until approved by the Board of Trustees.

SECTION 10-A. Punishable Acts - Any person who shall maliciously destroy, injure or interfere with any canal, raceway, ditch, lock, pier, inlet, crib, bulkhead, dam, gate, service, reservoir, aqueduct, water mains water distribution pipes, conduit, pipes, weir benchmark, monument, or other works, appliance, machinery building, or property of the System, or who shall maliciously do any act which shall injuriously affect the quantity of qualify of the water or sewage flow of the System, or the supply, conveyance, measurement, or regulation thereof, or who shall maliciously interfere with any person engaged in the discharge of duties connected therewith, or who shall maliciously prevent, obstruct, and interfere with the survey, works and construction of access road and water mains and distribution network and any related works of the System, shall be punished upon conviction, with a fine ranging from one thousand to five thousand pesos or imprisonment ranging from one to five years, or both, such fine and imprisonment at the discretion of the Court, and any injured party shall have the right to recover all damages suffered and cost of suit in a separate civil action in any court of competent jurisdiction; Provided, further, that any person who shall violate any rule or regulation of the System issued pursuant to the law or who shall connect to water and/or sewer lines without approval of the System shall, upon conviction, be punished with a fine of not more than one thousand pesos or imprisonment for not more than six months or both such fine and imprisonment upon the discretion of the Court; Provided, finally, that the System shall be authorized to summarily disconnect any illegal connection even pending the appropriate court action.

SECTION 11. Audit - The Chairman of the Commission on Audit shall be the ex-officio auditor of the System. The provisions of Section five hundred eighty four of the Revised Administrative Code, as amended by Section one of Republic Act Numbered 2266 and Republic Act Numbered 2716 and further amended by Presidential Decrees Numbered 61, 111 and 111-A, shall apply to the office of the Representative of the Commission on Audit in the System.

SECTION 12. Review of Rates by the Public Service Commission - The rates and fees fixed by the Board of Trustees for the System and by the Local Government for the local systems shall be of such magnitude that the System's rate of net return shall not exceed twelve percentum (12%), on a rate base composed of the sum of its assets in operation as revalued from time to time plus two months' operating capital. Such rates and fees shall be effective and enforceable fifteen (15) days after publication in a newspaper of general circulation within the territory defined in Section 2 (c) of this Act. The Public Service Commission shall have exclusive original jurisdiction over all cases contesting said rates or fees. Any complaint against such rates or fees shall be filed with the PUblic Service Commission within thirty (30) days after the effectivity of such rates, but the filing of such complaint or action shall not stay the effectivity of said rates or fees. The Public Service Commission shall verify the rate base, and the rate of return computed therefrom, in accordance with the standards above outlined. The Public Service Commission shall finish, within sixty (60) calendar days, any and all proceedings necessary and/or incidental to the case, and shall render its findings or decision thereon within thirty (30) calendar days after said case is submitted for decision.

In cases where the decision is against the fixed rates or fees, excess payments shall be reimbursed and/or credited to future payments, in the discretion of the Commision.

SECTION 13. Disposition of Income - The income of the System shall be disposed of according to the following priorities:

First, to pay its contractual and statutory obligations and to meet its essential current operating expenses;

Second, to reserve at least fifty per cent (50%) of the balance exclusively for the expansion development and improvement of the System; and

Third, to allocate the residue enhancing the efficient operation and maintenance of the System which include increase of administrative expenses or increases or adjustment of salaries and other benefits of the employees.

SECTION 14. Assistance to local systems - The System may provide technical and management assistance to the various local waterworks and sewerage systems upon their request; and for this service the System may charge actual expenses incurred plus ten per cent (10%) thereof as overhead expense.

SECTION 15. Abolition of NWSA; Transfer of Assets, Liabilities and Personnel - The Corporation known as the National Waterworks and Sewerage Authority shall be abolished upon the organization of the Metropolitan Waterworks and Sewerage System as provided for in Section 2(a) of this Act. Its records, properties, equipment, assets, right, choses in action, obligations and liabilities are hereby transferred to, vested in, and assumed by the System: Provided, that an inventory and valuation of the properties, equipment, assets, rights, choses in action, obligations, liabilities of NWSA shall be made by the Auditor General, and the accountable officers of NWSA shall continue to be fully accountable therefor, until issued a certificate of clearance by the Auditor General.

Employees and laborers, including the personnel of the planning and coordinating office and the provincial, city and municipal departments in the places enumerated in Section 2(c) of this Act are hereby transferred to and absorbed by the System; Provided, That the Board of Trustees is hereby authorized to make a personnel movement on the basis of merit and fitness in accordance with the comprehensive and progressive merit system to be established by the Metropolitan Waterworks and Sewerage System immediately upon its organization: Provided, further, That the salary of any employee shall in no case be reduced as a consequence of said personnel movement.

SECTION 16. Gratuity. - Any personnel of the waterworks system transferred or turned over to the provinces cities and municipalities are hereby transferred to and absorbed by the said provinces, cities and municipalities concerned, but any personnel of district offices who are presently in-charge of these systems who cannot be absorbed by the local governments concerned and those who refuse appointment therein shall be paid the money value of the accumulated vacation and sick leaves, and such retirement gratuities as may be due them under existing retirement laws. Any of the said personnel who does not qualify under any existing retirement law shall be paid one (1) month salary for every year of service.

payable in lump sum. For this purpose, there is hereby appropriated out of any fund in the National Treasury not otherwise appropriated the sum of Three Million Pesos (P3,000,000.00) to provide for their separation gratuities, accumulated vacation and sick leaves and/or retirement, when and if, payable and due them. Other personnel under the central organization of the System whose salaries are presently being charge against national government appropriations are to be transferred to and absorbed by the System.

