



INTERNATIONAL ACTIVITIES

**RUSSIAN WATER LOAN
FEASIBILITY ASSESSMENT:
SOCHI MUNICIPAL UNITARY
ENTERPRISE
"VODOKANAL,"
KRASNODAR KRAI**

(ENGLISH VERSION)

DRAFT

Prepared by

PADCO

under subcontract to
The Urban Institute

**The
Urban
Institute**

December 1997
UI Project 06611-701

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Housing Sector Reform Project II
Project 110-0008

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Foreword

This report on the Sochi Municipal Unitary Enterprise "Vodokanal" (Vodokanal) represents a single volume of a seven-volume series. The series is the second installment of a work effort started by PADCO in February of 1997. Under the first installment, eight individual vodokanal reports and an Overview report were produced. Both series are produced in support of the Russian Water and Wastewater Project. The current series was prepared for The World Bank with financing from the United States Agency for International Development (USAID) under the Urban Institute/PADCO Shelter Sector Reform Program II.

Like the other individual vodokanal reports, this report presents the results of institutional and financial assessments related to the Vodokanal's ability to contract debt. The report's institutional and financial recommendations are presented to assist vodokanal decision makers improve the Vodokanal's operational and financial autonomy in order to enhance its debt repayment capabilities.

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Chapter 1 - Executive Summary and Action Plan

1.1 Executive Summary

The current institutional and economic environments have had a negative effect on the ability of the Sochi Municipal Unitary Enterprise “Vodokanal” (Vodokanal) to be self-sustaining.¹ While the Vodokanal is a separate legal entity from the local administration, it is unable to recover all of its operating costs through its tariff structure which is limited by both the local tariff approval process and existing Federal tax legislation. In 1996, the Vodokanal collected 66 percent of what it billed (including VAT and receivables) which was significantly down from the previous year. Of the 66 percent collection for 1996, 15 percent of the billed amount was in barter and offsets or non-cash form. The remaining 50 percent of total collections were in cash.² Lastly, the Vodokanal does not fully utilize the mechanisms available to it related to service shut-off and metering, and its contractual relations do not encourage improved performance nor cash payments from its customers.

A brief overview of the financial and institutional elements of the Vodokanal indicate that:

- City Administration tariff regulations limit the percentage of net profit that can be used for capital improvements;
- An estimated 90 percent of residential customers are living in metered apartment houses or detached, yet only 29 percent of the meters are in working order;
- The level of cross-subsidization of residential consumers and budget organizations customers is quite high;
- The Vodokanal workforce is quite high when compared to standard indicators (e.g. number of employees per kilometer of pipeline);
- Water consumption (and possibly loss) in apartment buildings appears to be excessive. However, without relatively accurate measurement of consumption, it is difficult to pinpoint specific buildings and specific reasons for the high consumption.
- Existing tariffs do not reflect the full economic costs of providing water and sewer services. Provision for capital improvements and bad debts must be taken into account when setting tariffs.
- A review of all costs, especially depreciation costs and manpower costs, needs to be conducted and a cost reduction program undertaken. However, this should only be done

1

A vodokanal is considered to be financially sustainable if it is able to collect enough revenue from its user charges, and other sources, to allow it to continue providing satisfactory service. For the Vodokanal, this involves paying for all operating and maintenance expenses, rehabilitating and replacing capital equipment, and extending and expanding their service as necessary.

2

The procedure utilized in determining the percentage of cash collection was to divide the cash collections by the amount billed plus the beginning balance of accounts receivables in order to account for prior year payments made in 1996.

after there is agreement between the City and Vodokanal that cost reductions will not result in punitive reductions in the tariff.

- The City Administration needs to pay the Igoti (a waiving of some or all of the water bill for specific classes of customers e.g. veterans of the various wars) subsidy to the Vodokanal that mandated by Russian Federation law. As the practice of granting Igoti is reduced or burden for payment shifted to the agency granting the subsidy who must, in turn pay service providers, this should become less of a problem.
- A water demand management program should be implemented. Better maintenance of water meters will provide an incentive for the housing maintenance companies to better maintain in-apartment plumbing to reduce losses. Concurrently, the Vodokanal needs to implement a program of transmission and distribution line loss reduction.
- The Vodokanal must make every effort to increase its total collection for services. Although the Sochi Vodokanal has done better than all the other Russian Vodokanals reviewed by PADCO, the Vodokanal is still far from the 90 to 95 percent cash collection rate demonstrated in other industrialized countries.

1.2 Action Plan

Based on this review, Table 1 shows an Action Plan (Plan) developed for the Vodokanal to assist the utility in improving its operational and financial autonomy. The goal of the Plan is to promote the Vodokanal's financial sustainability for current and future operation. The Plan is divided into the following six categories:

1. Corporate Governance;
2. Regulatory;
3. Management Improvement;
4. Tariff/Finance;
5. Operational Efficiency; and
6. Demand Management.

Table 1
Sochi Action Plan

ACTION ITEM	DESCRIPTION
I. Corporate Governance	
<i>Reorganize Corporate Structure</i>	<p>The Vodokanal's current structure should be strengthened and clarified. A new Charter should be granted to the Vodokanal and its director given as much operational autonomy as possible under applicable law. The Charter should include a clear statement of the Vodokanal's purposes and should accurately define its service area. The Charter should also prohibit the Vodokanal from engaging in business and activities not reasonably necessary to its principal goal of providing water and wastewater services to customers in its service area.</p> <p>Once reorganized, the following three action items can take place:</p> <ul style="list-style-type: none"> • Conclude New Agreement on Property Transfer; • Conclude New Service Agreement; and • Conclude New Contract with the Vodokanal's Director.
<i>Conclude New Agreement on Property Transfer</i>	<p>In coordination with strengthening Vodokanal management authority and autonomy, a property transfer agreement between the Vodokanal and the Administration should be concluded. Under RF Law, municipally-owned property may be allocated to a municipal unitary enterprise only by right of "economic jurisdiction."</p> <p>To clarify and expand as much as possible, within the existing framework of RF law, the degree to which the Vodokanal can control the disposition of these assets, the Vodokanal and the Administration should enter into a legally-enforceable property transfer agreement with the following elements:</p> <ul style="list-style-type: none"> • A broad statement of the intended use of the assets; • A complete inventory of the assets transferred, and a description and other documentation of their physical condition and depreciable value at the time of transfer; • Transfer of the property for a definite term, restricting the right of the Administration to withdraw the right of "economic jurisdiction" before the end of the term to the case of use of the property for purposes other than those permitted by the property transfer agreement, or failure to comply with the requirements of the service agreement; • Periodic revaluation of the transferred assets for purposes of depreciation, in accordance with applicable law, and corresponding amendments to the property transfer agreement to reflect these revaluations; • Periodic amendments to the inventory of the assets transferred to reflect dispositions and acquisitions; and • The term of the agreement should be from five to ten years.

Table 1
Sochi Action Plan

ACTION ITEM	DESCRIPTION
<p><i>Conclude Service Agreement Between the Vodokanal and Administration</i></p>	<p>Once the Vodokanal is reorganized, a service agreement between the Vodokanal and the Administration should be concluded which describes the rights and obligations of each party with respect to levels of service, tariffs, capital investment planning and execution, and other aspects of the Vodokanal's operations and local government support. The Administration and the Vodokanal should negotiate this agreement themselves, and its implementation should be monitored by the Administration department (Regulatory Body - see below) that will set tariffs. The service agreement should project tariff and service levels for three to five years, but should be subject to periodic (perhaps annual) review and revision by mutual agreement. The service agreement should include the following major elements:</p> <ul style="list-style-type: none"> • A statement of the purposes of the agreement; • A general statement of the rights and obligations of the Vodokanal, including the rights to set its own operating, management, personnel, and other business policies; to take all reasonable and necessary steps to bill and collect tariffs from customers; and to deliver services at a level consistent with revenues, and the obligations to operate as a financially-sustainable enterprise, to take all actions reasonably required to enable it to deliver the agreed level of services, and to resolve all disputes regarding non-compliance with the service agreement in proceedings before the local independent regulatory body; • A general statement of the rights and obligations of the Administration, including the right to monitor compliance with the service agreement, and the obligations to permit the Vodokanal to exercise its rights and fulfill its obligations without inappropriate political influence or interference by the Administration, to support a level of tariffs appropriate to the agreed level of service, and to delegate to an independent local regulatory body the power to set tariffs and to resolve all disputes regarding non-compliance with the service agreement; • Statements of long-term and short-term goals for water and wastewater service levels, including objective measures and specific schedules. Such goals could include improved water supply service duration and pressures, reduced water supply system leakage, increased water supply metering, improved water and wastewater system maintenance, reduced energy use, and improved water and effluent quality; • A requirement for the Vodokanal to prepare and execute a capital repair and capital investment plan, in coordination with the City's overall plan for social and economic development;

**Table 1
Sochi Action Plan**

ACTION ITEM	DESCRIPTION
	<ul style="list-style-type: none"> • A requirement for the Vodokanal to develop and undertake (and for the Administration to support) a program of customer education and improved customer relations; • Requirements for improved accounting by the Vodokanal, and for period publication of its financial results; • Requirements for periodic reporting by the Administration and by the Vodokanal on performance (or non-performance) of their respective obligations under the service agreement; • Statements of any conditions of the Administration's or the Vodokanal's obligations, including availability of funding for required capital repairs and capital investments, absence of material adverse changes in law, and absence of <i>force majeure</i>; • A statement that the service levels called for by the agreement will be periodically reviewed and revised by mutual agreement; and • A general statement of intent by the Administration and the Vodokanal to cooperate with one another, use their best efforts to fulfill their respective obligations and to allow the other party to exercise its rights under the service agreement.
<i>Conclude Contract with the Vodokanal Director</i>	Once the Vodokanal is reorganized, a new contract with the Director should be concluded with the newly created independent regulatory body - see below. The contract should include financial incentives for achieving written realistic performance and efficiency benchmarks.
II. Regulatory Issues	
<i>Establish an Independent Regulatory Board for Tariff Approval and Service Agreement Management</i>	<p>In order to separate the Administration's role as owner of the Vodokanal and of its assets from its role as tariff and service regulator, the local City Charter should be amended (with or without authorizing legislation by the corresponding RF subject) to create a special independent local government body to act as tariff and service regulator, with as much independence as possible from the Administration. The applicable RF subject legislation, if any, and the Charter amendment should describe the regulatory body's tariff-setting and service monitoring procedures, including provisions stating that:</p> <ul style="list-style-type: none"> • Service levels are dependent on tariff levels and collection rates; that all decisions of the regulatory body must be made based only on the information submitted to it by the Vodokanal, the Administration, and others; • The regulatory body will review tariff proposals on request of the Vodokanal, the Administration, or by petition of customers representing a specified percentage of the Vodokanal's revenues (perhaps with a limitation on the frequency of petitions);

Table 1
Sochi Action Plan

ACTION ITEM	DESCRIPTION
	<ul style="list-style-type: none"> • The regulatory body will review compliance with the service agreement at the request of the Administration, the Vodokanal, or upon request of a substantial proportion of the Vodokanal's customers if they provide some evidence that either party is not in compliance; • All interested parties will have the right to have access to information submitted to the regulatory body, at no cost (copies to be provided at actual cost); • All decisions of the regulatory body regarding new tariffs or compliance with the service agreement will be made only after a public hearing (preceded by publication of adequate prior written notice of the hearing), at which all interested parties will have the right to be heard and to present relevant evidence; • All decisions of the regulatory body will be in writing, stating the evidence presented and the reasons for its decision; • All decisions of the regulatory body will be published in the local mass media and will be available to all interested parties at no cost (copies to be provided at actual cost); • So long as the regulatory body acts within its jurisdiction, according to the procedures described in the Charter and according to applicable law, the City Administration will not interfere with its operations; and • The Administration, the Vodokanal and (to the extent permitted by RF law) other parties affected by the regulatory body's decisions will have the right to appeal to the court or the arbitration court, in accordance with applicable law, based on specified, limited grounds.
<i>Establish Automatic Inflation Escalator Mechanism In Tariffs</i>	The tariff approval process mutually agreed to in the new service agreement should include an automatic inflation escalator mechanism. This mechanism should allow the Vodokanal to adjust water and wastewater tariffs on their own, without further approval of the tariff regulator, to reflect inflationary increases in the cost of major inputs, especially energy costs, according to inflation indices issued periodically (e.g., quarterly) by the appropriate government agency.
III. Management Improvement	
<i>a. Management Reporting</i>	
<i>Improve Financial Management Reporting Systems</i>	The Accounting, Economics, and Customer Billing Departments, should meet on regular basis to discuss joint operation and co-operation. Hiring a Chief Financial Officer (CFO) to co-ordinate these groups, stream-lining these financial operations should improve the quality of the financial reporting. The CFO should be at the same reporting level as the Chief Engineer.

