

PDAM KOTA SURAKARTA

PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL



AUGUST 2006

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Drinking water facility in front of Municipal Water Company of Surakarta

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LIST OF ACRONYMS

ASL	Above Sea Level
BOT	Built-Operate-Transfer
DED	Detail Engineering Design
DSCR	Debt Service Coverage Ratio
ESP	Environmental Services Program
FIFO	First In First Out
IPA	<i>Instalasi Pengolahan Air</i> (Water Treatment Plant)
IRR	Internal Rate of Return
Lcd	Liters per capita per day
Lps	Liters per second
NPV	Net Present Value
NRW	Non Revenue Water
PDAM	<i>Perusahaan Daerah Air Minum</i> (Municipal Water Supply Enterprise)
PLN	<i>Perusahaan Listrik Negara</i> (State Owned Power Company)
PLTA	<i>Pembangkit Listrik Tenaga Air</i> (Hydro-Electric Power Plant)
PPP	Public-Private Partnership
RDA	Regional Development Account
Rp	<i>Rupiah</i> (Indonesia Currency)
USAID -	United States Agency for International Development
WACC-	Weighted Average Cost of Capital
WTP	Water Treatment Plant

EXECUTIVE SUMMARY

INTRODUCTION

This report presents an assessment of the investment program of PDAM Kota Surakarta. Prepared under the auspices of the Environmental Services Program (ESP) funded by the United States Agency for International Development (USAID), it aims to ultimately serve as basis for mobilizing resources from the domestic capital market for financing the implementation of the said investment program.

The report uses as references the following:

Audited Financial Statements for the years 2001 to 2004.

Monthly financial and statistical report for December 2005.

Work Plan and Budget for 2006.

Corporate Plan 2005-2010.

Pre-Feasibility Study of Surakarta and Sukoharjo Bulk Water Supply Project, June 2005 (Center for Infrastructure Investment Development, Construction and Investment Development Agency, Ministry of Public Works).

ANALYSIS OF HISTORICAL PERFORMANCE

PDAM Kota Surakarta is one of the few local water enterprises that are also mandated to operate and maintain the local sewerage systems. For water supply, its service coverage extends beyond city boundaries to include as well parts of the surrounding regencies of Klaten, Sukoharjo, Karanganyar, and Boyolali. The sewerage system is confined within the city boundaries.

PDAM Kota Surakarta had traditionally relied on Cokrotulung spring located in Kabupaten Klaten. By 2005, however, groundwater sources already accounted for almost 55% of the PDAM's total production capacity of 860 liters per second (l/sec); from 16 in 2001, the number of the PDAM's groundwater wells swelled to 26.

In mid-1990s, the PDAM tried to exploit Sedalem Spring in Kabupaten Boyolali. This project had to be abandoned, however, due to strong protests from residents of surrounding communities. An attempt to draw water from Bengawan Solo suffered the same fate.

Actual production in 2005 rose by a mere 3% above the 2001 level. Distribution volumes were likewise stagnant. The volume sold to customers reached 16.5 million m³ in 2005 from 15.9 million m³ in 2001. Non-revenue water stayed within a narrow band of 29.3% and 28.3%. Plant capacity utilization was consistently above 100% from 2001-2004, easing up a bit to 97.4% in 2005.

Connections have grown by a mere 2.1% annually, reaching 52,776 in 2005. Household consumption declined from 147 liters per capita per day (lcd) in 2002 to only 143 lcd in 2005. Non-domestic connections showed a similar trend. Nevertheless, average consumption per connection remained at the most profitable tariff category of over 20 m³

per month. In 2005, the domestic service ratios for the city and the service coverage area expanded to 53.1% and 47.4% respectively.

The annual increase in tariff revenues averaged 24%, from Rp 15,147 million in 2001 to Rp 35,776 million in 2005. Total operating revenues expanded at almost the same pace, from Rp 17,214 million in 2001 to Rp 38,393 million in 2005. Connection fees averaged Rp 1,300 million per year.

The PDAM incurred net losses from 2001 to 2003. Its accumulated deficit reached its highest level of Rp 10,053 million in 2003. A modest net income of Rp 453 million was realized in 2004. Based on un-audited figures, net income grew over threefold year-on-year in 2005 to reach Rp 1,576 million. On this basis, positive returns on assets and equity of respectively 2% and 6% were posted in 2005.

Recurrent costs had been contained to an overall average annual increase, at constant 2005 prices, of only 6.7%. Overhead, for one, contracted at an average of 7.6% per year. By 2005, the PDAM incurred Rp 1,507 in recurrent expenses for every cubic meter of water sold. Weighted average tariff went up by 8.9% in 2002, 34.8% in 2003, 27.4% in 2004, and 22.1% in 2005. Even so, it remained well below that which is required for full-cost recovery under existing regulations.

Accounts receivable had been increasing every year, from 43 days of water sales in 2001 to 80 in 2005. Bad debts written off were erratic, declining in 2002 and 2004. By 2005, however, the figure had reached a significantly high level of 2.4% of water sales.

Consumables and installation inventories had been maintained at relatively low levels of respectively 11 days and 58 days cover. Current ratio was at a dangerously low level of 0.2 in 2001 and 0.5 in 2005. Cash, in terms of number of months of operating had also been on a precarious level, except in 2004 when, at 2.6, it almost reached the generally acceptable safe level of three months.

In 2005, the PDAM had total outstanding loans of almost Rp 39.1 billion consisting of the following: USAID Loan with an outstanding balance of Rp 88.25 million, IBRD Loan with an outstanding balance of principal amounting to Rp 29,000 million and accumulated interest of Rp 8,600 billion, Loan from the Regional Development Bank (*Bank Pembangunan Daerah* or *BPD*) of Central Java of Rp 981.8 million. The balance of the IBRD loan was as stated in the loan rescheduling agreement between the Ministry of Finance and the PDAM signed in April 2003.

By the end of 2001, the PDAM's accumulated losses had almost wiped out its equity, which was reported at Rp 189 million or just 1% of total capitalization. The support of the city government had however kept the PDAM afloat through yearly fresh equity infusions of Rp 11,100 million billion in 2002, Rp 13,000 million in 2003, Rp 1,600 million in 2004, and Rp 1,500 million in 2005. The ratio of debt to total capitalization was thus reduced to 66% in 2005. For three years in a row, from 2001 to 2003, the PDAM missed the statutory minimum debt service coverage ratio (DSCR) of 1.5.

BUDGET FOR 2006

The PDAM has just completed the installation of the Jurug production facility with a design capacity of 100 l/sec with raw water drawn from Bengawan Solo. The facility is scheduled to start operating in August 2006. Both production and distribution volumes for the year have been budgeted at the same level as in 2005, while the volume sold to customers is forecast

to slightly decline. Non-revenue water is foreseen to slightly increase to 28.6%. The additional production capacity is anticipated to further ease up plant capacity utilization factor to 92.9%.

The entire additional production capacity from Jurug was intended to serve 6,000 new connections. This is now deemed unrealistic, however, and has therefore been reduced to 2,500, with the remaining 3,500 connections slated for installation in 2007. On this basis, the domestic service ratios are forecast to increase to 55.0% for the city and to 51.9% for the service coverage area.

Water revenues are forecast to increase by 20.7%, reaching Rp 43,180 million. In spite of a 21.1% nominal increase, weighted average tariff will recover just 84% of full cost. Personnel cost per unit of water sold will decline by about 1%. Significant increases in other operating cost components have however been budgeted: 77.9% for overhead, 60.2% for maintenance materials, 35.2% for power, 14.9% for chemicals, and 13.6% for raw water. Overall, therefore, recurrent cost at constant 2005 prices is predicted to increase by 19%.

The PDAM anticipates a net profit of Rp 4,416 million, which is 180.1% more than what was achieved in 2005.

The PDAM has incurred a new loan of Rp 9.9 billion, representing the cost of the installation of the Jurug water treatment plant. The loan is payable in four years, with the first installment due in August 2006. Notwithstanding this additional loan, the PDAM's loan-to-total-capitalization ratio is forecast to improve further to 63.9%.

INVESTMENT PROPOSAL

The investment proposal focuses solely on what the PDAM refers to as the Kadokan Project, which entails the development of 400 l/sec additional production capacity with raw water drawn from Bengawan Solo. According to PDAM management, the water-extraction permit for the project has already been issued by the provincial government of Central Java. The program is to be implemented from 2007 to 2010. A total of 24,000 new connections are to be generated from 2008 to 2010.

The base cost of the program is estimated at Rp 109,558 million. At current prices, including contingencies, the investment cost amounts to Rp 134,532 million.

External financing will defray 58.4% or Rp 78,573 million of the total investment. The rest will be covered by connection fees from new customers, the PDAM's internal cash generation, and a combination of grant (for land acquisition) and equity contribution from the city government. The external-financing portion is assumed to bear an interest rate of 14% per annum with a repayment period of 12 years, including a two-year grace.

HIGHLIGHT OF THE FINANCIAL PROJECTION

The cost of capital is computed based on the fund-sourcing mix. As mentioned, external financing will bear an interest of 14.0%. Customer contributions, the local government's proposed grant and equity contribution, and the PDAM's own funds are expected to yield a return of 10%. The weighted average cost of capital (WACC) is thus computed at 12.34%.

Production, distribution, and sales volumes will reach their optimum levels in 2011 at respectively 46.7 million m³, 46.0 million m³, and 26.0 million m³. Water losses are assumed to be gradually whittled down every year to settle at 24% beginning 2015. Plant capacity utilization factor will be at a low of 63.9% in 2008. It will however again rise to 116% in 2010 and then to 125.3% from 2011 onward.

The total number of connections will reach its maximum in 2010 at 82,776, about 87.5% of which will be domestic. Per capita consumption of household connections is set at 140 lcd. Unit consumption per connection, including non-domestic, is estimated at 26.2 m³ per month. The domestic service ratios for the city and the service coverage area will peak in 2010 at respectively 79.2% and 75.8%.

The desired personnel-to-connection ratio of 6.25 per 1,000 is planned to be achieved in 2010. The cost per employee is assumed to increase annually in real terms by 5.0%. Annual increases in costs of power and chemicals in real terms are set at 15%; from 2011 onward, the costs of these inputs are expected to move based on annual inflation rate. Maintenance materials are assumed at 2.2% of net fixed assets. Overhead is fixed at 33.5% of personnel cost. The cost of raw water in 2006 of Rp 120.2/m³ of water produced is applied and adjusted every year by the projected inflation rate.

The PDAM management prescribed a 40% tariff increase in 2007, in lieu of an increase originally scheduled in 2006, and 20% increase every two years thereafter starting in 2009. At these rates of adjustment, the PDAM's weighted average tariff will consistently be adequate for full-cost recovery under existing regulations.

Based on the foregoing assumptions, the investment program is found to be feasible with a positive net present value (NPV) of Rp 24,477 million and a financial internal rate of return (FIRR) of 15.50%, which is well above the hurdle rate of 12.34%. The program remains feasible even assuming a 10% increase in investment and incremental O&M costs or a 10% decrease in incremental revenues.

Feasibility Indicator

	WACC = 12.24%	
	NPV	IRR
Base Case	24,477	15.50%
10% Increase in Investment and O&M Costs	6,137	12.99%
10% Decrease in Incremental Revenues	3,387	12.74%
+10% In Costs and -10% in Revenues	(17,972)	10.37%
One Year Delay in Incremental Revenues	(6,940)	11.61%

The PDAM is projected to continue to generate net income after tax. Similarly, retained earnings will be positive throughout the projection period. The annual return on assets will range between 10% and 14% and on equity, between 12% and 30%.

Extract Income Statement 2007-2012 (In Rp Million, Except Ratios)

	2007	2008	2009	2010	2011	2012
Total Op. Revenues	74,909	92,717	146,227	154,625	157,240	165,700
Operating Expenses	37,509	43,641	55,762	69,532	76,416	83,439
Income Tax	7,744	10,497	18,971	18,205	18,309	20,325
Net Income/ (Loss)	18,099	24,522	44,295	42,508	42,751	47,453
Retained Earnings	4,706	6,376	11,517	11,052	11,115	12,338
Return on Assets	10%	10%	14%	11%	10%	10%
Return on Equity	30%	25%	28%	19%	15%	13%

Extract Income Statement 2013-2018 (In Rp Million, Except Ratios)

	2013	2014	2015	2016	2017	2018
Total Op. Revenues	198,156	208,867	249,956	263,516	315,535	332,701
Operating Expenses	90,873	99,258	108,209	118,326	129,119	141,344
Income Tax	29,675	32,796	45,095	49,439	65,460	71,577
Net Income/ (Loss)	69,271	76,553	105,252	115,387	152,770	167,043
Retained Earnings	18,011	19,904	27,365	30,001	39,720	43,431
Return on Assets	12%	11%	12%	11%	12%	11%
Return on Equity	15%	14%	15%	13%	14%	12%

The PDAM will continue to enjoy positive annual cash flows throughout the projection period. DSCR will remain at a safe level, with the lowest at 3.3 in 2009 when the PDAM starts amortizing the proposed external financing for the investment program.

Extract Source & Application of Funds 2007-2012 (In Rp Million, Except Ratios)

	2007	2008	2009	2010	2011	2012
Total Sources of Funds	110,163	89,490	106,568	115,672	114,034	119,492
Total App. of Funds	102,409	51,068	41,077	49,983	43,371	38,203
Cash Increase (Decr.)	7,754	38,422	65,491	65,689	70,663	81,288
DSCR (Net Revenues)	3.4	5.0	3.3	3.4	3.6	4.1

Extract Source & Application of Funds 2013-2018 (In Rp Million, Except Ratios)

	2013	2014	2015	2016	2017	2018
Total Sources of Funds	151,570	172,300	215,615	244,583	302,266	341,921
Total App. of Funds	35,132	41,900	38,503	46,728	44,948	59,305
Cash Increase (Decr.)	116,439	130,400	177,112	197,855	257,318	282,616
DSCR (Net Revenues)	5.7	6.7	10.1	13.8	21.0	25.5

With the accumulation of yearly depreciation and without revaluation, net fixed assets will be negative starting 2019. The current ratio will be at 0.8 in 2007. It will however be at a safe level all throughout the rest of the projection period. The PDAM will remain relatively highly leveraged in 2007 with debt comprising 62% of its total capitalization. From 2008 onward, however, the PDAM's gearing ratio will be at a safe and continually improving level.

Extract Balance Sheet 2007-2012 (In Rp Million, Except Ratios)

	2007	2008	2009	2010	2011	2012
Current Assets	19,896	59,885	129,462	198,398	273,869	356,431
Net Fixed Assets	53,559	132,506	155,289	149,319	139,263	120,829
Total Assets	179,491	246,916	312,498	372,324	429,638	493,766
Current Liabilities	23,478	39,115	54,166	65,215	73,476	81,824
Long-Term Debt - Net	93,705	109,730	95,991	82,252	68,514	54,775
Total Liabilities	118,819	150,644	152,177	149,886	144,791	139,785
Total Equity & Liab.	179,491	246,916	312,498	372,324	429,638	493,766
Current Ratio	0.8	1.5	2.4	3.0	3.7	4.4

Extract Balance Sheet 2013-2018 (In Rp Million, Except Ratios)

	2013	2014	2015	2016	2017	2018
Current Assets	477,796	609,812	793,153	993,046	1,258,242	1,543,430
Net Fixed Assets	102,396	83,963	65,529	47,096	28,663	10,229
Total Assets	596,698	710,281	875,188	1,056,648	1,303,411	1,570,165
Current Liabilities	97,617	111,459	133,017	154,638	187,747	209,693
Long-Term Debt - Net	41,036	28,615	18,510	9,255	0	0
Total Liabilities	142,266	144,310	156,452	169,765	194,658	217,979
Total Equity & Liab.	596,698	710,281	875,188	1,056,648	1,303,411	1,570,165
Current Ratio	4.9	5.5	6.0	6.4	6.7	7.4

CONCLUSIONS AND RECOMMENDATIONS

Accounts receivable had been increasing every year, from 43 days of water sales in 2001 to 80 in 2005. Bad debts written off was however erratic, declining in 2002 and 2004. By 2005, however, the figure had reached a significantly high level of 2.4% of water sales as against the commonly accepted level of below 1.0%, as shown in table 8.