SECTION 17. Transfer of Local Systems - The return, cession, transfer and turnover to the local governments concerned of the Local Waterworks and Sewerage Systems under Section 1 of this Decree shall include all personnel of the systems, including those of the district offices who may be absorbed by the local governments concerned, records, properties, equipment, assets, choses in action, obligations and liabilities, including all obligations to their employees, excepting, however, obligations accruing to and due the national government and other government agencies, instrumentalities and corporations, are hereby ceded, transferred and conveyed to their respective provinces, cities and municipalities; Provided, That for the payment of obligations accruing to the national government and other government agencies, instrumentalities and corporations, there is hereby appropriated out of any funds in the National Treasury not otherwise appropriated the sum of Thirty Three Million, Five Hundred Thousand Pesos (P33,500,000.00); Provided, further, that, in case of disagreement between the MWSS and the local governments concerned on the liabilities and obligations being transferred by the System to the local governments, the same shall be passed upon and decided by an arbitration committee to be composed of a representative of the local government and a representative of the System and a third member from the Commission on Audit who shall act as Chairman. The decision of such committee shall be final.

All waterworks system shall be ceded, transferred and conveyed to the provinces, cities and municipalities which they serve; Provided, however, That, where the system serves two or more municipalities, the same shall be ceded, transferred and conveyed to the provincial government; Provided, further, that, where the system serves a city or a city and municipalities, thesystem shall be transferred, ceded and conveyed to the city.

SECTION 18. Non-Profit Character of the System, Exemption from all Taxes, Duties, Fees, Imposts and Other Charges by Government and Government Instrumentalities - The System shall be non-profit and shall devote all its returns from its capital investment as well as excess revenues from its operations, for expansion and improvement. To enable the System to pay its indebtedness and obligations and the furtherance and effective implementation of the policy enumerated in Section one of this Act, the System is hereby declared exempt:

(a) From the payment of all taxes, duties, fees, imposts, charges, and restrictions of the Republic of the Philippines, its provinces, cities, municipalities, and other government agencies and instrumentalities including the taxes, duties, fees, imposts, and other charges provided for under the Tariff and Customs Code of the Philippines, Republic Act Numbered Nineteen Hundred Thirty-Seven, as amended and further amended by Presidential Decree No. 34, dated October 27, 1972, and costs and service fees in any Court of administrative proceedings in which it may be a party;

(b) From all income taxes, franchise taxes, and realty taxes to be paid in the National Government, its provinces, cities municipalities and other Government agencies and instrumentalities; and

(c) From all imposts, duties, compensating taxes, and advance sales tax, and wharfage fees on import of foreign goods required for its operations and projects.

SECTION 19. Repeal or Modifications - All acts, executive orders, administrative orders, and proclamation or parts thereof, inconsistent with any of the provisions of this Act, are hereby repealed or modified accordingly.

SECTION 20. Separability of Clause - In the event that any provision of this Act or the application of such provisions to any person or circumstance is declared unconstitutional, the remainder of this Act or the application of said provision to other persons or circumstances shall not be effected thereby.

SECTION 21. Effectivity - This aAct shall take effect upon its approval.

APPROVED June 19, 1971.

Amendments to RA 6234:

1. PD No. 425, approved March 29, 1974
2. PD No. 1269, approved December 22, 1977
3. PD No. 1406, approved June 7, 1978
4. Executive Order No. 796, approved May 6, 1982
5. Batas Pambansa Blg. 799, approved April 27, 1984
6. PD No. 1940, approved June 29, 1984
7. Executive Order No. 1036, approved June 27, 1985
8. Executive Order No. 1063, approved November 12, 1985
9. Executive Order No. 197, approved June 18, 1987

2. National Water Crisis Act of 1995.

REPUBLIC OF THE PHILIPPINES CONGRESS OF THE PHILIPPINES

THIRD REGULAR SESSION

CONFERENCE COMMITTEES REPORT

The Conference Committee on the disagreeing provisions of House bill No. 14471,

AN ACT
GRANTING THE PRESIDENT OF THE REPUBLIC EMERGENCY POWERS TO EFFECTIVELY ADDRESS THE NATIONAL WATER CRISIS, AND FOR OTHER PURPOSES

and Senate Bill No.2061, entitled:

AN ACT
TO ADDRESS THE NATIONAL WATER CRISIS BY CREATING A JOINT EXECUTIVE-LEGISLATIVE WATER CRISIS COMMISSION, PROHIBITING THE PILFERAGE OF WATER, ESTABLISHING A PRIMA FACIE EVIDENCE FOR ITS VIOLATION AND FOR OTHER PURPOSES

having met, after full and free conference, has agreed to recommend and to recommend to their respective Houses that Senate Bill No. 2061, in consolidation with House Bill No. 14471 be approved in accordance with the attached copy of the bill as reconciled and approved by the conferees.

