TIETÊ RIVER CLEANUP PROJECT, STAGE II

(BR-0265)

EXECUTIVE SUMMARY

BORROWER:	Companhia de Saneamento Básico do Estado de São Paulo (SABESP) [State of São Paulo Basic Sanitation Company]	
GUARANTOR:	Federative Republic of Brazil and the State of São Paulo	
EXECUTING AGENCIES:	Companhia de Saneamento Básico do Estado de São Paulo (SABESP), State Ministry of Water Resources, Sanitation, and Works (SRHSO), and Companhia Estadual de Saneamento Ambiental (CETESB) [State Environmental Sanitation Company]	
AMOUNT AND SOURCE:	IDB:	US$200 million (OC)
	Local counterpart funding:	US$200 million
	Total:	US$400 million
FINANCIAL TERMS AND CONDITIONS:	Amortization period:	25 years
	Disbursement period:	3 years
	Interest rate:	Variable
	Inspection and supervision:	1%
	Credit fee:	0.75%
	Currency:	U.S. dollars from the Single Currency Facility

OBJECTIVES: The project's objective is to improve environmental quality in the Tietê River watershed in the São Paulo Metropolitan Region (RMSP), conserving and making efficient use of water resources in the upper reaches of this basin, including a pilot program to reduce losses.

DESCRIPTION: The components of the project and their direct costs are as follows:

a. Cleanup of the Tietê River. This subproject will consist of new intercepting sewers, pumping stations and piping to treatment plants, improvements at the Barueri treatment plant, and continuation of the plan to reduce pollution in the river being caused by industrial waste discharges (US$85.2 million).

b. Sewer systems, including wastewater collection works, trunk sewers, and residential and industrial connections in the RMSP (US$189 million).

c. Operational improvements in SABESP to help it run more efficiently. This will include development of appropriate sewage treatment and disposal technologies, setup of a data georeferencing system, monitoring of trunk sewers, and a residential connections program. In addition, a pilot program will be carried out under which the necessary field equipment will be provided to study the efficiency of loss reduction methods and measurement of parameters to determine their economic viability. This study will serve as a basis for sizing a broader program (US$25.8 million).

d. Studies: (i) strategy development for the state of São Paulo basic sanitation sector, to identify opportunities for private-sector involvement and map out the roles of the public and private sectors in developing basic sanitation in the state (US$3 million); and (ii) pricing for rational water use, which will include long-range marginal cost studies of the independent water and sewer systems of each SABESP business unit, to guide the pricing of these utilities (US$4 million). Also to be funded under this component is an environmental education program designed primarily to raise the awareness of RMSP residents of the importance of proper garbage disposal in the effort to clean up the Tietê River (US$1.5 million).

SOCIAL AND ENVIRONMENTAL REVIEW:

The planned works related to sewage collection, interception and treatment and control of industrial effluent discharges will improve water quality in the Tietê River within the RMSP, whereupon water in this area can be put to multiple uses. In addition, when stages II and III are completed, the total stretch of the river having dissolved oxygen content will increase, with the concomitant reduction of odors and ultimate esthetic improvements. Additional expected benefits are the use of recycled water by industry and electric power production at the Billings reservoir.

Some of the environmental impacts during construction are expected to affect city activities, requiring the rerouting of traffic and causing noise, dust, and perhaps runoff of solids into the river, but these

would be temporary, localized, direct, and reversible. Some of the impacts would be eased by measures set out in the technical specifications for construction requested by SABESP from the contractors. Other measures will be put into place as a result of recommendations of the environmental impact assessments (EIAs) to be produced for the more complex works, which will be reviewed by the State Environment Ministry before startup permits are issued; they will also be included in bid documents. The permit for the three stages of the Tietê project was issued on November 27, 1991. The EIA was released for public comment on November 14, 1991. On July 21, 1998, the Environmental Board recommended that actions to implement stage II of the Tietê River cleanup project go forward. The environment and social impact report was sent to the Bank's Public Information Center on September 16, 1998.

BENEFITS: The project would produce the following benefits:

a. The percentage of sewage collected in the RMSP and treated would rise from 48% to 55%.

b. 400,000 additional households would be hooked up to the sewer system (estimated number of current residential hookups: 3.85 million).

c. 290 additional industrial plants would come under the CETESB monitoring program (the agency currently monitors 1,250 such companies).

d. Parameters would be identified for use in preparing a broader program to reduce losses in the RMSP.

RISKS: The following are the chief risks of the operation:

a. Trash collection. The garbage collection system, which is the responsibility of the Municipality of São Paulo, might not become more effective if the public continues to dump its trash into the streams flowing into the Tietê. Likewise, streets could continue to be dirty if the public is not motivated to keep them clean. The environmental education component of the proposed project, to be coordinated with the Municipality, would attenuate this risk.

b. Industrial pollution abatement. To be successful, this second stage in cleaning up the Tietê will require the pooled efforts of the community for residential waste treatment (via

SABESP) – and of industry – to obey the laws governing effluents. There is a risk that some plants, because of financial constraints or for other reasons, may be unable to make the investment outlays needed to lower pollutant loads currently being released into watercourses in the watershed. However, to judge by the success of the industrial pollution control plan that was part of the first stage of this project, which has instituted controls over the 1,250 industrial firms included in the plan, the aforementioned risk is unlikely to materialize.

c. Works in municipalities not under SABESP control. Works required for the Tietê River cleanup in municipalities in which SABESP is not the concessionaire might not be completed in stage III of the project. To counter this risk, during stage II proposed herein, SABESP would send draft agreements to those municipalities to pave the way for execution of any such works during stage III.

THE PROJECT'S ROLE IN THE BANK'S COUNTRY AND SECTOR STRATEGY:

The focus of the Bank's policy on public utilities is the long-range stability of these services. A climate conducive to investment and credit is seen as a requisite for stability, as is the promotion of competition for the market – one condition for the latter being the adoption of a sound public utilities regulatory framework. The state of São Paulo is developing such a framework for water supply and for sewage collection, treatment and disposal; the process is expected to end in approval of legislation to this end in the first half of 2000. Discussions are also under way at the national level as to which jurisdiction – estate or municipal – should have the authority to award concessions in metropolitan regions. In the short term, this uncertainty on the legal and institutional front is dampening private-sector interest in sanitation operations in the RMSP.

Given the current water-resources picture in the state of São Paulo, the recommended project design is one that would conserve and make efficient use of the state's water resources, cleaning up its watercourses and taking the benefits of stage I of the Tietê project to the rest of the state. Because the sewage treatment systems planned for a number of localities in the interior and on the coast could be attractive to private operators, financing would best be confined to investments within the RMSP that, under current conditions and in the short term, would elicit little interest from the private sector. This

includes sections of collecting and intercepting sewers and outfalls to convey sewage to existing treatment plants or facilities now being built, as well as works to expand sewer networks already in operation, and others which are less likely candidates for private-sector concessions because it is difficult to measure the service provided.

Because of the reduction the overall volume of investment project lending to Brazil in 1999, the Brazilian government decided to approve the financing of US$200 million to continue with the project. The works for this stage were selected from among those representing benefits with the highest net present value.

Accordingly, the proposed project would concentrate on funding stage II of the Tietê project works in the RMSP, for which the Bank has been providing support since 1992. Using project funds, the State Ministry of Water Resources, Sanitation, and Works (SRHSO) would commission a study to identify possibilities for private-sector participation in basic sanitation in the state, and the best strategy to that end. The study's findings could help in mapping out the Bank's involvement in a future stage or stages of sanitation projects in the state of São Paulo, within an updated strategy framework.

SPECIAL CONTRACTUAL CONDITIONS:

The following would be conditions precedent to the first disbursement of funds for each component.

SABESP would be required to demonstrate that it had executed agreements with the following parties: (i) with the SRHSO, laying down conditions for the transfer of funds and repayment of debt corresponding to the study on basic sanitation sector strategy development for the state of São Paulo, and (ii) with CETESB, stipulating conditions for the transfer of funds and repayment of the debt corresponding to the industrial pollution control component (paragraph 3.10 of the loan proposal which follows).

Special conditions for this operation would be as follows:

Within six months:

SABESP would present: (1) a plan of actions to be taken to collect overdue amounts from municipal licensees, and the expected collection targets (paragraph 4.27); and (2) evidence that the project management firm has been hired (paragraph 3.1).

During the project execution period:

(1) SABESP's short-term indebtedness from borrowings is not to exceed 8.5% of its equity (paragraph 4.31) and (2) SABESP's rates must be high enough to bring in revenues to defray all its operating expenses and it must achieve a 7% return on fixed investment (paragraph 5.13).

The loan contract will include clauses regarding environmental requirements on water quality and industrial pollution control, the hiring of short-term consultants, auditing, progress reports, monitoring, and evaluation.

RECOGNITION OF EXPENDITURES AND RETROACTIVE FINANCING: SABESP has asked the Bank to recognize, as retroactive financing, expenditures of up to the equivalent of US$1,554,000 incurred for works for the project after September 15, 1998. It has also requested recognition, as a local counterpart contribution, of up to the equivalent of US$3,076,700 spent after March 15, 1998, to prepare the project.

SOCIAL EQUITY AND POVERTY REDUCTION CLASSIFICATION: This operation qualifies as a social equity enhancing project, as described in the indicative targets mandated by the Bank's Eighth Replenishment (document AB-1704). Furthermore, this operation qualifies as a poverty-targeted investment (PTI) (see paragraph 5.29). The borrower will not be using the 10 percentage points in additional financing.

EXCEPTIONS TO BANK POLICY: By request of the Government of Brazil, the guarantee contract will not contain any federal government guarantee to supply local counterpart resources or to answer for any obligation of the borrower that is not within the purview of the federal government. This decision was made in light of constitutional provisions and laws in Brazil. The State of São Paulo, majority shareholder of the borrower, will provide the guarantee in respect of counterpart and performance obligations.

PROCUREMENT OF GOODS AND CONTRACTING OF CONSTRUCTION AND CONSULTING SERVICES: The Bank's current policy on procurement of goods, construction contracting, and hiring of consultants that are to be paid for with project funds will apply. When funds from the Bank's loan are to be used, the thresholds above which international competitive bidding will be mandatory are US$5 million for construction contracts and US$350,000 for goods and associated services. For consulting services, the threshold for international competitive bidding will be US$200,000.

I. FRAME OF REFERENCE

A. The state of São Paulo and the São Paulo Metropolitan Region

1.1 The state of São Paulo occupies 240,000 km^2 (2.9% of Brazilian territory) and is home to 33 million people, making it the country's most populous state with 22% of total population. Thanks to its huge industrial apparatus, one of Latin America's largest, the state accounts for over 30% of the country's gross domestic product. The São Paulo Metropolitan Region (RMSP), with a population of 16 million, takes in the state capital and 37 other municipalities, encompassing an area of about 8,000 km^2 (3% of the state). It produces 20% of Brazil's GDP.

B. Water resources

1.2 The RMSP sits on the northwest slope of Serra do Mar, the source of streams that form the Tietê River which flows through the RMSP. Because it is located at the source of these waterways, where the streamflow is weak, the region has relatively meager water resources.