From the foregoing discussions, the following conclusions can be derived:

1. Financially, PDAM Kota Surakarta had been through a difficult period.
2. The results of operations for the last two years and those foreseen for the current year should however complete the PDAM's turnaround.
3. On the basis of the assumptions on costs and incremental revenues, the proposed investment program is financially feasible.
4. The investment program is expected to underpin an even stronger financial footing for the PDAM.
5. The investment program is financially affordable to the PDAM.
6. The following recommendations are offered:
7. Implement measures to properly control receivables and bad-debts write-off.
8. Establish clear cost-recovery policies for related businesses.
9. Build a strong constituency around the proposed investment program.
10. Formulate a plan for utilizing excess cash most effectively.
11. Prepare for the anticipated production constraints.

I. INTRODUCTION

This report presents an assessment of the investment program of PDAM Kota Surakarta. Prepared under the auspices of the Environmental Services Program (ESP) funded by the United States Agency for International Development (USAID), it aims to ultimately serve as basis for mobilizing resources from the domestic capital market for financing the implementation of the said investment program.

The report uses as references the following:

1. Audited Financial Statements for the years 2001 to 2004.
2. Monthly financial and statistical report for December 2005.
3. Work Plan and Budget for 2006.
4. Corporate Plan 2005-2010.
5. Pre-Feasibility Study of Surakarta and Sukoharjo Bulk Water Supply Project, June 2005 (Center for Infrastructure Investment Development, Construction and Investment Development Agency, Ministry of Public Works).

Several visits were made to the offices of the PDAM. Initial discussions focused on the finalization of the memorandum of understanding (MOU) between the PDAM and ESP. Subsequent visits were devoted to the compilation of the aforementioned references as well as other information used in the preparation of the financial projection and feasibility assessment of the PDAM's proposed investment program.

The first documented meeting with selected members of PDAM management was held on June 22, 2006, during which the proposed investment program -- its components, costs, and targets -- was confirmed. At the same time, assumptions to be used in the preparation of the financial projection were established. The notes on this meeting are presented as *Annex A*.

The highlights of the results of the financial projection and feasibility assessment were presented to members of the PDAM management on July 6, 2006. In the discussion that followed, the PDAM approved the finalization of the said financial projection and feasibility assessment and its eventual use as basis for initiating discussions with prospective external-fund providers. The notes on the presentation are in *Annex B*.

The report can be divided essentially into the following parts:

1. Historical performance of the PDAM from 2001 to 2005.
2. Work plan and budget for 2006.
3. Investment proposal.
4. Highlights of the results of the financial projection and feasibility assessment.
5. Conclusions and recommendations.

2. ANALYSIS OF HISTORICAL PERFORMANCE (2001-2005)

2.1. GENERAL

The history of PDAM Kota Surakarta dates back to the Dutch colonial period, in 1928 to be precise, when NV. Hoogdruk Water Leiding Hooflaats Surakarta en Emstreken was established. It gained the status of a local water supply enterprise in 1997 through Local Regulation No. 3/1977, which was updated by Local Regulation 1/2004.

Based on its charter, the PDAM is one of the few local water enterprises that are also mandated to operate and maintain the local sewerage systems.

For water supply, the service coverage of the PDAM extends beyond city boundaries to include as well the adjacent parts of the surrounding regencies of Klaten, Sukoharjo, Karanganyar, and Boyolali. This 'encroachment' into other territories is not really unique to PDAM Kota Surakarta, as the same phenomenon can be observed in other cities whose PDAMs pioneered the delivery of piped water supply services in their respective areas.

The sewerage system under the PDAM's responsibility is confined within the city boundaries. The core of the system was likewise built in 1940 under the Dutch colonial government. Further development was undertaken in 1995, such that the system now covers all of the city's five districts (*kecamatan*) of Banjarsari, Serengan, Pasar Kliwon, Leweyan, and Jebres.

2.2. PRODUCTION AND DEMAND

PDAM Kota Surakarta can be said to have its roots in Cokrotulung spring located within the administrative jurisdiction of Kabupaten Klaten. This was the first water source tapped to supply the city during the Dutch colonial period. Access to the source had however been restricted, with extraction by PDAM Kota Surakarta pegged at 387 liters per second (l/sec), in view of the competing needs of the water supply enterprise of Kabupaten Klaten and of other water users, such as farmers.

Thus, one glaring development, especially during the five-year period from 2001 to 2005, was the PDAM's growing dependence on the more expensive yet less reliable groundwater sources. By 2005, these sources accounted for almost 55% of the PDAM's total production capacity of 860 liters per second (l/sec). Yields from these sources had been declining while others have completely dried up, forcing the PDAM to dig more wells every year, with the attendant costs of exploration and exploitation coupled with the costs of older wells that may not have been fully recouped. Thus, from 16 in 2001, the number of the PDAM's groundwater sources swelled to 26 in 2005. The breakdown of the PDAM's production capacity and water sources is presented in table 1.

Table I Breakdown of Historical Production Capacity.

	2001	2002	2003	2004	2005
Mata Air Cokrotulung	387.00	387.00	387.00	387.00	387.00
Jebres I	35.74	28.42	25.87	23.53	23.45
Jebres II	36.66	35.12	34.52	36.07	36.05
Mojosongo I	14.55	14.72	9.52	9.02	6.27
Mojosongo II	9.44	9.22	8.47	9.36	9.55
Mojosongo III	10.66	6.24		5.51	5.51
Kadipiro I	27.30	27.69	23.47	24.56	22.08
Kadipiro II	34.55	34.69	35.72	32.58	33.26
Kadipiro III					20.63
Ngadisono	35.97	33.94	39.02	43.95	39.34
Randusari I	15.22	12.88	5.93		8.29
Pedaringan	23.81	22.61	10.25	8.41	15.94
Jurug I	15.91	14.41	15.42	15.06	16.87
Jurug II			34.90	23.60	16.11
Plesungan I/III		4.08	11.74	8.07	4.41
Karangasem	20.81	18.27	15.29	17.09	26.19
Manahan I	50.14	39.06	38.60	32.35	31.45
Manahan II					22.30
Banjarsari	37.26	28.27	27.56	28.73	28.27
Plesungan II	22.12	12.80	18.05	15.24	15.46
Sibela			14.24	3.58	2.55
Semanggi				11.17	11.16
Randusari II	24.90	29.43	24.50	21.78	22.69
Randusari III				16.58	16.50
Sumber		9.21	7.13	6.82	4.13
Banyuanyar					9.40
Tirtonadi		30.25	33.49	27.31	25.08
Total Production Capacity (l/sec)	802.04	798.31	820.69	807.37	859.94
Number of Sources	17	20	21	23	27
Change in Prod. Cap. (l/sec)		(3.73)	22.38	(13.32)	52.57
Change in Prod. Cap. (%)		-0.47%	2.80%	-1.62%	6.51%

Actual production in 2005 was around 23.0 million m³, which rose by a mere 3% above the 2001 level of 22.3 million m³, further confirming the constraints on production capacity. The PDAM management had actually well anticipated such constraints and took meaningful steps to ensure the continuity and adequacy of water supply to the city's growing population. In mid-1990s, through the World Bank-funded Semarang-Surakarta Urban Development Project (SSUDP), it tried to exploit Sedalem Spring in the village of Mudal in Kabupaten Boyolali. Production facilities were constructed and the laying of the transmission pipes had been started. The PDAM, however, had to abandon the project due to strong protests from residents of surrounding communities. At about the same time, an attempt to draw water

from Bengawan Solo suffered the same fate. The PDAM was thus left with no other option than to rely on groundwater within its administrative boundaries.

Distribution volumes were likewise almost stagnant, growing by less than 1% per year on average, from 21.8 million m³ in 2001 to 22.5 million m³ in 2005. The volume sold to customers reached 16.5 million m³ in 2005 from 15.9 million m³ in 2001. Non-revenue water stayed within a narrow band of 29.3% and 28.3 % respectively. On this basis, plant capacity utilization had been consistently above 100% from 2001 2004. This eased up a bit to 97.4% in 2005 with the addition of four new groundwater sources. Data on the PDAM's historical production capacity, capacity constraints, and water losses are shown in table.2.

Table 2 Historical Production Capacity, Capacity Constraints & Water Losses.

	2001	2002	2003	2004	2005
Production Capacity (l/sec)	706	759	821	807	859
Production Volume (000 m ³ /year)	22,260	23,120	23,424	23,955	22,954
Distribution Volume (000 m ³ /year)	21,815	22,658	22,955	23,476	22,495
Volume Water Sold (000 m ³ /year)	15,921	16,432	16,632	16,947	16,450
Water Losses (%)	28.5%	28.9%	29.0%	29.3%	28.3%
Ratio of Production to Consumption	1.40	1.41	1.41	1.41	1.40
Plant Utilization Factor	115.0%	111.1%	104.0%	108.2%	97.4%

A total of 4,229 new connections were installed between 2002 and 2005. On average, connections have grown by a mere 2.1% or 1,057 annually since 2001, with the highest increase of 3.1% or 1,486 recorded in 2002. The lowest increase was realized in 2005, when only 571 new connections were generated. According to PDAM management, the underlying reason was not so much the lack of demand but the PDAM's own production constraints.

Household connections represented 86.4% of total connections in 2001 and 87.7% in 2005, implying that most of the new connections generated during the five-year period under review were of this classification. They accounted for 80.2% of total consumption in 2001 and 84.1% in 2005. Household consumption was on a steady, albeit slight, decline from 147 liters per capita per day (lcd) in 2002 to only 143 lcd in 2005. Non-domestic connections showed a similar trend: from 35 m³ per month in 2001 to 28 m³ in 2005 for commercial customers and from 89 m³ per month in 2001 to 84 m³ in 2005 for services. Nevertheless, average consumption per connection remained at the tariff category that is most profitable to the PDAM of over 20 m³ per month.

The population of the city of Surakarta stood at 551 thousand in 2001 and 567 thousand in 2005 fro an average annual growth of 1%. The PDAM's service coverage area, including portions of the surrounding regencies, had an estimated population of 590 thousand in 2001 and 604 thousand in 2005 for a much slower growth rate of 0.6%. On the basis of these figures, the domestic service ratio for the city of Surakarta expanded to 53.1% in 2005 from 50.8% in 2001, and to 49.8% from 47.4% for the entire service coverage area. Data pertaining to connection and water demand are presented in table 3.

Table 3 Breakdown of Historical Production Capacity.

	2001	2002	2003	2004	2005
Household Connections (No.)	41,770	43,247	44,471	45,653	46,295
Unit Consumption (lcd)	145	147	145	146	143
Non-Domestic Connections (No.)	6,258	6,264	6,173	6,083	6,014
Unit Consumption (m ³ /day)	1.29	1.22	1.22	1.16	1.09
Total Connections (No.)	48,547	50,033	51,182	52,205	52,776
Annual Change (No.)		1,486	1,149	1,023	571
Domestic Serv. Ratio-Kota Surakarta (%)	50.8%	51.9%	53.1%	52.7%	53.1%
Domestic Serv. Ratio – Serv. Area (%)	47.4%	48.6%	49.8%	49.5%	49.8%

2.3. FINANCIAL PERFORMANCE

2.3.1. REVENUES

The annual increase in tariff revenues averaged 24% during the five-year period under review, from Rp 15,147 million in 2001 to Rp 35,776 million in 2005. Total operating revenues expanded at almost the same pace of 23% per annum, from Rp 17,214 million in 2001 to Rp 38,393 million in 2005. Connection fees averaged Rp 1,300 million per year, which translates to about Rp 1.4 million paid by each new customer.

As mentioned, the PDAM suffered two major setbacks in its previous production-expansion projects for which the main facilities have already been put in place. In both instances, the PDAM availed of external financing. The combination of the yearly depreciation charges attributable to such facilities and the debt-service burden that had to be borne without the revenue stream that should have been afforded by the projects had disastrous effects on the PDAM's profitability. These financial woes were compounded further by the operation of the sewerage system, which practically had to be subsidized by the PDAM in view of its very low tariff and collection efficiency.

By the end of 2001, the PDAM's net retained earnings amounted to a negative Rp 5,812 million. Return on equity was a staggering negative 1,795%. Further losses were incurred during the succeeding two years to bring the accumulated deficit to its highest level of Rp 10,053 million in 2003. A modest net income of Rp 453 million was realized in 2004. Based on un-audited figures, net income grew over threefold year-on-year in 2005 to reach Rp 1,576 million. On this basis, positive returns on assets and equity of respectively 2% and 6% were posted in 2005. The PDAM's profitability picture during the five-year period under review is presented in table 4.

Table 4 Historical Profitability Indicators (In Rp Million, Except %).

	2001	2002	2003	2004	2005
Tariff Revenues	15,147	17,027	23,237	30,176	35,776
Total Operating Revenues	17,214	19,276	27,352	33,162	38,393
Operating Expenses	13,657	14,883	19,009	22,008	25,646
Non-Operating Income/(Loss)	(48)	52	(529)	(5)	830
Net Profit Before Tax	(3,388)	(2,944)	(1,131)	453	1,576
Income Tax					
Net Income Loss	(3,388)	(2,944)	(1,131)	453	1,576
Return on Assets	-7%	-5%	-2%	1%	2%
Return on Equity	-1795%	-35%	-6%	2%	6%

2.3.2. RECURRENT COSTS

One bright spot in the PDAM's historical performance was its recurrent costs, which had been contained to an overall average annual increase, at constant 2005 prices, of only 6.7% pushed mainly by acceleration in the costs of raw water (16.0%), power (14.8%), and personnel (11.4%). Increases in the costs of chemicals and maintenance materials were relatively modest at respectively 7.2% and 6.5%. Overhead, on the other hand, contracted at an average of 7.6% per year. Thus by 2005, the PDAM incurred Rp 1,507 in recurrent expenses for every cubic meter of water sold. In relation to total, personnel cost accounted for the biggest portion of 55.2%, followed by power at 16.4%. Other significant components were maintenance materials (9.7%), raw water (9.2%), and overhead (8.2%). The share of chemicals was almost negligible at 1.2%. The PDAM's historical recurrent costs are shown in table 5.

Table 5 Historical Unit Costs (Rp per m3 of Water Sold at Constant 2005 Prices).

	2001	2002	2003	2004	2005	% of Total	Av. Incr.
Personnel	563.8	519.7	559.4	768.6	832.3	55.2%	11.4%
Power (Operational)	164.7	199.1	244.2	136.9	247.0	16.4%	14.8%
Chemicals	16.5	16.9	12.5	13.2	18.8	1.2%	7.2%
Maintenance	144.6	111.9	131.2	89.8	146.4	9.7%	6.5%
Overhead	203.8	173.6	204.5	231.4	124.2	8.2%	-7.6%
Raw Water	83.1	73.9	115.4	129.5	138.3	9.2%	16.0%
Total	1,176.6	1,095.1	1,267.1	1,369.4	1,507.0	100.0%	
% Annual Change		-6.92%	15.70%	8.08%	10.05%		6.73%

2.3.3. TARIFF

Two tariff adjustments were implemented during the period under review. The first became effective on December 1, 2002 and the other on August 1, 2004. They respectively brought about increases in tariff revenues of 36% in 2003 and 30% in 2004. Weighted average tariff, on the other hand, went up by 8.9% in 2002, 34.8% in 2003, 27.4% in 2004, and 22.1% in

2005. A comparison of the PDAM's previous and existing tariff structures is presented in table

A decree of the Minister of Home Affairs (Permendagri 2/1998) stipulates annual tariff adjustments to compensate for annual inflation, without the need for an approval from the local legislative council, plus a cyclical adjustment when significant additional investment is required. The methodology produces three types of tariff categories:

1. *Biaya rendah* (low cost), which recovers only O&M (including salaries) and overhead costs.
2. *Biaya dasar* (basic cost), which recovers *biaya rendah* plus debt service (principal and interest).
3. *Biaya penuh* (full cost), which recovers *biaya rendah* plus depreciation on the economic (useful) life factor applied against revalued fixed assets plus a 10% return on the book value of revalued assets.

Table 6 Old Tariff (1 December 2002-31 July 2004) in Rp/m³.