Approved,

CONFEREES OF THE PART OF THE SENATE:	CONFEREES ON THE PART OF THE HOUSE OF REPRESENTATIVES:
HON. LETICIA RAMOS SHAHANI	HON. VICTOR F. ORTEGA
HON. ERNESTO F. HERRERA	HON. SIMEON A. DATUMANONG
HON. ERNESTO M. MACEDA	HON. WILFRIDO L. ENVERGA
HON. ORLANDO S. MERCADO	HON. ERICO B. AUMENTADO
HON. ALBERTO G. ROMULO	HON. ROILO GOLEZ
	HON. MARTIN B. ISIDRO
	HON. SALVADOR H. ESCUDERO III
	HON. RENATO DIAZ

Congress of the Philippines
Ninth Congress

AN ACT TO ADDRESS THE NATIONAL WATER CRISIS AND FOR OTHER PURPOSES

Be it enacted by the Senate and House of representatives of the Philippines in Congress assembled:

SECTION 1. *Short Title* - This Act shall be known as the "National Water Crisis Act of 1995."

SEC. 2. *Declaration of Policy.* - It is hereby declared the policy of the State to adopt urgent and effective measures to address the nationwide water crisis which adversely affects the health and well-being of the population, food production and industrialization process.

Pursuant thereto the government shall address the issues relevant to the water crisis including, but not limited to, supply, distribution, finance, privatization of state-run water facilities, the protection and conservation of watersheds and the waste and pilferage of water, including the serious matter of graft and corruption in all the water agencies.

SEC. 3. *Organization of Joint Executive-Legislative Water Crisis Commission.*
Within thirty (30) days after the effectivity of this Act, there shall be organized a Joint Executive-Legislative Water Crisis Commission. The Commission shall be chaired by the Executive Secretary, with the Secretaries of the Department of Public Works and Highways and the Department of Environment and Natural Resources, and the Chairmen of the appropriate Senate and House Committees, as designated by the leaders of both Houses of Congress, as well as a representative of the minority from each House, as members.

There shall be a technical staff constituted by representatives of the National Water Resources Board (NWRB), the Metropolitan Water and Sewerage Administration (MWSS), the Local Water Utilities Administration (LWUA), the appropriate Committees of the Senate and the House, and the certified workers' union in the affected water institutions.

SEC. 4. *Purposes and Objectives.* - the Commission shall have the following purposes and objectives:

a) to undertake nationwide consultations on the water crisis and in-depth and detailed study and review of the entire water supply and distribution structure;

b) to enhance and facilitate cooperation and coordination between Congress and the executive department in formulating and implementing the government's water crisis management policy and strategy;

c) to recommend measures that will insure continuos and effective monitoring of the entire water supply and distribution system of the country; and

d) to conduct continuing studies and researches on policy options, strategies and approaches to the water crisis including experiences of other countries similarly situated, and to recommend such remedial and legislative measures as may be required to address the problem.

SEC. 5. *Powers and functions.* - To carry out the aforementioned purposes and objectives, the Commission is hereby authorized:

a) to secure from any department, bureau, office, agency or instrumentality of the government such assistance as may be needed, such as technical information, the preparation and production of reports, and the submission of recommendations or plans, as it may require;

b) to designate by resolution the watershed areas which developmental undertakings are to be suspended; and

c) generally, to exercise all the powers necessary, relevant and incidental to attain the purposes and objectives for which it is organized.

SEC. 6. *Negotiated Contracts*. - For projects to be implemented under Build-Operate Transfer (BOT) and/or related schemes, the President of the Republic may, for a period of one (1) year after the effectivity of this Act, enter into negotiated contracts for the financing, construction, repair, rehabilitation, improvement and operation of water facilities and projects related to increasing water supply, its treatment and its distribution to industrial and household consumers: *Provided*, that there is no government financing or financing guarantee for the contracts, except for the acquisition of right-of-way.

The contract shall be awarded only to contractors with proven competence and experience in similar projects, competent key personnel, efficient and reliable equipment, and sound financial capacity.

SEC. 7. ***Reorganization of the Metropolitan Waterworks and Sewerage System (MWSS) and the Local Waterworks and Utilities Administration(LWUA).*** - Within six (6) months from the approval of this Act, the President of the Republic is hereby empowered to revamp the executive leadership and reorganize the MWSS and the LWUA, including the privatization of any or all segments of these agencies, operations or facilities if necessary, to make them more effective and innovative to address the looming water crisis. For this purpose, the President may abolish or create offices; transfer functions, equipment, properties, records and personnel; institute drastic cost-cutting and other related measures to carry out the said objectives. Moreover, in the implementation of this provision, the prescriptions of Republic Act No. 7430, otherwise known as the "Attrition Law", shall not apply. Nothing in this section shall result in the diminution of the present salaries and benefits of the personnel of the MWSS and the LWUA: *Provided*. That any official or employee of the said agencies who may be phased out by reason of the reorganization authorized herein shall be entitled to such benefits as may be determined by existing laws.

The president may upgrade the compensation of the personnel of the MWSS and the LWUA at rates commensurate to the improved and efficient revenue collection of the two agencies as determined by the Board of Trustees and the same shall be exempted from the provisions of Republic Act No. 6750, otherwise known as the "Salary Standardization Law," to take effect upon a reduction of non-revenue water to forty (40%) percent and upon approval by the respective board of trustees of the MWSS and the LWUA of their budgets.