Table 1
Sochi Action Plan

ACTION ITEM	DESCRIPTION
<i>Increase Emphasis on Financial Reporting and Accountability</i>	Monthly reports should include Trial Balance, Monthly Cash Flow, and Profit and Loss statements. All financial statements should have columns comparing forecast versus actual (not adjusted for revenues received). Accounts receivable should be analyzed (bad debt expense) on a monthly basis. The Vodokanal should annually undergo an external audit.
<i>Determine the Vodokanal's Information System Needs</i>	The Vodokanal should: review the nature of its current and future data requirements, and decision making processes; review the nature and current capabilities of its staff in providing necessary data; hire computer system specialists to design a comprehensive (complete) management information and reporting system (MIS); train staff on how to use the new reporting system; and sign a service agreement with the MIS - service provider for regular system maintenance and upgrading as well as continued training for staff.
<i>Implement an Efficient Cost Accounting System</i>	The Accounting Department has an ineffective cost accounting system in place. Where computers exist, financial accounting software systems are not linked resulting in a lack of integrated financial and cost information. Installing a consolidated accounting computer program will enable management to correlate costs to performance and track specific items enumerated in the Service Agreement.
<i>Identify Portions of Accounts Receivable As Bad Debt Expense (Include in Cost of Tariff)</i>	Until federal legislation changes, the Vodokanal should begin to write-off those bad debts which it can, i.e., three years and older. Before writing off such debts however, the Vodokanal, working with the support of the Independent Regulatory body, should try to collect all debts before writing them off. The writing-off of uncollectible receivables should be viewed only as a last attempt to be compensated for services already provided. The Regulatory body and the Vodokanal should develop a written procedure for pursuing debt collection.
<i>b. Increasing Collection</i>	
<i>Collect from Customers Directly</i>	<p>The Vodokanal should monitor its collections from the housing maintenance companies. If the collection rate for this group of customers drops below a specified level, the Vodokanal should implement a direct billing program.</p> <p>While billing may be handled by an intermediary, to be chosen on a competitive basis, all payments should be made directly to the Vodokanal. One approach would be for the Vodokanal to open an account at the same local bank where residential customers make their housing and communal service payments. Customers would deposit their payment directly into the Vodokanal account when making their other payments. (This recommended step assumes that the Vodokanal bank account is not encumbered by the courts or governmental agencies. Should the account be encumbered, the use of the intermediary's account would be the alternative.)</p>

Table 1
Sochi Action Plan

ACTION ITEM	DESCRIPTION
<i>Resist Non-Cash Payments</i>	The Vodokanal should resist all attempts for non-cash payments. If however, this is deemed impractical, the Vodokanal should develop standardized guidelines and procedures for accepting non-cash payments including additional surcharge, interest payment, transactions fees, and clearly defined debt repayment schedule.
<i>Levy Fines For Late Payments</i>	In accordance with existing legislation, the Vodokanal should levy fines to the maximum amount permissible and practical. Fines should occur however, only when it is determined that they are cost effective, i.e., additional revenues collected through fines are greater than the additional administrative costs of collection.
<i>Develop and Implement Service Shut-Off</i>	In accordance with existing legislation, the Vodokanal should develop standards and procedures for shutting off service for non-payment. Standards and procedures should be approved by newly established regulatory board - see above.
IV. Tariff / Finance	
<i>General Population Customers Should Pay According to Metered Consumption</i>	General population customers who are billed based on metered consumption, should pay the actual billed amount and not a city-established norm. Establishing the link between consumption and payment is one of the most important conditions to promote useful water consumption behavior.
<i>Reduce the Cross Subsidy Paid By Enterprises</i>	The Vodokanal should recalculate full cost recovery water and sewer tariffs for each customer category and set the tariffs more equitably for all customer categories. As the tariff for residential consumers is increased, the tariff for recreation and enterprise customers should be reduced; thus reducing the cross-subsidy.
<i>Revalue Assets</i>	The Vodokanal should consider hiring a professional valuation firm which would conduct an on-site physical valuation. Based on the results of such an exercise, the Vodokanal should include the calculated revalued depreciation in its tariff. Currently, the tariff structure includes a depreciation value which may not accurately reflect the actual value of the Vodokanal's assets.
<i>Implement Public Information Campaign to Explain the Vodokanal Tariff</i>	The Administration and the Vodokanal should develop and carry-out a public education program (including public hearings) which will explain the necessity for and benefits from tariff increases. (At the same time, the Administration needs to promote its HASP program).
V. Operation Efficiency Issues	

Table 1
Sochi Action Plan

ACTION ITEM	DESCRIPTION
<i>Meter Production</i>	The Vodokanal should ensure that production is metered. This should be one of the primary conditions in the service agreement between the Vodokanal and the Administration.
<i>Reduce Production Inefficiencies</i>	The Vodokanal should compare current actual production with factory designed nameplate capacity and develop a production efficiency program that will be included in the new service agreement with the Administration.
<i>Reduce Delivery Losses</i>	The Vodokanal should determine the magnitude of delivery losses and develop a loss reduction program that will be included in the new service agreement with the Administration. (Reduction of unaccounted for water)
<i>Streamline Vodokanal Employment</i>	Vodokanal management should evaluate total staff requirements to determine if possible staff redundancies and production inefficiencies exist. Where possible, management should reduce staffing requirements through retraining and reassignment and attrition.
VI. Demand Management	
<i>Meter Consumption</i>	Consumption must be metered at the building level utilizing meters that work. A metering quality improvement program should be undertaken by the Vodokanal.
<i>Introduce Incentives in Housing Management Service Agreements to Enforce Existing Rules and Norms for Improved Housing Maintenance and Management Services</i>	A substantial portion of the Vodokanal delivered water is lost due to poor internal plumbing of most apartment buildings. If the housing maintenance companies are billed as opposed to direct billing of the apartment residents, the Vodokanal needs to bill on actual consumption, or the maximum flow rate if the meter is tampered with, in order to provide the maintenance company with incentive to keep the internal plumbing in good repair.

Chapter 2 - Institutional Review

2.1 Assessment of Present Institutional/Regulatory Environment

2.1.1 Legal Status/Charter

The Vodokanal was established in February 1996 as the legal successor of the Leased Production Enterprise Sochi Vodokanal. It was founded by the Sochi City Property Management Committee in agreement with the Municipal Housing and Communal Firm.³ According to its charter, the Vodokanal is established as a juridical person and as such has economic management over municipally owned assets, can enter into contracts, sue and be sued and generally can conduct its business as any other enterprise in accordance with current Russian legislation.

The main objectives established by the Vodokanal's charter are to:

- ensure sufficient operation of the water and wastewater system;
- provide potable water to its customers in compliance with federal water standards, and
- ensure timely rehabilitation and replacement of infrastructure as needed, *but not lower than the sum of the calculated depreciation allowed in the tariff.*

2.1.2 Vodokanal Property

The Agreement between the Sochi Municipal Property Committee and the Vodokanal, signed in February 1996, gives the Vodokanal the right of economic jurisdiction over the municipally owned water and wastewater assets. The Agreement also goes on to state the rights and responsibilities of each party. Under the Agreement, the Committee has the responsibility to oversee the proper use of the assets; but not to interfere in the day-to-day operation of the Vodokanal enterprise, except as provided for by law; and to amend the Agreement with mutual consent and to terminate the Agreement for breach of contract requirements.

Under the Agreement, the Vodokanal has, in addition to full right of economic jurisdiction over the assets, the right to determine the use of profits, set general working conditions and requirements and carry out unrelated enterprise activities with the profits earned. The Vodokanal is prohibited from disposing of any assets without the approval of the Property Committee and must render all assets made available under the right of economic jurisdiction to the City upon termination of the Agreement. Assets so transferred to the Municipality must be in good condition, excluding normal wear and tear or depreciation of the asset.

3

The Sochi Municipal Housing and Communal Enterprise represents the city in its relations with the communal services providers. See also Section 2.3.

2.1.3 Vodokanal Director

The Vodokanal Director was appointed through an employment contract signed by the Chairman of the Sochi Municipal Property Committee in February 1996. The agreement does not specify an expiration date and was not uniquely prepared for the Vodokanal Director but rather is a "template" agreement the Municipality uses for all municipal enterprises. According to employment agreement the Committee authorizes the Director to independently operate and manage the Vodokanal. The Vodokanal Director must act in accordance with his employment agreement, founding documents of the Vodokanal and current legislation. His management is monitored directly by the Committee and Vodokanal Labor Collective. The Vodokanal Director has the right to dispose of the property with approval of the Committee, to conclude agreements (including labor), to open bank accounts, to hire and fire personnel, etc. The Director is required to manage the Vodokanal in a profitable manner, to maintain enterprise property in satisfactory condition, to increase production volume, to increase labor productivity, provide for labor safety and comply with conditions of the working collective agreement.

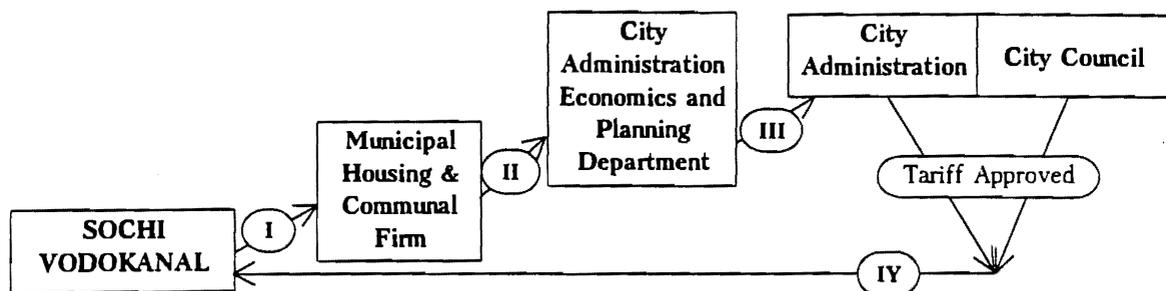
2.1.4 Labor Collective

The relationship between Vodokanal management and its employees is regulated by a Collective Agreement and applicable labor laws. The Vodokanal Director formally represents the Vodokanal in negotiations and general employee matters while the Chairman of the Vodokanal's Trade Union Committee represents the general employees.

2.1.5 Tariff Approval Process

The Sochi Vodokanal submits proposed tariffs for water and wastewater to the municipal unitary enterprise -- Municipal Housing and Communal Services Firm. The Vodokanal has an agreement with this firm for consultancy services including review and submission of the Vodokanal's tariff proposals for approval by the City Administration and City Council.

Figure 1. Current Tariff Approval Procedure in Sochi



Profitability is set at 25 percent of the total projected costs by the City Administration Resolution No.138 dated February 16, 1996. For the first eleven months of 1997 the Vodokanal anticipates 160.3 billion rubles of actual revenues and 128.3 billion rubles of expenses (25 percent profitability). In its tariff calculation, the Vodokanal includes an estimate of the reduced amount of revenues resulting from the privileged category (recipients of Igoti) of the residential consumers. This category includes 12,000 residential customers who are receiving a 100 percent discount for water and sewer bills and 65,000 residential customers paying only 50 percent of the water and sewer tariff. According to Vodokanal staff, the estimated total revenue loss from these residential customers for 1997 will be 1.81 billion rubles.

The tariff for each customer category is shown in Table 1. In April 1997, the Sochi City Administration established equal tariffs for health resorts and the general enterprise group of customers.

Table 1. Water and Wastewater Tariffs in Sochi in 1994 - 1997
(Rubles per Cubic Meter, VAT excluded)

Date of the Tariff Approval	Residential		Budget		Health Resorts		Enterprises	
	Water	Waste- water	Water	Waste- water	Water	Waste- water	Water	Waste- water
April 97	239	213	850	770	4,780	4,200	4,780	4,200
November 96	138	138	850	770	4,780	4,200	9,600	8,350
February 96	138	138	850	770	2,350	2,050	4,700	4,100
January 96	138	138	500	500	1,400	1,400	2,800	2,800
September 95	60	60	500	500	1,400	1,400	2,800	2,800
May 95	60	60	400	400	1,200	1,200	2,500	2,500
March 95	60	60	250	250	850	850	1,650	1,650
January 95	60	60	140	140	520	520	1,000	1,000
June 94	18	18	95	95	360	N/A	700	N/A
January 94	1.5	1.5	60	60	275	N/A	540	N/A

Source: Economics Department of the Vodokanal as of September 1997

2.2 Assessment of Vodokanal Management and Operations

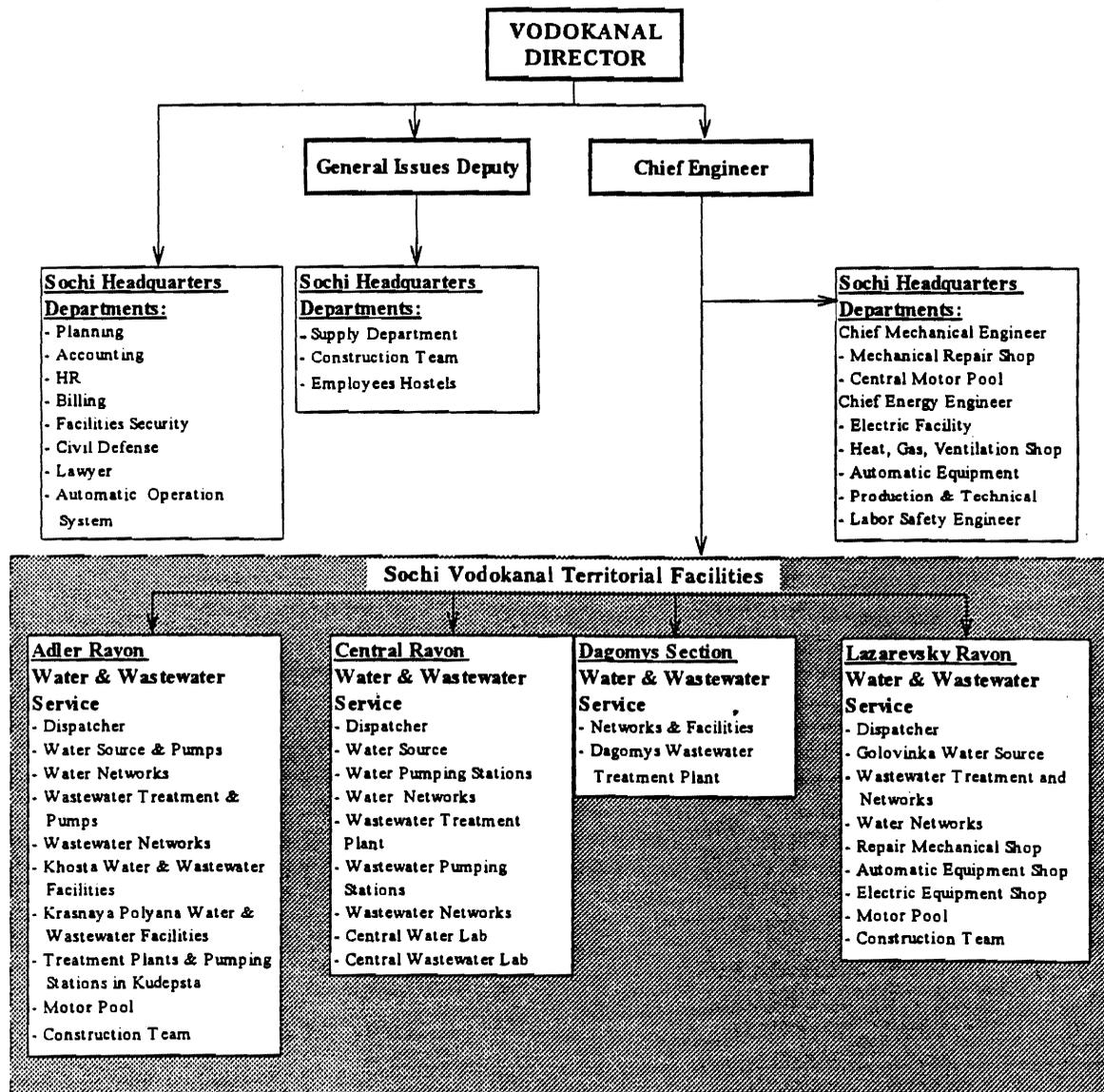
2.2.1 Organization and Management

The service area of the Sochi Vodokanal covers about 140 kilometers. The service area is served by four main facilities, located in Sochi, Adler, Lazarevskoe, and Dagomys. Each facility operates independently from the other but is coordinated from the central Vodokanal office. Their functions are reflected in Figure 2.