	0-10 m ³	11-20 m ³	21-30 m ³	>30 m ³
Group I				
Social A (General)	250	250	250	250
Social B (Special)	250	450	650	900
Group II				
Household 1 (Low Income)	450	650	900	1,200
Household 2 (Low-Middle Income)	650	900	1,100	1,400
Household 3 (Middle Income)	850	1,100	1,300	1,600
Household 4 (High Income)	1,000	1,200	1,500	1,800
Group III				
Schools	850	1,000	1,400	1,700
Government Offices	1,500	1,700	2,100	2,500
Group IV				
Commercial 1 (Small)	1,600	1,900	2,300	2,800
Commercial 2 (Large)	1,800	2,400	3,000	4,000

Table 7 Existing Tariff (1 August 2004-Present) in Rp/m³.

	0-10 m ³	11-20 m ³	21-30 m ³	>30 m ³
Group I				
Social A (General)	450	450	450	450
Social B (Special)	450	750	1,100	1,400
Group II				
Household 1 (Low Income)	900	1,200	1,600	2,000
Household 2 (Low-Middle Income)	1,100	1,600	2,000	2,200
Household 3 (Middle Income)	1,650	2,000	2,400	2,800
Household 4 (High Income)	1,950	2,400	2,800	3,000
Group III				
Schools	1,700	2,000	2,400	2,700
Government Offices	2,650	3,050	3,500	3,850
Group IV				
Commercial 1 (Small)	3,000	3,600	4,150	4,700
Commercial 2 (Large)	3,300	3,850	4,400	6,200

Table 8 Tariff Increase In %.

	0-10 m ³	11-20 m ³	21-30 m ³	>30 m ³
Group I				
Social A (General)	80%	80%	80%	80%
Social B (Special)	80%	67%	69%	56%
Group II				
Household 1 (Low Income)	100%	85%	78%	67%
Household 2 (Low-Middle Income)	69%	78%	82%	57%
Household 3 (Middle Income)	94%	82%	85%	75%
Household 4 (High Income)	95%	100%	87%	67%
Group III				
Schools	100%	100%	71%	59%
Government Offices	77%	79%	67%	54%
Group IV				
Commercial 1 (Small)	88%	89%	80%	68%
Commercial 2 (Large)	83%	60%	47%	55%

No PDAM has however revalued its assets as under existing regulations any realized surplus is immediately taxable as capital gains. An alternative definition of full-cost is thus included here to mean the sum of O&M, debt service, and 10% of equity.

For the entire five-year period under review, the PDAM's weighted average tariff was well below that which is required for full-cost recovery under existing regulations. The highest level recorded by far was in 2005, when weighted average tariff was 86% of the full cost of delivering a cubic meter of water to PDAM customers. In 2001 and 2002, weighted average tariffs were only 68% of the PDAM's full cost, and not coincidentally the PDAM suffered the biggest losses during these years.

The PDAM fared better on the basis of the alternative definition of full-cost offered in this report (the sum of O&M cost, debt service, and 10% of equity), with recovery starting at 82% in 2001 and improving to as much 102% in 2005. As will be revealed later, however, this was due not so much to the adequacy of tariff, but the deterioration of the PDAM's equity. The relationship of tariff to cost from 2001 to 2005 is presented in table 9.

Table 9 Historical Relationship of Tariff to Cost (Per m³ of Water Sold at Constant 2005 Prices).

	2001	2002	2003	2004	2005
Nominal Increase in Average Tariff (%)		8.9%	34.8%	27.4%	22.1%
Weighted Average Tariff	1,316	1,263	1,581	1,895	2,175
Low Cost Recovery Tariff	1,187	1,104	1,293	1,382	1,559
Basic Cost Recovery Tariff	1,594	1,364	1,730	1,773	1,977
FCR Tariff: Permendagri 2/1998 (Rp)	1,925	1,867	2,090	2,238	2,532
Extent of Full-Cost Recovery (%)	68%	68%	76%	85%	86%
FCR: O&M+Debt Service+10% Equity (Rp)	1,596	1,427	1,867	1,912	2,127
Extent of Full-Cost Recovery (%)	82%	88%	85%	99%	102%

2.3.4. ACCOUNT RECEIVABLES

Accounts receivable had been increasing every year, from 43 days of water sales in 2001 to 80 in 2005. Bad debts written off was however erratic, declining in 2002 and 2004. By 2005, however, the figure had reached a significantly high level of 2.4% of water sales as against the commonly accepted level of below 1.0%, as shown in table 10.

Table 10 Historical Collection Efficiency.

	2001	2002	2003	2004	2005
Days Accounts Receivable	43	62	62	78	80
Bad Debts as % of Water Sales	0.76%	0.67%	1.65%	0.65%	2.39%

2.3.5. INVENTORY MANAGEMENT

PDAM keeps consumables on the current assets side of the balance sheet and classifies investment materials as long-term assets. The consumables inventory accounting is based on the FIFO system.

Consumables inventory was maintained at a relatively low level of only 11 days cover during the five-year period from 2001 to 2005. Installation inventory had likewise stayed at a very reasonable level of 58 days cover compared to the acceptable ceiling of 70 days.

2.3.6. CURRENT RATIO AND CASH FLOW

In two of the five years under review, the PDAM's had technically been insolvent, with current ratio at 0.2 in 2001 and 0.5 in 2005. Cash, in terms of number of months of operating had also been on a precarious level, except in 2004 when, at 2.6, it almost reached the generally acceptable safe level of three months, as shown in table 11.

Table 11 Historical Current Ratio and Cash Flow.

	2001	2002	2003	2004	2005
Current Ratio	0.2	1.0	2.7	1.2	0.5
Cash = No. of Mo. of Operating Exp.	0.8	1.0	1.3	2.6	1.5

2.3.7. OUTSTANDING LOANS AND DEBT SERVICE CAPACITY

In 2005, PDAM Kota Surakarta had a total outstanding loans of almost Rp 39.1 billion consisting of the following:

USAID Loan with an outstanding balance of Rp 88.25 million. The loan agreement was signed in April 2004 for an original amount of US\$ 6.281 million. The said outstanding balance, according to PDAM management, will be settled on schedule in 2006.

IBRD Loan with an outstanding balance of principal amounting to Rp 29,000 million and accumulated interest of Rp 8,600 billion. The sub-loan agreement (SLA) with the Ministry of Finance was signed in September 1994. Due to the failure to realize the revenue stream expected from projects funded by this loan, the PDAM, for several years, made only

intermittent payments. In an agreement with the Ministry of Finance, this loan was rescheduled in April 2003, with the PDAM given a further grace period until September 2004 to restart the loan amortization. On the basis of the rescheduling, the loan principal will be amortized twice yearly until 2016, while the balance of accumulated interest is to be repaid also through twice yearly installments until 2014.

Loan from the Regional Development Bank (*Bank Pembangunan Daerah* or *BPD*) of Central Java. This was incurred in November 2002 and had an original amount of Rp 2,000 million. The outstanding balance of Rp 981.8 million is scheduled to be repaid in two equal installments in 2006 and 2007.

The PDAM's track record in loan amortization and the schedules for amortizing its outstanding loans are presented in *Annex C*.

By the end of 2001, the PDAM's accumulated losses had almost wiped out its equity, which was reported at Rp 189 million or just 1% of total capitalization. The support of the city government, as the sole owner of the enterprise, had however kept PDAM afloat through yearly fresh equity infusions of Rp 11,100 million in 2002, Rp 13,000 million in 2003, Rp 1,600 million in 2004, and Rp 1,500 million in 2005. Combined with yearly debt service, such equity infusions reduced the PDAM's reliance on debt with its ratio to total capitalization being reduced to 66% in 2005. This ratio remained significantly above the private-sector benchmark of 60%, but was in compliance with the 70% ceiling set by the Ministry of Home Affairs. For three years in a row, from 2001 to 2003, the PDAM missed the statutory minimum debt service coverage ratio (DSCR) of 1.5, as shown in table 12.

Table 12 Indicators of Debt-Service Capacity.

	2001	2002	2003	2004	2005
DSCR Based on Net Revenue	0.7	1.3	1.2	1.8	2.0
Debt to Total Capitalization	99%	85%	71%	69%	66%

3. BUDGET FOR 2006

3.1. WATER PRODUCTION AND DEMAND

The PDAM has just completed the installation of the Jurug production facility with a design capacity of 100 l/sec with raw water drawn from Bengawan Solo. The facility is scheduled to start operating in August 2006. On this basis only a portion of its total capacity can be applied in calculating the PDAM's actual production for the year.

Both production and distribution volumes for the year have been budgeted at the same level as in 2005. The volume sold to customers is however predicted to slightly decline by about 50,000 m³. Non-revenue water, on the other hand, is foreseen to slightly increase from 28.3% to 28.6%. The additional production capacity is anticipated to further ease up plant capacity utilization factor to 92.9% from 97.4% in 2005. The water production and distribution figures for 2006 compared to those in 2005 are in table 13.

Table 13 Water Production and Distribution in 2005 and 2006.

	2005	2006	Change
Production Capacity (l/sec)	859	901	42
Production (000 m ³)	22,954	22,954	
Distribution (000 m ³)	22,495	22,495	
Water Sold to Customers (000 m ³)	16,450	16,399	-50
Water Losses (%)	28.3%	28.6%	0.3%
Plant Utilization Factor (%)	97.4%	92.9%	-4.5%

The entire additional production capacity from Jurug was intended to serve 6,000 new connections. The PDAM realizes, however, that this is now unrealistic in view of the later start-up of the facility. The target has thus been reduced to 2,500, proportionate to the remaining number of months of the year when the facility will be operational, with the remaining 3,500 connections slated for installation in 2007. On this basis, the domestic service ratios are forecast to increase to 55.0% for the city and to 51.9% for the service coverage area.

3.2. REVENUES AND EXPENSES

Water revenues are forecast to increase by 20.7% over the 2005 level, reaching Rp 43,180 million, factoring in a 21.1% nominal increase in weighted average tariff for the year. In spite of this, however, the weighted average tariff will remain just 84% of that which is required for full-cost recovery under existing regulations and 86% of the full-cost recovery as alternatively defined in this report.

Head count is foreseen to be reduced to 367 from 370 in 2005, translating into an improvement in the employee-to-connection ratio to 151 from 147 in 2005. As a consequence, personnel cost per unit of water sold will decline by about 1%. Significant increases in other operating cost components have however been budgeted: 77.9% for overhead, 60.2% for maintenance materials, 35.2% for power, 14.9% for chemicals, and 13.6% for raw water for an overall increase in recurrent expenses of 19.0%. The PDAM's budgeted cost figures for 2006 are shown in table 14.

Table 14 Comparison of Unit Cost per m³ of Water Sold (In Rp at Constant 2005 Prices).

	2005	2006	Change
Personnel	832	825	-0.9%
Power (Operational)	247	334	35.2%
Chemicals	19	22	14.9%
Maintenance Materials	146	235	60.2%
Overhead	124	221	77.9%
Raw Water	138	157	13.6%
Total	1,507	1,793	19.0%

3.3. PERFORMANCE INDICATORS

The PDAM anticipates a net profit of Rp 4,416 million, which is 180.1% more than what was achieved in 2005. The realization of this budget is hoped to further confirm that the PDAM is already well beyond the recovery phase and is now poised to achieve even better financial performance in the future. The PDAM plans to cut 30 days off its accounts receivables, from 80 days of sales in 2005 to 50 in 2006.

Other indicators are however expected to deteriorate. Bad debts written off will increase to 3.1% of water sales as the PDAM cleans up its books of unpaid sewerage user fees. Current ratio will fall from 0.5 to 0.2; cash in terms of number of months of operating expenses, from 1.5 to 0.7; and DSCR, from 1.3 to 0.6.

As mentioned, the PDAM completed the installation of the Jurug production facility with the treatment plant costing almost Rp 9.9 billion. The contractor, PT Samara Dwi Paka, later converted the said amount into a loan payable in four years with the first installment due in August 2006. Notwithstanding this additional loan, the PDAM's debt-to-total-capitalization ratio is forecast to improve further to 63.9% from 66.3% in 2005.

The schedule for amortizing the aforementioned loan, including the yearly interest payments, is presented in Annex C. The key indicators of the PDAM's performance in 2006 are presented in table 15.

Table 15 Performance Indicators for 2005 and 2006.

	2005	2006	Change
Net Income before Tax (Rp Million)	1,576	4,914	3,338
Net Income (Rp Million)	1,576	4,416	2,840
Days Accounts Receivable	80	50	-30
Bad Debts as % of Water Sales	2.39%	3.11%	0.71%
Current Ratio	0.5	0.2	-0.3
Cash = Mo. Of Operating Expenses	1.5	0.7	-0.8
Debt Service Coverage Ratio	2.0	1.3	-0.6
Debt to Total Capitalization	66.3%	63.9%	-2.5%

4. INVESTMENT PROPOSAL

4.1. OVERVIEW

In previous discussions, the PDAM management indicated that it will implement two major investment packages, both involving water-source development and the generation of new connections in existing as well as new coverage areas: the Colo Dam Project and the Sedalem Project. The Colo Dam Project will draw water from the Solo River (Bengawan Solo), and will be implemented as a joint undertaking with the adjacent regency of Sukoharjo, with two-thirds of the planned production capacity of 300 l/sec allotted to Solo and the rest to Sukoharjo. The Sedalem spring in the regency of Boyolali will be tapped for the second project for a production capacity of 200 l/sec to be shared equally by PDAM Solo and PDAM Boyolali.

The pre-feasibility study of the Colo Dam Project was prepared under the auspices of the Center for Infrastructure Investment Development of the Ministry of Public Works. A copy of the final report on the study dated June 2005 was furnished to ESP in May 2006. In previous meetings, it was mentioned that the feasibility study of the Sedalem Project will be funded by Central Java's provincial Department of Public Works and will be executed by the University of Diponegoro located in Semarang Regency.

Later, however, the Sedalem Project was shelved in view of problems related to access to the spring-water source and the lack of any firm commitment from the local government of Kabupaten Boyolali to participate and secure such access. The PDAM thus concentrated on the Colo Dam Project, whose name was later changed to Kadokan Project as the PDAM could not secure the necessary extraction permit if the intake is in Colo Dam.

The intake is now to be located downstream of the dam adjacent to the village of Kadokan in Kabupaten Sukoharjo. PDAM Kabupaten Sukoharjo has withdrawn such that PDAM Solo will now be solely responsible for implementing the project. According to PDAM management, the water-extraction permit for the Kadokan Project has already been issued by the provincial government of Central Java for 400 l/sec, which the PDAM intends to use fully. The province's Department of Public Works estimates, however, that the exploitable capacity is as much as 1,000 l/sec. This report, therefore, focuses on the feasibility assessment of the Kadokan Project.

4.2. COSTS

The cost of the program has been estimated in the aforementioned feasibility study at Rp 48,720 million. While deemed still applicable, the cost was adjusted since what was foreseen is only for a production capacity of 300 l/sec instead of the 400 l/sec which the PDAM is now contemplating. Also included in the estimate is the cost of laying tertiary pipes at a length of 12.5 meters per connection. Finally, the financial contingencies were revised as the project will be implemented only in 2007 instead of 2006. The estimated costs of the various components of the program are presented in *Annex D*.

The base cost of the program is estimated at Rp 109,558 million. At current prices, including contingencies, the investment cost amounts to Rp 134,532 million. Procurement is the biggest component, with a share of 35.0% or Rp 47,060 million. Civil works comes in second, accounting for 20.2% or Rp 27,241 million. The cost of generating the targeted new connections is estimated at Rp 14,400 million or 10.7% of the total. Physical and price contingencies have a combined share of 18.5% or Rp 24,974 million.

The program is planned to be implemented within a period of four years, from 2007 to 2010. The first year will be devoted to detailed engineering design, tendering, procurement, preparatory activities, and start-up of construction; the second year for the completion of civil works and start-up of the installation of new connections; and the remaining two years primarily to the installation of additional new connections. The breakdown of the investment cost is presented in table 16.

Table 16 Breakdown of Investment Cost (In Rp Million, Except %).