1. Uses of water

1.3 São Paulo's population and industry are placing heavy pressure on the state's water resources. The most economical sources of water having already been tapped, Companhia de Saneamento Básico do Estado de São Paulo (SABESP) has been forced to look to more distant, costlier options. Because of the cost of bringing water from farther afield and the time it has taken to develop these other sources, SABESP's expansion plan has been slowed and the water supply to one million RMSP residents has had to be rationed. The shortfall of potable water production now stands at 475,200 m^3/day. SABESP expects this problem to be resolved in late 1999 when the expanded Alto Tietê production system is operational.

1.4 The major watersheds in the state of São Paulo are those of the Tietê, Pardo, Grande, Paranapanema, Paraíba do Sul, and Ribeira do Iguape rivers. SABESP has regionalized its services by watershed with a view to better water-use planning, to supply water to customers and resolve problems involving alternative uses of the resource.

2. Pollution

1.5 The discharge of untreated industrial effluent and sewage into bodies of water has polluted freshwater sources within and outside the RMSP and in the coastal region of the state.

1.6 The Tietê River – the largest of the streams crossing the city of São Paulo – is completely anaerobic within the city limits, and

supports no aquatic life. This pollution affects some 8 million people, the bulk of them RMSP residents, or 25% of the state's population. As it flows through the region, the river receives continual discharges of used water, at a rate of 40 m^3/s; this represents 60% of the river's mean dry-weather flow. Prior to stage I of the project proposed herein, daily pollutant loads in the RMSP consisted of 800 tons of organic household waste and 350 tons of organic industrial waste. Completion of the stage I activities will mean 280 tons less of residential organic discharges each day, and 210 tons less of industrial organic waste released into the river. However, even after stage I, 57% of the total pollutant load being produced in the RMSP will still be dumped untreated into the river, severely overloading its self-purification capacity.

1.7 Many of the rivers in the interior that previously provided irrigation water for crops are now far too polluted to use in farming. As water has become contaminated, more expensive water treatment techniques have had to be adopted, and in some instances sources have had to be abandoned and new ones, located farther away, have been developed.

1.8 The discharging of sewage into the ocean has taken a toll on public health, real estate values, and the cost of leisure activities, as people wishing to swim are forced to travel to beaches far enough away to avoid the pollution. The State Environment Ministry (SMA) has classified 30% of the state's 112 beaches as unfit for body-contact recreation for over half the year; 75% are rated unfit for that purpose during one or more periods of the year.

3. Problems on the Tietê River

1.9 The segment of the Tietê River and its tributaries that flow through the RMSP are the most polluted receiving streams in the state. Water quality in the Tietê as it enters the RMSP, a few kilometers from its source, is still acceptable. It is aerobic as far as Guarulhos, where it joins the Baquirivu-Guaçu (see map). Downstream from the latter river the Tietê becomes an open sewer, as huge volumes of household and industrial waste are discharged into its relatively weak streamflow. The river supports no aquatic life, emits foul odors most of the year, and for a stretch of over 80 km serves purely as a sewage dump.

1.10 The city of São Paulo has developed around the Tietê in such a way as to cope with this extremely polluted river. Roads built along its banks inhibit public access to the river; adjoining land is used mainly by industry for commercial warehousing and wholesale operations.

1.11 Though the land use has been adjusted, the problems persist. Public opinion surveys show that people who travel the roads along the banks or work in areas close to the river notice the stench.

Frequent flooding of sections of the roads during the rainy season poses a public health risk. Since the water is too polluted even for industrial uses, SABESP has to go farther and farther afield to find water for the RMSP, with the higher costs this entails.

1.12 Downstream, beyond the RMSP's borders, the river banks become very steep, complicating access to the water. Moreover, there would be no point in constructing accesses. In the city of Pirapora do Bom Jesus, barely 30 km downstream, there is ready access to the river and recreation potential. Waterborne diseases are a factor, however. Water quality in Pirapora is unfit for recreational use; at times in the city the foam caused by pollutants and detergents is 70 cm thick.

1.13 There are two hydroelectric plants on the Tietê River downstream from Pirapora do Bom Jesus, the 18-MW Rasgão plant and the 10.5-MW Porto Góes facility. Further downstream, where the terrain flattens out, there are picnic and fishing areas along the river.

1.14 About 20 km downstream from the confluence of the Tietê and Pinheiros rivers is the Edgard de Souza dam, which reverts Tietê water to the Pinheiros. Between 1950 and 1992, the Traição and Pedreira pumping plants pumped water from the Tietê/Pinheiros to the Billings reservoir, where it was used by the 800-MW Henry Borden hydro plant. In 1989, because of deteriorating water quality in the Tietê, the state of São Paulo Constitution banned this pumping.

1.15 Water released by the Henry Borden plant enters the Cubatão River, which flows through the Santos region to the ocean. The rapid development of this region is testing SABESP's capacity to supply potable water. According to the Department of Water and Electric Energy (DAEE), in the year 2000 the region will need a firm rate of flow between 8 and 11 m^3/s, depending on industrial uses and water recycling programs. At present, in the dry season the Cubatão River has a firm flowrate of only 1.4 m^3/s because the Henry Borden hydroelectric plant only operates during peak demand hours. This practice of releasing water only during peak periods presents such a problem for the region's industries that they have offered to compensate the generating company, Empresa Metropolitana de Águas e Energia S.A. (EMAE), for the lower revenues it would post if it released water more evenly throughout the entire day. The Cubatão River estuary is also experiencing salt-water intrusion, which becomes more pronounced when high tides coincide with low volumes of water released.

1.16 Reducing pollution in the Tietê River would yield a number of benefits, inter alia: it would lessen foul odors, improve appearance of the river and surroundings, allow water to be put to industrial use, generate additional power (in peak and off-peak periods), make more water available to the Santos area, improve health conditions, and increase recreational activity.

a. Causes of pollution

1.17 The waste being dumped into the Tietê and its tributaries in the RMSP far exceeds their self-purifying capacity. The bulk (92%) of the current organic discharge into these watercourses is household waste (360 tons a day); industry accounts for 30 tons a day. The problem is serious year-round, and is particularly critical during the dry season.

b. Pollution from household wastes

1.18 The Tietê River and its main affluents are formed by numerous streams in the RMSP which run through areas served by different sanitation companies or authorities. The state sanitation company SABESP and the companies operating in the municipalities of Santo André, São Bernardo, and São Caetano (the three municipalities referred to as the "ABC" region) and Guarulhos are upstream of the critical areas affected by the project; the Osasco municipal sanitation utility operates downstream from those areas.

1.19 The table below shows water supply and sewerage coverage in the concession areas of the different sanitation companies. SABESP treats the highest percentage of sewage collected (61%). The ABC region has the highest sewer coverage (85%) but treats only 48% of sewage. Guarulhos has only 70% sewerage coverage (the lowest of all the companies) and treats no sewage; it is hardly surprising, then, that the Tietê becomes anaerobic as it runs through Guarulhos.

WATER AND SEWERAGE COVERAGE IN SELECTED RMSP MUNICIPALITIES (1988)

Company	Water supply %	Sewerage %	Sewage treated %
SABESP	98	79	61
ABC	100	85	48
Guarulhos	95	70	0
Osasco	98	70	24

1.20 At this writing, 89 collecting sewers in the RMSP that are part of the sewer system are still dumping raw sewage into the Tietê and its tributaries. Many residences – the exact numbers are unknown – have connected their household wastewater system to storm sewers and are likewise dumping raw sewage into those watercourses.

c. Rainwater

1.21 A further source of pollution is rainwater that sweeps away garbage and any number of materials lying in streets and yards, which then pour into storm drains and from there into the river and its

tributaries. Part of this pollution is sewage from households not hooked up to sanitary sewers, which often drains toward the street or into septic tanks that can overflow, whereupon sewage runs into storm drains or local watercourses.

d. Industrial pollution

1.22 Stage I of the Tietê project cut organic industrial discharges by 61% and inorganic industrial loads by 77%. It achieved this by focusing on the 1,250 worst industrial polluters, which accounted for 80% of all pollution. Many of these companies are now pretreating their effluent but are still dumping the pretreated waste into the river or its tributaries. And another 3,486 industrial plants which are potentially heavy polluters are dumping untreated effluent into the river. Industries are still releasing 150 tons of BOD_5 into the river and 1.5 tons of inorganic discharges every day.

4. Efficiency of water use

1.23 Compounding many of the problems outlined above is inefficient water use. SABESP, for instance, is losing 40% of the water it produces, between physical and commercial losses. If it could bring that loss figure down to 30% it would gain 6.5 m^3/s, almost enough to make up its production shortfall. A further inefficiency stems from the current rate structure, which does not reflect the marginal cost of water, including its opportunity cost for alternative uses. Assuming an average tariff 10% below marginal cost and demand elasticity of -0.3, a tariff adjustment to marginal costs would free up some 2.0 m^3/s.

1.24 Another inefficiency is the amount of potable water being supplied to users who do not need water of that quality. Much of the industrial demand, for instance, could be met using cheaper recycled water. Using recycled water also would ease the pressure to develop new sources, helping greatly to conserve the resource.

C. The state sanitation sector: institutional situation

1.25 SABESP is the agency responsible for water supply and sewage collection in 344 of the 645 municipalities of the state of São Paulo, including the state capital (São Paulo municipality). It serves over 23 million residents, over 70% of the state's urban population.

1.26 Within the RMSP, SABESP supplies water and operates sewer systems in 29 of the 38 municipalities, including the capital, serving over 12 million RMSP residents, or close to 80% of the region's urban population. It also sells bulk water to eight municipalities in which it is not the water and sewer utility, which have municipal water supply and sewerage services: Santo André, São Bernardo, São Caetano, Diadema, Mauá, Osasco, Guarulhos, and Mogi das Cruzes.

SABESP is responsible for water delivery to 99.6% of the RMSP population.

1.27 SABESP also is responsible for sewage treatment in the autonomous RMSP municipalities. Sewage collected by the municipal utilities is intercepted and treated by SABESP at treatment plants.

1.28 SABESP has already taken numerous steps to make both its management and its use of water more efficient. In a late-1996 reorganization, it changed to a decentralized management model. With the structure thereby adopted, the company compiles information by watershed, assigns responsibilities, and devises incentives to seek greater efficiency and better returns.

1.29 The restructured SABESP consists of the following: (i) the executive level, which centralizes strategic functions such as economic management, finance, human resources management, auditing, institutional and governmental relations; (ii) business units, which operate regionally and are responsible, *inter alia*, for the commercial area, administrative and financial services, operations services, capital projects, operations engineering, and tracking of economic, financial, and operating performance; and (iii) service units, which support the business units in the engineering, information systems, and maintenance areas. The business units are responsible, in their respective spheres, for meeting the targets set out in their budgets. Salary increases are tied to increases in corporate efficiency.

1.30 One step in SABESP's reorganization was to bring the municipalities that award concessions and the community into the decision-making process at the regional level. This has provided a forum for discussion of conflicts between different water uses in each watershed, trade-offs, and opportunity costs. One feature of the new model is a "Licensing Municipalities Assembly", which reviews the investment plan and budget and appoints a Regional Management Committee to monitor the performance of the business unit and discuss monthly financial statements, the regional investment plan, and the budget. This makes the business units directly accountable to the community for the services they provide, and responsible for quality and pricing.