As shown in Figure 2, management and supervisory personnel are located in Sochi. The Vodokanal Director personally oversees the activities of the following corporate departments:

planning, accounting, human resources, billing and collection, Chief Engineer, and a Deputy for General Issues. The Chief Engineer supervises the operation of all territorial facilities (Sochi, Adler, Lazarevskoe and Dagomys) as well as the following departments at Sochi headquarters: technical and production, labor safety, repair shop, motor pool, and mechanical equipment.

Figure 2. Sochi Vodokanal Organizational Chart



2.2.2 Personnel and Manpower

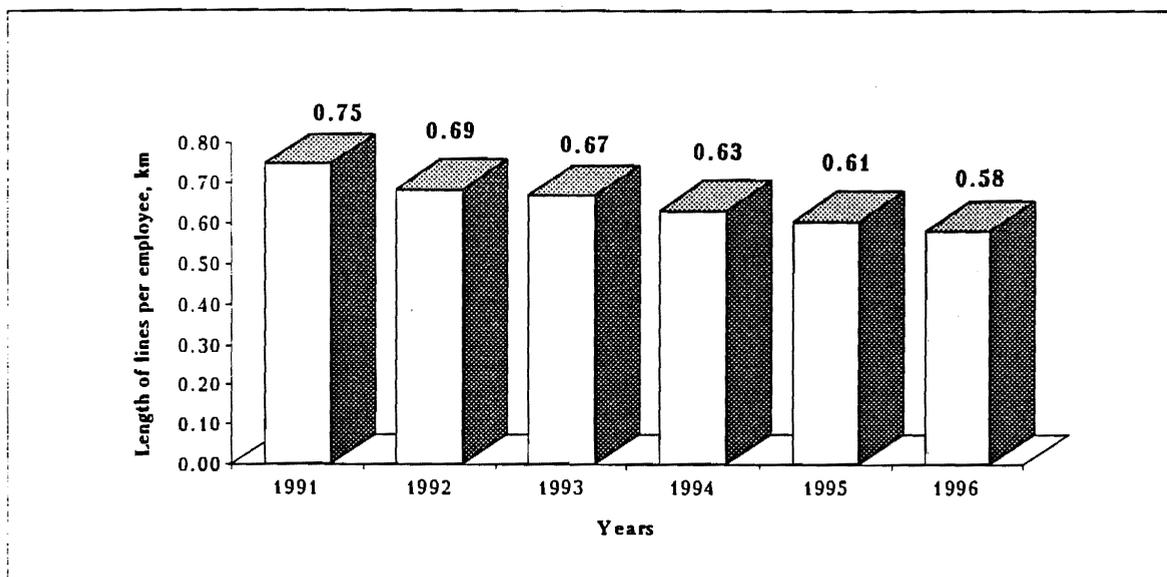
As of September 1997, 1,661 workers were employed by the Vodokanal. Of this number, 196 are management and administrative, 621 are involved with production and distribution of water, 436 are involved with the wastewater collection and treatment, 408 are shared employees providing support services.

Table 2. Sochi Vodokanal Staff in 1991-1997

Years	1991	1992	1993	1994	1995	1996	September, 1997
Number of employees	1.141	1.256	1.316	1.401	1.482	1.565	1.661

The growth of employees may be partially explained by the expansion of the Vodokanal networks. Nevertheless, the ratio of pipeline kilometers to water and sewer employees has dropped from 0.75 to 0.58 kilometers of networks per employee or 23 percent over the last six years suggesting an excess level of employment (see Figure 3).

Figure 3. Pipeline Kilometers per Vodokanal Employee in Sochi

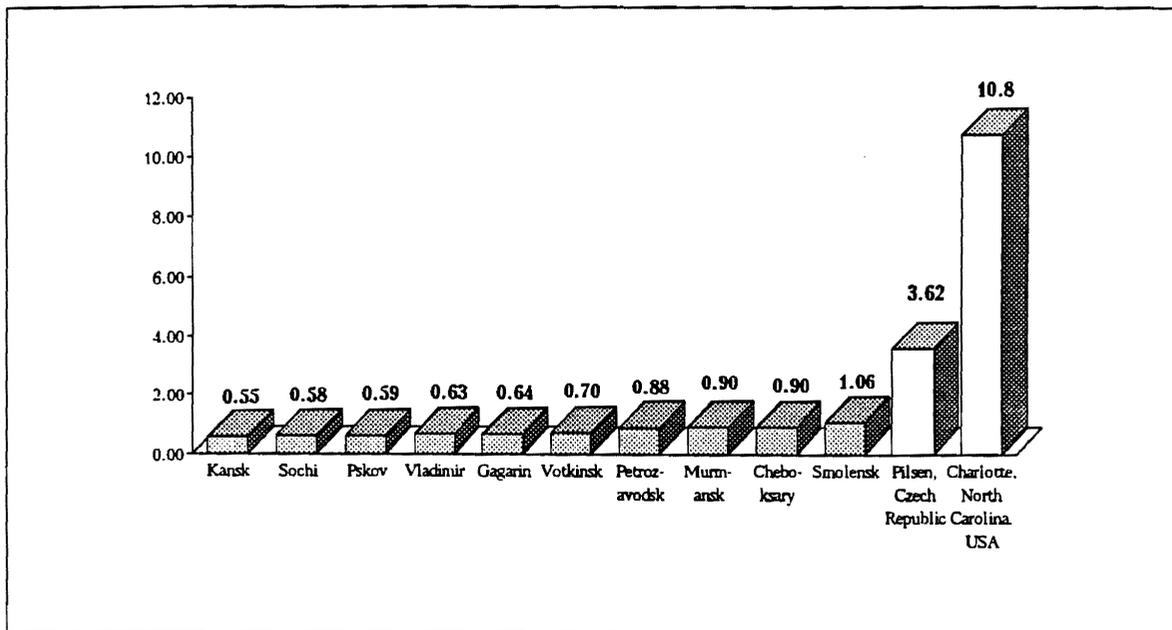


Source: Number of employees - Planning Department of the Vodokanal
Networks Characteristics - Technical Department of the Vodokanal.

As shown in Figure 4, the ratio of the kilometers of network lines per one employee for Sochi Vodokanal is one of the lowest found among the Russian vodokanals. This level may be partially explained by the fact that the Vodokanal maintains four water sources and six wastewater plants and a large number of pumping stations. The high number of facilities may require more staff to

be on duty to operate the facilities. For example, the security staff of the Vodokanal is about 300 employees. Another example is that there are about 200 operators for 26 water and 24 wastewater pumping stations. Also, the operation of the six wastewater treatment plants requires about 280 employees. The necessity to keep approximately 120 electrical and automatic control technicians on duty may indicate poor quality or aging of existing electrical and automatic control equipment. Increased automation not only for water and wastewater facilities but also for security could result in a reduction in the workforce. Additionally, newer pumping equipment that is more energy efficient could also require fewer maintenance personnel as well as lower energy costs.

Figure 4. Pipeline Kilometers per Vodokanal Employee in Cities



Source:

1. Russian Cities - PADCO analysis
2. Charlotte, USA - Ammons, David N. Municipal Benchmarks, Assessing Local Performance and Establishing Standards.
3. Czech Republic - Compagnie Generale des Eaux report at the seminar in Moscow April 21-23, 1997. World Bank Loan for Russian Water and Wastewater Utilities.

2.2.3 Customer Relations

The City Administration and Vodokanal recognize four major groups of customers:

- residential (population);

- municipal heating companies, budget organizations, schools and hospitals (budget organizations);
- sanatoriums and health resorts, agricultural customers (recreation), and
- industrial, commercial, and construction enterprises (enterprises).

The Vodokanal Billing Department is divided into two main sections. The first section deals with all customers except residential consumers residing in individual houses. This group comprises 1,260 customers (a customer may represent an apartment building with many residents or several apartment buildings). The Vodokanal has developed a computerized database for this group of customers. The second section deals with 1,520 customers residing in individual houses. However, the billing and collection for the second group of residential consumers is not computerized.

2.2.3.1. Residential Consumer in Apartments

The apartment residential population is represented by 16 housing maintenance companies. Each month, the Vodokanal issues one bill to each company. For those buildings where water meters are working, the Vodokanal includes metered consumption in the bill. For those apartment buildings where the meters are not working, customers are billed according to the previous average consumption. Some buildings where meters have not been repaired for a long time are billed "by the cross-section" of the apartment service supply pipe.⁴ Also, a very small number of customers are billed on the basis of norms. The housing maintenance companies collect payments for communal services from population via banks where residential consumers can pay, and forwards these funds to the service providers (see Figure 5 for a diagram of residential consumer payment flow).

Regardless of the method of billing by the service provider, housing maintenance companies bill each family according to the municipally established per capita norm for water consumption.

4

In this case the volume of water consumed per day (V) is billed to the customer on the following assumption (See, Rules for Water and Wastewater System Usage in Russia, 1994):

$$V = \frac{\pi D^2}{4} * 1.5 * 86,400$$

where: D - diameter of the connection pipe, meter;
 1.5 - velocity of water flow in a pipe, meters per second;
 86,400 - number of seconds per day.

For example, a typical apartment block of 9 -floor building has 36 apartments, with about 100 occupants. They may consume about 350 liters of water per person per day, or 35 cubic meters of water per day as a whole. The connection pipe diameter for this size building may be about 40 mm. If Vodokanal applies the above Rules, than the billed amount of water is calculated as 163 cubic meters per day, or 4.7 times greater than actual consumption.

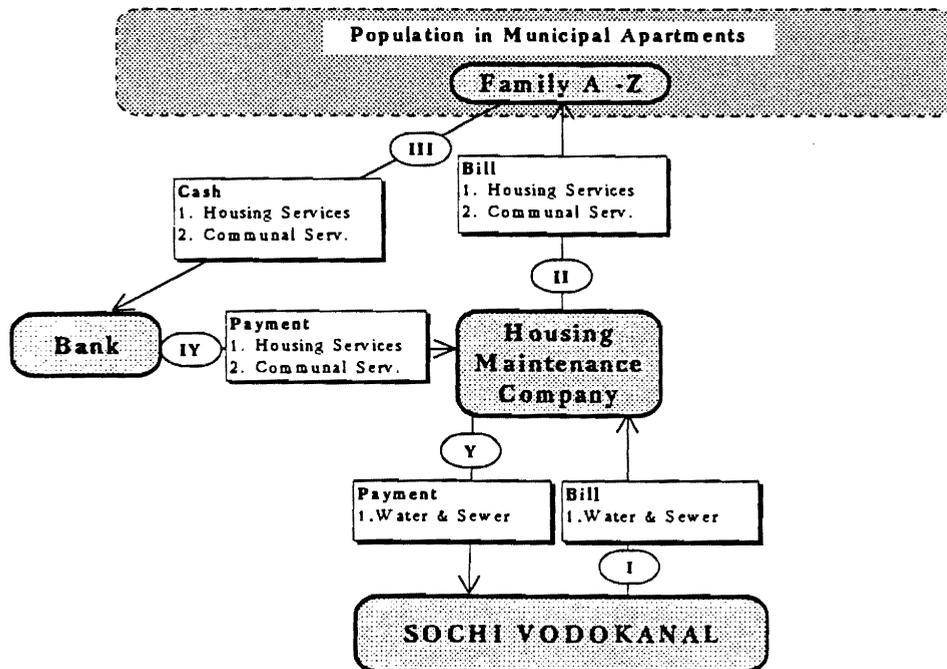
2.2.3.2. Population in Individual Housing

Residential consumers in individual housing are billed directly by the Vodokanal. The Vodokanal manually maintains 1,520 bills for about 8,000 people residing in individual houses. Recently, computerization of the information and billing for this group of customers has been started, but is not yet operational.

2.2.3.3 Customer Billing

Although the local heat providers are considered as a unique customer group from residential consumers, most of the water sold to the heat providers is finally consumed by residential consumers as domestic hot water heated at heating substations (in the closed systems), or heating plants (in the open systems). At least 90 percent of water sold to heating plants is consumed by the population customer category, and the rest is lost in the process of heating and operation of the domestic hot water (DHW) system, or used for system needs of heat the providers. The Vodokanal does not include consumption of domestic hot water in its total of water consumed

Figure 5. Billing and Collection for Municipal Population in Sochi



by residential customers. In our analysis of water billed, domestic hot water consumption is shown separately from the budget customer group where this type of consumption officially falls (See Table 3).