	2007	2008	2009	2010	Total	% of Total
Procurement	43,504	3,556			47,060	35.0%
Procurement – Connections		1,440	4,320	2,880	8,640	6.4%
Civil Works	14,526	12,715			27,241	20.2%
Civil Works – Connections		960	2,880	1,920	5,760	4.3%
Land Acquisition	2,667				2,667	2.0%
Design	2,549	784	302	202	3,837	2.9%
Supervision	1,700	523	202	134	2,558	1.9%
Administration	1,517	467	180	120	2,284	1.7%
Taxes and Duties	6,228	1,998	770	514	9,510	7.1%
Total, Base Prices	72,691	22,443	8,654	5,770	109,558	81.4%
Physical Contingencies	3,628	1,617	504	336	6,085	4.5%
Financial Contingencies	9,914	4,621	2,359	1,995	18,889	14.0%
Total, Current Prices	86,233	28,681	11,518	8,101	134,532	100.0%

4.3. TARGETS

A total of 24,000 new connections are targeted to be generated primarily in the southern part of the city. The installation is scheduled to be completed in three years: 4,000 in 2008, 12,000 in 2009, and 8,000 in 2010. No additional connections are foreseen beyond 2010 in view of the projected production constraints. The schedule for installing new connections, including those planned by the PDAM in 2006 and 2007 which are not covered by the investment program, is presented in table 17.

Table 17 Schedule for Installing New Connections.

	2006	2007	2008	2009	2010
Other Households	2,075	2,894	3,307	9,922	6,615
Very Poor Households	118	167	191	572	381
Public Tap	22	31	36	108	72
Commerce	258	369	422	1,266	844
Services	27	38	44	132	88
Industry					
Special Category					
Yearly Increase	2,500	3,500	4,000	12,000	8,000
Cumulative	2,500	6,000	10,000	22,000	30,000
Total Connections Due to Investment			4,000	16,000	24,000

The investment required for generating each new connection comes up to almost Rp 5.6 million. The investment per capita for extending the piped water supply service amounts to a little over Rp 843 thousand, as shown in table 18.

Table 18 Comparison of Investment Cost and Indicative Benefits.

Total Cost (Rp Million)	134,532
Number of New Connections	24,000
Number of People to be Served	159,511
Cost per Connection (Rp)	5,605,509
Cost per Capita (Rp)	843,406

4.4. FINANCING PLAN

External financing, via an outright commercial loan or other debt instruments (such as a corporate-bond issue), is set at 70% of the yearly outlay. This external financing is assumed to bear an interest rate of 14% per annum with a repayment period of 12 years, including a two-year grace. On the basis of these terms, only the capital expenditures for the first two years will be eligible for external financing.

External financing will thus defray 58.4% or Rp 78,573 million of the total investment. The rest will be covered by connection fees from new customers (22.7% or Rp 30,474 million), the PDAM's internal cash generation (13.2% or Rp 17,818 million), and a combination of grant for land acquisition and equity contribution from the city government (5.7% or Rp 7,667 million). The proposed financing plan for implementing the investment program is presented in table 19.

Table 19 Financing Plan and Indicative Loan Disbursement Schedule (In Rp Million, Except %).

	2007	2008	2009	2010	Total	% of Total
Project Loan Assumed	58,497	20,076			78,573	58.4%
Customer Connections		4,768	15,091	10,614	30,474	22.7%
GOI Construction Grant						
GOI TA Grant (APBN)						
GOI PPN Grant						
Land/RAP LG Equity	2,667				2,667	2.0%
Other LG Equity/Advance	5,000				5,000	3.7%
PDAM/Other	20,070	3,836	(3,574)	(2,513)	17,819	13.2%
Total	86,233	28,681	11,518	8,101	134,532	100.0%

Yearly amortizations of principal and accumulated interest of the external-financing portion are computed at respectively Rp 7,857 million and Rp 1,398 million. Including non-capitalized interest, the total debt repayment will start at Rp 20,970 million in 2009 and will gradually go down every year thereafter, as shown in Table 20.

Table 20 Loan Amortization Schedule (In Rp Million).

	2007	2008	2009	2010	2011	2012
Yearly Disbursement	58,497	20,076				
Cumulative Disbursement	58,497	78,573				
Amortization of Principal			7,857	7,857	7,857	7,857
Loan Balance	58,497	82,668	84,692	75,437	66,182	56,927
Total Interest	4,095	9,881	11,715	11,209	9,913	8,618
Accumulated Interest	4,095	9,881				
Balance of Acc. Interest	4,095	13,976	12,579	11,181	9,783	8,386
Repayment of Acc. Interest			1,398	1,398	1,398	1,398
Total Debt Repayment			20,970	20,464	19,168	17,873

Table 21 Loan Amortization Schedule (In Rp Million).

	2013	2014	2015	2016	2017	2018
Yearly Disbursement						
Cumulative Disbursement						
Amortization of Principal	7,857	7,857	7,857	7,857	7,857	7,857
Loan Balance	47,672	38,417	29,162	19,907	10,653	1,398
Total Interest	7,322	6,026	4,731	3,435	2,139	844
Accumulated Interest						
Balance of Acc. Interest	6,988	5,591	4,193	2,795	1,398	0
Repayment of Acc. Interest	1,398	1,398	1,398	1,398	1,398	1,398
Total Debt Repayment	16,577	15,281	13,985	12,690	11,394	10,098

5. HIGHLIGHTS OF THE FINANCIAL PROJECTION

The discussion focuses on the years 2007 to 2018, the time slice that is considered critical as it corresponds to the period for implementing the investment program as well as for amortizing the PDAM's existing loans and the proposed external financing for the implementation of the investment program.

5.1. ASSUMPTIONS

5.1.1. COST OF CAPITAL

The cost of capital is computed based on the fund-sourcing mix. As mentioned, external financing will bear an interest of 14.0%. Customer contributions are assumed to be received by the PDAM as revenue and can therefore be considered as PDAM funds. Customer contributions, the local government's proposed grant and equity contribution, and the PDAM's own funds are expected to yield a return of 10%. The weighted average cost of capital (WACC) is thus computed at 12.34%, as shown in table 22.

Table 22 Cost of Capital.

	Commercial	Government
Weight	58.40%	41.60%
Nominal Cost	14.00%	10.00%
Weighted Component of WACC	8.18%	4.16%
WACC	12.34%	

5.1.2. PROJECTED PRODUCTION AND DEMAND

Production, distribution, and sales volumes will reach their optimum levels in 2011 at respectively 46.7 million m³, 46.0 million m³, and 26.0 million m³. Water losses are assumed to be gradually whittled down to settle at 24% beginning 2015. Plant capacity utilization factor will be at a low of 63.9% in 2008. Thereafter, it will again rise to 116% in 2010 and then to 125.3% from 2011 onward. The PDAM's projected production capacity, capacity constraints, and water losses are presented in table 23.

The total number of connections will reach its maximum in 2010 at 82,776, about 87.5% of which will be domestic. Per capita consumption of household connections is set at 140 lcd throughout the projection period, which represents a slight reduction compared to the historical average, again in view of the anticipated production constraints. Unit consumption per connection, including non-domestic, is thus estimated to likewise decrease gradually until

Table 23 Projected Production Capacity, Capacity Constraints and Water Losses.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Prod. Cap. (l/sec)	959	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359
Prod. Vol. (000 m ³ /year)	22,954	23,817	34,504	43,214	46,698	46,698	46,698	46,698	46,698	46,698	46,698	46,698
Dist. Vol. (000 m ³ /year)	22,495	23,358	33,900	42,523	45,972	45,972	45,972	45,972	45,972	45,972	45,972	45,972
Vol. Sold (000 m ³ /year)	17,433	19,114	21,631	24,777	26,036	26,036	26,036	26,036	26,036	26,036	26,036	26,036
Water Losses (%)	28.1%	27.5%	26.9%	26.3%	25.8%	25.3%	24.8%	24.3%	24.0%	24.0%	24.0%	24.0%
Ratio of Prod. to Cons.	1.32	1.25	1.60	1.74	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79
Utilization Factor	87.3%	63.9%	92.6%	116.0%	125.3%	125.3%	125.3%	125.3%	125.3%	125.3%	125.3%	125.3%

Table 24 Projected Connections and Water Demand.

	2007	2008	2009	2010	2011	2013	2014	2015	2016	2017	2018
Household Conn. (No.)	51,549	55,047	65,541	72,537	72,537	72,537	72,537	72,537	72,537	72,537	72,537
Unit Cons. (l/cd)	140	140	140	140	140	140	140	140	140	140	140
Non-Domestic Conn. (No.)	6,707	7,173	8,571	9,503	9,503	9,503	9,503	9,503	9,503	9,503	9,503
Unit Cons. (m ³ /day)	1.00	1.00	0.95	0.98	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Total Conn. (No.)	58,776	62,776	74,776	82,776	82,776	82,776	82,776	82,776	82,776	82,776	82,776
Annual Change (No.)	3,500	4,000	12,000	8,000							
Dom. Serv. - Kota Surakarta	57.9%	61.3%	72.2%	79.2%	78.4%	76.8%	76.1%	75.3%	74.6%	73.8%	73.1%
Dom. Serv. – Service Area	54.8%	58.2%	68.9%	75.8%	75.4%	74.5%	74.0%	73.6%	73.1%	72.7%	72.3%

2010, after which it climbs back to 26.2 m³ per month starting in 2011 to approximate the historical average consumption volume. With the total city population projected at 596 thousand, domestic service ratio for the city will peak at 79.2% in 2010. Thereafter, it will be on a gradual decline in the absence of new connections and in the face of continuing population growth estimated at 1.0% per year. In relation to the entire service coverage area (including portions of the surrounding regencies), the domestic service ratio will likewise reach a maximum of 75.8% in 2010 against a projected population of 622 thousand, assuming an annual increase of 0.6%. The projected connections and water demand are shown in table 24.

5.1.3. RECURRENT COSTS

The assumptions on recurrent costs are as follows:

1. **Personnel and personnel cost:** The desired personnel-to-connection ratio of 6.25 per 1,000 is planned to be achieved in 2010. Cost per employee is assumed to increase annually in real terms by 5.0% or about 10.5% in nominal terms 2006.
2. **Power and chemicals:** Distortions in the prices of power and chemicals are expected to be gradually corrected during the next five years, or up to 2010, concurrent with the progressive elimination of government subsidies for petroleum-based fuel and electricity. Annual increases in costs of power and chemicals in real terms are set at 15%, or 20.5% in nominal terms. Beginning 2011, costs of these inputs are expected to already reflect market prices and will therefore move based on annual inflation rate.
3. **Maintenance materials:** These are assumed at 2.2% of net fixed assets, which is the same as the average during the period 2001-2005.
4. **Administration:** These are defined as general and administrative expenses minus wages, interest payments, bad debts allowances, and maintenance and depreciation costs related to general and administrative fixed assets. This has been fixed at 33.5% of personnel cost or the same as its historical average.
5. **Raw water.** The cost of raw in 2006 of Rp 120.2/m³ of water produced is applied and adjusted every year by the projected inflation rate.

5.1.4. TARIFF ANALYSIS

The PDAM had been adjusting tariff every two years. In the analysis of its historical performance, it was mentioned that the PDAM imposed a new tariff in 2002 and then again in 2004. The average increases in basic tariff were about 55% in 2002 and 65% in 2004. Based on weighted average tariff, however, actual increases were only 34.8% in 2003, when the adjustment in 2002 became effective for an entire twelve-month period, and 27.4% in 2004 and 22.1% in 2005.

On the basis of the foregoing, the PDAM management prescribed the following assumptions on tariff adjustment:

1. 40% increase in 2007 in lieu of the scheduled increase in 2006 which the PDAM has postponed.
2. 20% increase every two years thereafter starting in 2009.

At the foregoing yearly tariff adjustment, PDAM's weighted average tariff will consistently be adequate for full-cost recovery under existing regulations and as alternatively defined in this report. The analysis of projected tariff as it relates to cost, which the PDAM may use as a guide in future tariff-setting exercises, is presented in table 25.

Table 25 Analysis of Projected Tariff (Rp per m3 of Water Sold at Current Prices).

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Weighted Ave. Tariff (Rp)	3,686	3,889	4,667	4,923	5,908	6,233	7,480	7,891	9,469	9,990	11,988	12,647
Tariff Inc. (%)	40.0%	5.5%	20.0%	5.5%	20.0%	5.5%	20.0%	5.5%	20.0%	5.5%	20.0%	5.5%
Low Cost (Rp)	2,002	2,152	2,283	2,578	2,806	2,935	3,205	3,490	3,812	4,156	4,545	4,959
Basic Cost (Rp)	2,860	2,779	2,807	3,871	3,890	3,902	4,108	4,329	4,587	4,815	5,065	5,397
FCR: Permendagri (Rp)	3,118	3,642	4,171	4,752	5,015	5,283	5,809	6,490	7,249	8,226	9,311	10,674
FCR: OM+DS+10% Equity (Rp)	3,016	3,127	3,310	4,612	4,788	4,996	5,467	6,074	6,760	7,576	8,471	9,656
Extent of Cost Recovery												
- Permendagri 2/1998 (%)	118%	107%	112%	104%	118%	118%	129%	122%	131%	121%	129%	118%
- OM+DS+10% Equity (%)	122%	124%	141%	107%	123%	125%	137%	130%	140%	132%	142%	131%

5.2. FEASIBILITY INDICATORS

Based on the foregoing assumptions, the investment program is found to be feasible with a positive net present value (NPV) of Rp 24,477 million and a financial internal rate of return (FIRR) of 15.50%, which is well above the hurdle rate of 12.34%. The program remains feasible even assuming a 10% increase in investment and incremental O&M costs or a 10% decrease in incremental revenues. It surmounts neither a one-year delay in the realization of incremental revenues nor a combined 10% increase in costs and 10% reduction in incremental revenues, however. The indicators of feasibility of the investment program under the base case and under certain adverse scenarios are shown in table 26.

Table 26 Feasibility Indicators.

	WACC = 12.24%	
	NPV	IRR
Base Case	24,477	15.50%
10% Increase in Investment and O&M Costs	6,137	12.99%
10% Decrease in Incremental Revenues	3,387	12.74%
+10% In Costs and -10% in Revenues	(17,972)	10.37%
One Year Delay in Incremental Revenues	(6,940)	11.61%

5.3. FINANCIAL RESULT

5.3.1. INCOME STATEMENT

The tariff and connection revenues are carried from the revenue calculation into the income statement by converting 2005 constant-price revenues into current prices through the application of the annual GDP inflator. A bad debts allowance of 0.9% is assumed for tariff revenues. Profits are taxed at the corporate rates currently prevailing in Indonesia.

The PDAM is projected to continue to generate net income after tax. Similarly, retained earnings will be positive throughout the projection period. Annual return on assets will range between 10% and 14% and on equity, between 12% and 30%. A summary of the PDAM's income statement for the period 2007-2018 is presented in table 27. Detailed income statements are presented in *Annex E*.

5.3.2. SOURCE AND APPLICATION OF FUNDS

The PDAM will continue to enjoy positive annual cash flows throughout the projection period. DSCR will remain at a safe level, with the lowest at 3.3 in 2009 when the PDAM starts amortizing the proposed external financing for the investment program. A summary of the sources and applications of funds is presented in table 28, while the details are in *Annex F*.

Table 27 Summary Income Statement (In Rp Million, Except Ratios).

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Tariff Rev.	64,261	74,332	100,945	121,987	153,820	162,281	194,737	205,447	246,537	260,096	312,115	329,282
Total Op. Revenues	74,909	92,717	146,227	154,625	157,240	165,700	198,156	208,867	249,956	263,516	315,535	332,701
Operating Expenses	37,509	43,641	55,762	69,532	76,416	83,439	90,873	99,258	108,209	118,326	129,119	141,344
Non-Op. Income/(Loss)	76	503	2,616	6,218	9,831	13,717	18,188	24,592	31,764	41,505	52,387	66,540
Net Profit Before Tax	25,843	35,019	63,266	60,713	61,061	67,778	98,947	109,349	150,347	164,826	218,230	238,620
Income Tax	7,744	10,497	18,971	18,205	18,309	20,325	29,675	32,796	45,095	49,439	65,460	71,577
Net Income/ (Loss)	18,099	24,522	44,295	42,508	42,751	47,453	69,271	76,553	105,252	115,387	152,770	167,043
Other Payments	13,393	18,146	32,778	31,456	31,636	35,116	51,261	56,649	77,886	85,386	113,050	123,612
Retained Earnings	4,706	6,376	11,517	11,052	11,115	12,338	18,011	19,904	27,365	30,001	39,720	43,431
Return on Assets	10%	10%	14%	11%	10%	10%	12%	11%	12%	11%	12%	11%
Return on Equity	30%	25%	28%	19%	15%	13%	15%	14%	15%	13%	14%	12%

Table 28 Summary Sources and Applications of Funds (In Rp Million, Except Ratios).