1.31 When it regionalized its operations by watershed, SABESP broadened the concept of 'basic sanitation' to take in environmental protection and conservation. The company's new organizational makeup also brings it into compliance with state legislation that identifies the watershed as the planning unit, and allows it to take part in cross-sectoral programs and multiple water uses.

1.32 SABESP ranks among the five most efficient sanitation companies in Brazil, taking into account this indicator and others such as customer metering and billing losses. However, there is still a great deal of room for improvement.

1.33 There are other agencies besides SABESP with responsibility for conservation and efficient use of the state's water resources. The state of São Paulo Ministry of Water Resources, Sanitation, and Works (SRHSO), the sector's policy-making agency, manages water resources through its Department of Water and Electric Energy (DAEE). Other major users are agriculture, represented by the Ministry of Agriculture and Supply, hydroelectric generating companies which are coordinated at the federal level by Agência Nacional de Energia Elétrica (ANEEL), and private industry. Companhia Estadual de Saneamento Ambiental (CETESB) is in charge of implementing the state's industrial pollution control program, which takes in the Tietê catchment area.

1.34 In an effort to boost private-sector involvement in sanitation, the Government of the state of São Paulo is preparing a study, with World Bank financing, to devise regulations for the state's sanitation sector. The study will include a diagnostic assessment of the sector and will put forward recommendations and a proposal for the creation of a regulatory agency, separating the regulatory and service-delivery functions—this being essential to interest private operators. The consulting firm hired to produce the study drafted a law establishing a Basic Sanitation Services Regulatory Agency (ARSAN), which would be an autonomous authority regulating basic sanitation service delivery, attached to the SRHSO but with financial, operating, and administrative autonomy. The draft law is making its way through the state's Legislative Assembly.

1.35 CETESB was put in charge of implementing the effluent control program that was part of stage I of the Tietê project, which took in 1,250 industrial firms that were responsible for 80% of the industrial organic load (see section D). This project is moving ahead successfully; the plants in question are now treating their effluent or are releasing pretreated waste into the SABESP sewer system.

D. The Bank's experience with SABESP

1.36 The Bank has funded two water supply and sewage collection and treatment projects in the RMSP. 1/ In 1992 the Bank decided to focus its support on cleaning up watercourses in that region, by means of a project (still under way) comprising stage I of sanitary sewerage and cleanup of the upper Tietê watershed (713/OC and 896/SF), referred to as the Tietê project. The aim of this project being to improve and expand the RMSP sewer system, it marked the start of the cleanup of the river basin. Because of the magnitude of the overall project and the funding needed to remedy the environmental damage the polluted river was causing (the current

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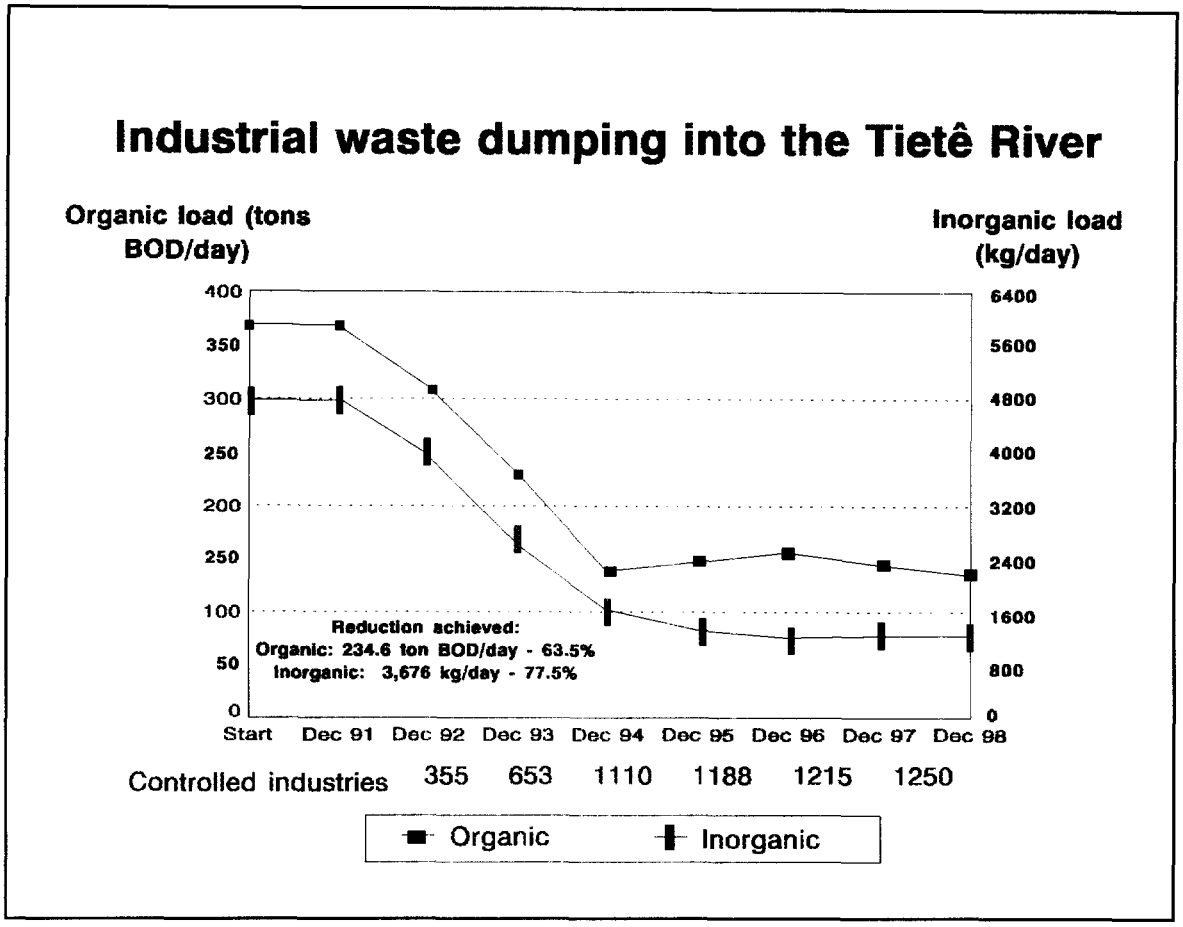
1/ The Cantareira water supply system (162/OC and 1/SW) completed in 1976, and the São Paulo sanitation project (229/IC) completed in 1993.

estimate is close to US$3 billion), the cleanup plan was divided into stages.

1.37 Stage I of the project was approved in November 1992. Work proceeded slowly until 1995, mainly because local counterpart funds were not forthcoming, a result of SABESP's financial difficulties over that interval. This problem no longer exists. A further factor was the introduction of the *Plano Real* in 1994, whereupon construction companies cancelled most of the contracts that had already been awarded. The pace of the project picked up in 1996; at this writing the loan funds have been disbursed. At the outset the project came in for criticism in the press because, despite the Bank's efforts, the public was expecting more in terms of cleanup of the Tietê River than was actually proposed for that first stage.

1.38 Two project works inaugurated in August 1998, the São Miguel and Parque Novo Mundo sewage treatment plants, are the ones that will do the most to clean up the river. The new sewer systems now in place have extended sewage collection to take in some 350,000 additional households—beyond the original stage I target. A further achievement of this stage was pollution control in 1,250 industrial plants.

1.39 The following graph depicting the impact of the stage I industrial pollution control program shows the significant drop in organic and inorganic discharges by industrial plants into the Tietê River.



1.40 Based on the success of the above-mentioned projects, and particularly what has been achieved in stage I of the Tietê project, SABESP has shown itself to have the institutional and technical capacity to manage and oversee the project proposed herein.

E. <u>World Bank operations in the sanitation sector</u>

1.41 In 1990 the World Bank provided US$280 million to help fund the state of São Paulo water sector project, which sought to expand and improve the RMSP's water supply system and potable water and sewer systems along the coast and in the interior. The project was completed in June 1997. In 1992 the World Bank approved US$119 million in financing for a project for environmental protection of the Guarapiranga watershed, that watercourse being one of the streams that supply water to São Paulo. The lead implementing agency for that operation is SABESP; the project is now nearing completion.

1.42 In addition to its involvement in financing the regulatory framework and a BOT project for the Juquiá-Juquitiba water purification plant via the IFC, the World Bank is currently in

preliminary talks with SABESP regarding a possible water supply and sanitation operation which would include water and sewer investments elsewhere in SABESP's service area.

F. Rationale for the project and strategy

1.43 The focus of the Bank's policy on public utilities is the long-term stability of these services. A climate conducive to investment and credit is seen as a requisite for stability, as is the promotion of competition for the market – one condition for the latter being the adoption of a sound public utilities regulatory framework. The state of São Paulo is developing such a framework for water supply and for sewage collection, treatment, and disposal; the process is expected to end in approval of legislation to this end in the first half of 2000. Discussions are also under way at the national level as to which jurisdiction – state or municipal – should have the authority to award concessions in metropolitan regions. In the short term, this uncertainty on the legal and institutional front has dampened private-sector interest in sanitation operations in the RMSP.

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1.46 Accordingly, the project proposed herein would concentrate on financing stage II of the Tietê project works within the RMSP, for which the Bank has been providing support since 1992. Using project funds, the Ministry of Water Resources, Sanitation, and Works (SRHSO) would commission a study to identify possibilities for private-sector participation in basic sanitation in the state, and the best strategy to that end. The study's findings could help in mapping out the Bank's involvement in a future stage or stages

of sanitation projects in the state of São Paulo, within an updated strategy framework.

II. PROJECT DESCRIPTION, COST, AND FINANCING

A. Objective and description

2.1 The project's objective is to improve environmental quality in the Tietê River watershed in the São Paulo Metropolitan Region (RMSP), conserving and making efficient use of water resources in the upper part of this catchment area, including a pilot program to reduce losses.

B. Targets

2.2 The following are the project's targets:

a. Increase the percentage of sewage collected in the RMSP and treated from 48% to 55%.

b. Connect 400,000 additional households to the sewer system (estimated number of current residential hookups: 3.85 million).

c. Place an additional 290 industrial firms under CETESB effluent monitoring (the agency currently monitors 1,250 such companies).

d. Parameters would be identified for use in preparing a broader program to reduce losses in the RMSP.

C. Description of the project and works

2.3 The project has been structured into a number of components in order to achieve its objective and targets:

a. Cleanup of the Tietê River. This subproject will consist of new intercepting sewers, pumping stations and piping to treatment plants, improvement of the Barueri treatment plant, and continuation of the plan to reduce pollution in the river being caused by industrial waste (US$83.2 million).

b. Sewer systems, including collecting and trunk sewers and residential and industrial connections in the RMSP (US$189 million).

c. Operational improvements in SABESP to help it run more efficiently. This will include development of appropriate sewage treatment and disposal technologies, setup of a data georeferencing system, monitoring of trunk sewers, and a residential connections program. In addition, a pilot program will be carried out under which the necessary field equipment will be provided to study the efficiency of loss reduction

methods and measurement of parameters to determine their economic viability. This study will serve as a basis for sizing a broader program (US$25.8 million).

d. Studies: (i) strategy development for the state of São Paulo basic sanitation sector, to identify opportunities for private-sector involvement and map out the roles of the public and private sectors in developing basic sanitation in the state (US$3 million); and (ii) rational water use pricing, which will include long-range marginal cost studies of the autonomous water and sewer systems of each SABESP business unit, to guide the pricing of these services (US$4 million). Also to be financed under this component is an environmental education program whose main aim is to raise the awareness of RMSP residents of the importance of proper garbage disposal in the effort to clean up the Tietê River (US$1.5 million).