Table 3. Billed Volume by Customer Category for 1996

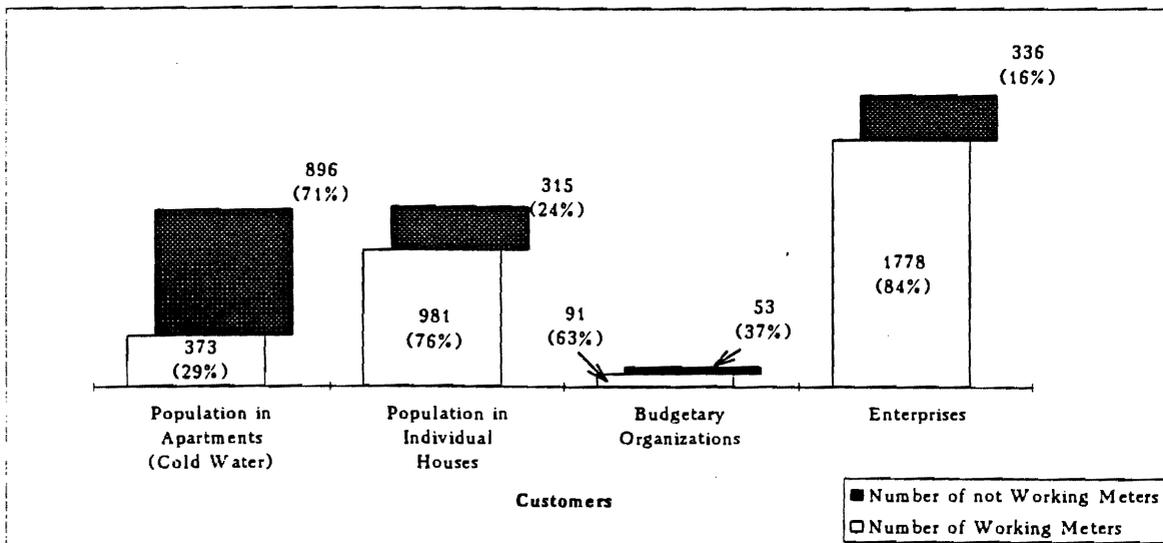
Category	Water (000 M3)	%	Wastewater (000 M3)	%	Total (000 M3)	%
1. Population (cold water)	39,847	47.9%	30,796	43.9%	70,643	46.0%
Domestic Hot Water *	<u>20,600</u>	<u>24.8%</u>	<u>20,100</u>	<u>28.6%</u>	<u>40,700</u>	<u>26.5%</u>
Total for Population	60,447	72.7%	50,896	72.5%	111,343	72.5%
2. Budget Organizations	4,568	5.4%	4,416	6.3%	8,984	6.0%
3. Health Resorts	13,846	16.6%	11,387	16.2%	25,233	16.4%
4. Enterprises	4,346	5.3%	3,506	5.0%	7,852	5.1%
Total	83,207	100.0%	70,205	100.0%	153,412	100.0%

* Amount of water sold and wastewater collected from the heat providers was estimated for the period from October 1996 to September 1997 (inclusive), since January - December 1996 complete data was not available.

2.2.3.4 Customer Billing: Norms and Metering

The Vodokanal has been pursuing a policy of billing its customers according to metered consumption. Reportedly more than 90 percent of the apartment building have cold water meters installed at the whole building level. However, currently only 29 percent of the meters are working.

Figure 6. Current Metering State in Sochi



Source: Billing Department of the Vodokanal

Although about 29 percent of the installed cold water meters were working, information about average consumption per capita in apartment buildings currently was not available. Since the Vodokanal billing department does not have data on the number of residents in the metered buildings, it cannot state the average per capita consumption of cold water in those buildings.

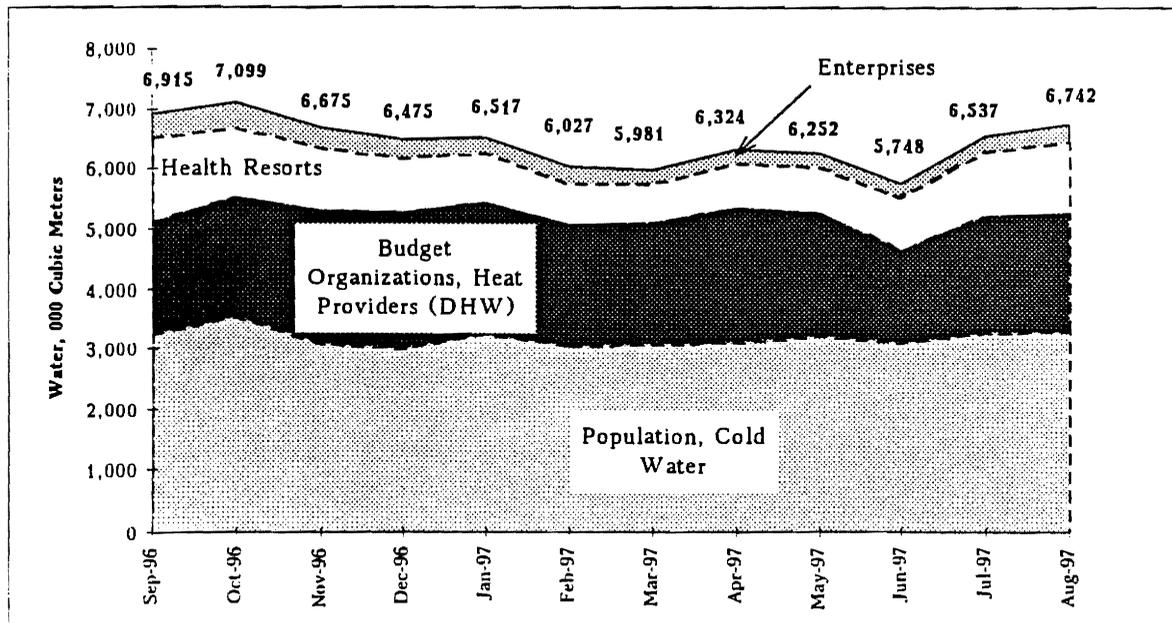
However, according to the Vodokanal's charter (Point 2.1), it should control excessive water consumption by customers. If the Vodokanal is to fully comply with its charter provisions, it must acquire the appropriate data and more effectively maintain cold water meters.

2.2.3.5 Population Variation and Water Consumption

As was mentioned earlier, the Vodokanal does not maintain data on the number of people it serves. Officially there were 393,300 permanent residents in Sochi as of January 1997. If all officially registered permanent residents receive Vodokanal services, there is one employee for every 237 residential customers. This ratio is lower than average one employee for 380 residential customers in Russia.

In 1996, 710,000 people visited Sochi as a health resort, of which 103,000 visited during the winter, and 607,000 people visited during the summer. Although there was no official information for 1997 when the PADCO team visited Sochi, according to Vodokanal officials the number of visitors during this summer was even greater than in 1996. One would expect a considerable increase in water consumption by residential consumers and health resorts during the summer season. On contrary, analysis of monthly billed water does not reveal *any increase in consumption* during the summer resort season (Figure 7).

Figure 7. Monthly Billed Water in Sochi by Customer Groups



The overall consumption between minimal and maximal periods differs less than by 20 percent. The lowest consumption in 1997 happened in June which is at the peak of the tourist season. The total consumption decrease occurred because heat providers are shut down for maintenance (Note Figure 7, June 1997).

2.2.3.6 Rough Estimation of per Capita Water Consumption in Sochi

The health resort consumption in September 1996 was about 1.4 million (maximum) cubic meters and in March 1997 about 0.75 million cubic meters of water (minimal), or 1.9 times less. This almost coincides with the official trend of population variation (See Point 2.2.2.). In this case, 393,300 permanent residents of Sochi consume about 3,200,000 cubic meters of cold water monthly, or about 270 liters per person per day. If we assume that about 90 percent of water sold to heat providers (of 20,600,000 at least 18,500,000 cubic meters) is ultimately consumed by residential customers as hot water, an additional 130 liters per person per day is consumed. This results in an average consumption per capita of approximately 400 liters per day. An average of 400 liters per person per day indicates considerable losses of water in apartment sanitary equipment or other in-house plumbing.

Additional data collection, verification and analysis is necessary in order to refine the daily per capita consumption of residential consumers. Although the Sochi City Administration and Vodokanal require meter installation at the whole-building level, better maintenance as well as better tracking of the number of residents in the apartments are necessary.

2.2.4 Operations and Maintenance

2.2.4.1 Water and Wastewater System

At the present time, the Vodokanal service area covers 140 kilometers from Adler along the Black Sea Coast to Lazarevskoe. There are four ground water sources located respectively in Sochi, Adler, Golovinka, and Lazarevskoye, which have a total 97 artesian wells. The design capacity and average daily production of each water source in 1996 in cubic meters is shown in Table 3

Sochi's water supply system is metered. The water supply system from the first three water sources is integrated into a single distribution system. The water supply network is divided into five hydraulic zones with 26 pumping stations and 87 water holding tanks located in key points of the system with total capacity of 127,000 cubic meters. Overall, the length of the water network is 547 kilometers, made up of 252 kilometers of the transmission lines, 264 kilometers of water mains, and 30 kilometers of distribution lines.

Table 4. Water Source Production Parameters

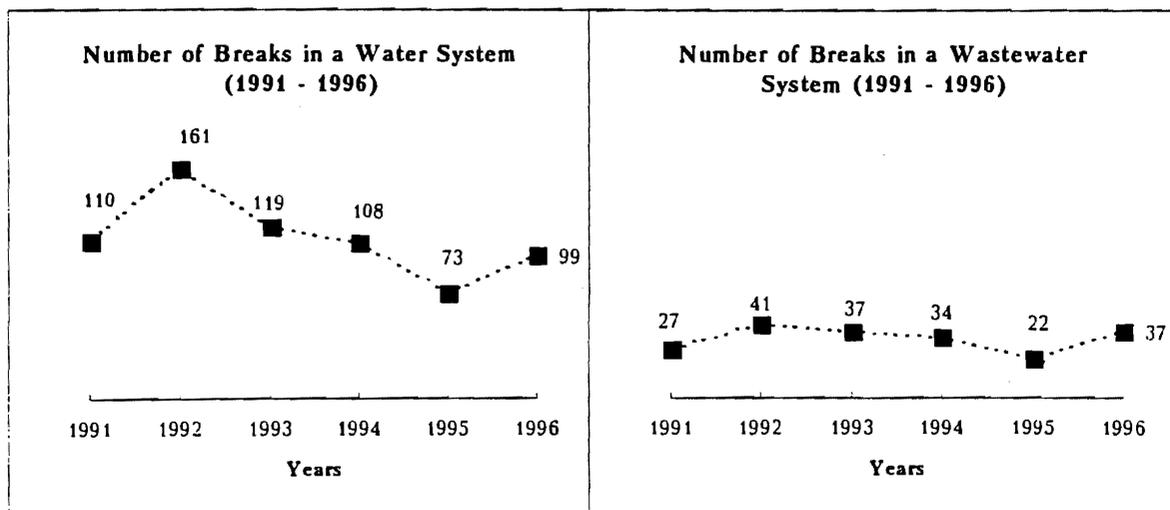
Location	Design Capacity	Average Daily Production
Sochi	150,000 M3	124,000 M3
Adler	100,000 M3	98,000 M3
Golovinka	50,000 M3	42,100 M3
Lazarevskove	25,000 M3	19,250 M3

2.2.4.2 System Breaks and Unaccounted for Water

The average daily production of Vodokanal water sources in 1996 was about 285,195 cubic meters, while the daily billed quantity of water for 1996 was 228,000 cubic meters. Therefore, unaccounted for water was 57,195 cubic meters per day or 20 percent of the total water produced by the Vodokanal.

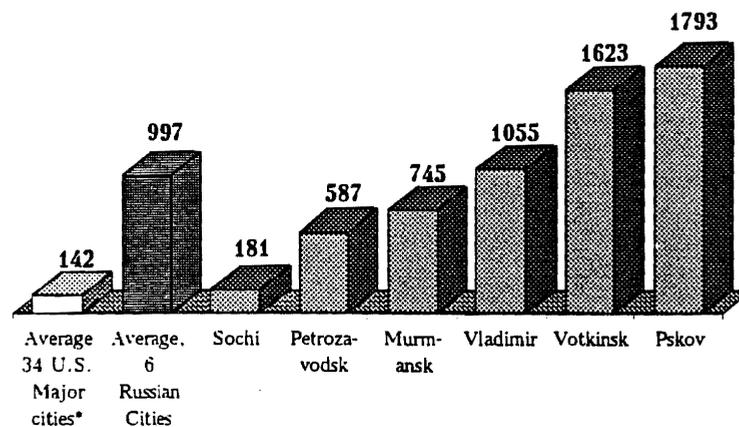
System leakage and intermittent main breaks are the major culprits, but unaccounted for water loss may also result from inaccurate meters, unauthorized connections, and unmetered consumption at fire hydrants, or street taps. Figure 8 depicts the water and wastewater pipe breaks in recent years in Sochi. Vodokanal officials stated that ground movements were the major causes of breaks. However, such ground movement must be due to geologic activity because Sochi's warm climate does not have the seasonal freezing and thawing that many other Russian cities encounter.

Figure 8. Number of Water and Wastewater Breaks in Sochi



Source: Sochi Vodokanal technical department.

Figure 9. Annual Number of Water System Breaks per 1000 km of the Lines



Source: 1. Russian cities - PADCO analysis
 2. US cities - Ammons, David N. Municipal Benchmarks, Assessing Local Performance and Establishing Standards.

Figure 9 shows that Sochi Vodokanal has a lowest number of system breaks among those reviewed by PADCO in Russia. It is interesting that in Petrozavodsk, which ranks second in this range, as well as Sochi Vodokanal, close attention is paid to hydraulic zoning (water pressure control) of the water supply system. Both cities' water supply networks are broken down into several pressure zones to optimize pressure heads in a system. By stabilizing water pressure in the pipes, they appear to have considerably reduced system breaks, even when the pipelines are in poor condition. Additionally, the comparatively low level of system breaks may also result from a higher level or quality of repair.