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Gross Int. Cash Gen.	37,476	49,578	93,081	91,310	90,654	95,978	125,471	134,200	173,511	186,695	238,803
Equity	10,095	9,954	13,487	24,362	23,379	23,513	26,099	38,099	42,104	57,888	63,463
Borrowing	62,591	29,958									
Total Sources of Funds	110,163	89,490	106,568	115,672	114,034	119,492	151,570	172,300	215,615	244,583	302,266
Capital Expenditures	90,328	38,562	11,518	8,101							
Debt Service	10,932	10,003	27,970	26,848	25,175	23,506	21,830	20,157	17,152	13,540	11,394
Operations	1,149	2,503	1,590	15,034	18,195	14,698	13,302	21,743	21,351	33,188	33,554
Total Applications of Funds	102,409	51,068	41,077	49,983	43,371	38,203	35,132	41,900	38,503	46,728	44,948
Cash Increase (Decrease)	7,754	38,422	65,491	65,689	70,663	81,288	116,439	130,400	177,112	197,855	257,318
DSCR (Net Revenues)	3.4	5.0	3.3	3.4	3.6	4.1	5.7	6.7	10.1	13.8	21.0

5.3.3. BALANCE SHEET

Capital expenditures are forecast to be completed in 2010. All new investments are carried as work-in-progress in the year of expenditure and capitalized in the following year.

Depreciation is calculated on the useful life basis for tariff purposes and at the fiscal rate for accounting purposes.

Fixed assets are carried throughout the forecast at historical cost, as is the current PDAM practice. The provisions of the Decree of the Minister of Finance (KepMenKeu) No. 507/KMK/.04/1996 and other relevant pieces of legislation treat revaluation surpluses as capital gains, with the tax payable immediately. The PDAM is therefore not expected to consider revaluation of its fixed assets while this decree is still in effect. Capitalized interest and construction preliminaries and demobilization expenses are treated as deferred expenses and amortized at 10% per annum on the outstanding balance. The projections assume 55-day accounts receivable, and 30-day accounts payable. The inventory point for chemicals and maintenance materials is 30 days and for installation inventories, 70 days.

With the accumulation of yearly depreciation and without revaluation, net fixed assets will be negative starting 2019. The current ratio will be at 0.8 in 2007. Thereafter, however, it will be at a safe level all throughout the rest of the projection period. The PDAM will remain relatively highly leveraged in 2007 with debt comprising 62% of its total capitalization. From 2008 onward, however, the PDAM's gearing ratio will be at a safe and continually improving level. The highlights of the balance sheet are presented in table 29. The detailed balance sheet projections are in *Annex G*.

Table 29 Summary Balance Sheet (In Rp Million, Except Ratios).

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cash and Deposit	9,774	48,195	113,686	179,375	250,038	331,327	447,765	578,165	755,277	953,131	1,210,449	1,493,065
Current Assets, net of Cash	10,122	11,690	15,776	19,023	23,831	25,104	30,031	31,647	37,876	39,915	47,793	50,365
Current Assets	19,896	59,885	129,462	198,398	273,869	356,431	477,796	609,812	793,153	993,046	1,258,242	1,543,430
Net Fixed Assets	53,559	132,506	155,289	149,319	139,263	120,829	102,396	83,963	65,529	47,096	28,663	10,229
Total Assets	179,491	246,916	312,498	372,324	429,638	493,766	596,698	710,281	875,188	1,056,648	1,303,411	1,570,165
Current Liabilities	23,478	39,115	54,166	65,215	73,476	81,824	97,617	111,459	133,017	154,638	187,747	209,693
Long-Term Debt, Net	93,705	109,730	95,991	82,252	68,514	54,775	41,036	28,615	18,510	9,255	0	0
Total Liabilities	118,819	150,644	152,177	149,886	144,791	139,785	142,266	144,310	156,452	169,765	194,658	217,979
Equity	60,671	96,272	160,321	222,438	284,847	353,982	454,432	565,971	718,736	886,883	1,108,752	1,352,186
Total Equity and Liabilities	179,491	246,916	312,498	372,324	429,638	493,766	596,698	710,281	875,188	1,056,648	1,303,411	1,570,165
Current Ratio	0.8	1.5	2.4	3.0	3.7	4.4	4.9	5.5	6.0	6.4	6.7	7.4
Debt to Total Capitalization	62%	56%	41%	30%	22%	16%	2013	2014	2015	2016	2017	2018
Days Accounts Receivable	55	55	55	55	55	56	447,765	578,165	755,277	953,131	1,210,449	1,493,065
Cash = Months of Op. Exp.	3.1	13.3	24.5	31.0	39.3	47.7	30,031	31,647	37,876	39,915	47,793	50,365

ANNEXES

ANNEX A
NOTES ON THE MEETING WITH PDAM KOTA SURAKARTA (JUNE
22, 2006)

ANNEX B
NOTES ON THE MEETING WITH PDAM KOTA SURAKARTA (JULY
6, 2006)

ANNEX C
SCHEDULE OF LOAN AMORTIZATION OF PDAM KOTA
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ANNEX D
INVESTMENT PROGRAM OF PDAM KOTA SURAKARTA

ANNEX E
DETAILED INCOME STATEMENT

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DETAILED SOURCES AND APPLICATIONS OF FUNDS

ANNEX G
DETAILED BALANCE SHEET PROJECTIONS

ANNEX A – NOTES ON THE MEETING WITH PDAM KOTA SURAKARTA (JUNE 22, 2006)

BACKGROUND

PDAM Kota Solo in Central Java is one of a number of water supply enterprises across Indonesia participating in the Environmental Services Program (ESP) funded by the United States Agency for International Development (USAID). Included in the scope of ESP technical assistance is to provide access to the domestic commercial banking system for financing the PDAM's future expansion program. Part of the assistance was the verification of the costs of the program's various components, analysis of its feasibility, and assessment of how it will affect the future operations of the PDAM as a whole.

OBJECTIVES

The objectives of the meeting are as follows:

1. To assess the PDAM's willingness to participate in ESP's DCA guarantee scheme, which implies that it is receptive to a loan or a bond issue for financing the implementation of its investment programs.
2. To gather additional data on the PDAM's historical performance which have not been made available yet: breakdown of administrative expenses in 2001, breakdown of recurrent expenses in 2005, projected balance sheet for 2006, and amortization schedules of existing loans.
3. To pin down PDAM's more definitive intentions on future plans and programs that will be included in ESP's financial projection and feasibility assessment.
4. To determine the necessity of mobilizing additional technical assistance, i.e., from a short-term Water Supply Engineer, to calculate water demand, number of connections, and yearly capital expenditures pertaining to future plans and programs.
5. To agree on assumptions that will be used in the financial projection and feasibility assessment.

PARTICIPANTS

On the PDAM side, the meeting was attended by:

1. Abimanyu, BE - Managing Director
2. Drs. Sudiyanto, MBA - Director of Finance and Administration
3. Ir. Maryanto - Head of Planning Division
4. Drs. Pangestu Budisantoso - Head of Finance Division

ESP was represented by:

1. Oni Hartono
2. Ramon H. Hagad

PROCEEDINGS

For the meeting, ESP prepared a list of questions/topics to be discussed, covering four main areas: historical performance, investment program, assumptions, and the PDAM's allied services of operating the city's sewerage system and two public swimming pools. Since ESP first met with the Head of the Planning Division, the discussion was focused initially on the investment program. Hereunder are the highlights of the discussion.

Investment Program

1. ESP related the difficulties currently being encountered in implementing PPP projects and briefly explained the DCA guarantee program that could provide the PDAM access to external financing for implementing its investment program.
2. The PDAM explained that it has always been its intention to implement the investment program by itself. It is however constrained by lack of internal financial capacity, on the one hand, and the absence of any identifiable source of external financing, on the other. Thus, the PDAM would certainly be glad to participate in the DCA guarantee program and would be willing to contract loan directly or issue corporate bonds, for as long as this is possible under existing regulations, to finance its investment program.
3. At present, the PDAM is just focusing on the Colo Dam Project. The Sedalem Project is in the meantime being shelved in view of problems related to access to the spring-water source and the lack of any firm commitment from the local government of Kabupaten Boyolali to participate and secure such access. If ever, the Sedalem Project will be reconsidered upon completion of the Colo Dam Project.
4. The name of the Colo Dam Project has been changed to Kadokan Project as the PDAM could not secure the necessary extraction permit if the intake is in Colo Dam. The intake is now to be located downstream of the dam adjacent to the village of Kadokan in Kabupaten Sukoharjo. PDAM Kabupaten Sukoharjo has withdrawn such that PDAM Solo will now be solely responsible for implementing the project.
5. The water-extraction permit for the Kadokan Project has already been issued by the provincial government of Central Java, allowing PDAM Solo to use 400 l/sec. The province's Department of Public Works estimates, however, that the exploitable capacity is as much as 1,000 l/sec.
6. The PDAM intends to make full use of the water-extraction permit and build the corresponding production, transmission, and distribution facilities. The Kadokan Project is planned to be completed within one-and-a-half years, from early 2007 to mid-2008. A total of 24,000 new connections are targeted to be installed in the southern area of the city within a three- to four-year period starting in the second half of 2008.
7. The cost of the program of Rp 48.7 billion as estimated in the aforementioned pre-feasibility study of the Colo Dam Project is deemed still applicable. This will however have to be adjusted since what was foreseen is only for a production capacity of 300 l/sec instead of the 400 l/sec which the PDAM is now contemplating (the adjustment will be done simply by dividing the base cost of each item by three and multiplying the result by four). Another adjustment will be in financial contingencies as the project will be implemented only in 2007 instead of 2006. Also to be included in the estimate is the cost of laying tertiary pipes at a length of 12.5 meters per connection. For this purpose, ESP will refer to the unit cost of tertiary pipes used for PDAM Kabupaten Magelang.
8. The PDAM anticipates no problem in requesting equity contribution from the local government in case its internal cash generation will not be enough for the portion of the investment requirement that cannot be covered by external financing.

Historical Performance and Budget for 2006

1. A new production facility with a capacity of 100 l/sec, which draws water from Bengawan Solo, has just been completed. This is expected to become operational in July or at the latest August 2006.
2. The facility will support 6,000 new connections previously foreseen to be generated during the whole year of 2006 at the rate of 500 per month. The installation of these connections will now obviously spill over to 2007.
3. The following data/data-source documents were furnished to ESP: decrees on old and new tariff structures, audited financial statement for 2001, breakdown of sales volume and revenue per customer type from 2001 to 2005, and projected balance sheet for 2006.
4. The breakdown of recurrent expenses for 2005 and the amortization schedules of existing loans will be sent to ESP by e-mail on Monday, June 26.
5. At the start of 2006, the PDAM has three outstanding loans from the following sources: USAID, IBRD, and Central Java's Regional Development Bank (Bank Pembangunan Daerah or BPD). The USAID loan has however been already fully paid as of May 2006.
6. What precipitated the PDAM's losses during the past years was the non-realization of the water-source development project it implemented under the IBRD-funded Semarang-Surakarta Urban Development Project (SSUDP). The facility was to draw water from a spring located in Boyolali. All the production facilities had been constructed and the necessary materials procured. The PDAM was however prevented later on from drawing water from the source due to strong objections from residents of surrounding communities.
7. For the foregoing reason, the PDAM was not able to amortize the IBRD loan, which was then rescheduled by the Ministry of Finance effective April 1, 2003. The amortization of this loan was supposed to have commenced in September 2004, at the end of an additional grace period granted to the PDAM.
8. Another strain to the financial performance of the PDAM is the city's sewerage system, which up until now the PDAM has to subsidize. The tariff is very low, and so is the collection efficiency. The PDAM has however regularly received financial assistance from both the central and the local governments for the operation and maintenance as well as further development of the system.
9. There are indications that the PDAM is well on the road to recovery. It realized net profit of almost Rp 453 million in 2004 and over Rp 1 billion in 2005. Also, although it has to contend with accumulated losses of Rp 10.5 billion as of the end of 2005, its equity has continually risen with regular infusion from the local government.

Assumptions for the Financial Projection

1. Revenue projection will be based on the following assumptions:
 - Unit consumption is 150 liters per capita per day
 - Tariff will be increased every two years, with the first increase to be implemented in 2007 as the tariff adjustment scheduled in 2006 has been postponed.
 - Tariff will be set at the level required for full-cost recovery.
2. Increases in recurrent expenses will conform to the levels budgeted in 2006 compared to those in 2005.
3. Non-revenue water will be gradually reduced to settle at 24% in 2015.

Sewerage and Swimming Pools

Starting in 2007, these two ancillary businesses are assumed to break even, with operating costs fully covered by revenues. New investments will be funded through grants from the local government. Their operations should therefore not affect the water supply business of the PDAM.

CONCLUSIONS

The following conclusions were arrived at during the meeting:

1. The financial projection will just focus on the Kadokan Project.
2. The financing for the project will be through either an outright loan or a corporate-bond issue using the DCA-guarantee facility.
3. In the meantime, there will be no need for the services of a short-term Water Supply Engineer as all calculations have already been accomplished.
4. With the submission of the remaining data on Monday, June 26, ESP can already proceed with the preparation of the preliminary financial projection and feasibility assessment.

FOLLOW UP ACTIONS AND TENTATIVE SCHEDULE

The following actions, with indicative dates of completion, were agreed upon:

TASKS	DATE
Presentation of the results of the preliminary financial projection and feasibility assessment	July 7, 2006
Presentation of a revised, and final, financial projection and feasibility assessment	July 15, 2006
Submission of final analytical report and financial projection and feasibility assessment to ESP office in Jakarta	July 22, 2006

ANNEX B – NOTES
ON THE MEETING WITH PDAM
KOTA SURAKARTA
(JULY 6, 2006)

BACKGROUND

PDAM Kota Solo in Central Java is one of a number of water supply enterprises across Indonesia participating in the Environmental Services Program (ESP) funded by the United States Agency for International Development (USAID). Included in the scope of ESP technical assistance is to provide access to the domestic capital market for financing the PDAM's future expansion program. Part of the assistance was the verification of the costs of the program's various components, analysis of its feasibility, and assessment of how it will affect the future operations of the PDAM as a whole.

In a meeting held on June 22, 2006 between PDAM officials and ESP representatives, the following objectives were achieved:

1. Confirmation of the PDAM's willingness to participate in ESP's DCA guarantee scheme
2. Compilation of additional data on the PDAM's historical performance
3. Clear definition of the PDAM's plans and programs that will be included in ESP's financial projection and feasibility assessment
4. Agreement on the assumptions that will be used in the financial projection and feasibility assessment.

ESP subsequently completed a 20-year financial projection focusing on the assessment of the feasibility of the proposed investment program and its effects on the future operations of the PDAM as a whole.

PURPOSE

The presentation was to focus on the highlights of the results of the financial projection and feasibility assessment. Its main purpose was to secure the PDAM's agreement in principle on the finalization of the said projection as well as the preparation and submission of an analytical report that will serve as basis for ESP to initiate discussions with prospective sources of funding.

PARTICIPANTS

On the PDAM side, the presentation was attended by all the division heads. ESP was represented by:

1. Afghoni
2. Saiful Ely
3. Ramon H. Hagad

PROCEEDINGS

The presentation was presided by the Head of the Planning Division. Two PowerPoint presentations were made, the first on the highlights of the results of the financial projection and feasibility assessment and the other, on Indonesia Water Fund (IWF) in response to a question on how the ESP program compares with other sources of funding, such as multilateral institutions and domestic commercial banks. Hereunder are the highlights of the discussion.