SEC. 8. *Anti-Pilferage*. - It is hereby declared unlawful for any person to:

a) destroy, damage or interfere with any canal., raceway, ditch , lock, pier, inlet, crib, bulkhead, dam, gate, service, reservoir, aqueduct, water mains, water distribution pipes, conduit, pipes, wire benchmark, monument, or other works, appliance, machinery buildings, or property of any water utility entity, whether public or private;

b) do any malicious act which shall injuriously affect the quantity or quality of the water or sewage flow of any waterworks and/or sewerage system, or the supply, conveyance, measurement, or regulation thereof, including the prevention of, or interference with any authorized person engaged in the discharge of duties connected therewith;

c) prevent, obstruct, and interfere with the survey, works, and construction of access road and water mains and distribution network and any related works of the utility entity;

d) tap, make, or cause to be made any connection with water lines without prior authority or consent from the water utility concerned;

e) tamper, install or use tampered water meters, sticks, magnets, reversing water meters, shortening of vane wheels and other devices to steal water or interfere with accurate registry or metering of water usage, or otherwise result in its diversion in a manner whereby water is stolen or wasted;

f) use or receive the direct benefit of water service with knowledge that diversion, tampering, or illegal connection existed at the time of that use, or that the use or receipt was otherwise without the authorization of the water utility;

g) steal or pilfer water meters, main lines, pipes and related or ancillary facilities;

h) steal water for profit or resale;

i) knowingly possess stolen or tampered water meters; and

j) knowingly or willfully allow the occurrence of any of the above.

SEC. 9. *Prime Facie Evidence*. - The presence of any of the following circumstances shall constitute *prima facie* evidence of theft, pilferage, or of any unlawful acts enumerated in Section 6 hereof;

a) the existence of illegal or unauthorized tapping to the water main or distribution pipe;

b) the existence of any illegal connection such as a reversed meter, shortened vane wheel, bypass or other connections which adversely affect the registration of the water meter;

c) the presence of a bored hole in the glass cover of the water meter, or at the back of or any part of the meter including the vertical vane;

d) the presence of tampered, or take seals on the meters. Inspection of tampered water meters shall be done in the presence of the registered water consumer;

e) the presence of a reversed meter in the premises, insertion of rod, wire, or stick in the meter, filed or shortened vane wheel, removal or altering of any part of the meter mechanism, use of magnet and any similar illegal devices which interfere with the meter registration;

f) destruction of the meter protection and other metering accessories; or

g) abnormal imprints, traces or marks found in the meter assembly.

The *prima facie* shall not apply to tenants who have occupied the house or dwelling for ninety (90) days or less.

SEC. 10. *Special Aggravating Circumstances*. - The following shall be considered as aggravating:

a) when the violation is committed in conspiracy with at least another person, both of whom shall be considered as principals;

b) when the offense is committed b, or in connivance with , private plumber, officer or employee of the water utility concerned, who shall all be considered as principals; or

c) when the violation is coupled with the sale from a source which is illegal, or unregistered, or unauthorized, or a source with a tampered mater.

SEC. 11. *Penalties.* - The water utility concerned shall have the right and authority to disconnect the water services, five days after service of written notice to that effect, except on Sundays and holidays, without need of a court of administrative order, and deny restoration of the same, when a *prima facie* evidence of theft or pilferage shall have been established in accordance with Section 8 hereof: *Provided,* That a notice shall have been issued even upon discovery for the first time of the presence of any of the circumstances herein enumerated: *Provided, further,* That the water service shall not be disconnected or shall be immediately restored upon deposit, by the person concerned, of the difference in the billing made by the water utility concerned: *Provided, finally,* That the deposit shall be credited against future billings, with legal interest thereon where the alleged theft, pilferage or current diversion has not been committed, without prejudice to being indemnified for damages in accordance with the Civil Code and other existing laws.

A written notice of seventy-two (72) hours is necessary to effect water service disconnection upon the discovery for the second time of any of the circumstances enumerated in Section 8 hereof.

Any person who shall violate Section 8 hereof shall be punished by imprisonment of six (6) months to two (2) years and a fine not exceeding double the amount of the value of the water stolen or the value of the damaged facilities: *Provided, however,* That if the offender is assisted in the commission of the crime by a plumber, officer or employee of the water utility concerned, the said employee, officer or plumber shall be punished by imprisonment of two (2) years to six (6) years; *Provided, further.* That if the water is stolen for profit or resale, the offender shall be punished by imprisonment from six (6) to twelve (12) years.

If the offender is a juridical person, the penalty shall be imposed on the chairman, president, general manager, administrator, and the officers thereof who shall have knowingly permitted, or are otherwise responsible for the commission of the offense.

SEC. 12. *Issuance of Guidelines, Implementing Rules and Regulations.* - Within one (1) month from its organization, the Commission shall cause the issuance of guidelines, implementing rules and regulations necessary to carry out the provisions of this Act.

SEC. 13. *Commission's Report.* - The Commission shall submit a quarterly report to the President and to Congress on the implementation of this Act.

SEC. 14. *Sunset Clause.* - The Joint Executive-Legislative Water Crisis Commission shall complete its report and submit its recommendation to the President and to Congress within a period of six (6) months after its formal organization. After such period, it shall cease functus officio.

SEC. 15. *Separability Clause.* - If, for any reason, any provision of this Act is declared unconstitutional or invalid, other parts or provisions hereof which are not affected thereby shall continue to be in full force and effect.

SEC. 16. *Repealing Clause.* - All laws, decrees, orders, rules, and regulations, or portions thereof, inconsistent with this Act are hereby repealed or modified accordingly.

SEC. 17. *Effectivity Clause.* - This Act shall take effect fifteen (15) days following its publication in at least two (2) national newspapers of general circulation or in the Official Gazette.