Wastewater is collected from customers through 362 kilometers wastewater lines. This network system includes 75 kilometers of trunk lines, 204 kilometers of the street sewer mains, and 64 kilometers of the high capacity collector lines leading to six wastewater treatment plants. There are 24 wastewater pumping stations in the system. The combined capacity of the treatment plants is 227,000 cubic meters per day. This volume is arrived at by extrapolating from the average flow and size of the effluent line the total amount such flow produces.

The treatment plants are designed to carry out primary treatment. The plants de-water sludge using Russian- and foreign-made equipment. The Vodokanal has been attempting to modernize this equipment but limited funds have prevented rapid progress. The resulting dried sludge is of fertilizer quality and used for agricultural purposes. Treated water is discharged into the Black Sea.

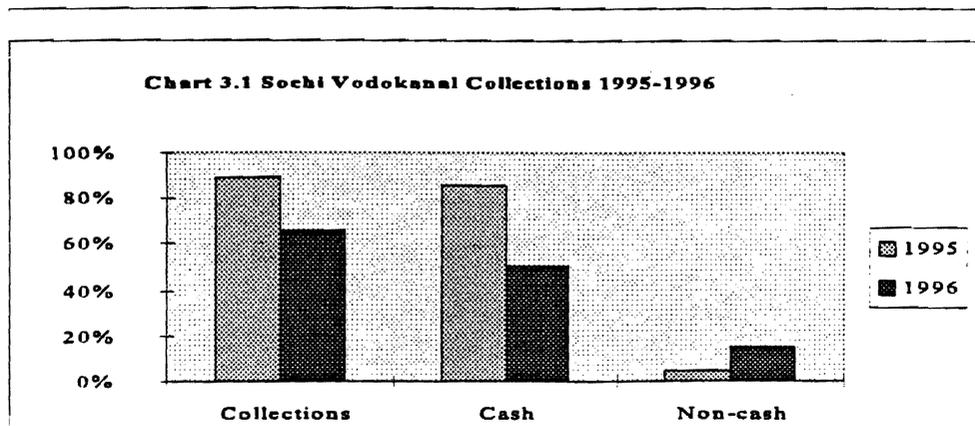
Chapter 3 - Financial Review

3.1 Introduction

While declining macro-economic conditions in Russia have negatively affected the water supply and wastewater sector, the impact seems to have been less for the Sochi Vodokanal. The Sochi Vodokanal enjoys less negative impact on its collections than many other Russian vodokanals because of the popularity of the resort area and the higher income and liquidity of the resort enterprises. For example, there is better collection for services because tourists pay cash and without a delay after the service has been rendered. This circumstance allows the tourist related enterprises, which are major consumers of the Vodokanal's services, to pay for their services more fully and more promptly (in either cash or in barter).

Although the above circumstance bodes well for the Vodokanal, there are still major problems relative to provision of new capital and major rehabilitation or restoration of the water and wastewater systems. The City does not pay any subsidies for Vodokanal operations or capital investments even though it has received special permission not to send most major, locally collected taxes to Federal and Oblast governments. Therefore, the general trend has been an overall worsening of the financial condition of the Sochi Vodokanal. The absence of subsidies, combined with locally induced limits on residential tariffs, and a deterioration in collections (although better than other Russian cities, collections are still far lower than many other industrialized countries) have reduced the Vodokanal's ability to maintain the existing system and to provide the necessary capital improvements needed to ensure quality, uninterrupted service.

Total 1996 Sochi Vodokanal collections, as a percent of billed plus accounts receivable, were about 66 percent which is significantly lower than 89 percent level of collections achieved in 1995. Over the past two years, cash collections, as a percent of total billed plus accounts receivable at the beginning of the year, have declined from 85 percent to 50 percent. Offsets and barter collection, as a percent of total billed plus accounts receivable, have increased to cover some of the cash collection decline (See Chart 3.1 below).



Despite dramatically declining cash collections, the Sochi vodokanal's collections exceed 50 percent, which is significantly higher than the 19 percent average of the other Russian utilities reviewed.

Sochi's vodokanal has reacted to its declining cash collection by trying to arrange increased barter and offset transactions. In doing so, the Vodokanal has developed a unique strategy. Since recreation is in demand all over Russia, payments for goods and services are made in the form of visits to Sochi's resorts and by bartering with local resorts, the Vodokanal can also exchange the barter with out-of-town vendors.

Still, as a result of declining overall collections, the Sochi Vodokanal has reduced maintenance funding and delayed payments to some of its service suppliers. Investments in new capacity, or upgrading of older capacity, is very limited. The Vodokanal, as described above, has resorted to increased bartering and receiving promissory notes, as a means of collection and payment.

Another aspect of the Vodokanal's collections is that collections are seasonal. Following the tourism cycle, collections increase during the summer because of business activities of the recreation facilities increase resulting in a drop in Vodokanal accounts receivable. But by the end of the year, Vodokanal collections drop and accounts receivable again increases as tourism declines. These conditions are not reflected in the financial tables presented in the annex because the tables are prepared on an annual basis. However, the seasonality of the recreation enterprises must be taken into account for cash flow purposes.

To transform itself into a more financially viable business that can support borrowing for capital investment, the Vodokanal needs to address the following issues:

- Existing tariffs do not reflect the full economic costs of providing services. A substantial tariff increase is required to bring tariffs in line with full operating and capital cost recovery.
- A review of costs needs to be completed to verify their accuracy and acceptability on an IAS basis. Some areas to review include: excess depreciation resulting from revaluation of assets; excess staffing costs; and excessive costs resulting from overproduction of water in order to make up for high water losses. However, the utility should not be penalized through reduced profitability allowed in the tariff as the result of achieving these cost savings.
- The lack of municipal subsidies and the implementation of restrictive tariff regulation has motivated the Vodokanal to recoup costs by charging higher tariffs to its local industrial and recreation customers. Higher charges to these enterprises also translate into higher costs of local goods and services borne by all consumers.

- Cross-subsidization is exacerbated by the wasteful consumption of water on the part of residential consumers, since the existing tariff and billing structure are based on city-established norms which do not encourage water conservation.
- The Vodokanal has, in the past, paid scant attention to reducing water losses, since their tariff structure is based on water produced and not the amount consumed (i.e., customers pay for the inefficiency).
- The Vodokanal must move toward a new model of service provision based on market relationships between the Vodokanal and its customers. This relation should stress improving collection and phasing out tariff differentials between different groups of customers for the same quality of service. Over the medium term, pricing of services should be contingent on improving the quality of service.
- The Vodokanal must be aggressive in resisting all forms of non-cash payments. If discontinuing non-cash payments is not possible, the Vodokanal should develop standardized guidelines and procedures for accepting non-cash payments including attaching surcharges, interest payments and transaction fees to cover its costs and loss of use of timely payment.

3.1.1 Current Water and Wastewater Tariffs

Current residential tariff for water is 271 rubles per cubic meter and 272 rubles per cubic meter for wastewater including VAT. Meanwhile, the current budget organization tariff is 1,020 and 924 for water and wastewater per cubic meter, respectively, including VAT. Since the average cost of water and wastewater is 941 rubles per cubic meter not including VAT, neither the tariff for budget organizations nor residential customers covers the cost of providing these services. On the other hand, the current tariff for enterprises and recreation facilities is 5,736 and 5,040 for water and wastewater services per cubic meter respectively, including VAT. Enterprise customers cross-subsidize residential customers approximately 21 to 1 and budget organizations approximately 5.6 to 1 for water services. Enterprise customers also cross-subsidize residential customers 18.5 to 1 for wastewater and budget organizations 5.5 to 1 for wastewater.

3.2 Financial Management Systems

3.2.1 Organization of the Accounting Department

The Accounting Department of the Sochi Vodokanal is headed by a chief accountant who is assisted by a deputy chief accountant. The Department is responsible for all accounting functions.

The chief accountant is in charge of all accounting functions of the Vodokanal, and as such, supervises and allocates work among accounting staff. The main responsibilities of the deputy chief accountant are to assist the chief accountant in preparing the general ledger, to control accounts payable, and to calculate profit and other taxes.

Although the accounting department is computerized and all transactions are prepared using computers, there is a reluctance by the department to rely on computer-generated data. The system is not well integrated because various accounts were not closed on a monthly basis, nor annually, requiring the General Ledger summary to be prepared manually. The Vodokanal refused to submit its computerized General Ledger for analysis, submitting instead manually generated General Ledger summaries. These summaries were used in the generation of the financial statement restatement as well as the tables in the attached annex.

3.2.2 Accounting/Documentation/Consistency

The Vodokanal follows the Russian system of accounting and uses accounting codes required by Russian Accounting Regulations. Adequate documentation and printed formats are used to comply with Russian Accounting Regulations and other official financial reporting requirements. The filing system for financial and accounting transaction records is satisfactory. Accounting reports and financial statements are generally consistent from one year to another. Where they are not, the deviation is pointed out in the relevant sections of this report or footnotes to the Statements. The Vodokanal prepares its accounts on an accrual basis.

3.2.3 Inventory Valuation and Depreciation

Inventories (raw materials, spare parts, etc.) are valued on an average cost basis. Fixed assets are depreciated annually based on depreciation schedules established by the Ministry of Finance. Consistent depreciation rates are applied on the revalued cost of assets and from one year to the next. Depreciation is calculated on a straight line basis. The depreciation schedule prescribed by the Ministry of Finance is shown below.

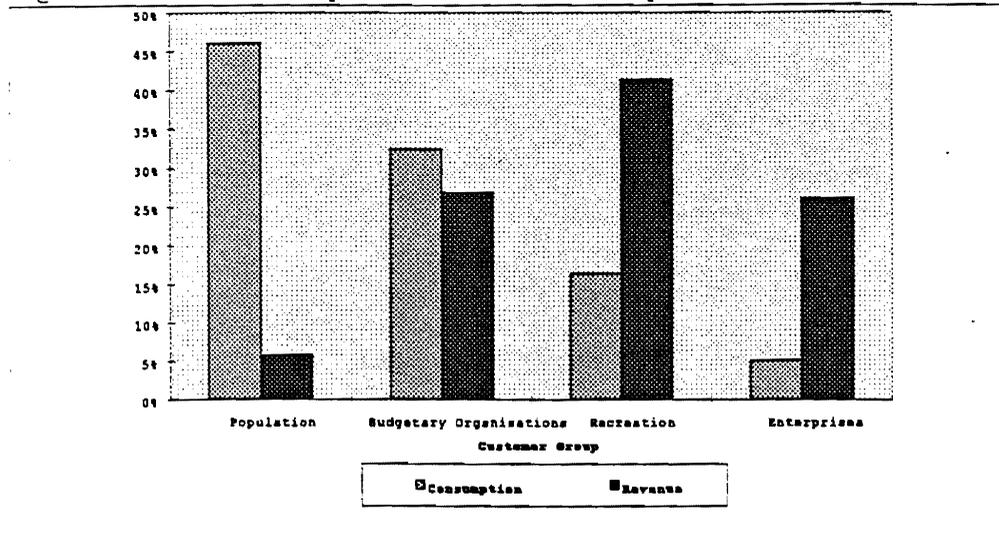
Table 3.1
Ministry of Finance Depreciation Schedule for Selected Items

Asset	Buildings	Motor Vehicles	Pipelines	Equipment	Pumps
Annual Depreciation	2.5%	13%	2-5%	6-14%	12.5-20%

3.3 Tariff Situation and System of Water/Wastewater Charges

In the past, operating and maintenance costs for water and wastewater were paid primarily by industrial enterprises and recreation resorts as well as subsidies from the various levels of government. Financing new capital investments was the responsibility of the state. Residential water and wastewater consumers paid only nominal fees for water and wastewater services which were included as part of their rent.

Figure 11 Consumption and Revenue Comparison



At present, the operating revenues are largely dependent on payments from recreation facilities and industrial enterprises, commercial businesses, and budgetary organizations. Figure 11 shows the consumption of services and the revenues for different groups of customers as a percent of the total. The pattern is similar to other Russian vodokanals in that the residential customers consume more services and pay less than any other group.

3.4 Financial Overview

An abbreviated version of the PADCO adjusted profit and loss statement below suggests that the Vodokanal had an operating profit in 1995 but an operating loss in 1996. On a "billed" basis, net profit after depreciation dropped from 695 million rubles in 1995 to a negative 136 billion rubles in 1996. Very significant increases in operating expenses have contributed to the deterioration in Vodokanal's profitability lengthening the period for payment of accounts payable.

Table 3.2
PADCO Adjusted Sochi Profit and Loss Statement
(For the Years Ended December 31, 1995 and 1996)

Item	1995 (000 Rubles)	1996 (000 Rubles)	Increase/ (Decrease)
Water & Wastewater revenue (Billed)	92,720,655	170,771,064	84%
Other income	1,285,043	708,769	(81%)
Less VAT	(15,589,500)	(29,502,013)	89%
Net Income	78,416,198	141,977,820	81%
Total Expenses (excluding depreciation)	68,321,882	117,947,873	73%
Net Income before depreciation	10,094,316	24,029,947	138%
Depreciation	9,398,943	25,385,825	170%
Net income after depreciation	695,373	(1,355,878)	(95%)

In Table 3.2, expenses include "use of profit" (for example, housing construction).

3.4.1 Sales Revenues

Total billed water and wastewater increased to 170.7 billion rubles in 1996 from 92.7 billion rubles in 1995, an 84 percent increase. The major reason for this increase in revenue is the tariff increase in 1996 to accommodate increased inflation. The largest percentage revenue gains were in the general population customer category, which increased 144 percent, but still only reflects 29 percent of the average cost of production of water and wastewater per cubic meter. However, other income associated with hookup fees and other services dropped to 0.7 billion rubles in 1996, down from 1.2 billion rubles in 1995.

3.4.2 Cost of Sales

Total expenses consist of operating and non-operating expenses. Major expense categories are summarized in the table below.⁵ The cost of sales (excluding depreciation) almost doubled over the past year, increasing from 74.5 billion rubles in 1995 to 136.3 billion rubles in 1996.