General

The financial projection relied on secondary data supplied by the PDAM as it was not within the scope of work of ESP to conduct field verification of these data. The extent to which the data reflect actual field conditions depended therefore on whether the PDAM verified them first before they were furnished to ESP.

Investment Program

1. As explained by the presiding officer, the investment pertaining to the installation of an additional production capacity of 400 l/sec from Bengawan Solo, with its intake adjacent to the village of Kadokan in Kabupaten Sukoharjo, was prioritized inasmuch as the pre-feasibility study had already been prepared under the auspices of the Ministry of Public Works. It was originally conceived as a joint venture between the city of Surakarta and Kabupaten Sukoharjo. The latter backed out, however, as it could not secure approval from the local parliament. PDAM Kota Surakarta then planned to implement the project in two phases of 200 l/sec each, with the first phase to be undertaken in 2006 and 2007 and the second phase in 2008 and 2009. Since the first phase was not implemented in 2006 and with the prospect of funding availability through the ESP program, the PDAM management is now in favor of undertaking the entire project in a single phase beginning in 2007.
2. The cost of the investment was adopted from the aforementioned pre-feasibility study. The figures were however adjusted to account for the increase in production capacity from 300 l/sec to 400 l/sec and to include the procurement of and civil works for secondary and tertiary pipes which were not provided for in the said pre-feasibility study. It was emphasized that the investment cost needs to be carefully verified during the detailed engineering design stage.
3. The financial projection assumed the following implementation schedule:
 - 2007 : Land acquisition and preparation, detailed engineering design, procurement of materials and equipment, start-up of civil works
 - 2008 : Completion of civil works, start-up of installation of new connections
 - 2009 : Continuation of installation of new connections
 - 2010 : Continuation and completion of installation of new connections

Targets and Assumptions

1. The target of 24,000 connections to be installed in three years was deemed realistic based on the previous experience of the PDAM. What discouraged the generation of a larger number of new connections in the past was the mechanism of asking new customers to pay as well as for secondary and tertiary pipes, aside from the connection itself, which made the PDAM also 'a seller of pipes'. This time, the cost of these items had been included in the overall investment cost.

2. In relation to the foregoing, it was mentioned that ESP is presently promoting a micro-credit scheme in cooperation with Bank Rakyat Indonesia (BRI) for financing the installation of new connections, which should provide an added impetus for new customers. The scheme will be presented in more detail in a meeting between ESP and PDAM management to be held some time during the week of July 10-14.
3. Per capita consumption, which the PDAM proposed to be set at 150 liters per day, was considered achievable based on historical data. This was however pegged at 140 liters per day in the financial projection in view of the projected constraints in the PDAM's production capacity.
4. The results of the financial projection indicated that the additional production capacity to be made available through the investment program will be inadequate beyond 2010. Without any additional production capacity from then on would render the PDAM unable to install new connections and perhaps even to supply enough water to existing customers. The service coverage ratio, after reaching a peak of over 79% in 2010, is forecast to continually decrease as the city's population continues to increase. Forcing the utilization of existing facilities beyond their designed capacities could also shorten their useful lifetimes.
5. The partial subsidy that the PDAM is extending to the city's sewerage system and public swimming pools are expected to be maintained at its historical level. Furthermore, it is assumed that any planned expansion of the operations of these ancillary activities will be able to generate revenue that will at least cover their operation and maintenance expenses.

Financing

1. In the absence of funds from official donors, such as the ADB and the World Bank, the financing scheme offered by ESP, through a loan from a domestic commercial bank or the IWF with DCA guarantee, would be the most convenient, and apparently the cheapest, for the PDAM.
2. Past failures have given the PDAM enough lessons to be able to effectively handle the proposed new loan.
3. The proposed Rp 5 billion in fresh equity infusion from the city government is considered the minimum. It was proposed that the PDAM request for a bigger amount to have a buffer just in case the projected cash flow does not fully materialize.

CONCLUSIONS

The following conclusions were arrived at the meeting:

1. Between 'with' and 'without' the investment scenarios, the 'with' scenario' will be more beneficial for the PDAM.
2. The PDAM should however endeavor to achieve higher efficiency levels to safeguard the feasibility of the investment program and to ensure the accrual of its promised benefits.
3. The financial projection can be finalized and the necessary analytical report can be issued as basis for initial discussions with prospective sources of funding.
4. The PDAM will continue to review and, if necessary, refine the financial projection as part of its preparation for eventually negotiating with prospective funding sources that ESP will identify and recommend.

ANNEX C – SCHEDULE OF LOAN AMORTIZATION OF PDAM KOTA SURAKARTA

**PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL**

SOURCE: USAID

	2001	2002	2003	2004	2005	2006
Beginning Balance	970,758,308	794,256,798	617,755,288	441,253,778	264,752,268	88,250,758
Amortization of Principal	176,501,510	176,501,510	176,501,510	176,501,510	176,501,510	88,250,758
Ending Balance	794,256,798	617,755,288	441,253,778	264,752,268	88,250,758	-
Interest Payment	84,654,537	68,416,398	52,310,635	36,315,186	20,099,108	3,993,349
Beg. Balance of Acc. Interest						
Payment of Acc. Interest	24,133,640	24,133,640	24,133,640	24,133,640	24,133,640	12,066,820
End. Balance of Acc. Interest						
Adm. Charges & Commit. Fees	60,000	60,000	60,000	60,000	60,000	60,000
Penalties	2,351,515	1,678,603	1,453,073	1,008,756	558,309	110,926
Total Debt Service	287,701,202	270,790,151	254,458,858	238,019,092	221,352,567	104,481,853

**PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL**

SOURCE: Ministry of Finance-PKN (Pengelolaan Kekayaan Negara)

	2001	2002	2003	2004	2005	2006
Beginning Balance	187,515,000	133,945,000	80,375,000	26,805,000		
Amortization of Principal	53,570,000	53,570,000	53,570,000	26,805,000		
Ending Balance	133,945,000	80,375,000	26,805,000	-		
Interest Payment	10,599,148	7,340,307	4,081,465	7,965,563		
Beg. Balance of Acc. Interest						
Payment of Acc. Interest	15,931,125	15,931,125	15,931,125	15,931,125		
End. Balance of Acc. Interest						
Adm. Charges & Commit. Fees						
Penalties						
Total Debt Service	80,100,273	76,841,432	73,582,590	50,701,688		

**PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL**

SOURCE: IBRD

	2001	2002	2003	2004	2005	2006	2007	2008
Beginning Balance	22,789,608,833	33,431,774,133	33,431,774,133	32,841,774,133	32,516,774,133	32,516,774,133	29,350,096,720	26,183,419,307
Amortization of Principal		-	590,000,000	325,000,000	-	3,166,677,413	3,166,677,413	3,166,677,413
Ending Balance	22,789,608,833	33,431,774,133	32,841,774,133	32,516,774,133	32,516,774,133	29,350,096,720	26,183,419,307	23,016,741,894
Interest Payment	-	-	-	-	202,264,336	3,229,966,980	2,860,741,190	2,498,596,442
Beg. Balance of Acc. Int.	5,092,780,463	7,835,995,740	11,741,983,226	10,999,728,158	10,546,555,684			
Payment of Acc. Interest	1,194,553,797	-	742,255,068	453,172,474	1,935,407,726	1,537,934,904	1,317,040,645	1,317,040,645
End. Balance of Acc. Int.	3,893,226,666	7,835,995,740	10,999,728,158	10,546,555,684	8,611,147,958			
Adm. Chgs & Commt. Fees	99,484,076	-	179,451,865	41,808,391	41,034,451			
Penalties		42,021,883	169,263,314	76,534,983	118,372,307	179,735,518	171,708,870	163,836,158
Total Debt Service	1,294,037,873	42,021,883	1,680,970,247	896,515,848	2,297,078,820	8,114,314,814	7,516,168,118	7,146,150,658

SOURCE: IBRD

	2009	2010	2011	2012	2013	2014	2015	2016
Beginning Balance	23,016,741,894	19,850,064,481	16,683,387,068	13,516,709,655	10,350,032,242	7,183,354,829	4,016,677,416	850,000,003
Amortization of Principal	3,166,677,413	3,166,677,413	3,166,677,413	3,166,677,413	3,166,677,413	3,166,677,413	3,166,677,413	850,000,003
Ending Balance	19,850,064,481	16,683,387,068	13,516,709,655	10,350,032,242	7,183,354,829	4,016,677,416	850,000,003	
Interest Payment	2,122,289,610	1,753,063,820	1,383,838,030	1,017,646,972	645,386,449	276,160,659		
Beg. Balance of Acc. Int.								
Payment of Acc. Interest	1,317,040,645	1,317,040,645	1,317,040,645	1,317,040,645	1,317,040,645	1,317,040,645		
End. Balance of Acc. Int.								
Adm. Chgs & Commt. Fees								
Penalties	155,655,575	147,628,927	139,602,280	131,641,604	123,548,984	115,522,337		
Total Debt Service	6,761,663,242	6,384,410,805	6,007,158,367	5,633,006,634	5,252,653,492	4,875,401,054	3,166,677,413	850,000,003

**PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL**

SOURCE: BPD

	2002	2003	2004	2005	2006	2007
Beginning Balance	2,000,000,000	1,979,213,146	1,704,061,090	1,375,084,291	981,750,949	511,477,693
Amortization of Principal	20,786,855	275,152,056	328,976,799	393,333,342	470,273,256	511,477,693
Ending Balance	1,979,213,145	1,704,061,090	1,375,084,291	981,750,949	511,477,693	-
Interest Payment	30,000,000	324,290,051	280,464,939	216,110,658	13,916,900	47,175,006
Beg. Balance of Acc. Int.						
Payment of Acc. Interest						
End. Balance of Acc. Int.						
Adm. Chgs & Commt. Fees						
Penalties						
Total Debt Service	50,786,855	599,442,107	609,441,738	609,444,000	484,190,156	558,652,699

SOURCE: Ministry of Finance-DDI (Direktorat Dana Investasi)

	2001	2002	2003	2004	2005
Beginning Balance	768,941,893	615,153,514	461,365,135	307,576,756	153,788,377
Amortization of Principal	153,788,379	153,788,379	153,788,379	153,788,379	153,788,377
Ending Balance	615,153,514	461,365,135	307,576,756	153,788,377	-
Interest Payment	44,419,210	35,063,750	25,708,290	16,404,093	6,997,371
Beg. Balance of Acc. Int.					
Payment of Acc. Interest	40,041,683	40,041,683	40,041,683	40,041,683	40,041,683
End. Balance of Acc. Int.					
Adm. Chgs & Commt. Fees					
Penalties					
Total Debt Service	238,249,272	228,893,812	219,538,352	210,234,155	200,827,431

**PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL**

SOURCE: Investor-PT Samara Dwi Paka (Juruk WTP Construction, Bengawan Solo)

	2006	2007	2008	2009
Beginning Balance	9,855,000,000	4,879,166,667	2,537,166,667	195,166,667
Amortization of Principal	4,975,833,333	2,342,000,000	2,342,000,000	195,166,667
Ending Balance	4,879,166,667	2,537,166,667	195,166,667	
Interest Payment	214,549,109	514,917,862	514,917,862	42,909,822
Beg. Balance of Acc. Int.				
Payment of Acc. Interest				
End. Balance of Acc. Int.				
Adm. Chgs & Commt. Fees				
Penalties				
Total Debt Service	5,190,382,442	2,856,917,862	2,856,917,862	238,076,489

ANNEX D – INVESTMENT PROGRAM OF PDAM KOTA SURAKARTA

**PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL**

(Rp million)

	2007		2008		2009		2010		Total	Total	Grand
	Proc.	CW	Proc.	CW	Proc.	CW	Proc.	CW	Proc.	CW	Total
LAND & L. PREP.	2,666.667								2,666.667		2,666.667
WATER SOURCE	1,606.400	740.267	936.000	693.333					2,542.400	1,433.600	3,976.000
Pipeline											
- Procurement	464.000								464.000		464.000
- Installation				69.333						69.333	69.333
- Accessories	32.000								32.000		32.000
Intake											
- Intake Structure	960.000	640.000							960.000	640.000	1,600.000
- Pump Housing	150.400	100.267							150.400	100.267	250.667
- R Water Pump & Acc.			848.000	565.333					848.000	565.333	1,413.333
- Generator Set			88.000	58.667					88.000	58.667	146.667
PRE-SED. FACILITY	1,300.000	866.667							1,300.000	866.667	2,166.667
WATER TREATMENT	18,218.133	11,949.867	879.200	586.133					19,097.333	12,536.000	31,633.333
Building and Civil Works	14,400.000	9,600.000							14,400.000	9,600.000	24,000.000
Genset	293.333								293.333		293.333
Reservoir & Dist. Pump											
- Pump and Equipment			479.200	319.467					479.200	319.467	798.667
- Tools and Supplies			400.000	266.667					400.000	266.667	666.667
- Reservoir	3,524.800	2,349.867							3,524.800	2,349.867	5,874.667
TRANSMISSION & DISTR.	1,454.400	969.600	1,740.800	1,160.533					3,195.200	2,130.133	5,325.333
Proc., Inst., Acc. HDPE											
- ND 500 mm	1,064.000	709.333	1,064.000	709.333					2,128.000	1,418.667	3,546.667
- ND 400 mm	149.600	99.733	224.800	149.867					374.400	249.600	624.000
- ND 150 mm	240.800	160.533							240.800	160.533	401.333

**PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL**

	2007		2008		2009		2010		Total	Total	Grand
	Proc.	CW	Proc.	CW	Proc.	CW	Proc.	CW	Proc.	CW	Total
Bulk Water Meter											
- ND 400 mm			150.400	100.267					150.400	100.267	250.667
- ND 150 mm			96.000	64.000					96.000	64.000	160.000
Pipe Bridge											
- ND 400 mm			116.800	77.867					116.800	77.867	194.667
- ND 500 mm			79.200	52.800					79.200	52.800	132.000
- ND 150 mm			9.600	6.400					9.600	6.400	16.000
TERTIARY PIPES	20,925.000			10,275.000					20,925.000	10,275.000	31,200.000
PVC Pipe ND100 mm+A	10,125.000			3,843.750					10,125.000	3,843.750	13,968.750
PVC Pipe ND75 mm+ A	6,750.000			3,281.250					6,750.000	3,281.250	10,031.250
PVC Pipe ND50 mm+A	4,050.000			3,150.000					4,050.000	3,150.000	7,200.000
CONNECTIONS			1,440.000	960.000	4,320.000	2,880.000	2,880.000	1,920.000	8,640.000	5,760.000	14,400.000
GRAND TOTAL	46,170.600	14,526.400	4,996.000	13,675.000	4,320.000	2,880.000	2,880.000	1,920.000	58,366.600	33,001.400	91,368.000