2.4 The total estimated cost of the proposed project is US$900 million. The following table shows the breakdown by source of funding and cost item.

PROJECT COST (thousands of U.S. dollars)					
COST ITEM		TOTAL BY FUNDING SOURCE			
		IDB/OC	Local	Total	%
I.	**Engineering and administration**	**15,100**	**28,900**	**44,000**	**11.0**
	Studies and designs	11,200	8,800	20,000	5.0
	Supervision and administration	3,900	20,100	24,000	6.0
II.	**Direct costs**	**170,400**	**138,100**	**308,500**	**77.2**
	Intercepting and pumping stations	42,700	37,500	80,200	20.0
	Sewer lines, trunk sewers	105,000	84,000	189,000	47.3
	Industrial pollution control	2,800	2,200	5,000	1.3
	Operational improvements	14,600	11,200	25,800	6.5
	Studies	5,300	3,200	8,500	2.1
III.	**Associated costs**	**-**	**2,000**	**2,000**	**0.5**
	Land and easements	-	2,000	2,000	0.5
IV.	**Unallocated**	**12,500**	**10,000**	**22,500**	**5.6**
	Contingencies	12,500	10,000	22,500	5.6
V.	**Financial charges**	**2,000**	**21,000**	**23,000**	**5.8**
	Interest	-	18,400	18,400	4.6
	Credit fee	-	2,600	2,600	0.7
	Inspection and supervision	2,000	-	2,000	0.5
TOTAL		200,000	200,000	400,000	100.0
Percentage		50.0	50.0	100.0	

2.5 Details of the main cost items are as follows.

1. Engineering and administration (US$44 million)

2.6 This item, accounting for 11% of the overall project cost, breaks down as follows:

a. Studies and designs (US$20 million), to pay for consulting services to assist the executing agencies with technical elements that may come up during construction.

b. Supervision and administration (US$24 million), to hire specific consulting services to assist the executing agencies in the project's management and supervision, purchase equipment needed for construction supervision, and defray the executing unit's costs.

2. Direct costs (US$308.5 million)

2.7 This item, covering the following elements, represents 77.2% of the total project cost.

a. Interceptors and pumping stations (US$80.2 million). This constitutes 20% of the total project cost, for interceptors, outfalls, pumping stations, and improved efficiency of the Barueri sewage treatment plant.

b. Sewer lines and trunks (US$189 million), accounting for 47.3% of the total project cost. Also included are residential and industrial hookups.

c. Industrial pollution control (US$5 million), to help CETESB set up a reference laboratory, profile and monitor an additional 290 industrial establishments (not covered in stage I of the project), and calculate the cost and effectiveness of measures adopted by the plants that were brought under this control program in stage I. This item accounts for 1.3% of the total project cost.

d. Operational improvements (US$25.8 million). This includes measures to make SABESP's service delivery more efficient by instituting a data georeferencing system, monitoring trunk sewers, and developing appropriate technologies, and through a residential connections program. This item accounts for 6.2% of the total project cost.

e. Studies (US$8.5 million), to fund the studies described earlier (2.1% of the total project cost).

3. Associated costs (US$2 million)

2.8 The cost of land was calculated from the area required for the different works projects. Unit costs used were taken from recent SABESP land acquisitions.

4. Unallocated (US$22.5 million)

2.9 This item, accounting for 5.6% of the project total, covers possible cost increases stemming from unforeseen events in the different project components. The contingency allowance budgeted is 7.5% of direct costs.

5. Financial charges (US$23 million)

2.10 The project's financial costs (5.8% of the total) consist of: (i) interest accruing during the project's implementation, (ii) the credit fee on the loan, and (iii) the Bank's inspection and supervision charge.

D. Funding of the project

2.11 As provided in the financing matrix for Brazil, the Bank would fund 50% of the total project cost, i.e., the equivalent of US$200 million. This funding, from the ordinary capital, would be disbursed in foreign exchange, in accordance with Bank policy. SABESP would furnish the other 50% (US$200 million equivalent) as the local counterpart.

2.12 The terms of the proposed loan are as follows: (i) variable interest rate; (ii) 0.75% credit fee; (iii) 1% inspection and supervision charge; (iv) three-year disbursement period; (v) three-year grace period; and (vi) 25-year amortization.

III. PROJECT IMPLEMENTATION

A. Executing agency

3.1 The proposed project would be implemented by SABESP using the same approach followed for stage I, that is, by way of an executing unit (EU) of SABESP staff supported by a management firm and SABESP technical officers from the various departments. The management firm is to be hired within six months after signature of the loan contract.

3.2 To carry through the various components, the EU will be in charge of producing tender documents and calling for bids for construction and for procurement of associated goods or services, conducting the tendering process, and drawing up contracts. It also will hire consultants for specific tasks and for technical supervision and inspection of construction work and studies commissioned, and will draft the terms of reference in each case.

3.3 The EU will be responsible for project execution and for general scheduling. It will evaluate and monitor contractors' work, control funds, and keep the project's accounts. It also will produce the required technical and financial reports each year, and will be the liaison between the project and the Bank.

3.4 Coexecuting agencies will be the SRHSO, for the study on strategy development for basic sanitation in the state of São Paulo, and CETESB for the industrial pollution control component.

B. Implementation approach

3.5 Stage II of the Tietê River cleanup project has been prepared as a specific operation because the works to be built are known and the components to achieve the proposed objectives are interdependent. The proposed activities fall into three components: sanitation works, operational improvement measures, and miscellaneous studies.

C. Status of designs

3.6 Most (80%) of the working drawings are ready, with the remainder to be completed in December 1999. In the socioeconomic analysis, construction costs were calculated by reference to stage I tendering figures and unit costs calculated by SABESP. Work quantities were determined from the basic designs and working drawings available. With the information at hand and given the type of works slated for financing, the margin of error in the construction estimates is put at less than 10%.

D. Operational improvements

3.7 Equipment would be purchased and consultants hired for the following activities: (i) implementation of a data georeferencing system; (ii) monitoring of trunk sewers; (iii) development of appropriate technologies; (iv) residential connections program; and (v) pilot program on the efficiency and economic feasibility of loss reduction methods in the distribution system.

E. Studies

3.8 Within 12 months after signature of the loan contract, SABESP would engage consultants to produce a rational water use pricing study. The SRHSO would hire consultants for a study on strategy development for basic sanitation in São Paulo, within 18 months after signature of the loan contract. The environmental education program would be operated by an environmental NGO to be engaged by SABESP.

3.9 Consulting firms selected for the aforementioned tasks must have extensive international experience in the field in question.

F. Agreements to be executed prior to the first disbursement

3.10 Before funds may be disbursed under a project component, SABESP must demonstrate that it has signed agreements with the following parties: (i) with the SRHSO, laying down conditions for the transfer of funds and repayment of debt corresponding to the study on basic sanitation sector strategy development for the state of São Paulo, and (ii) with CETESB, stipulating conditions for the transfer of funds and repayment of the debt corresponding to the industrial pollution control component.

G. Other agreements

3.11 For the treatment of sewage collected in RMSP municipalities in which SABESP is not the concessionaire, that agency will need to build interceptors. It thus is recommended that 24 months after signature of the loan contract SABESP demonstrate that it has sent draft agreements to those municipalities which are dumping sewage into the Tietê River. The draft agreements would set out the responsibilities of each party to pave the way for eliminating, in stage III, the dumping of residential waste into the Tietê and its tributaries.

H. Status of land and easements

3.12 Generally speaking, the proposed project presents no significant land-acquisition problems, because most of the construction planned, such as sewer lines, collecting sewers, and outfalls, will be on public thoroughfares. However, land worth a total of US$2 million may need to be acquired for the pumping stations.

3.13 No difficulties or disputes are anticipated in obtaining land for the project, since the law allows expropriation in the public interest. Nevertheless, before tenders may be called for any works project, the executing agency will be required to demonstrate ownership and availability of the land required. There is expected to be no need for involuntary resettlement of families as a result of any of the construction work.

I. Implementation and investment timetable

3.14 The loan proceeds would be disbursed over three years. This disbursement term was chosen on the basis of experience in similar projects and the availability of local counterpart funds.

J. Tendering procedure and timetable

3.15 Goods and associated services will be obtained and construction contracts awarded following Bank procedures set out in Annex B to the loan contract. International competitive bidding will be mandatory for procurement contracts worth over US$350,000 for goods and associated services and US$5 million for construction work. These thresholds are justified inasmuch as foreign suppliers bid on contracts for similar projects in Brazil when the amounts are above those figures. Procurement and contracting below those figures will be governed by Brazilian law, which is concordant with Bank procedures. It is expected that, with the aforesaid thresholds, over 80% (in amount) of tender calls for the project overall will be international ones. For consulting services, the threshold for international competitive bidding will be US$200,000. Consultants will be engaged in accordance with the procedures specified in Annex C to the loan contract. Construction and service contracts will be packaged as explained in Annex III-2. As was the case in stage I, small and mid-sized firms will participate in the construction work by way of subcontracts with larger companies.

K. Recognition of expenditures and retroactive financing

3.16 SABESP has asked the Bank to recognize, as retroactive financing, expenditures of up to the equivalent of US$1,554,000 incurred for works for the project after September 15, 1998. It has also requested recognition, as a local counterpart contribution, of up to the equivalent of US$3,076,700 spent after March 15, 1998, to prepare the project.

L. Revolving Fund

3.17 The Bank will advance 5% of the loan proceeds in the form of a revolving fund that will operate in accordance with the Bank's procedures in this area.

M. Environmental considerations

3.18 The Bank's Committee on Environment and Social Impact/Technical Review Group (CESI/TRG) examined the socio-environmental annex to the Profile II summary of the project on March 5, 1998. In light of the project's potential environmental impact, it recommended including in the project costs the cost of the mitigating measures recommended in the environmental study. To ensure that the environmental control measures are carried through, SABESP would demonstrate, before calling for bids for construction work requiring same, that it had startup permits for the works in question. The permit for the three stages of the Tietê project was issued on November 27, 1991. The environmental impact assessment was given a hearing and released for public comment on November 14, 1991. On July 21, 1998, the Environmental Board recommended that actions to implement stage II of the Tietê River cleanup project go forward. The CESI/TRG reviewed the environment and social impact summary of the project on September 11, 1998, and approved it with no further recommendations.

N. Project monitoring and follow-up

3.19 Progress on the project will be monitored by the Bank's Country Office in Brazil. In an initial report to the Bank the executing agency will provide an update of the Logical Framework shown in Annex III-1. It also will submit semiannual progress reports. If progress on the project is found to be unsatisfactory, the executing agency and the Bank will agree, within 60 days, on the corrective measures to be implemented and a timetable for same.

3.20 In its status reports, the Country Office will signal any problems that arise in the course of the project and the solutions adopted. A summary of this information will be included in the Bank's annual portfolio performance report on operations in Brazil. Taking into account the experience of stage I, disbursement requests for the project may be reviewed in ex post sampling; the Country Office will reserve the right to revert to the traditional review procedure if it considers this advisable.