At the same time it is hard to estimate how much the average tariff reflects the real cost of services provided. For example, the Vodokanal received a short term loan in 1995, which is still outstanding. The Vodokanal believes it is advantageous to have short-term loans because Russian legislation and accounting regulations allow debt service for short-term loans to be included in the tariff as production costs. When collection rates were quite high, the actual necessity of the loan is dubious. On the other

⁵ See Appendix 3 - Table 11 "Expenses for 1995 and 1996" for additional detail.

hand, there is no incentive for the Vodokanal to pay off the loan since the costs can be included in its tariff.⁶

The cost of electricity, depreciation, labor, and taxes have all sharply increased since the end of 1995. High levels of depreciation are caused by several revaluations undertaken over the 1995-1996 period as well as actual increases in fixed assets.

3.4.3 Profit & Loss

The Profit and Loss Statement, prepared on the accrual basis, shows a profit in 1995 and a loss in 1996. Losses incurred in 1996 result from construction of housing and other non-production expenses.

Table 3.3
Total Sochi Operating Expenses for 1995 and 1996

	1995 (000 Rubles)	Percent of Total	1996 (000 Rubles)	Percent of Total
+ Personnel Costs (includes wage related expenses)	19,414,866	25%	35,212,977	24%
+ Energy	30,745,659	40%	50,898,900	35%
+ Materials and Chemicals (production materials)	1,229,394	2%	2,261,944	2%
+ Repairs (materials and subcontractors work)	1,104,275	1%	1,361,023	1%
+ Interest Payments for Received Loans	1,297,119	2%	1,314,000	1%
+ Taxes (excluding labor related)	187,9012	2%	4,094,237	4%
Mandatory payments			5,773,007	
+ Other Expenses	2,990,269	4%	4,253,326	3%
= <i>Subtotal Expenses</i>	58,660,594		105,169,414	
+ Non Production Expenses	2,214,649	3%	2,771,494	2%
+ Profit Taxes	7,446,639	9%	10,006,965	7%
+ Depreciation	9,398,943	12%	25,385,825	18%
= Total Expenses	77,720,825	100%	143,333,698	100%

3.4.4 Collections and Payments - Aging of Accounts Receivable

The Vodokanal's financial difficulties are principally related to low tariffs and its falling collection rate. The tariff paid by households cover less than 30% of the real cost of services. The tariff for industrial

⁶ This is true for short-term production related debt. Long-term debt interest must be paid out of profits.

customers and recreation facilities cross-subsidize the difference. However, PADCO estimated that as of December 31, 1996, the Vodokanal had more than 63 billion rubles in outstanding receivables.⁷ These outstanding receivables equal 4.5 months of 1996 billings. Chart 3.3 illustrates accounts receivable by customer category. Note that even though enterprise tariffs contain a very large cross-subsidy, budget organizations owe the largest amount of all customers categories.

All vodokanals that PADCO reviewed have experienced declining collection rates. For most, the decline started much earlier than it did in Sochi because of Sochi's more favorable economic conditions. Nevertheless, the falling collection rate is, no doubt, due in part to the large tariff increases charged to health resorts and enterprise customers over 1996. During that period, water tariffs for those customers increased 3.4 times over 1995 levels, while population tariffs increased 2.3 times and budget organization tariffs increased 1.7 times. Table 3.4 illustrates the impact on collections by customer group.

The decline in budget organization collection rates may be due to the special tax situation in Sochi. Since Sochi pays no federal or oblast level taxes, the vodokanal does not have the opportunity to negotiate offsets as did vodokanals in other cities. Thus, budget organizations have less incentive to settle their bills since they cannot be offset against tax liabilities. A decline in receipts from the local administration may also be a contributor factor, but this could not be determined from vodokanal accounts alone.

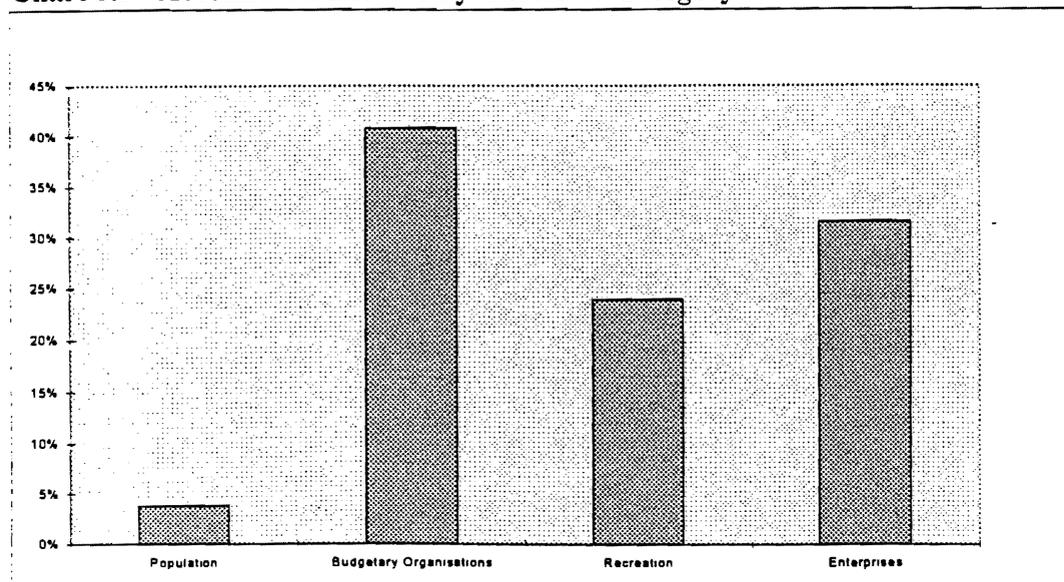
Table 3.4
Collections by Customer Category in 1995 and 1996

Customer Category	1995	1996
Population	89%	77%
Budget Organizations	92%	45%
Enterprises	84%	69%
Recreation	90%	73%
Total	89%	65%

PADCO aged accounts receivable for the Vodokanal. Receivables were reviewed for a two-year period and separated into categories "less than 180 days", "181 days to 365 days" and "over 365 days".⁸ The evaluation excluded any consideration of budget organizations (in essence governmental

⁷ See Appendix 3: Tables 16-17.

⁸ Collection ratios as a percent of sales equals (Total Collections)/(Sales + VAT) x 100. (In addition, PADCO had the opportunity to review a cross section of debtors to provide additional ageing of receivable

Chart 3.3 Accounts Receivable by Customer Category

agencies) on the basis that Russian utilities will “eventually” receive payment from budget organizations in the form of a tax offset agreement. Sochi Vodokanal officials consider that the only bad debt that the Vodokanal has is the debt of enterprises and recreational facilities that are bankrupt and whose debt is older than a year. The payment pattern would tend to bear this out. The portion of accounts receivable that is less than half a year old is 83 percent, but the portion that is older than a year is only 5 percent. After review of this information and in consideration of further receipts in the second year, a two percent bad debt is justifiable and recommended.

3.4.5 Cash Collections Are Declining

Cash collection in 1995 was approximately 85 percent of the total billed plus accounts receivable at the beginning of the year. The barter and offset portions of collections were insignificant. This was an exceptionally high level of collection compared with other Russian vodokanals. However, in 1996 cash collection dropped to 50 percent as a result of the drop in total collections. Even so, this level is still relatively high among vodokanals reviewed by PADCO. The higher level of cash collection gives the Sochi vodokanal better control over its accounts payable as well as the procurement and emergency repair process. As of December 31, 1996, the total accounts payable was equal to one half of accounts receivable. Because of this relatively high level of cash collection, the financial position of the Sochi Vodokanal is better than any other Russian vodokanal reviewed.

3.4.6 Balance Sheets

Table 3.5 shows a summary of balance sheets for the Vodokanal for last three years.

**Table 3.5 Summary of Balance Sheet Information of Sochi Vodokanal
(000's Rubles)**

Item	1994	1995	1996
Net Fixed Assets	39,021,041	154,365,178	418,517,321
Current Assets	5,611,048	16,809,817	68,378,976
Current Liabilities	3,234,646	5,502,712	32,973,540
Working Capital	2,376,402	11,307,105	35,405,436
Net Worth	41,397,443	165,672,283	453,922,757

Note: For the full Balance Sheet Statements for 1994, 1995 and 1996, see Appendix Tables 5, 6 and 7.

3.4.6.1 Working Capital

As stated earlier, collections are seasonal in Sochi due to the large share of revenues collected from recreational facilities. However, information to compare season to season is not available. During the last two years, working capital of the Vodokanal has increased roughly 17 fold. This increase has resulted from increases in tariffs and accounts receivable. Current assets are more than double current liabilities.

3.4.6.2 Net Worth

Net worth increased more than 10 times. This increase has resulted mainly from the increased value of fixed assets. The increase in the value of the fixed assets occurred because of the revaluation of fixed assets as opposed to the purchase or construction of new assets. As the Vodokanal has no long-term debt, its equity and capital stock equal its net worth (See Appendix II Tables 5 - 7). The biggest increase of capital is represented by the revaluation surplus.

Although net worth has increased, one should keep in mind that the recent revaluations may not accurately reflect the true asset values as the revaluations were based on fixed multipliers rather than actual asset appraisals. It is outside the scope of this project to accurately value the fixed assets of the Vodokanal. The Vodokanal should have a professional appraisal firm carry out an asset valuation study.

3.4.7 Ratio Analysis

On the basis of the information provided by the Vodokanal, several financial ratios have been

calculated (See Appendix II Table 22). These ratios, covering two years, clearly show a worsening of the financial condition of Sochi Vodokanal. Like many other vodokanals, Sochi Vodokanal is suffering from declining liquidity. For example, the average collection period increased from 1.42 months to 4 months while declining collections contributed to the increase in the average payment period (accounts payable) from 1 to 3 months. This trend, that of increasing period of collection and increasing payment period, is directly and closely related to the decline in overall collections. This decline in collections in turn forces the vodokanal to rely more on non-cash transactions.

3.5 Current Tariff Situation - Excluded Expenses

PADCO's review of Vodokanal financial performance over the past two years, shows a systematic exclusion of certain costs that should have been included in the tariff. These tendencies largely reflect Federal regulations (and to a lesser extent, local prerogative) that govern the normal functions of an economic enterprise. The exclusion of these cost items prevents the Vodokanal from recovering its costs from monthly user charges.

Capital costs. According to the Vodokanal Director most capital improvements and expansions are financed from Vodokanal profit. Due to declining collections there are only few funds available for capital improvements. Additionally, operational costs must take priority unless the capital improvement is absolutely essential for the Vodokanal's operation.

Under the present tariff system, the Vodokanal includes planned costs related to capital repair and depreciation for the assets under its control. The latter is intended to provide for capital rehabilitation and replacement. However, these two items are insufficient to satisfactorily repair or replace capital items. Furthermore, the Vodokanal is not able to include the interest for loans associated with capital costs as direct costs into the tariff structure. As a result, the Vodokanal has not taken out any long-term loans to pay for any capital improvements or expansion.

Bad debt expense. The carrying cost for accounts receivable is currently not identified as a normal business expense item or reserve fund category. However, under current Russian law, communal service providers can include as an expense (or bad debt reserve) the cost of certain bad debt. In brief, Russian law allows all enterprises to write off debt which is more than 3 years outstanding. Notwithstanding, the utility is reluctant to write off any bad debt or establish a reserve fund for estimated bad debt. The largest debtors are budgetary organizations. The Vodokanal could convert the outstanding budgetary organization debt into a tax (or other type) of offset only for local budgetary organizations, because there is almost no tax paid to the federal level or regional government level. There are very few local budget organizations therefore that have the opportunity to use off-sets to extinguish their debts to the Vodokanal.

3.6 Revenue Requirements and Tariff Levels

In determining future tariff levels, PADCO considered vodokanal estimated future revenue requirements. This section describes operational and financial projections for the Sochi Vodokanal over a seven-year period. The assumptions underlying the financial projections are detailed below, followed by a review of current and future annual revenue requirements.

The loan scenario assumes a \$20 million loan disbursed in four equal annual payments.

3.6.1 Tariff Cost Structure

In computing a new tariff level sufficient to cover production costs, debt service, and bad debts, it is worth drawing a distinction between the constant and variable components of the tariff cost structure. The distinction is made due to substantial differences in volatility of the two components. While the cost of the debt component can be projected into the future and will remain fixed with little variation over the life of the loan, other costs may vary within a considerably broader range depending on the overall production level, internal operational efficiency, input costs, and the ability to collect payments. As long-term projections of marginal production costs are impractical and generally difficult to make, annual adjustments to the existing tariff levels should be made to reflect the variations in marginal production costs.

Tariff levels

Table 3.6 below presents a seven-year financial projection and a discussion of the average cost recovery tariff level. Additional tariff details with debt service requirements are set out in Appendix I.

Table 3.6 shows that by incorporating a debt of US \$20 million into the Sochi Vodokanal tariff structure, the combined (water/wastewater) tariff will rise by about 416 percent over the seven-year period. The two new components added to the structure of the tariff, debt service payments and bad debts, account for a significant portion of this tariff increase. It is worth emphasizing, that it is the allowance for bad debts due to a low level of collection contributes significantly to the rise in the tariff schedule.

Table 3.6
Estimated Combined Tariff For US \$20 Million Loan (Rubles)

	Estimated Full Cost Recovery 1996	1997	2000	2003
Estimated Total Expenses (000's)	132,670,836	150,808,808	229,361,345	378,860,306
Average Cost per M3	865	983	2,036	3,169
Profitability of 25% of Average Cost M3 (includes VAT)	1,297	1,475	3,054	4,753

The projected rise in the average tariff would translate into tariff increases for all customer groups. Since the ability of enterprises and commercial organizations to cross-subsidize residential consumers is already constrained by relatively high tariff levels, the most drastic increase would have to be borne by residential consumers.