ANNEX E – DETAILED INCOME STATEMENT

PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL

Maximum Cash and PFC	No Asset Revaluation		TARIFF INCREASE		27%	22%	21%	40%	5%	20%	5%	20%
TABLE B4 - PROFIT AND LOSS ACCOUNT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual								
Number of Service Connections - '000	48.5	50.0	51.2	52.2	52.8	55.3	58.8	62.8	74.8	82.8	82.8	
Average Consumption - m3/conn/month	27.3	27.4	27.1	27.1	26.0	24.7	24.7	25.4	24.1	24.9	26.2	
Volume Sold - 000m3	15,921	16,432	16,632	16,947	16,450	16,399	17,433	19,114	21,631	24,777	26,036	
% Unaccounted-for Water	28%	29%	29%	29%	28%	29%	28%	28%	27%	26%	26%	
Water Produced - 000m3	22,260	23,120	23,424	23,955	22,954	22,954	22,954	23,817	34,504	43,214	46,698	
Average Tariff - Current Rp/M3 :	951	1,036	1,397	1,781	2,175	2,633	3,686	3,889	4,667	4,923	5,908	
Tariff Revenues	15,147	17,027	23,237	30,176	35,776	43,180	64,261	74,332	100,945	121,987	153,820	
Net Connection Fees	1,309	1,296	1,694	1,255	1,100	6,000	8,782	16,214	42,357	29,218		
Sales of water to other PDAMs												
Other Operating Revenues	759	953	2,421	1,731	1,517	2,365	1,866	2,171	2,926	3,419	3,419	
Total Operating Revenues	17,214	19,276	27,352	33,162	38,393	51,545	74,909	92,717	146,227	154,625	157,240	
Personnel	6,489	7,009	8,222	12,242	13,692	14,484	17,961	20,942	27,237	32,928	36,476	
Power	1,896	2,685	3,590	2,181	4,063	5,863	7,618	9,243	11,214	13,606	14,354	
Chemical	190	228	183	210	309	379	492	597	724	879	927	
Maintenance Material	1,664	1,509	1,928	1,431	2,408	4,120	2,717	2,867	3,024	3,191	3,366	
Administration - General	2,346	2,342	3,005	3,685	2,044	3,883	5,172	5,939	7,606	11,032	12,221	
Bad Debts & Write Off	115	114	384	197	857	1,341	431	642	742	1,008	1,218	
Raw Water Purchases												
Raw Water Retribution	957	996	1,696	2,062	2,274	2,758	3,117	3,412	5,214	6,890	7,855	
Total Operating Expenses	13,657	14,883	19,009	22,008	25,646	32,828	37,509	43,641	55,762	69,532	76,416	
Income (Loss) before Depreciation	3,557	4,393	8,343	11,154	12,747	18,717	37,400	49,075	90,465	85,092	80,824	
Depreciation	3,781	4,279	4,514	5,925	7,783	10,116	8,039	11,381	15,779	17,488	18,157	
Operating Income (Loss)	(224)	114	3,828	5,229	4,964	8,601	29,361	37,694	74,686	67,605	62,667	
Operational Interest	3,115	3,110	4,430	4,771	4,217	3,830	3,595	3,177	14,036	13,110	11,437	
Net Operating Income (Loss)	(3,339)	(2,996)	(602)	457	747	4,771	25,767	34,517	60,650	54,495	51,230	
Royalties												
Non-Operating Income (Loss) - Other	(48)	52	(529)	(5)	830	143	76	503	2,616	6,218	9,831	
Before Tax Income	(3,388)	(2,944)	(1,131)	453	1,576	4,914	25,843	35,019	63,266	60,713	61,061	
Taxable Income After Losses Carried Forward (5 Years)	(3,388)	(6,332)	(7,463)	(7,011)	(5,434)	2,868	25,843	35,019	63,266	60,713	61,061	
Income Tax						498	7,744	10,497	18,971	18,205	18,309	
Net Income (Loss)	(3,388)	(2,944)	(1,131)	453	1,576	4,416	18,099	24,522	44,295	42,508	42,751	
Staff Funds Share of Net Income	10.0% of net income				45	158	442	1,810	2,452	4,429	4,251	
Kotamadya Share of Net Income	55.0% ditto				249	867	2,429	9,954	13,487	24,362	23,379	
Payment to Staff Funds	90.0% of share				41	142	397	1,629	2,207	3,987	3,826	
Payment to Kotamadya	of share											
RATIOS AND COMPARATORS:												
Ave.Expenses per M3 Sold (Rp)	858	906	1,143	1,299	1,559	2,002	2,152	2,283	2,578	2,806	2,935	
Operating Ratio	101%	99%	86%	84%	87%	83%	61%	59%	49%	56%	60%	
Before Tax Income/Sales	-22%	-17%	-5%	1%	4%	11%	40%	47%	63%	50%	40%	
Increases in Weighted Average Tariffs		9%	35%	27%	22%	21%	40%	5%	20%	5%	20%	
Average Asset's Rate Base (Nom. Rp M.)	23,015	31,788	41,297	46,142	54,373	56,225	53,757	93,032	143,897	152,304	144,291	
Assets/Water Sales	1.52	1.87	1.78	1.53	1.52	1.30	0.84	1.25	1.43	1.25	0.94	
Operating Income/Assets	-14.5%	-9.4%	-1.5%	1.0%	1.4%	8.5%	47.9%	37.1%	42.1%	35.8%	35.5%	
Before Tax Income/Assets	-14.7%	-9.3%	-2.7%	1.0%	2.9%	8.7%	48.1%	37.6%	44.0%	39.9%	42.3%	
R/I. PROGRAM MANAGEMENT/REPORTING/S08 COMPLIANT/NEW REPORT/ALL NEW REPORTS/IMA #3/ESF Report TAHAN DL	19/11/07	10:08 AM	12%	36%	30%	19%	21%	49%	16%	36%	21%	26%
			9%	28%	16%	17%	28%	14%	16%	28%	25%	10%

PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL

Maximum Cash and PFC	5%	20%	5%	20%	5%	20%	5%	20%	5%	20%	6%	20%	5%	20%
TABLE B4 - PROFIT AND LOSS ACCOUNT	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
(CURRENT RP MILLION)														
Number of Service Connections - '000	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8
Average Consumption - m3/conn/month	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2
Volume Sold - 000m3	26,036	26,036	26,036	26,036	26,036	26,036	26,036	26,036	26,036	26,036	26,036	26,036	26,036	26,036
% Unaccounted-for Water	25%	25%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
Water Produced - 000m3	46,698	46,698	46,698	46,698	46,698	46,698	46,698	46,698	46,698	46,698	46,698	46,698	46,698	46,698
Average Tariff - Current Rp/M3 :	6,233	7,480	7,891	9,469	9,990	11,988	12,647	15,177	16,012	19,214	20,271	24,325	25,663	30,795
Tariff Revenues	162,281	194,737	205,447	246,537	260,096	312,115	329,282	395,138	416,871	500,245	527,758	633,310	668,142	801,770
Net Connection Fees														
Sales of water to other PDAMs														
Other Operating Revenues	3,419	3,419	3,419	3,419	3,419	3,419	3,419	3,419	3,419	3,419	3,419	3,419	3,419	3,419
Total Operating Revenues	165,700	198,156	208,867	249,956	263,516	315,535	332,701	398,557	420,290	503,664	531,178	636,729	671,561	805,190
Personnel	40,406	44,760	49,582	54,925	60,843	67,399	74,661	82,706	91,617	101,489	112,425	124,538	137,957	152,822
Power	15,143	15,976	16,855	17,782	18,760	19,792	20,880	22,029	23,240	24,519	25,867	27,290	28,791	30,374
Chemical	978	1,032	1,088	1,148	1,211	1,278	1,348	1,422	1,501	1,583	1,670	1,762	1,859	1,961
Maintenance Material	3,551	3,747	3,953	4,170	4,399	4,641	4,897	5,166	5,450	5,750	6,066	6,400	6,752	7,123
Administration - General	13,537	14,996	16,612	18,402	20,385	22,581	25,014	27,709	30,695	34,003	37,666	41,725	46,221	51,201
Bad Debts & Write Off	1,536	1,620	1,944	2,051	2,462	2,597	3,117	3,288	3,946	4,163	4,995	5,720	6,324	6,671
Raw Water Purchases														
Raw Water Retribution	8,287	8,743	9,224	9,731	10,266	10,831	11,426	12,055	12,718	13,417	14,155	14,934	15,755	16,622
Total Operating Expenses	83,439	90,873	99,258	108,209	118,326	129,119	141,344	154,375	169,167	184,923	202,845	221,919	243,659	266,775
Income (Loss) before Depreciation	82,261	107,283	109,608	141,747	145,189	186,416	191,358	244,182	251,123	318,741	328,333	414,811	427,903	538,414
Depreciation	18,433	18,433	18,433	18,433	18,433	18,433	18,433	18,433	18,433	18,433	18,433	18,433	18,433	18,433
Operating Income (Loss)	63,828	88,850	91,175	123,313	126,756	167,982	172,924	225,749	232,690	300,308	309,899	396,377	409,469	519,981
Operational Interest	9,767	8,091	6,418	4,731	3,435	2,139	844	98	0					
Net Operating Income (Loss)	54,061	80,759	84,757	118,583	123,321	165,843	172,081	225,651	232,690	300,308	309,899	396,377	409,469	519,981
Royalties														
Non-Operating Income (Loss) - Other	13,717	18,188	24,592	31,764	41,505	52,387	66,540	82,084	102,289	124,325	151,741	181,624	218,492	258,670
Before Tax Income	67,778	98,947	109,349	150,347	164,826	218,230	238,620	307,735	334,979	424,632	461,641	578,002	627,961	778,651
Taxable Income After Losses Carried Forward (5 Years)	67,778	98,947	109,349	150,347	164,826	218,230	238,620	307,735	334,979	424,632	461,641	578,002	627,961	778,651
Income Tax	20,325	29,675	32,796	45,095	49,439	65,460	71,577	92,312	100,485	127,381	138,483	173,392	188,380	233,587
Net Income (Loss)	47,453	69,271	76,553	105,252	115,387	152,770	167,043	215,423	234,494	297,251	323,157	404,610	439,582	545,065
Staff Funds Share of Net Income	4,275	4,745	6,927	7,655	10,525	11,539	15,277	16,704	21,542	23,449	29,725	32,316	40,461	43,958
Kotamadya Share of Net Income	23,513	26,099	38,099	42,104	57,888	63,463	84,024	91,874	118,483	128,972	163,488	177,736	222,535	241,770
Payment to Staff Funds	3,848	4,271	6,234	6,890	9,473	10,385	13,749	15,034	19,388	21,104	26,753	29,084	36,415	39,562
Payment to Kotamadya														
RATIOS AND COMPARATORS:														
Ave. Expenses per M3 Sold (Rp)	3,205	3,490	3,812	4,156	4,545	4,959	5,429	5,929	6,498	7,103	7,791	8,524	9,359	10,247
Operating Ratio	61%	55%	56%	51%	52%	47%	48%	43%	45%	40%	42%	38%	39%	35%
Before Tax Income/Sales	42%	51%	53%	61%	63%	70%	72%	78%	80%	85%	87%	91%	94%	97%
Increases in Weighted Average Tariffs	5%	20%	5%	20%	5%	20%	5%	20%	5%	20%	6%	20%	5%	20%
Average Asset's Rate Base (Nom. Rp M.)	130,046	111,613	93,179	74,746	56,313	37,879	19,446	1,012	(17,421)	(35,854)	(54,288)	(72,721)	(91,154)	(109,588)
Assets/Water Sales	0.80	0.57	0.45	0.30	0.22	0.12	0.06	0.00	(0.04)	(0.07)	(0.10)	(0.11)	(0.14)	(0.14)
Operating Income/Assets	41.6%	72.4%	91.0%	158.6%	219.0%	437.8%	884.9%	22287.0%	-1335.7%	-837.6%	-570.8%	-545.1%	-449.2%	-474.5%
Before Tax Income/Assets	52.1%	88.7%	117.4%	201.1%	292.7%	576.1%	1227.1%	30394.1%	-1922.9%	-1184.3%	-850.4%	-794.8%	-688.9%	-710.5%
R/I: PROGRAM MANAGEMENT/REPORTING/S08 COMPLIANT/NEW REPORT/ALL NEW REPORT	5%	20%	5%	20%	5%	20%	5%	20%	6%	20%	6%	20%	5%	20%
	9%	9%	9%	9%	9%	9%	9%	9%	10%	9%	10%	9%	10%	9%

ANNEX F – DETAILED SOURCES AND APPLICATIONS OF FUNDS

PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL

No Asset Revaluation

Maximum Cash and PFC

TABLE B5 - SOURCES AND APPLICATION OF FUNDS
(CURRENT RP MILLION)

	TARIFF INCREASE											
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
	Audited	Audited	Audited	Actual	27%	22%	21%	40%	5%	20%	5%	20%
SOURCES OF FUNDS:												
Income before Depreciation and Interest	3,557	4,393	8,343	11,154	12,747	18,717	37,400	49,075	90,465	85,092	80,824	
Royalties												
Non-Operating Income (Loss) - Net	(48)	52	(529)	(5)	830	143	76	503	2,616	6,218	9,831	
Gross Internal Cash Generation	3,509	4,445	7,813	11,149	13,576	18,860	37,476	49,578	93,081	91,310	90,654	
GOI Construction Grant		152										
GOI Feasibility Study Grant												
GOI Technical Assistance Grant (APBN)												
PPN Grant												
RG Equity (Land)							2,667					
Other RG Equity/Advance							5,000					
Reinvestment by Kotamadya					249	867	2,429	9,954	13,487	24,362	23,379	
Total Equity		152			249	867	10,095	9,954	13,487	24,362	23,379	
Borrowing :												
Proposed Loan							58,497	20,076				
Committed Loan												
Ongoing Loans	35,284	12,005	1,630	1,167								
Interest Accumulated			11,000	10,547	8,611		4,095	9,881				
Total Borrowing	35,284	12,005	12,630	11,714	8,611		62,591	29,958				
TOTAL SOURCES OF FUNDS	38,792	16,602	20,444	22,863	22,437	19,727	110,163	89,490	106,568	115,672	114,034	
APPLICATIONS OF FUNDS:												
Proposed WSSP Projects							86,233	28,681	11,518	8,101		
Committed/Other Projects												
Past Projects		15,909	6,040	15,685	17,744	9,577						
PDAM Replacement/Connection Programme												
Master Plan												
Interest Accumulated			11,000	10,547	8,611		4,095	9,881				
Total Capital Expenditures		15,909	17,039	26,231	26,356	9,577	90,328	38,562	11,518	8,101		
Amortization of L/T Debt	1,578	405	1,991	1,464	2,659	10,239	7,337	6,826	13,934	13,739	13,739	
Operational Interest of L/T Debt	3,115	3,110	4,430	4,771	4,217	3,830	3,595	3,177	14,036	13,110	11,437	
Total Debt Service of L/T Debt	4,694	3,514	6,422	6,235	6,876	14,069	10,932	10,003	27,970	26,848	25,175	
Working Capital Needs		8,534	7,180	(5,781)	(3,614)	(5,165)	48	(6,962)	(11,160)	(7,803)	(3,453)	
Other Assets/Liabil. Changes		(11,650)	(10,973)	1,027	(3,968)	4,650	205	92	45	(121)	(383)	
Kotamadya Share of Net Income												
Other Profit Sharing					41	142	397	1,629	2,207	3,987	3,826	
Income Tax							498	7,744	10,497	18,971	18,205	
TOTAL APPLICATIONS OF FUNDS	4,694	16,307	19,669	27,713	25,691	23,272	102,409	51,068	41,077	49,983	43,371	
CASH INCREASE (DECREASE)	331	295	775	2,766	(1,519)	(1,221)	7,754	38,422	65,491	65,689	70,663	
Cash Balance, Beginning	593	923	1,218	1,993	4,759	3,240	2,019	9,774	48,195	113,686	179,375	
Cash Balance, Ending	923	1,218	1,993	4,759	3,240	2,019	9,774	48,195	113,686	179,375	250,038	
Minimum Cash Requirement	1,529	1,533	2,119	2,354	2,710	3,908	4,037	4,470	6,978	8,032	8,466	
DSCR (SLAP, Cash balance less minimum cash)	0.87	0.91	0.98	1.39	1.08	0.87	1.52	5.37	4.82	7.38	10.60	
DSCR (ADB and Perpamsi, Net revenues)	0.75	1.26	1.22	1.79	1.97	1.34	3.43	4.96	3.33	3.40	3.60	
DSCR (Cashflow)	0.75	1.26	1.22	1.79	1.97	1.34	3.43	4.96	3.33	3.40	3.60	
DSCR (BPKP, Net Income)	-0.72	-0.84	-0.18	0.07	0.23	0.31	1.66	2.45	1.58	1.58	1.70	
Contribution to Investment	na	25%	30%	37%	55%	63%	31%	122%	669%	911%	na	
Contr. to Investment, 3 Yr Average				17%	37%	38%	168%	30%	131%	573%	911%	#N/A