Approved,

In case of conflict between the Conference Committee Report and the reconciled bill, the latter shall prevail.

Approved,

CONFEREES OF THE PART OF THE SENATE:	CONFEREES ON THE PART OF THE HOUSE OF REPRESENTATIVES:
HON. LETICIA RAMOS SHAHANI	HON. VICTOR F. ORTEGA
HON. ERNESTO F. HERRERA	HON. SIMEON A. DATUMANONG
HON. ERNESTO M. MACEDA	HON. WILFRIDO L. ENVERGA
HON. ORLANDO S. MERCADO	HON. ERICO B. AUMENTADO
HON. ALBERTO G. ROMULO	HON. ROILO GOLEZ
	HON. MARTIN B. ISIDRO
	HON. SALVADOR H. ESCUDERO III
	HON. RENATO DIAZ

3. Republic Act. No. 7718 (BOT Law)

Republic of the Philippines
Congress of the Philippines
Metro Manila

Second Regular Session

Begun and held in Metro Manila, on Monday, the twenty-sixth day of July, nineteen hundred and ninety-three.

[REPUBLIC ACT NO. 7718]

AN ACT AMENDING CERTAIN SECTIONS OF REPUBLIC ACT NO. 6957, ENTITLED "AN ACT AUTHORIZING THE FINANCING, CONSTRUCTION, OPERATION AND MAINTENANCE OF INFRASTRUCTURE PROJECTS BY THE PRIVATE SECTOR, AND FOR OTHER PURPOSES"

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled.

SECTION 1. Section 1 of Republic Act No. 6957 is hereby amended to read as follows:

"SECTION 1. *Declaration of Policy.* - It is the declared policy of the State to recognize the indispensable role of the private sector as the main engine for national growth and development and provide the most appropriate incentives to mobilize private resources for the purpose of financing the construction, operation and maintenance of infrastructure and

development projects normally financed and undertaken by the Government. Such incentives, aside from financial incentives as provided by law, shall include providing a climate of minimum government regulations and procedures and specific government undertakings in support of the private sector."

SEC. 2. Section 2 of the same Act is hereby amended to read as follows:

"SEC. 2. Definition of Terms. - The following terms used in this Act shall have the meanings stated below:

"(a) Private sector infrastructure or development projects - The general description of infrastructure or development projects normally financed and operated by the public sector but which will now be wholly or partly implemented by the private sector, including but not limited to, power plants, highways, ports, airports, canals, dams, hydropower projects, water supply, irrigation, telecommunications, railroads and railways, transport systems, land reclamation projects, industrial estates or townships, housing, government buildings, tourism projects, markets, slaughterhouses, warehouses, solid waste management, information technology networks and database infrastructure, education and health facilities, sewerage, drainage, dredging, and other infrastructure and development projects as may be authorized by the appropriate agency pursuant to this Act. Such projects shall be undertaken through contractual arrangements as defined hereunder and such other variations as may be approved by the President of the Philippines.

"For the construction stage of these infrastructure projects, the project proponent may obtain financing from foreign and/or domestic sources and/or engage the services of a foreign and/or Filipino contractor: *Provided*, That, in case

an infrastructure or a development facility's operation requires a public utility franchise, the facility operator must be Filipino or if a corporation, it must be duly registered with the Securities and Exchange Commission and owned up to at least sixty percent (60%) by Filipinos: *Provided, further,* That in the case of foreign contractors, Filipino labor shall be employed or hired in the different phases of the construction where Filipino skills are available: *Provided, finally,* That projects which would have difficulty in sourcing funds may be financed partly from direct government appropriations and/or from Official Development Assistance (ODA) of foreign governments or institutions not exceeding fifty percent (50%) of the project cost, and the balance to be provided by the project proponent.

"(b) Build-operate-and-transfer - A contractual arrangement whereby the project proponent undertakes the construction, including financing, of a given infrastructure facility, and the operation and maintenance thereof. The project proponent operates the facility over a fixed term during which it is allowed to charge facility users appropriate tolls, fees, rentals, and charges not exceeding those proposed in its bid or as negotiated and incorporated in the contract to enable the project proponent to recover its investment, and operating and maintenance expenses in the project. The project proponent transfers the facility to the government agency or local government unit concerned at the end of the fixed term which shall not exceed fifty (50) years: *Provided,* That in case of an infrastructure or development facility whose operation requires a public utility franchise, the proponent must be Filipino or, if a corporation, must be duly registered with the Securities and Exchange Commission and owned up to at least sixty percent (60%) by Filipinos.

"The build-operate-and-transfer shall include a supply-and-operate situation which is a contractual arrangement whereby the supplier of equipment and machinery for a given infrastruc-

ture facility, if the interest of the Government so requires, operates the facility providing in the process technology transfer and training to Filipino nationals.

"(c) Build-and-transfer - A contractual arrangement whereby the project proponent undertakes the financing and construction of a given infrastructure or development facility and after its completion turns it over to the government agency or local government unit concerned, which shall pay the proponent on an agreed schedule its total investments expended on the project, plus a reasonable rate of return thereon. This arrangement may be employed in the construction of any infrastructure or development project, including critical facilities which, for security or strategic reasons, must be operated directly by the Government.