An immediate tariff increase is still needed to achieve full cost-recovery. However, over the medium term, as the collection ratio improves, a gradual leveling of the tariff increase takes place. By the year 2003, the combined water/wastewater tariff under the scenario with increased collections and operating efficiency will be 4.753 rubles per M3.

3.6.2 Loan Feasibility

The expanded charts in Appendix I map the proposed tariff schedule against the forecast net after tax profit of the Vodokanal. The Vodokanal appears able to afford loans of these amounts provided that the levels of cash collections dramatically improve. The crucial net after tax profit throughout the entire forecast period remains positive indicating that there remains some upward flexibility with respect to loan size.

3.7 Preferred Tariff Structure

Cost-Recovery Pricing

Full cost recovery pricing should be the key of Vodokanal's pricing policy. Tariffs should reflect the full marginal cost of water and wastewater service delivery and sustainability. Full cost pricing however, cannot be achieved unless bad-debt expenses, cost of billing and collection, and the costs of debt service are taken into account. Specific recommendations include:

- ***Identify a portion of accounts receivable as a bad debt expense.*** Bad debt expense can initially be calculated by identifying the total value of non-budget organization accounts that are greater than six months or more overdue. Customer profiles should be individually reviewed to determine whether there is an ability to pay the Vodokanal. A certain percentage of the accounts receivable can be calculated and defined as "bad debt expense". The "bad debt expense" percentage (or value) should be incorporated into the normal tariff setting process. Bad debt allowances should be periodically reviewed (i.e., every quarter) to determine which accounts are still collectable and those that should be written off as bad debt. Service to bad debtors should be turned off. Large accounts receivable should be periodically reviewed to distinguish those potentially collectable and those that are not.⁹ Accounts that are not collectable should be written off as bad debts.
- ***Improve User Charge Collection and Enforcement.*** Some different ways in which collections can be increased include: notifying and then shutting off service for delinquent customers;

⁹ It is recommended that a thorough evaluation of accounts receivable proceed at least every quarter.

requiring that meters be installed in new buildings; reducing in-kind payments; establishing automatic payment procedures from the bank account of customers; and, designing and implementing a system of fines. In those enterprise accounts where the enterprise has assets of value, the final action may be to litigate and receive assets that can be sold for partial payment of the unpaid bill.

- ***Develop More Efficient Cost Accounting Systems.*** At present, the Vodokanal has very good fundamental financial information. However, a consolidated accounting software system would greatly enhance the productivity of numerous internal operations (accounts payable / receivable, accounting, customer service, etc.). A positive byproduct of a more accurate cost accounting system would be the potential for more accurate tariff calculations and stronger justifications for the tariff increases.

In accordance with current Russian legislation, the Accounting Department produces revenue adjusted monthly and annual balance statements. The expenses which the accounting department reports for tax purposes are adjusted to reflect only the income that they receive. The Vodokanal's use and application of profit is different from western accounting or financial practices. As previously stated in the Institutional Review, the western concept of profit suggests a return on investment to investors after expenses have been paid. According to Russian regulations, "a profit (loss) from the sale of products (work, services) and goods shall be determined as the difference between the revenues received from the sale of the products (works, services) in current prices with the value-added tax and excises and the expenses on their production and sale."¹⁰ To minimize current projected tax obligations, many utilities do not record revenue transactions until some revenue is actually received. Vodokanals also adjust expenses accordingly.

- ***50% Minimum Cash Requirement.*** PADCO's review of the Vodokanal's financial requirements indicates that cash collection has declined. In order to make timely debt repayments, and necessary operating expense payments, the Vodokanal will need to ensure that cash collections do not drop below the 50% level. Obviously, the utility's financial health would be much strengthened if it were able to return to the higher levels of cash collections experienced in 1995.
- ***Discontinue Barter/Offsets to the Extent Possible.*** The increased use of barter/offsets is leading to the demonetization of the local (and national) economy. Barter/offsets involve relatively high transaction costs that are currently not being recouped by the Vodokanal. The Sochi Vodokanal should discontinue the practice of barter/offsets or at the very minimum attach a surcharge for engaging in this practice.

¹⁰

Section 2, Paragraph 13 of the *Regulation for Expenses Incurred in the Production and Sale of Products Included in the Cost-Price of Products and for the Orders of Forming Financial Results Accounted in Profit Taxation* (Approved by the Decision of the Government of Russia No. 522 (8/5/92))

- *Negotiate the Ability to Retain Portions of Revenues Earned from Cost Saving Measures.* As is discussed in the Overview Report, there are significant opportunities for cost saving measures that could reduce the need for large tariff increases. Such measures include reducing payroll costs; introducing demand management/loss reduction programs to reduce losses, thus production costs; introducing more energy efficient technologies, and conducting an appraisal of the value of fixed assets to reduce depreciation expense. In doing so, the Sochi Vodokanal should negotiate an agreement whereby it would be able to retain a portion of the savings realized from these measures to provide incentive bonuses to its staff and pay financing costs needed to achieve the cost efficiencies.

Appendices

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Profitability Forecast.
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Appendix III

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Sochi Vodokanal
(in '000 Rubles)

Vodokanal Revenue - including VAT
Water Revenue
Sewerage Revenue
Other Income

Sochi Scenario - Debt Capacity at Current Profitability - \$20 Million

	1996	1997	1998	1999	2000	2001	2002	2003	2004
	96,110,515								
	74,660,549								
	708,769								
Ruble Exchange Rate (Rubles to \$1)	5100								

Vodokanal Profitability
VAT
10% VKL - Matching
Profit Tax
Investment Tax Credit

25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
18%	18%	18%	18%	18%	18%	18%	18%	18%	18%

Expenses

Personnel
Energy
Chemicals and Materials
Repairs
Other Expenses
Taxes Other Than Profit
Depreciation
Billing/Collection Fee

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Value									
35,212,977	15%	15%	15%	15%	15%	15%	15%	15%	15%
50,898,900	15%	15%	15%	15%	15%	15%	15%	15%	15%
2,261,944	15%	15%	15%	15%	15%	15%	15%	15%	15%
1,361,023	15%	15%	15%	15%	15%	15%	15%	15%	15%
4,253,326	15%	15%	15%	15%	15%	15%	15%	15%	15%
9,867,244	15%	15%	15%	15%	15%	15%	15%	15%	15%
25,385,825	10%	15%	15%	15%	15%	15%	15%	15%	15%
0	2%	2%	2%	2%	2%	2%	2%	2%	2%
Total	129,241,239								

Exchange Rate:

Ruble Exchange Rate
Russian Inflation Forecast
U.S. Inflation Rate Forecast
Ruble Forecast

5,100									
15%	15%	15%	15%	15%	16%	15%	15%	15%	15%
3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
	5,712	6,397	7,165	8,025	8,988	10,156	11,375	12,740	

Volume of Water and Sewerage Sold (000 m3)

Water Volume
Sewerage Volume
% Change Water
% Change Sewerage
Bad Debt Reserve

	1996	1997	1998	1999	2000	2001	2002	2003	2004
83,207	83,207	74,886	59,909	61,107	62,329	63,576	64,847	66,144	
70,205	70,205	63,185	50,548	51,559	52,590	53,642	54,714	54,714	
	0%	10%	20%	-2%	-2%	-2%	-2%	-2%	
	0%	10%	20%	-2%	-2%	-2%	-2%	-2%	
5%									

Debt Multiplier

Conversion Factor - '000 Rubles

1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

Required Cash Payments (minimal)

Personnel
Energy
Chemicals and Materials
Repairs
Taxes (including VAT)
Other Expenses
Billing and Collections (1)

100%
50%
20%
20%
50%
50%
0%

Collection Ratios -1996

Accounts Receivable - start of period (including VAT)
Total Billed - 1996 (including VAT)
Total Billed plus Accounts Receivable
Total Collected (including VAT)
Total Collected in Cash
Accounts Payable - beginning of period (including VAT)