R/1. PROGRAM MANAGEMENT/REPORTING/508 COMPLIANT/NEW REPORT/ALL NEW REPORTS/IMA #3/ESF Report TAHAN DL 19/11/07 10:08 AM

PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL

No Asset Revaluation

Maximum Cash and PFC

	5%	20%	5%	20%	5%	20%	5%	20%	5%	20%	6%	20%	5%	20%
TABLE B5 - SOURCES AND APPLICATION OF FUNDS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
(CURRENT RP MILLION)														
SOURCES OF FUNDS:														
Income before Depreciation and Interest	82,261	107,283	109,608	141,747	145,189	186,416	191,358	244,182	251,123	318,741	328,333	414,811	427,903	538,414
Royalties														
Non-Operating Income (Loss) - Net	13,717	18,188	24,592	31,764	41,505	52,387	66,540	82,084	102,289	124,325	151,741	181,624	218,492	258,670
Gross Internal Cash Generation	95,978	125,471	134,200	173,511	186,695	238,803	257,897	326,266	353,412	443,066	480,074	596,435	646,395	797,085
GOI Construction Grant														
GOI Feasibility Study Grant														
GOI Technical Assistance Grant (APBN)														
PPN Grant														
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	23,513	26,099	38,099	42,104	57,888	63,463	84,024	91,874	118,483	128,972	163,488	177,736	222,535	241,770
Total Equity	23,513	26,099	38,099	42,104	57,888	63,463	84,024	91,874	118,483	128,972	163,488	177,736	222,535	241,770
Borrowing :														
Proposed Loan														
Committed Loan														
Ongoing Loans														
Interest Accumulated														
Total Borrowing														
TOTAL SOURCES OF FUNDS	119,492	151,570	172,300	215,615	244,583	302,266	341,921	418,139	471,895	572,037	643,562	774,171	868,930	1,038,855
APPLICATIONS OF FUNDS:														
Proposed WSSP Projects														
Committed/Other Projects														
Past Projects														
PDAM Replacement/Connection Programme														
Master Plan														
Interest Accumulated														
Total Capital Expenditures														
Amortization of L/T Debt	13,739	13,739	13,739	12,422	10,105	9,255	9,255		0					
Operational Interest of L/T Debt	9,767	8,091	6,418	4,731	3,435	2,139	844	98	0					
Total Debt Service of L/T Debt	23,506	21,830	20,157	17,152	13,540	11,394	10,098	98	0					
Working Capital Needs	(7,075)	(10,866)	(13,543)	(17,646)	(20,432)	(25,231)	(28,629)	(34,439)	(38,516)	(45,920)	(51,226)	(60,807)	(67,753)	(80,133)
Other Assets/Liabil. Changes	(385)	(427)	(623)	(689)	(947)	(1,038)	(1,375)	(1,503)	(1,939)	(2,110)	(2,675)	(2,908)	(3,641)	(3,956)
Kotamadya Share of Net Income														
Other Profit Sharing	3,848	4,271	6,234	6,890	9,473	10,385	13,749	15,034	19,388	21,104	26,753	29,084	36,415	39,562
Income Tax	18,309	20,325	29,675	32,796	45,095	49,439	65,460	71,577	92,312	100,485	127,381	138,483	173,392	188,380
TOTAL APPLICATIONS OF FUNDS	38,203	35,132	41,900	38,503	46,728	44,948	59,305	50,767	71,244	73,559	100,232	103,852	138,412	143,853
CASH INCREASE (DECREASE)	81,288	116,439	130,400	177,112	197,855	257,318	282,616	367,372	400,650	498,479	543,330	670,320	730,518	895,002
Cash Balance, Beginning	250,038	331,327	447,765	578,165	755,277	953,131	1,210,449	1,493,065	1,860,437	2,261,087	2,759,566	3,302,896	3,973,215	4,703,733
Cash Balance, Ending	331,327	447,765	578,165	755,277	953,131	1,210,449	1,493,065	1,860,437	2,261,087	2,759,566	3,302,896	3,973,215	4,703,733	5,598,735
Minimum Cash Requirement	8,912	9,392	9,951	10,447	10,989	11,709	12,620	12,873	14,097	15,410	16,904	18,493	20,305	22,231
DSCR (SLAP, Cash balance less minimum cash)	14.72	21.08	29.19	44.42	70.58	106.21	147.60	18885.73	na	na	na	na	na	na
DSCR (ADB and Perpamsi, Net revenues)	4.08	5.75	6.66	10.12	13.79	20.96	25.54	3334.90	na	na	na	na	na	na
DSCR (Cashflow)	4.08	5.75	6.66	10.12	13.79	20.96	25.54	3334.90	na	na	na	na	na	na
DSCR (BPKP, Net Income)	2.02	3.17	3.80	6.14	8.52	13.41	16.54	2201.93	na	na	na	na	na	na
Contribution to Investment	na													
Contr. to Investment, 3 Yr Average	#N/A													

R/1. PROGRAM MANAGEMENT/REPORTING/508 COMPLIANT/NEW REPORT/ALL NEW REPORT

ANNEX G – DETAILED BALANCE SHEET PROJECTIONS

PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL

Maximum Cash and PFC TABLE B6 - BALANCE SHEET (CURRENT RP MILLION)			TARIFF INCREASE										
			27% 22% 21% 40% 5% 20% 5% 20%										
No Asset Revaluation			2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
			Audited	Audited	Audited	Actual							
Assets in Operation	reval after	2004	50,732	72,557	78,509	92,653	108,406	113,982	121,625	211,953	250,515	262,033	270,133
Accumulated Depreciation			27,717	31,997	36,476	42,401	49,911	60,027	68,066	79,447	95,226	112,714	130,871
Net Fixed Assets			23,015	40,561	42,033	50,251	58,494	53,955	53,559	132,506	155,289	149,319	139,263
Work In Progress			5,939	22	110	1,651	3,643	7,643	90,328	38,562	11,518	8,101	
Cash + Deposits			1,223	1,418	2,193	4,959	3,166	2,019	9,774	48,195	113,686	179,375	250,038
Accounts Receivable - Water	55	55 days=target	1,788	2,862	3,869	6,382	7,701	5,779	9,634	11,163	15,185	18,382	23,178
Reserve of Bad Debts Provision, Water			(128)	(242)	(564)	(1,178)	(2,031)	(3,372)	(65)	(97)	(112)	(152)	(184)
Past Connection Fees Put To Balance Sheet													
Receivable - Credited New Connections													
Inventories	11	30 days=target	39	38	65	83	98	71	166	215	272	338	357
Other Receivable			220	455	6,431	440	389	367	387	409	431	455	480
Total Current Assets			3,142	4,531	11,993	10,686	9,322	4,865	19,896	59,885	129,462	198,398	273,869
Installation Inventory	58	70 days=target	12,592	12,131	14,460	9,828	4,074	5,624	5,868	6,123	6,389	6,667	6,667
Other Assets			2,492	2,978	3,446	4,693	6,740	9,840	9,840	9,840	9,840	9,840	9,840
TOTAL ASSETS			47,179	60,223	72,042	77,110	82,273	81,926	179,491	246,916	312,498	372,324	429,638
Accounts Payable	21	30 days=target	128	442	445	1,103	1,614	1,614	1,571	1,813	2,284	2,926	3,183
Other Payable			9,463	1,731	1,303	2,399	4,426	4,851	5,118	5,399	5,696	6,009	6,340
Other Current Liabilities (Cust. Deposit)			1	1	1	2	404						
Tax Payable	0	4 Turn Ov =Tar	60	138	69	23	1,125	2,959	9,963	17,969	32,448	42,541	50,215
Current Matur.-Long-Term Debt			6,414	2,216	2,685	5,609	9,419	11,525	6,826	13,934	13,739	13,739	13,739
Total Current Liabilities			16,066	4,528	4,503	9,136	16,989	20,949	23,478	39,115	54,166	65,215	73,476
Deferred Income													
Meter Reserve Fund			636	713									
Other Liabilities			1,419	1,449	1,116	1,336	1,597	1,597	1,636	1,799	2,020	2,419	2,801
Long Term-Debt - Net			28,869	45,073	46,234	44,477	39,085	33,752	93,705	109,730	95,991	82,252	68,514
Total Liabilities			46,990	51,762	51,853	54,949	57,670	56,297	118,819	150,644	152,177	149,886	144,791
Assets Revaluation Surplus	10	average age initial revaluation	1,918	1,918	1,918	1,918	1,918	1,918	1,918	1,918	1,918	1,918	1,918
Reserves + "Net" Retained Earnings			(5,812)	(8,782)	(10,053)	(9,681)	(8,740)	(7,714)	17,233	42,880	93,441	131,197	170,227
Local Gov't Equity			4,083	15,172	28,172	29,772	31,272	31,272	41,367	51,322	64,809	89,171	112,550
Central Gov't Equity (Inc'l Not Yet Handed Over)				152	152	152	152	152	152	152	152	152	152
Total Equity			189	8,461	20,189	22,161	24,603	25,629	60,671	96,272	160,321	222,438	284,847
TOTAL EQUITY AND LIABILITIES			47,179	60,223	72,042	77,110	82,273	81,926	179,491	246,916	312,498	372,324	429,638
Current Ratio			0.2	1.0	2.7	1.2	0.5	0.2	0.8	1.5	2.4	3.0	3.7
Working Capital, exclud. cash			(7,733)	801	7,982	2,201	(1,413)	(6,578)	(6,530)	(13,491)	(24,651)	(32,454)	(35,906)
Debt Equity Ratio (70/30 = 233%)			18692%	559%	242%	226%	197%	177%	166%	128%	68%	43%	29%
Total Assets/Total Debt			1.3	1.2	1.4	1.5	1.6	1.7	1.8	2.0	2.8	3.8	5.1
# Days Accounts Receivable			43	62	62	78	80	50	55	55	55	55	55
% Debt/(Net Fixed Assets +WIP)			1	117%	116%	97%	78%	74%	70%	72%	66%	61%	59%
Cash = # Month Operating Expenses			0.8	1.0	1.3	2.6	1.5	0.7	3.1	13.3	24.5	31.0	39.3
R/I1. PROGRAM MANAGEMENT\REPORTING\508 COMPLIANT\NEW REPORT\ALL NEW REPORTS\IMA #3\ESF Report TAHAN DL	19/11/07		0	0	(0)	(0)	0	0	0	0	0	0	0

PDAM KOTA SURAKARTA
PRELIMINARY FINANCIAL FEASIBILITY ANALYSIS OF INVESTMENT PROPOSAL

Maximum Cash and PFC	5%	20%	5%	20%	5%	20%	5%	20%	5%	20%	6%	20%	5%	20%
TABLE B6 - BALANCE SHEET	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
(CURRENT RP MILLION)														
Assets in Operation	270,133	270,133	270,133	270,133	270,133	270,133	270,133	270,133	270,133	270,133	270,133	270,133	270,133	270,133
Accumulated Depreciation	149,304	167,738	186,171	204,604	223,038	241,471	259,904	278,338	296,771	315,204	333,638	352,071	370,504	388,938
Net Fixed Assets	120,829	102,396	83,963	65,529	47,096	28,663	10,229	(8,204)	(26,638)	(45,071)	(63,504)	(81,938)	(100,371)	(118,804)
Work In Progress														
Cash + Deposits	331,327	447,765	578,165	755,277	953,131	1,210,449	1,493,065	1,860,437	2,261,087	2,759,566	3,302,896	3,973,215	4,703,733	5,598,735
Accounts Receivable - Water	24,453	29,344	30,958	37,149	39,193	47,031	49,618	59,541	62,816	75,379	79,525	95,430	100,679	120,815
Reserve of Bad Debts Provision, Water	(231)	(244)	(293)	(309)	(371)	(391)	(470)	(495)	(595)	(627)	(753)	(794)	(953)	(1,005)
Past Connection Fees Put To Balance Sheet														
Receivable - Credited New Connections														
Inventories	376	397	419	442	466	492	519	547	577	609	643	678	715	755
Other Receivable	506	534	563	594	627	661	698	736	777	819	864	912	962	1,015
Total Current Assets	356,431	477,796	609,812	793,153	993,046	1,258,242	1,543,430	1,920,767	2,324,663	2,835,747	3,383,176	4,069,442	4,805,137	5,720,314
Installation Inventory	6,667	6,667	6,667	6,667	6,667	6,667	6,667	6,667	6,667	6,667	6,667	6,667	6,667	6,667
Other Assets	9,840	9,840	9,840	9,840	9,840	9,840	9,840	9,840	9,840	9,840	9,840	9,840	9,840	9,840
TOTAL ASSETS	493,766	596,698	710,281	875,188	1,056,648	1,303,411	1,570,165	1,929,069	2,314,532	2,807,182	3,336,178	4,004,010	4,721,272	5,618,016
Accounts Payable	3,411	3,657	3,923	4,211	4,522	4,859	5,225	5,620	6,050	6,515	7,021	7,571	8,168	8,818
Other Payable	6,688	7,056	7,444	7,854	8,286	8,742	9,222	9,730	10,265	10,829	11,425	12,053	12,716	13,416
Other Current Liabilities (Cust. Deposit)														
Tax Payable	57,986	73,165	87,670	110,847	132,575	164,891	195,246	238,746	279,544	337,039	391,263	466,839	538,509	637,468
Current Matur.-Long-Term Debt	13,739	13,739	12,422	10,105	9,255	9,255	0	0	0	0	0	0	0	0
Total Current Liabilities	81,824	97,617	111,459	133,017	154,638	187,747	209,693	254,096	295,859	354,384	409,709	486,463	559,393	659,701
Deferred Income														
Meter Reserve Fund														
Other Liabilities	3,186	3,613	4,236	4,925	5,873	6,911	8,286	9,789	11,728	13,839	16,514	19,422	23,064	27,020
Long Term-Debt - Net	54,775	41,036	28,615	18,510	9,255	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Total Liabilities	139,785	142,266	144,310	156,452	169,765	194,658	217,979	263,885	307,587	368,223	426,223	505,885	582,457	686,722
Assets Revaluation Surplus	1,918	1,918	1,918	1,918	1,918	1,918	1,918	1,918	1,918	1,918	1,918	1,918	1,918	1,918
Reserves + "Net" Retained Earnings	215,848	290,199	363,638	474,299	584,558	742,964	902,375	1,123,498	1,346,777	1,649,820	1,957,327	2,367,761	2,785,916	3,336,625
Local Gov't Equity	136,063	162,163	200,262	242,366	300,255	363,717	447,741	539,615	658,097	787,069	950,557	1,128,294	1,350,829	1,592,599
Central Gov't Equity (Incl Not Yet Handed Over)	152	152	152	152	152	152	152	152	152	152	152	152	152	152
Total Equity	353,982	454,432	565,971	718,736	886,883	1,108,752	1,352,186	1,665,183	2,006,945	2,438,959	2,909,955	3,498,125	4,138,815	4,931,294
TOTAL EQUITY AND LIABILITIES	493,766	596,698	710,281	875,188	1,056,648	1,303,411	1,570,165	1,929,069	2,314,532	2,807,182	3,336,178	4,004,010	4,721,272	5,618,016
Current Ratio	4.4	4.9	5.5	6.0	6.4	6.7	7.4	7.6	7.9	8.0	8.3	8.4	8.6	8.7
Working Capital, exclud. cash	(42,981)	(53,848)	(67,390)	(85,036)	(105,468)	(130,699)	(159,328)	(193,767)	(232,283)	(278,203)	(329,429)	(390,237)	(457,989)	(538,122)
Debt Equity Ratio (70/30 = 233%)	19%	12%	7%	4%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Total Assets/Total Debt	6.9	10.2	15.7	26.1	43.3	80.6	189.5	197.1	197.3	202.9	202.0	206.2	204.7	207.9
# Days Accounts Receivable	56	55	56	55	56	55	56	55	56	55	56	55	56	55
% Debt/(Net Fixed Assets +WIP)	57%	53%	49%	44%	39%	32%	0%	0%	0%	0%	0%	0%	0%	0%
Cash = # Month Operating Expenses	47.7	59.1	69.9	83.8	96.7	112.5	126.8	144.6	160.4	179.1	195.4	214.8	231.7	251.8
R/I. PROGRAM MANAGEMENT/REPORTING/508 COMPLIANT/NEW REPORT/ALL NEW REPORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ENVIRONMENTAL SERVICES PROGRAM

Ratu Plaza Building, 17th. Fl.

Jl. Jend. Sudirman No. 9

Jakarta 10270

Indonesia

Tel. +62-21-720-9594

Fax. +62-21-720-4546

www.esp.or.id