3.21 Twenty-four months after signature of the loan contract or when 50% of the project funds have been committed, whichever occurs first, an interim review will be conducted to assess progress on the project. The review will gauge the project's achievements against a set of monitoring benchmarks (see paragraph 3.22). Particular attention will be paid to: (i) progress on SABESP's plan to collect on its receivables from the municipal licensees (see chapter IV) and (ii) application of environmental impact mitigation measures. If the review indicates a need for adjustments in the project's implementation, SABESP will be given 60 days in which to present a plan to remedy the problems noted, with the respective timetable for implementation.

O. Monitoring benchmarks

3.22 The following indicators will be used in assessing progress on the project.

Progress monitoring indicators	Cumulative annual targets		
	Year 1	Year 2 - interim review	Year 3
- Number of new connections in place	80,000	180,000	290,000
- Km of trunk sewers and interceptors built	15	69	141
- Km of sewer systems laid	180	580	960
- Number of employees trained		70	70
- Tariff study	commissioned		completed
- Sanitation strategy study	commissioned		completed
- Loss reduction pilot program	commissioned		completed
- Number of additional industrial plants brought under pollution control program	50	150	290

P. Data compilation and information dissemination on the project

3.23 The executing agency will compile and process data for an eventual ex post evaluation of the project, and forward them to the Bank in annual reports beginning the first year of the project. The first report will give a detailed description of the procedure used to compile and process the data, including: (i) budgeted and actual costs of construction work; (ii) number of families actually hooked up to the sewer system; (iii) physical-chemical quality of treatment plant effluents; (iv) cost and effectiveness of measures to lessen environmental impacts; (v) incidence of acute diarrhea in children under 5 in health centers in the project area; (vi) incidence of other waterborne diseases in those health centers; and (vii) water quality at selected points on the Tietê River during the dry season.

3.24 Beginning in the second year of implementation, and until the project is completed, SABESP is to provide to the Bank, and make available to the public through electronic media, pertinent data regarding: (1) water quality in the Tietê River watershed and its tributaries in the RMSP in the segments that are most indicative of changes in quality, according to the Tietê River water quality model; and (2) changes in pollutant loads (organic and inorganic) in the tributaries and effluents from SABESP treatment plants and major industrial facilities.

3.25 Six months after signature of the contract, CETESB is to report the following to SABESP semiannualy and make public by electronic media: (1) the outcome of the stage I industrial pollution control program and what it expects to accomplish in stage II of the project; (2) a list of companies that, in the previous six months,

began adopting measures to bring them into compliance with the industrial pollution control program; and (3) data on removal of organic and inorganic loads by each stage I and II industrial establishment.

IV. THE BORROWER AND EXECUTING AGENCY

4.1 The borrower and executing agency for the project would be Companhia de Saneamento Básico do Estado de São Paulo (SABESP), which would also furnish the local counterpart resources.

A. Institutional status

4.2 SABESP is a corporation whose principal shareholder is the state of São Paulo, which holds 91% of its capital. The State has launched the process of bringing in a strategic partner to take a 15% to 20% equity participation in the corporation and share in its management.

4.3 The state of São Paulo has given Companhia Paulista de Administração de Ativos, the state agency charged with selling off or privatizing State enterprises, a 21% equity stake in the corporation for its sale. A consortium headed by Banespa, with Banco Bozano-Simonsen and Banco Santander, has been hired to develop the participation model.

4.4 SABESP's board of directors, appointed by the Shareholders' Meeting, is responsible for mapping out its general policy and setting guidelines for its operation. The Executive Committee is made up of seven executives appointed by the board who have been assigned functions in the corporation. Its mandate is to carry through the board's decisions and see to day-to-day corporate and operations management.

4.5 The corporation underwent an internal reorganization to adapt to a new management model based on a decentralized organizational arrangement. Business units were set up to deal with specific watersheds, along with 16 other such units and three service units to handle data systems, maintenance, and engineering. These business units are being given autonomy to manage their revenues, expenditures, and capital investments. The aim of this approach is more expeditious and efficient attention to users and to service-improvement needs.

4.6 SABESP is seeking to ensure that municipalities which award water and sewer concessions have a say in decisions on capital investments and the business units' technical and operational performance. To that end it has created the Regional Participation System, in which a Municipal Licensors Assembly offers guidelines for the Regional Management Committee that works with the corresponding business unit.

4.7 These participation arrangements are being formalized in a new model concession contract which stipulates that the licensor is

entitled to take part in the regional assemblies and elect its representatives to the respective Management Committees.

4.8 SABESP's current structure, with its decentralized approach, and its distribution of responsibilities and functions, are considered adequate.

1. Tariffs

4.9 A State Decree of December 1996 approved the regulation of the current tariff system, which allows SABESP to set its own rate schedules. However, it must submit any proposed tariff adjustments to the state government for approval.

4.10 Pursuant to the regulations, SABESP looks to the following criteria when setting rates: (i) use category; (ii) meter capacity; (iii) nature of consumption; (iv) volume consumed; (v) fixed and variable costs; (vi) seasonal variations; and (vii) socioeconomic bracket of residential customers. Also taken into account in the rate-setting exercise are operating costs, depreciation, and bad-debt allowances, as well as an acceptable return on fixed investment. Federal legislation enacted in May 1998 limits sanitation utilities' return on fixed investment to 12%.

4.11 The company has different rate structures for the RMSP, the coast, and the interior. Sewer rates are based on water consumption; they are identical to water rates in the RMSP and coastal region, and somewhat lower in the interior. Bulk water rates are negotiated case by case with each municipal licensee. 2/

2. Staff

4.12 SABESP has been paring its staff since 1995. On December 31, 1994, it had 20,748 employees; in May 1999 total numbers had dropped by 8.5%, to 18,983. With 4.7 million water service hookups, it thus posted a ratio of 4 employees per 1,000 water connections – lower than the 6.5 average for Brazilian companies, and not viewed as high, taking into account that there also are 3.4 million sewer hookups and that the corporation is serving a dispersed customer base.

3. Internal audit

4.13 Internal controls over SABESP's activities fall to its Audit Office, in the Corporate Affairs Directorate. Headed by a superintendent, this office employs six consultants for specific

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2/ Refers to a group of eight municipal utility companies or municipal governments in the RMSP that have not concessioned out these services and obtain bulk water from SABESP to distribute to final users.

areas (operations, systems, management, planning, technical affairs, accounting) and 24 auditors. Internal audit work follows an annual plan that takes in all areas of the corporation's work. A review of this work plan and the objectives set for each activity showed the Office to be performing its functions adequately.

4. External audits

4.14 SABESP's annual financial statements are audited by a firm of independent public accountants, who have provided unqualified opinions on its statements for the past three years.

4.15 For the project described herein it is recommended that SABESP present its own financial statements throughout the life of the contract, and the financial statements of the project until its completion, audited in each case by a firm of public accountants acceptable to the Bank. This firm will be expected to determine fulfillment of the contract's financial clauses.

B. Financial condition

4.16 SABESP's financial condition was examined by reference to its financial statements for the past three fiscal years, audited by independent public accountants.

1. Balance sheets

4.17 At December 31, 1998, the corporation reported assets worth the equivalent of US$14.4 billion. As in any sanitation company, fixed assets account for the bulk of its assets. On that same date its net worth stood at US$13.2 billion equivalent, up 13.3% from the December 31, 1995, figure.

4.18 In 1998 SABESP allocated US$1 billion equivalent for new plant, US$456 million being for waterworks and the balance for sanitary sewerage.

4.19 At year-end 1998 the company had US$1.6 billion equivalent of construction work in progress, for structures which will be brought into operation shortly.

4.20 Over the period examined here, SABESP's current assets increased by 42% to a total of US$1 billion at December 31, 1998. The bulk of these were utility accounts receivable of US$962 million, before provisioning for uncollectible accounts. This is the equivalent of 131 days of billings, which is considered high.

4.21 An examination of the corporation's accounts receivable reveals that problems in collecting for its services are attributable to the public sector and the municipal licensees that purchase bulk water for distribution. Receivables from those two user segments at December 31, 1998, were 46% of the total, even though in 1997

they accounted for only 15% of billings. The balance outstanding from private customers is equal to 1.5 months of billings for the year, denoting normal collection performance in that sector.

4.22 Accounts receivable from public-sector users at December 31, 1998, represented over one year of billings. Most of this money is owed by São Paulo government agencies. In an agreement executed by the State and SABESP in September 1997, (i) the State pledged to clear its debt using dividends distributed by SABESP, and (ii) the government pledged its efforts to pay what it owes promptly and to take administrative measures to ensure timely payment by its departments and agencies.

4.23 In the agreement, the State likewise pledged to settle the balance of its debt using revenues it obtains from the sale of part of its equity to a strategic partner. In 1997, amounts SABESP owed to the State for interest on equity capital were used to clear some US$65 million in debts and US$280 million in 1998.

4.24 It is recommended that the contract for the proposed loan stipulate that the state of São Paulo's past-due debt to SABESP for water and sewer service or any other item must be settled before SABESP makes any payment in money to the State in respect of interest on capital or declared dividends.

4.25 All the licensees except the São Caetano and Diadema municipal utilities are heavily in arrears for utility payments. At December 31, 1998, their aggregate debt stood at US$250 million, equivalent to more than one year of billings. This arrears situation dates back only to 1996; in 1995, their outstanding debt levels were still acceptable.

4.26 SABESP has begun legal action to collect these overdue accounts. In some instances it is in negotiations to take over operation of the municipal utility, whereby it would use the account receivable as payment of the assets it would acquire. It likewise is examining the possibility of filing complaints with the State Audit Office and Office of the Attorney General alleging that the municipalities' failure to pay is a breach of the law.

4.27 It is recommended that the loan contract require SABESP to present, within six months after the contract's signature, a plan of measures it proposes to take to recover the municipalities' overdue accounts, and collection targets. This issue should be looked at carefully during the midterm review of the project (see chapter III).

4.28 SABESP's other short-term accounts receivable have climbed from the equivalent of US$57.3 million at year-end 1995 to US$202.3 million. Under this heading, the main debtor is the state of São Paulo, in connection with payments SABESP made for the state's account for staff pension supplements. It is considered that this debt should

be settled in the same way as the State's overdue debt for utility services.

4.29 In 1996 the corporation turned to short-term financing, issuing one-year Euro Commercial Paper. At December 31, 1996, it had a total of US$100 million in such securities, and at December 31, 1997, US$355 million.

4.30 As at December 31, 1998, most of this debt has been rolled over and SABESP has taken on new short-term borrowings, equivalent to US$536 million at that date. It has Central Bank authorization to float a 10-year external bond issue of up to US$450 million, the proceeds of which it plans to use to reduce this short-term debt.

4.31 If market conditions were such that SABESP could not roll over these short-term borrowings, it would have liquidity problems and find it much more difficult to furnish local counterpart funds for the proposed project. It thus is recommended that the loan contract require the company to keep its debt from short-term borrowings at or below 8.5% of its net worth during the life of the project.

2. Income statement

4.32 SABESP's operating income improved over the period under review, with earnings climbing from US$766 million in 1995 to US$1.065 billion in 1998. Operating profits in that three-year interval represented an acceptable 36% of utility revenues.