"(d) Build-own-and-operate - A contractual arrangement whereby a project proponent is authorized to finance, construct, own, operate and maintain an infrastructure or development facility from which the proponent is allowed to recover its total investment, operating and maintenance costs plus a reasonable return thereon by collecting tolls, fees, rentals or other charges from facility users: *Provided*, That all such projects, upon recommendation of the Investment Coordination Committee (ICC) of the National Economic and Development Authority (NEDA), shall be approved by the President of the Philippines. Under this project, the proponent which owns the assets of the facility may assign its operation and maintenance to a facility operator.

"(e) Build-lease-and-transfer - A contractual arrangement whereby a project proponent is authorized to finance and construct an infrastructure or development facility and upon its completion turns it over to the government agency or local government unit concerned on a lease arrangement for a fixed period after which ownership of the facility is automatically

transferred to the government agency or local government unit concerned.

"(f) Build-transfer-and-operate - A contractual arrangement whereby the public sector contracts out the building of an infrastructure facility to a private entity such that the contractor builds the facility on a turn-key basis, assuming cost overrun, delay and specified performance risks.

"Once the facility is commissioned satisfactorily, title is transferred to the implementing agency. The private entity however, operates the facility on behalf of the implementing agency under an agreement.

"(g) Contract-add-and-operate - A contractual arrangement whereby the project proponent adds to an existing infrastructure facility which it is renting from the government. It operates the expanded project over an agreed franchise period. There may, or may not be, a transfer arrangement in regard to the facility.

"(h) Develop-operate-and-transfer - A contractual arrangement whereby favorable conditions external to a new infrastructure project which is to be built by a private project proponent are integrated into the arrangement by giving that entity the right to develop adjoining property, and thus, enjoy some of the benefits the investment creates such as higher property or rent values.

"(i) Rehabilitate-operate-and-transfer - A contractual arrangement whereby an existing facility is turned over to the private sector to refurbish, operate and maintain for a franchise period, at the expiry of which the legal title to the facility is turned over to the government. The term is also used to describe the purchase of an existing facility from abroad, importing, refurbishing, erecting and consuming it within the host country.

"(j) Rehabilitate-own-and-operate - A contractual arrangement whereby an existing facility is turned over to the private sector to refurbish and operate with no time limitation imposed on ownership. As long as the operator is not in violation of its franchise, it can continue to operate the facility in perpetuity.

"(k) Project proponent - The private sector entity which shall have contractual responsibility for the project and which shall have an adequate financial base to implement said project consisting of equity and firm commitments from reputable financial institutions to provide, upon award, sufficient credit lines to cover the total estimated cost of the project.

"(l) Contractor - Any entity accredited under Philippine laws which may or may not be the project proponent and which shall undertake the actual construction and/or supply of equipment for the project.

"(m) Facility operator - A company registered with the Securities and Exchange Commission, which may or may not be the project proponent, and which is responsible for all aspects of operation and maintenance of the infrastructure or development facility, including but not limited to the collection of tolls, fees, rentals or charges from facility users: *Provided*, That in case the facility requires a public utility franchise, the facility operator shall be Filipino or at least sixty *per centum* (60%) owned by Filipinos.

"(n) Direct government guarantee - An agreement whereby the government or any of its agencies or local government units assume responsibility for the repayment of debt directly incurred by the project proponent in implementing the project in case of a loan default.

"(o) Reasonable rate of return on investments and operating and maintenance cost - The rate of return that reflects the

prevailing cost of capital in the domestic and international markets: *Provided*, That, in case of negotiated contracts, such rate of return shall be determined by the ICC of the NEDA prior to the negotiation and/or call for proposals: *Provided, further*, That for negotiated contracts for public utility projects which are monopolies, the rate of return on rate base shall be determined by existing laws, which in no case shall exceed twelve *per centum* (12%).

"(p) Construction - Refers to new construction, rehabilitation, improvement, expansion, alteration and related works and activities including the necessary supply of equipment, materials, labor and services and related items."

SEC. 3. Section 3 of the same Act is hereby amended to read as follows:

"SEC. 3. *Private Initiative in Infrastructure.*-All government infrastructure agencies, including government-owned and-controlled corporations and local government units are hereby authorized to enter into contract with any duly prequalified project proponent for the financing, construction, operation and maintenance of any financially viable infrastructure or development facility through any of the projects authorized in this Act. Said agencies, when entering into such contracts, are enjoined to solicit the expertise of individuals, groups, or corporations in the private sector who have extensive experience in undertaking infrastructure or development projects."

SEC. 4. Section 4 of the same act is hereby amended to read as follows:

"SEC. 4. *Priority projects.* - All concerned government agencies, including government-owned and-controlled corporations and local government units, shall include in their development programs those priority projects that may be financed.

constructed, operated and maintained by the private sector under the provisions of this Act. It shall be the duty of all concerned government agencies to give wide publicity to all projects eligible for financing under this Act, including publication in national and, where applicable, international newspapers of general circulation once every six (6) months and official notification of project proponents registered with them.

"The lists of all such national projects must be part of the development programs of the agencies concerned. The list of projects costing up to Three hundred million pesos (P300,000,000) shall be submitted to the ICC of the NEDA for its approval and to the NEDA board for projects costing more than Three hundred million pesos (P300,000,000). The list of projects submitted to the ICC of the NEDA Board shall be acted upon within thirty (30) working days.

"The list of local projects to be implemented by the local government units concerned shall be submitted for confirmation to the municipal development council for projects costing up toTwenty million pesos; those costing above Twenty up to Fifty million pesos to the provincial development council; those costing up to Fifty million to the city development council; above Fifty million up to Two hundred million pesos to the regional development councils ; and those above Two hundred million pesos to the ICC of the NEDA."