4.33 The company posted operating revenues of US$2.671 billion equivalent in 1998, 60% of them from sales of water and the balance from sewerage services. This marked a 25% increase in three years (up from US$2.134 billion in 1995). The growing customer base accounted for the bulk of the increase, the average revenue per cubic meter having risen by 3% by the end of 1997. In 1998, average revenues dropped by 6% when expressed in U.S. dollars, as a result of exchange-rate variations.

4.34 At year-end 1995 there were 4,115,000 water connections in place; by 1998 there were 4,691,000, an increase of 12.3%. Over the same period the number of sewer hookups rose from 2,869,000 to 3,337,000, an increase of 16.3%.

4.35 SABESP billed for 1.624 billion m^3 of water in 1995 and 1.816 billion m^3 in 1998, an increase of 11.8%. Billings for sewer services over this period climbed from 954 million m^3 to 1.066 billion m^3, up 11.7%.

4.36 The company's operating expenses have likewise been on the rise, from US$1.315 billion equivalent in 1995 to US$1.72 billion equivalent in 1998 (an increase of USS$405 million), largely owing to a US$219 million increase in bad-debt provisioning following

changes in Brazilian legislation. Payroll costs rose by US$96 million over the same period, an increase of 15%. In 1998, operating expenses fell to US$1.065 billion, reflecting the drop in the value of the provision for uncollectible accounts.

4.37 SABESP's financial expenses edged up from US$398 million in 1996 to US$441 million in 1997, the latter including US$99 million in interest paid to shareholders that year on equity capital. The other US$342 million was for interest on borrowings—down from previous years. In 1998, financial expenses were US$350 million.

4.38 The company has been posting net earnings (after adjustments for exchange-rate variations, monetary correction through 1995 only, and income tax) and its profit picture continues to improve. Its 1998 net earnings were US$466 million, compared to US$28 million reported in 1995 and US$259 million in 1997.

4.39 On the basis of 1998 earnings, interest on capital in the amount of US$428 million was distributed to shareholders, allowing income tax savings of over US$100 million and accounts clearance with the state government.

3. Source and application of funds

4.40 SABESP's operating revenues have been its primary source of funds in the past two years. Its internal cash generation rose from US$1.214 billion in 1996 to US$1.225 billion in 1997, and US$1.437 billion in 1998.

4.41 A second important funding source has been disbursements of long-term borrowings. The 1997 total of US$508 million was double the 1996 figure, the result of a Eurobond placement that brought in US$275 million in 1997. This money was used to retire US$325 million in debentures carrying high finance charges. IDB disbursements of US$131 million were also received in 1997 for stage I of the Tietê project. In 1998, long-term financing resources in the amount of US$475 million were received.

4.42 The company has been generating enough funds of its own to service its debt. The US$275 million it received in 1997 from Eurobond sales was applied to debt repayment.

4.43 Based on the analysis, SABESP's financial condition can be said to be satisfactory.

V. VIABILITY AND RISKS OF THE PROJECT

A. Technical viability

5.1 The proposed project is considered to be feasible and warranted from a technical standpoint. It addresses the need to remedy public health and industrial pollution problems caused by households and industries that have inadequate (if any) sewage collection, treatment, and disposal facilities. Studies and final project designs have been prepared in accordance with generally accepted engineering standards and principles. The designs are for the least-economic-cost, technically viable alternatives.

5.2 The experience gained by SABESP during stage I of the project affords assurances of its technical and administrative capacity to execute the works. There are Brazilian and foreign companies qualified to build the works and supply materials and equipment.

5.3 The project implementation timetable was devised with due regard to the nature of the works, time needed for prequalification and tendering, and SABESP's experience in similar construction projects, mainly in stage I.

5.4 The operational improvement component being proposed will help ensure that completed works are duly operated and maintained.

B. Institutional viability

5.5 SABESP has shown itself to be well structured for its purpose, with procedures and a distribution of functions and responsibilities within its various units. The internal control systems in place in the corporation afford assurances for the proper administration of funds for the proposed project.

C. Financial viability

5.6 Financial projections were done to gauge SABESP's capacity to honor its current financial obligations, furnish local counterpart funds for the project proposed here, and service its debt.

5.7 According to the projections, SABESP could earn a 7% return on fixed investment with no major water or sewer rate adjustments.

5.8 Water and sewer billings would climb from US$2.671 billion in 1998 to US$3.4 billion in 2008. In each year of the projections, operating income would be high enough to pay finance charges. SABESP's net earnings would rise from US$76 million in 1999 to US$320 million in 2008.

5.9 The funds-flow projections show enough internal cash generation each year to service the projected long-term debt. The company's debt-service coverage would always be above 1.3:1.

5.10 One assumption in the projections was that annual capital outlays for the works program would adhere to SABESP's capital program. To achieve its investment targets over the projection period, unless it arranges additional long-term borrowings, SABESP would have to resort in 1999 to US$582 million in short-term finance. That figure could drop to US$494 million in 2000 and US$244 million in 2001. From 2002 onward, funds would be left over to add to the works program.

5.11 The above-mentioned US$582 million in additional borrowings in 1999 would be needed assuming that SABESP repaid its present short-term borrowings that year and did not launch the long-term external bond issue for which it already has Central Bank authorization.

5.12 If the assumptions used in the financial projections are borne out, SABESP's financial situation will be acceptable and it will be in a position to honor its commitments to furnish counterpart funds, meet its financial obligations, and carry through its expansion program.

5.13 This positive scenario will only hold if SABESP's rates are high enough to bring in the necessary revenues. Accordingly, it is recommended that the loan contract require that the tariff applied by the borrower produce revenues sufficient to defray all its operating expenses, including operations, maintenance, administration, and depreciation, and that it achieve a 7% return on fixed investment. If adherence to this condition left SABESP with insufficient funds to service all its debt on schedule, it would have to take the measures necessary to be able to do so.

D. Economic viability

1. General considerations

5.14 This section examines the economic viability of the two main subprojects: (i) residential connections to the sanitary sewer system, and (ii) cleanup of the Tietê River and its tributaries within the São Paulo Metropolitan Region (RMSP), stages II and III. Table 1 summarizes the analysis findings.

TABLE 1

Component	
Component	Net present value 1/ (millions of 1998 U.S. dollars)
Residential connections to sanitary sewer system	346.6
Cleanup of Tietê River, stages II and III	196.0

1/ Discounted at 12% annually (base year 1998).

2. Residential connections to the sanitary sewer system

5.15 An econometric analysis indicated that the gross monthly benefit to the average consumer hooking up to the sewer system (water consumption of 20 m^3/month) would be US$25.76 per household (US$309/year). This is a fairly substantial gain, so SABESP decided to limit it to a conservative 1.5% of household income, or US$154/year.

a. Cost-efficiency analysis

5.16 Connecting homes to the sewer system will benefit more than their residents: it will also cut down on pollutants pouring into the Tietê River. To select the sewer systems that can most efficiently help reduce pollution, SABESP drew up a list of sewage networks and associated trunk lines and ranked them using a ratio of capital, operating, and maintenance costs to load collected. The ratio ranges from US$0.10 to US$6.44 per m^3 of sewage collected per year.

5.17 To make certain that the systems that could most efficiently reduce waste discharges into the river would also be economically viable, an individual cost-benefit analysis was done, starting with the least efficient systems. The number of households that would be hooked into each system was calculated and multiplied by the unit benefit of US$154/year, with a comparison of present value of costs and benefits. This eliminated all systems whose cost per m^3 collected/year exceeded US$1.48.

b. Cost-benefit analysis

5.18 Also calculated were the net present value of connecting homes to the sanitary sewer system in the program overall. Since marginal systems (those with internal rates of return below 12%) had already been discarded, this is an acceptable approach: the projects that are robust from an economic viability standpoint are not obscuring the marginal ones. The net present value of the sewer-system subproject overall is US$346.6 million, and it is fairly insensitive to adverse changes in the assumptions.

3. Cleanup of the Tietê River and its tributaries within the RMSP

5.19 The Tietê River is so heavily polluted that it will take several years and a great deal of money to clean it up. SABESP and the Bank have agreed to divide the project into three stages, tied to SABESP's technical and financial capacity to carry them through. However, because these are not standalone stages—all of them being required if any significant benefit is to be achieved—it makes little sense to analyze stage II on its own; stages II and III must be looked at together. This is an important consideration for calculations, since the stage I costs have already been incurred and cannot be recovered (sunk costs).

b. Potential benefits

5.20 The Tietê River cleanup program could yield benefits on two main fronts: (i) a better quality of life for residents when foul odors are reduced and the appearance of the river and surroundings is enhanced; and (ii) an increase in electric energy generation. Other potential benefits which have not been quantified include industrial use of treated wastewater, an increase in recreational activities in the Pirapora do Bom Jesus reservoir and downstream on the Tietê, less salt-water intrusion in the Santos estuary, and water supply to the Santos region.

i. Odor reduction and improved riverwater quality

5.21 The water in the Tietê River and its tributaries flowing through the RMSP is so polluted that it emits foul odors for most of the year and supports no aquatic life at all. To gauge the benefits of reducing odors and restoring aquatic habitats, a contingent valuation study was done on water quality improvement. The questionnaire was developed with the help of an internationally recognized expert in this field.

5.22 In order to eliminate odors, dissolved oxygen concentration in the river must be above 0 mg/l; to support aquatic life it must be over 2 mg/l. Because of problems having to do with the mix and variations in water quality in the vicinity of the sampling station, the standard adopted by SABESP for odor suppression is dissolved oxygen in excess of 0.5 mg/l. According to the mathematical simulation model (Table 2), dissolved oxygen will be above 0.5 mg/l 90% of the time (329 days a year) in all segments of the river by the end of stage III, and above than 0.5 mg/l in all but two segments by the end of stage II. Quality levels would vary slightly, depending on whether the system is operated solely to eliminate wastes or to both eliminate wastes and generate electricity. These quality levels correspond to those used in the contingent valuation survey.

TABLE 2
Water quality in the Tietê watershed for different project stages, minimum flow

Water quality measurement point	For sanitation			For combination sanitation/power generation		
	DO 1/ (mg/l)1	BOD 2/ (mg/l)	Coliforms (no/100 ml)	DO 1/ (mg/l)1	DO 2/ (mg/l)1	Coliforms (no/100 ml)
Junction Tietê/Tamanduatei rivers						
1998	0.00	33.49	850,200	0.00	33.49	850,200
2006	0.00	23.19	547,800	0.00	23.19	547,800
2012	1.46	13.64	233,300	1.46	13.64	233,300
Junction Tietê/Pinheiros rivers						
1998	0.00	15.22	150,200	0.00	28.89	777,700
2006	1.33	3.73	20,400	0.43	22.27	563,600
2012	1.14	3.70	22,000	1.98	12.55	246,900
Pinheiros pumping station						
1998	0.00	18.47	156,500	0.00	32.22	587,300
2006	1.99	7.21	10,500	0.55	16.66	292,800
2012	2.07	7.20	10,900	2.18	11.62	148,500
Pirapora do Bom Jesus						
1998	0.29	29.16	664,000	0.98	31.95	651,200
2006	1.34	22.88	505,400	2.95	26.10	460,500
2012	2.48	12.65	216,000	4.01	13.09	174,900
Pirapora do Bom Jesus						
1998	2.24	20.60	8,400	4.35	14.27	2,200
2006	2.60	17.59	10,200	4.50	13.41	2,400
2012	3.03	10.97	3,700	4.27	8.35	800

1/ DO: dissolved oxygen
2/ BOD: biochemical oxygen demand

5.23 To calculate the benefit that odor reduction and habitat recovery for aquatic life would bring, SABESP ran numerous statistical models using data from the questionnaire. Depending on the model used, the mean willingness to pay in areas close to the river and its tributaries ranges from US$8.53 to US$3.49/month. In areas more distant from the river, mean willingness to pay drops to a range of US$6.22 to US$1.08/month. Since there is nothing to indicate that one result is more valid than the other, it was decided that an intermediate estimate of US$5.32/month would be used for the areas close to the river and US$3.96/month for areas more distant from the river.

ii. Additional power generation

5.24 Until 1992, 50% of the streamflow of the Tietê River was pumped to the Billings reservoir for power generation at the Henry Borden hydro plant. Transitional provisions in the São Paulo State Constitution since 1989 forbid the pumping of wastewater to that reservoir. However, with water quality improvements achieved in stages II and III of the project described herein, wastewater

pumping could be possible, and additional power generation would be an added benefit. The Billings reservoir is rated class II: pumping to a class II waterbody is not allowed if it would take water quality in the receiving body below 5 mg/l dissolved oxygen, over 5 mg/l biochemical oxygen demand, or over 4,000 fecal coliforms/100 ml. The water in the Billings reservoir, in the pump discharge area, is not up to those standards, and pumping could worsen the situation. The reservoir is a huge body of water, with a quality range from class IV (where water from the Pinheiros/Tietê would be injected) to class I where water is released for human consumption in the Santos area. From a technical standpoint it would be perfectly acceptable to reclassify sections of the Billings reservoir to reflect the current situation and the fact that it functions as a natural treatment plant. In that scenario it is reasonable to believe that pumping will be permitted.

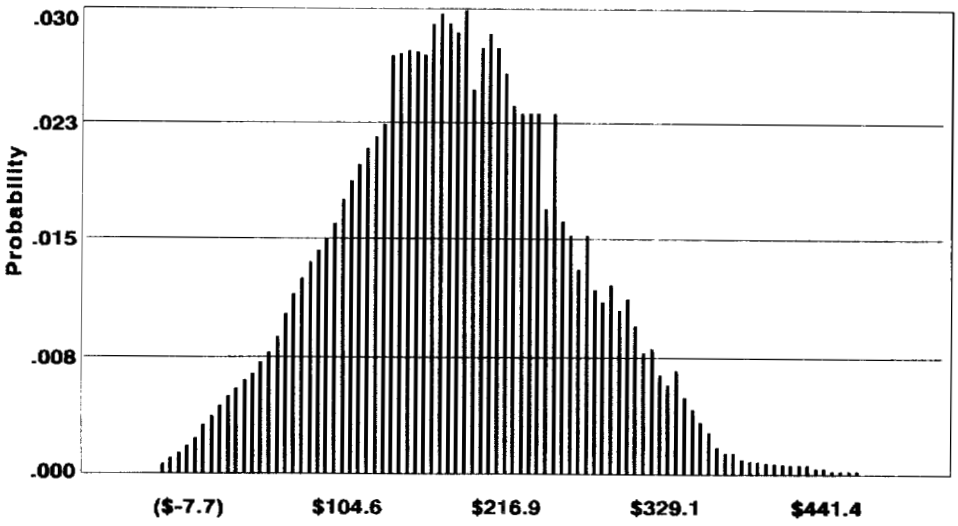
5.25 To estimate the potential additional energy generation, historical data were obtained on volumes of water processed by the Henry Borden hydroelectric plant before and after restrictions were placed on the pumping of Pinheiros/Tietê river water. The mean difference is equivalent to a continuous flow of 67 m^3/s. (from a 50/50 split of the river flow). The master water resources plan for the state of São Paulo suggests that a 60/40 split would be possible. It thus should be possible to pump the equivalent of a continuous flow of 80 m^3/s to the Billings reservoir. The full flow range (67 m^3 to 80 m^3/s) was used in the economic analysis calculations.

5.26 The incremental energy generation would be the difference between energy that the Henry Borden plant can generate using the pumped water and energy that could be generated using that same water in 10 hydro plants downstream along the Tietê. The incremental generation ranges from 1,881 GWh to 2,245 GWh/year. Given the massive size of the Billings reservoir, with its interannual accumulation, and the fact that the Henry Borden plant is extremely underutilized at times of peak demand because of the pumping restrictions, the bulk of the power could be used during peak periods. However, it is not certain that it will in fact be used in that period, since the concessionaire may be required to release more water to the Santos region, thereby reducing the amount available to attend to peak demand. The economic analysis used a range of US$30.20 to US$42.69/MWh to compute the benefits.

5.27 Because of the high degree of uncertainty regarding the magnitude of the hydroelectric benefits and the willingness to pay for environmental improvements, the Monte Carlo simulation technique was used to estimate the net present value of the Tietê river cleanup project, stages II and III. This technique uses information on possible variations in benefits, costs, time of execution, and shadow prices to calculate possible outcomes and their probabilities. Figure 1 shows the results.

Figure 1

Probability distribution of project outcomes (millions of 1998 U.S. dollars)



5.28 Figure 1 indicates that the expected net present value of the cleanup project, stages II and III, is US$196 million and is fairly strong. The probability that the project will be feasible is 99.7%. The negative NPVs occur only when all the critical assumptions are extremely negative simultaneously, i.e. the environmental benefits are at the lowest level considered, there are no hydroelectric benefits, investment and operating cost overruns are large, and execution of stage II takes 10 years.

4. Social equity and poverty reduction

5.29 This operation qualifies as a social equity enhancing project, as described in the indicative targets mandated by the Bank's Eighth General Increase in Resources (document AB-1704). Furthermore, this operation qualifies as a poverty-targeted investment (PTI). The rationale for the PTI classification is that 56% of the beneficiaries in the project's service area have incomes below the low-income threshold for Brazil, which is currently equal to 116 reais monthly per capita. The project does not specify explicit performance indicators to measure poverty reduction and social

equity enhancement. The borrower will not be using the 10 percentage points in additional financing.

E. Environmental viability

5.30 The proposed project works will improve hygiene and health conditions for the beneficiary population, since they will increase the volume of sewage being collected and treated in the RMSP. A specialized division of SABESP is involved in the environmental permit system currently in place, as is the State Environment Ministry (SMA) and the community, whose input is sought whenever warranted. Under this system, the environmental impacts of the works slated for financing can be identified and any necessary mitigating measures can be built into the designs and bid documents. According to an analysis of the environmental permit system followed in stage I, SABESP and the SMA have the structure and procedures needed to handle environmental matters during stage II. The environmental education component of the project also will help maximize its potential positive impacts. The project thus is judged to be environmentally viable.

F. Risks

5.31 Trash collection. The garbage collection system, which is the responsibility of the Municipality of São Paulo, might not become more effective if the public continues to dump its trash into the streams flowing into the Tietê. Likewise, streets could continue to be dirty if the public is not motivated to keep them clean. The environmental education component of the proposed project, to be coordinated with the Municipality, is designed to counter this risk.

5.32 Reduction of industrial pollution. To be successful, this next stage in cleaning up the Tietê will require the pooled efforts of the community – for residential waste treatment (via SABESP) – and of industry – to obey the laws governing effluents. There is a risk that some plants, because of financial constraints or other reasons, may be unable to make the investment outlays needed to lower the pollutant load currently being dumped into watercourses in the basin. However, to judge by the success of the industrial pollution abatement plan that was part of stage I of this project, which has instituted controls covering 97.6% of the 1,250 industrial plants included in the plan, the aforementioned risk is unlikely to materialize.

5.33 Works in municipalities not under SABESP control. Works required for the Tietê River cleanup in municipalities in which SABESP is not the concessionaire might not be carried through in stage III of the project. To counter this risk, during stage II proposed herein, SABESP would send draft agreements to those municipalities to pave the way for execution of any such works during stage III.

LOGICAL FRAMEWORK

Objectives	Indicators	Sources of verification	Assumptions
use of water resources in etê system.	1a Increased flow diverted to Henry Borden for power generation raises electricity production by 1.5 million MWh in 2010 for 60% of water in upper Tietê basin.	EMAE — Empresa Metropolitana de Águas e Energia S.A.	Institutional agreement on resumption operations of Pinheiros-Billings water system for purposes of power generati on improvements in the water quality monitored in the Pinheiros River.
	1b Treatment of effluent results in increased leisure and tourist activity in Pirapora. Number of hotels beds in official registers increases from 80 in 1998 to 88 in 2003.		Formulation of an interagency program encourage tourism in the region.
se effects of pollution in the and its tributaries are	2a Reduction in infant mortality rate at RMSP by 2003, to 14.5 deaths per mil live births by 2001. The rate in 1996 was 16.6.	SEADE Foundation — Fundação Sistemas Estadual de Análise de Dados.	Action of the other agencies responsib public health and sanitation.
	2b An additional 10 km of river sections without odor, from km 65 to km 70 and from km 116 to km 121 for flow in peak month in 2003.	CETESB monitoring, points TE 4020 and TE 4100 SABESP monitoring, with DO measurements and field inspection when flows noted at Penha dam were less than $25m^3/s$ or those noted in Edgard de Souza reservoir were less than $70m^3/s$.	Present conditions for providing waste and urban sanitation service maintaine
	2c Elimination of odors in Pinheiros River in peak month in year 2003.	CETESB monitoring, control point PN 4500 SABESP monitoring, as indicated in preceding point	Same as above.
	2d Total elimination of odors along peak stretch of Tietê River (from km 75 to km 85) for peak month in 2010.	CETESB monitoring, control point TE 4020	— Establishing a set of operating re for Ponte Nova reservoir in order peak periods, the so-called dilutio $1.5m^3/s$; or — Aeration in peak periods, of efflue by São Miguel ETE with residual mg/l; or — A combination of these 2 alternat — Present conditions for providing sanitation service maintained.

Objectives	Indicators		Sources of verification	Assumptions
	2e	5% reduction by year 2003 in hospital cases at RMSP resulting from diseases caused by poor basic sanitation.	Sanitation Monitoring Center of the State Secretariat for Health.	Action of other agencies responsible f health and sanitation.
of water in Tietê River and	1a	The volume pumped at Pedreira should correspond to the average annual flow of 60m^3/s, or reach the targets established under institutional agreements (see assumption 1 — increase flow for power generation at Henry Borden).	EMAE report on stream flow or volumes pumped at Pedreira pumping station.	Institutional agreements on resumption generation operations at Henry Border Average annual stream flow in Tietê R measured at Edgard de Souza should less than 90 m^3/s.
	1b	The level of dissolved oxygen (DO) increases to 2 for peak month in year 2003, in Pirapora reservoir. In 1997, the amount of DO in peak period was zero.	CETESB monitoring, control point TE 4200.	
	2a	Reduction in fecal coliform counts in tributaries in which collector trunks installed. SABESP will monitor certain tributaries by means of sampling before and after works.	Field monitoring by SABESP, in the Águas Espraiadas (PI-22), Jacu (TC-13), Pirajussara (PI-03), and Aricanduva (TC-19) streams.	
	2b	DO less than 0.5 on stretches of Tietê River from km 65 to km 70 and from km 116 to km 121 for peak month in year 2003. In 1997, the measurements were as follows: km 65 to km 70: 0.27; and km 116 to km 121: 0.36.	CETESB monitoring, points TE 4020 and TE 4100	
	2c	DO less than 0.5 in Pinheiros River, for peak month in year 2003. In 1997 DO was zero along entire Pinheiros River.	CETESB monitoring, control point PN 4500	
	2d	DO less than 0.5 along stretch of Tietê River (from km 75 to km 85) for peak month in year 2010.	CETESB monitoring, control point TE 4020	
	2e	Reduction in fecal coliform counts in tributaries after collector trunks built. SABESP will monitor certain tributaries by means of sampling before and after works built.	SABESP field monitoring, in Águas Espraiadas (PI-22), Jacu (TC-13), Pirajussara (PI-03), and Aricanduva (TC-19) streams.	