SEC. 5. A new section is hereby added after Section 4 of the same Act and numbered as Section 4-A, to read as follows:

"SEC. 4-A. *Unsolicited proposals.* - Unsolicited proposals for projects may be accepted by any government agency or local government unit on a negotiated basis: *Provided*, That, all the following conditions are met: (1) such projects involve a new concept or technology and/or are not part of the list of priority projects, (2) no direct government guarantee, subsidy or equity

is required, and (3) the government agency or local government unit has invited by publication, for three (3) consecutive weeks, in a newspaper of general circulation, comparative or competitive proposals and no other proposal is received for a period of sixty (60) working days: *Provided, further*, That in the event another proponent submits a lower price proposal, the original proponent shall have the right to match that price within thirty (30) working days."

SEC. 6. Section 5 of the same Act is hereby amended to read as follows:

"SEC. 5. *Public Bidding of Projects.* - Upon approval of the projects mentioned in Section 4 of this Act, the head of the infrastructure agency or local government unit concerned shall forthwith cause to be published, once every week for three (3) consecutive weeks, in at least two (2) newspapers of general circulation and in at least one (1) local newspaper which is circulated in the region, province, city or municipality in which the project is to be constructed, a notice inviting all prospective infrastructure or development project proponents to participate in a competitive public bidding for the projects so approved.

"In the case of a build-operate-and-transfer arrangement, the contract shall be awarded to the bidder who, having satisfied the minimum financial, technical, organizational and legal standards required by this Act, has submitted the lowest bid and most favorable terms for the project, based on the present value of its proposed tolls, fees, rentals and charges over a fixed term for the facility to be constructed, rehabilitated, operated and maintained according to the prescribed minimum design and performance standards, plans and specifications. For this purpose, the winning project proponent shall be automatically granted by the appropriate agency the franchise to operate and maintain the facility, including the collection of

tolls, fees, rentals, and charges in accordance with Section 5 hereof.

"In the case of a build-and-transfer or build-lease-and-transfer arrangement, the contract shall be awarded to the lowest complying bidder based on the present value of its proposed schedule of amortization payments for the facility to be constructed according to the prescribed minimum design and performance standards, plans and specifications: *Provided, however,* That a Filipino contractor who submits an equally advantageous bid with exactly the same price and technical specifications as those of a foreign contractor shall be given preference.

"In all cases, a consortium that participates in a bid must present proof that the members of the consortium have bound themselves jointly and severally to assume responsibility for any project. The withdrawal of any member of the consortium prior to the implementation of the project could be a ground for the cancellation of the contract.

"The public bidding must be conducted under a two-envelope/two-stage system: the first envelope to contain the technical proposal and the second envelope to contain the financial proposal. The procedures for this system shall be outlined in the implementing rules and regulations of this Act.

"A copy of each contract involving a project entered into under this Act shall forthwith be submitted to Congress for its information."

SEC. 7. A new section is hereby added after Section 5 of the same Act and numbered as Section 5-A, to read as follows:

"SEC. 5-A. *Direct Negotiation of Contracts.* - Direct negotiation shall be resorted to when there is only one comply

ing bidder left as defined hereunder:

"(a) If, after advertisement, only one contractor applies for prequalification and it meets the prequalification requirements, after which it is required to submit a bid/proposal which is subsequently found by the agency/local government unit (LGU) to be complying.

"(b) If after advertisement, more than one contractor applied for prequalification but only one meets the prequalification requirements, after which it submits bid/proposal which is found by the agency/LGU to be complying.

"(c) If, after prequalification of more than one contractor, only one submits a bid which is found by the agency/LGU to be complying.

"(d) If, after prequalification, more than one contractor submit bids but only one is found by the agency/LGU to be complying: *Provided*, That, any of the disqualified prospective bidder may appeal the decision of the implementing agency/LGUs Prequalification Bids and Awards Committee within fifteen (15) working days to the head of the agency, in case of national projects or to the Department of the Interior and Local Government, in case of local projects from the date the disqualification was made known to the disqualified bidder: *Provided, furthermore*, That the implementing agency/LGUs concerned should act on the appeal within forty-five (45) working days from receipt thereof.

SEC. 8. Section 6 of the same Act is hereby amended to read as follows:

"SEC. 6. *Repayment Scheme*. - For the financing, construction, operation and maintenance of any infrastructure project undertaken through the Build-Operate-and-Transfer arrange

ment or any of its variations pursuant to the provisions of this Act, the project proponent shall be repaid by authorizing it to charge and collect reasonable tolls, fees, and rentals for the use of the project facility not exceeding those incorporated in the contract and, where applicable, the proponent may likewise be repaid in the form of a share in the revenue of the project or other non-monetary payments, such as, but not limited, to the grant of a portion or percentage of the reclaimed land, subject to the constitutional requirements with respect to the ownership of land: *Provided*, That for negotiated contracts, and for projects which have been granted a natural monopoly or where the public has no access to alternative facilities, the appropriate government regulatory bodies, shall approve the tolls, fees, rentals, and charges based on a reasonable rate of return: *Provided, further*, That the imposition and collection of tolls, fees, rentals, and charges shall be for a fixed term as proposed in the bid and incorporated in the contract but in no case shall this term exceed fifty (50) years: *Provided, furthermore*, That the tolls, fees, rentals, and charges may be subject to adjustment during the life of the contract, based on a predetermined formula using official price indices and included in the instructions to bidders and in the contract: *Provided, also*, That all tolls, fees, rentals, and charges and adjustments thereof shall take into account the reasonableness of said rates to the end-users of private sector-built infrastructure: *Provided, finally*, That during the lifetime of the franchise, the project proponent shall undertake the necessary maintenance and repair of the facility in accordance with standards prescribed in the bidding documents and in the contract. In the case of a Build-and-Transfer arrangement, the repayment scheme is to be effected through amortization payments by the government agency or local government unit concerned to the project proponent according to the scheme proposed in the bid and incorporated in the contract."