TIETÊ RIVER PROJECT- STAGE II

BIDDING SCHEDULE

ITEM	PACKAGE	FINANCING		METHOD	COST	PUBLICATION OF PROCUREMENT NOTICE
		IDB	LOCAL		(US$000)	SEM./YEAR
INTERCEPTORS, PUMPING STATIONS AND COLLECTOR TREATMENT WORKS						
GROUP BP1	2	56%	44%	ICB	**49,997.72**	**II/2000**
Interceptor IPi - 6					48,376.30	
Intermediate sewage plant IPi - 6					415.37	
Outlet to carry effluent from BL-02 through PI-36					1,206.05	
GROUP BP2	1	56%	44%	ICB	**15,987.89**	**II/2000**
Interceptor IPi - 7					15,606.87	
C.T. Socorro (Jusante)					381.02	
GROUP BP3	1	56%	44%	ICB	**7,216.22**	**II/2000**
C.T. Antonico					1,317.26	
C.T. Caxingui					384.84	
C.T. Pirajussara					5,514.12	
GROUP BP4	1	56%	44%	ICB	**2,686.57**	**II/2000**
C.T. Secondary Bibiena					272.62	
C.T. Secondary Cachoeira (V. das Belezas)					443.00	
C.T. Secondary São Luiz					495.50	
C.T. Secondary Ponte Baixa (Vale da Ribeira)					650.23	
C.T. Secondary Monte Azul					238.54	
C.T. Secondary do Morro					52.50	
C.T. Secondary SB-11 (Itapoquera)					534.18	
GROUP BP5	2	56%	44%	ICB	**11,092.82**	**II/2000**
C.T. Água Espraiada (Jusante)					999.29	
C.T. Guido Caloi					1,593.33	
C.T. Aterrado (Jusante)					2,516.48	
C.T. Pedreira (Julião and Olaria)					3,322.05	
C.T. Sapateiro + Interconnections					2,661.67	

ITEM	PACKAGE	FINANCING		METHOD	COST	PUBLICATION OF PROCUREMENT NOTICE
		IDB	LOCAL		(US$000)	SEM./YEAR
GROUP BC1	1	56%	44%	ICB	**2,601.83**	**II/2000**
C.T. Ribeirão Vermelho (Jusante) + Travessia					2,601.83	
GROUP BO1	1	56%	44%	ICB	**426.98**	**I/2000**
C.T. Secondary Direitos Humanos					426.98	
GROUP BB1	2	56%	44%	ICB	**17,403.50**	**I/2000**
SP (04 Units) + LR in Basin BL-01					906.26	
SP (03 units) + LR in Basin BL-01					3,412.31	
SP (06 units) + LR in Basin BL-02					1,243.35	
SP (01 unit) + LR in Basin BL-04					474.59	
SP (02 units) + LR in Basin BL-06					561.81	
CT in subbasins 01/03, 01/06, 01/07, 01/08 e 01/10 - (BL-01)					6,796.98	
CT in subbasins - 01/04, 01/05 e 01/09 - (BL-01)					2,016.99	
C.T. Paulista I					511.16	
C.T. Paulista II					406.16	
C.T. Santa Terezinha (BL-04)					290.12	
C.T. Sete Praias (BL-04)					783.77	
GROUP BB2	2	56%	44%	ICB	**1,026.92**	**I/2000**
C.T. Secondary (BL-06)					1,026.92	
GROUP SM1 - Bidding 4979/97	1	56%	44%	ICB	**1,881.29**	**I/1999**
C.T. Secondary I-1					1,881.29	
GROUP SM2 - Contract 2534/97	1	56%	44%	ICB	**1,482.00**	**I/1998**
C.T. Secondary Cidade Lider 1					162.00	
C.T. Secondary João Abreu					30.00	
C.T. Secondary Serrana					258.00	
C.T. Secondary Santa Marcelina					480.00	
C.T. Secondary Pintadinho					412.00	
C.T. Secondary Redil 1					140.00	
GROUP SM3 - Contract 2496/97	1	56%	44%	ICB	**5,281.89**	**I/1998**

ITEM	PACKAGE	FINANCING		METHOD	COST	PUBLICATION OF PROCUREMENT NOTICE
		IDB	LOCAL		(US$000)	SEM./YEAR
C.T. Secondary G2					305.00	
C.T. Secondary G3					66.00	
C.T. Secondary G4					75.00	
C.T. Secondary G1					1,238.00	
C.T. Secondary IM-11					157.00	
C.T. Secondary IM-12					314.00	
C.T. Secondary IM-13					54.00	
C.T. Secondary IM-14					304.00	
C.T. Secondary IM-5					561.00	
C.T. Secondary IM-4					190.00	
C.T. Secondary IM-9					16.00	
C.T. Secondary IM-6					371.00	
C.T. Secondary IM-7					66.00	
C.T. Secondary IM-1					190.00	
C.T. Secondary Água Vermelha (CT-4)					332.89	
C.T. Secondary IM-1A					66.00	
C.T. Secondary IM-2					83.00	
C.T. Secondary IM-8					41.00	
C.T. Secondary CT-1					550.00	
C.T. Secondary CT-2					272.00	
C.T. Secondary for connection between IM-1and IM-2					30.00	
GROUP SM4	**1**	**56%**	**44%**	**ICB**	**1,114.41**	**II/1999**
C.T. Secondary TL-09					1,114.41	
GROUP SM5	**1**	**56%**	**44%**	**ICB**	**10,000.00**	**II/2000**
Interceptor Iti-15					10,000.00	
TOTAL INTERCEPTOR, PUMPING STATION AND COLLECTOR TRUNK WORKS					**128,200.04**	
TREATMENT WORKS						
IMPROVEMENT IN TREATMENT OF BARUERI SYSTEM	**1**	**57%**	**43%**	**ICB**	**5,000.00**	**I/2000**

ITEM	PACKAGE	FINANCING		METHOD	COST	PUBLICATION OF PROCUREMENT NOTICE
		IDB	LOCAL		(US$000)	SEM./YEAR
TOTAL TREATMENT WORKS					**5,000.00**	
CONNECTIONS [illegible]						
GROUP G1 - Bidding n° 5.807/99	4	57%	43%	ICB	2,755.00	II/1999
Sewer connections in existing networks (12,356 connections)						
GROUP G2	5	57%	43%	ICB	9,000.00	II/1999
Sewer connections in existing networks (50,000 connections)						
GROUP G3	5	57%	43%	ICB	14,400.00	II/2000
Sewer connections in existing networks (80,000 connections)						
GROUP G4	5	57%	43%	ICB	9,845.00	I/2001
Sewer connections in existing networks (57,644 connections)						
GROUP G5	2	57%	43%	ICB	3,000.00	I/2000
Industrial connections (200 connections)						
TOTAL CONNECTIONS IN EXISTING SYSTEM + INDUSTRIAL CONNECTIONS					**39,000.00**	
COLLECTOR NETWORKS [illegible] CONNECTIONS (20,000 CONNECTIONS)						
GROUP 01 - Contract 2559/97	1	57%	43%	ICB	1,858.00	I/1998
Collection networks + household connections (8 Km)						
GROUP 02	10	57%	43%	ICB	28,500.00	II/1999
Collection networks + household connections (290 Km)						
GROUP 03	6	57%	43%	ICB	11,000.00	II/1999
Collection networks + household connections (105 Km)						
GROUP 04	8	57%	43%	ICB	11,700.00	I/2000
Collection netwoks + household connections (120 Km)						
GROUP 05	8	57%	43%	ICB	14,700.00	I/2000
Collection netwoks + household connections (150 Km)						
GROUP 06	8	57%	43%	ICB	11,700.00	I/2000
Collection networks + household connections (120 Km)						
GROUP 07	6	57%	43%	ICB	9,800.00	II/2000
Collection networks + household connections (100 Km)						

ITEM	PACKAGE	FINANCING		METHOD	COST	PUBLICATION OF PROCUREMENT NOTICE
		IDB	LOCAL		(US$000)	SEM./YEAR
GROUP 08	3	57%	43%	ICB	6,742.00	II/2000
Connection networks + household connections (67 Km)						
TOTAL NETWORKS AND HOUSEHOLD CONNECTIONS UNDER WAY					96,000.00	
GRAND TOTAL SEWERAGE WORKS					268,200.04	
CONSULTING/SUPERVISION/STUDIES						
Loss reduction	1	61%	39%	CB	4,000.00	II/1999
Quantitative and qualitative monitoring of CT and IT sewers	1	67%	33%	CB	2,500.00	I/2000
Calculation of rates for efficient use of water and long-term marginal cost of water and sewer systems	1	57%	43%	CB	4,000.00	I/2000
Supervision and management	1	20%	80%	ICB	12,000.00	II/1999
Supervision - Technological control	6	20%	80%	CB	2,500.00	II/1999
Consulting for pilot connection program requiring in-house service	1	57%	43%	CB	1,400.00	I/2000
Technology/Training development	1	67%	33%	CB	1,400.00	II/2000
Strategies for sanitation sector in state of São Paulo	1	57%	43%	CB	2,500.00	I/2000
TOTAL CONSULTING/SUPERVISION/STUDIES					30,300.00	
CONSULTING/EQUIPMENT						
Establishment of Geographical Information System - G.I.S.	5	66%	34%	ICB	12,000.00	II/1999
TOTAL CONSULTING/EQUIPMENT					12,000.00	

ICB - international competitive bidding

CB - competitive bidding

LEG/RG1/BR-0507
Original:spanish

PROPOSED RESOLUTION

BRAZIL. LOAN /OC-BR TO THE COMPANHIA DE SANEAMENTO BÁSICO DO ESTADO DE SÃO PAULO - SABESP
(Project for the Decontamination of the Río Tietê, Stage II)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Companhia de Saneamento Básico do Estado de São Paulo - SABESP, as Borrower, and the Federative Republic of Brazil, as Guarantor, for the purpose of granting the former a financing to cooperate in the execution of a Project for the Decontamination of the Río Tietê, Stage II. Such financing will be for the amount of up to two hundred million dollars of the United States of America (US$200,000,000), which are part of the Single Currency Facility of the Ordinary Capital resources of the Bank, and will be subject to the "Special Contractual Conditions" and the "Terms and Financial Conditions" of the Executive Summary of the Loan Proposal.