SEC. 9. Section 7 of the same Act is hereby amended to read as follows:

"SEC. 7. *Contract Termination.* - In the event that a project is revoked, cancelled or terminated by the Government through no fault of the project proponent or by mutual agreement, the Government shall compensate the said project proponent for its actual expenses incurred in the project plus a reasonable rate of return thereon not exceeding that stated in the contract as of the date of such revocation, cancellation or termination: *Provided*, That the interest of the Government in these instances shall be duly insured with the Government Service Insurance System or any other insurance entity duly accredited by the Office of the Insurance Commissioner: *Provided, finally*, That the cost of the insurance coverage shall be included in the terms and conditions of the bidding referred to above.

"In the event that the government defaults on certain major obligations in the contract and such failure is not remediable or if remediable shall remain unremedied for an unreasonable length of time, the project proponent/contractor may, by prior notice to the concerned national government agency or local government unit specifying the turn-over date, terminate the contract. The project proponent/contractor shall be reasonably compensated by the Government for equivalent or proportionate contract cost as defined in the contract."

SEC. 10. Section 8 of the same Act is hereby amended to read as follows:

"SEC. 8. *Regulatory Boards.* - The Toll Regulatory Board which was created by Presidential Decree No. 1112 is hereby attached to the Department of Public Works and Highways with the Secretary of Public Works and Highways as Chairman."

SEC. 11. Section 9 of the same Act is hereby amended to read as follows:

"SEC. 9. *Project Supervision.* - Every infrastructure project undertaken under the provisions of this Act shall be in accordance with the plans, specifications, standards, and costs approved by the concerned government agency and shall be under the supervision of the said agency or local government unit in the case of local projects."

SEC. 12. A new section to be numbered as Section 10 is hereby added to read as follows:

"SEC. 10. *Investment Incentives.* - Among other incentives, projects in excess of One billion pesos (P1,000,000,000) shall be entitled to incentives as provided by the Omnibus Investments Code, upon registration with the Board of Investments."

SEC. 13. Section 10 of the same Act is hereby renumbered as Section 11 to read as follows:

"SEC. 11. *Implementing Rules and Regulations.* - A committee composed of one (1) representative each from the Department of Public Works and Highways, the Department of Transportation and Communications, the Department of Energy, the Department of Environment and Natural Resources, the Department of Agriculture, the Department of Trade and Industry, the Department of Finance, the Department of the Interior and Local Government, the National Economic and Development Authority, the Coordinating Council of the Philippine Assistance Program, and other concerned government agencies shall, within sixty (60) days from the effectivity of this Act, formulate and prescribe, after public hearing and publication as required by law, the implementing rules and regulations including, among others, the criteria and guidelines for evaluation of bid proposals, list of financial incentives and arrangements that the Government may provide for the project, in order to carry out the provisions of this Act in the most expeditious manner.

"The Chairman of this committee shall be appointed by the President of the Philippines from its members.

"From time to time the Committee may conduct, formulate and prescribe after due public hearing and publication, amendments to the implementing rules and regulations, consistent with the provisions of this Act."

SEC. 14. A new section to be numbered as Section 12 is hereby added to read as follows:

"SEC. 12. *Coordination and Monitoring of Projects.* - The Coordinating Council of the Philippine Assistance Program (CCPAP) shall be responsible for the coordination and monitoring of projects implemented under this Act.

"Regional development councils and local government units shall periodically submit to CCPAP, information on the status of said projects.

"At the end of every calendar year, the CCPAP shall report to the President and to Congress on the progress of all projects implemented under this Act."

SEC. 15. Sections 11,12 and 13 of the same Act are hereby renumbered as Sections 13, 14, and 15, respectively.

SEC. 16. *Repealing Clause.* - All laws or parts of any law inconsistent with the provisions of this Act are hereby repealed or modified accordingly.

SEC. 17. *Separability Clause.* - If any provision of this Act is held invalid, the other provisions not affected thereby shall continue in operation.

SEC. 18. *Effectivity Clause.* - This Act shall take effect fifteen (15) days after its publication in at least two (2) newspapers of general circulation.

Approved,

(Sgd.) **EDGARDO J. ANGARA**
President of the Senate

(Sgd.) **JOSE DE VENECIA, JR.**
Speaker of the House of Representatives

This Act which is a consolidation of House Bill No. 10943 and Senate Bill No. 1586 was finally passed by the House of Representatives and the Senate on April 12, 1994 and April 27, 1994, respectively.

(Sgd.) **EDGARDO F. TUMANGAN**
Secretary of the Senate

(Sgd) **ROBERTO P. NAZARENO**
Acting Secretary General House of Representatives

Approved: 5 MAY 1994

(Sgd.) **FIDEL V. RAMOS**
President of the Philippines