Amounts Ratios

15,766,478	
171,479,833	
187,246,311	
90,188,918	84%
40,186,427	76%
20,173,625	

Tariff Levels

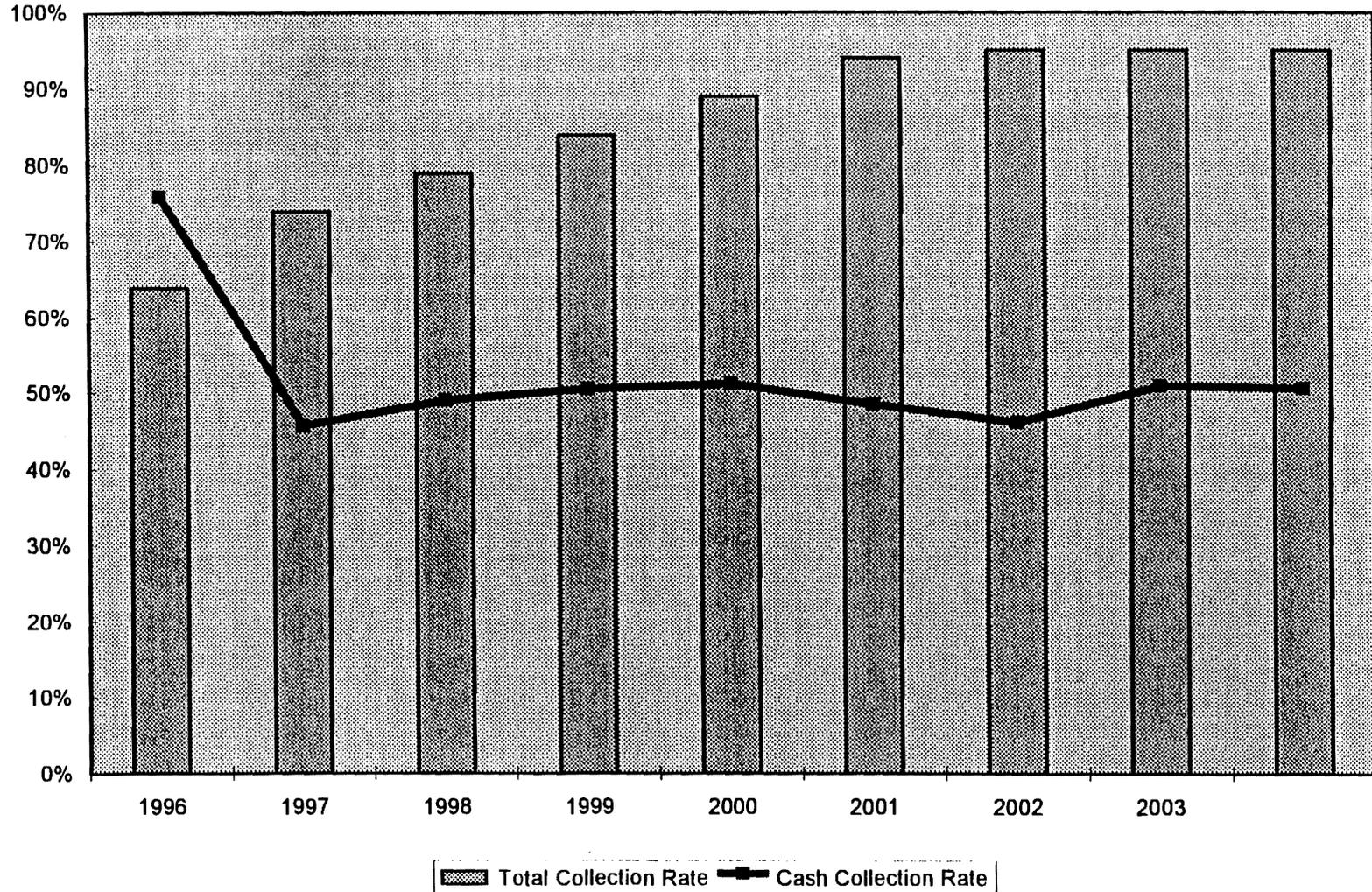
Appendix I

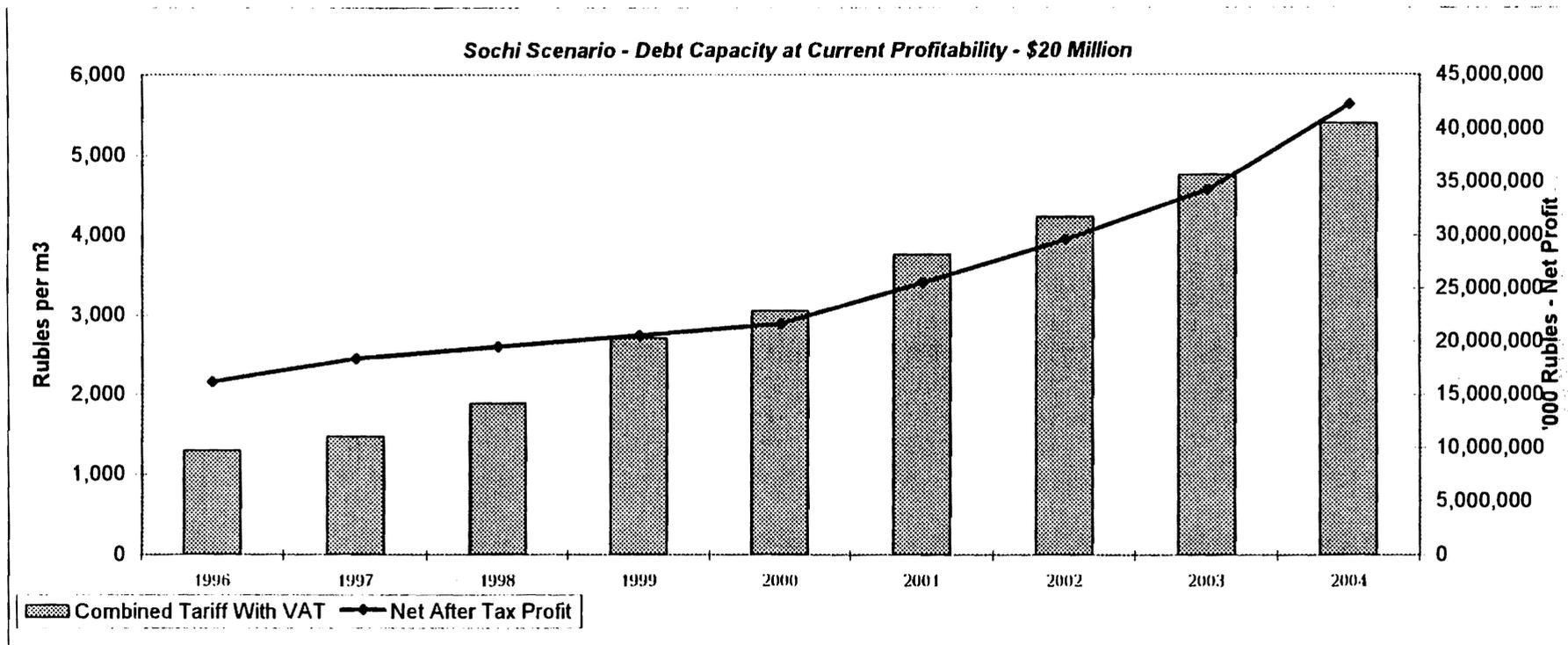
Sochi Vodokanal									
COMPUTATION OF TARIFF LEVELS									
Sochi Scenario - Debt Capacity at Current Profitability - \$20 Million									
(in '000 Rubles)	1996	1997	1998	1999	2000	2001	2002	2003	2004
Production Expenses:									
Personnel	35,212,977	40,494,924	46,569,162	53,554,536	61,567,717	70,825,874	81,449,756	93,687,219	107,717,302
Energy	50,898,900	58,533,735	67,313,795	77,410,865	89,022,494	102,375,868	117,732,249	135,392,086	155,700,899
Chemicals and Materials	2,281,944	2,601,236	2,991,421	3,440,134	3,956,154	4,549,577	5,232,014	6,016,816	6,919,338
Repairs	1,361,023	1,565,176	1,799,953	2,089,946	2,380,438	2,737,503	3,148,129	3,620,348	4,183,400
Taxes Other Than Profit	9,867,244	10,853,968	12,482,064	14,354,373	16,507,529	18,983,659	21,831,207	25,105,888	28,871,772
Other Expenses	4,253,326	4,891,325	5,625,024	6,468,777	7,439,094	8,554,958	9,838,201	11,313,932	13,011,021
Billing and Collections (1)	3,429,597	3,944,036	4,535,042	5,215,988	5,998,388	6,898,144	7,932,865	9,122,795	10,491,215
Depreciation	25,385,825	27,924,408	32,113,069	36,930,029	42,469,533	48,839,963	56,165,958	64,590,851	74,279,479
+ Depreciation-Principal Debt Coverage (2)	0	0	0	0	0	17,975,885	20,312,750	22,750,280	25,480,314
+ Depreciation of the 10% VKL Match and VAT (3)						5,752,283	6,500,080	7,280,090	8,153,700
Total Expenses	132,670,838	150,808,808	173,430,129	199,444,648	229,361,345	287,493,715	330,143,209	378,860,306	434,788,441
Volume of Water / Wastewater Sold (tm3)	153,412	153,412	138,071	110,457	112,686	114,919	117,217	119,562	120,859
Average Cost per m3	865	983	1,256	1,806	2,036	2,502	2,817	3,169	3,597
Profitability - percent of total expenses	25%								
Average tariff plus profitability	1,081	1,229	1,570	2,257	2,545	3,127	3,521	3,961	4,497
Combined Tariff with VAT	1,297	1,475	1,884	2,708	3,054	3,753	4,225	4,753	5,398
Gross Revenue (4) (7)	165,838,645	188,511,009	216,787,661	249,305,810	286,701,681	359,367,144	412,679,012	473,576,382	543,485,551
Bad Debt Reserve (5)	8,291,927	9,425,550	10,839,383	12,465,290	14,335,084	17,968,357	20,633,951	23,678,769	27,174,278
Debt Service Interest Payment*			2,579,448	5,777,963	9,706,978	14,825,160	18,380,202	18,345,826	16,511,243
Gross Profitability	24,875,782	28,276,651	32,518,149	37,395,871	43,005,262	63,905,072	81,901,852	71,036,307	81,622,833
Estimated Profit Taxes (After Improvements Tax Credit)	8,706,524	9,896,828	10,478,545	11,066,268	11,654,396	13,747,962	16,832,577	18,441,668	22,754,056
Profit plus Capital Improvements Tax Credit (6)	16,169,258	18,379,823	19,460,166	20,551,840	21,643,878	25,531,929	29,589,072	34,248,813	42,257,633

Sochi Vodokanal	COMPUTATION OF TARIFF LEVELS									
	Sochi Scenario - Debt Capacity at Current Profitability - \$20 Million									
(in '000 Rubles)	1996	1997	1998	1999	2000	2001	2002	2003	2004	
Cash-Flow										
Accounts Receivable at the beginning of the year (6)	10,964,671	75,589,533	78,468,713	60,269,537	45,044,551	28,464,438	9,613,943	4,607,487	4,866,128	
Gross Revenue (including VAT for current year billing)	199,006,253	226,213,211	260,145,193	299,166,972	344,042,018	431,240,573	495,214,814	568,290,459	652,182,661	
VAT (Current year billing)	33,167,709	37,702,202	43,357,532	49,861,162	57,340,336	71,873,429	82,535,802	94,715,076	108,667,110	
Collection Rate	64%	74%	79%	84%	89%	94%	95%	95%	95%	
Funds Collected (collection rate*(gross revenue+VAT at the beg.)	134,381,392	223,334,031	267,504,986	301,926,668	346,287,046	432,122,711	479,587,320	544,253,049	624,291,350	
Accounts Receivable at the end of the period (8)	75,589,533	78,468,713	60,269,537	45,044,551	28,464,438	9,613,943	4,607,487	4,966,128	5,883,162	
Cash Flow (collection expenses-VAT-profit tax)	(40,163,676)	24,926,193	40,238,780	41,554,590	47,930,969	59,007,605	50,975,730	52,235,998	58,051,743	
Depreciation	25,385,825	27,924,408	32,113,069	36,930,028	42,488,533	72,568,132	82,978,788	94,621,221	107,913,493	
Addition to accounts payable	14,777,851	-	-	-	-	-	-	-	-	
Accounts payable at beginning of period	20,173,625	34,951,478	-	-	-	-	-	-	-	
Development fund (Cashflow plus depreciation)	(14,777,851)	52,850,601	72,351,848	78,484,619	90,400,502	131,575,736	133,954,519	146,857,219	165,965,236	
Funds available (Development fund-accounts payable) - (9)	(34,951,476)	17,899,124	72,351,848	78,484,619	90,400,502	131,575,736	133,954,519	146,857,219	165,965,236	
Loan requirements										
10% matching			3,198,720	3,582,566	4,012,474	4,493,971	-	-	-	
Taxes associated with capital investment			8,796,480	9,852,058	11,034,305	12,358,421	-	-	-	
Development fund balance	(34,951,476)	17,899,124	60,956,848	85,049,995	75,353,723	114,723,344	133,954,519	146,857,219	165,965,236	
Loan Repayment										
Net debt service			2,303,078	5,158,896	8,688,945	12,942,637	14,625,180	39,130,482	41,991,557	
Development fund balance after debt service (10)	(34,951,476)	17,899,124	58,053,570	59,891,099	66,668,778	101,780,707	119,329,338	107,726,737	123,973,679	
Cash Collection Rate (required)	76%	46%	48%	51%	51%	49%	46%	51%	51%	
Collected in Cash	102,129,858	102,267,235	131,454,195	152,830,794	177,550,683	209,846,258	221,685,983	277,209,459	316,442,836	
Payment Cash Rate	67%	68%	70%	70%	70%	66%	64%	66%	66%	
Expenses that should be paid in cash (11)	89,384,422	102,267,235	131,454,195	152,830,794	177,550,683	209,846,258	221,685,983	277,209,459	316,442,836	
Cash Balance	12,745,436	-	0							
Notes:										
1	Costs associated with billing and collection services are estimated to be 2% of general population billings									
2	Depreciation to cover principle debt coverage is assumed to be sufficient to carry out principle payments									
3	The 10% match of the VKL and the VAT associated with the project expenditures are depreciated over the life of the loan									
4	Gross revenue is calculated using the volume sold times the average cost per m3									
5	Bad debt write off is assumed to be 5% of the total amount billed									
6	An investment tax credit is assumed to be granted. This amounts to one-half the profit tax or 18% of profit									
7	Revenues reflect drops in volumes of water and wastewater as a result of efficiencies and metering. 1998-10%, 1999 - 20% then a gradual increase in volumes at 2% growth rate thereafter									
8	Accounts receivable in 1998 and thereafter includes allowance for bad debts that is written off									
9	The Development Fund available for investment is the balance that remains after paying current plus previous accounts payable									
10	All surplus funds remaining in the Development Fund are assumed to be spent on other projects during the financial year. No funds are carried over to the next year									
11	Includes portions of all expenses plus taxes that must be paid in cash plus 10% matching funds, project associated taxes, and net debt service									

TOTAL COLLECTION RATES AND CASH COLLECTION RATES

Sochi Scenario - Debt Capacity at Current Profitability - \$20 Million





Sochi Scenario - Debt Capacity at Current Profitability - \$20 Million

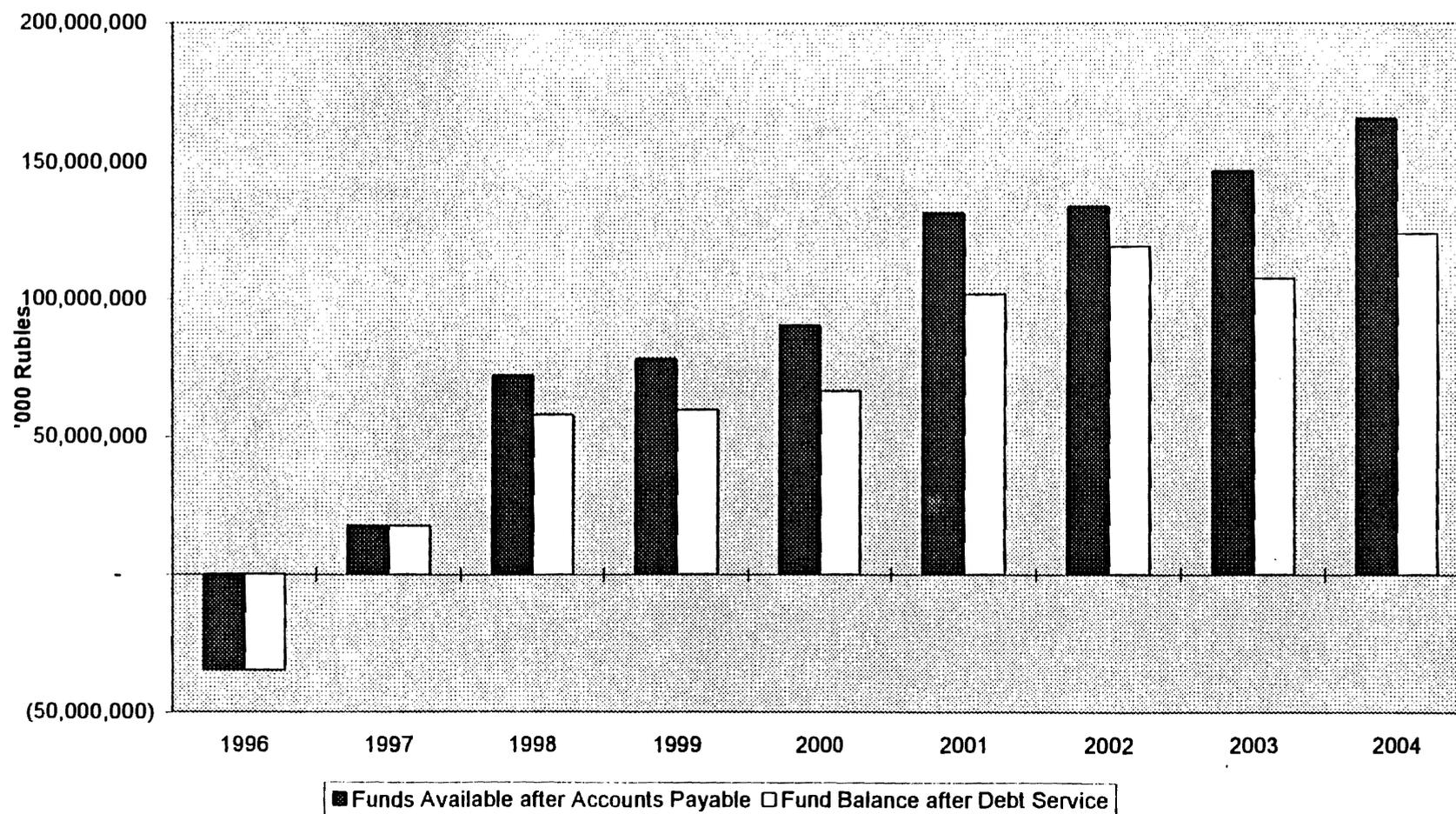


TABLE 1
SOCHI VODOKANAL
TRIAL BALANCE AS OF DECEMBER 31, 1995
(000 RUBLES)

RUSSIAN ACCOUNTING CODES	ITEM	OPENING BALANCE		ACCOUNTING ACTIVITY		CLOSING BALANCE	
		DEBIT	CREDIT	DEBIT	CREDIT	DEBIT	CREDIT
01	Fixed assets	80,435,357	-	256,843,859	11,128,457	326,150,759	-
02	Accumulated Depreciation	-	41,502,348	4,883,487	135,283,565	-	171,902,426
04	Intangible assets	6,199	-	34,192	550	39,841	-
05	Accumulated Depreciation of intangible assets	-	1,357	549	14,638	-	15,446
06-1	LT investments Stocks	1,540	-	10,000	740	10,800	-
06-2	LT investments Bonds	81,650	-	-	-	81,650	-
08-1	Purchase of the fixed assets	-	-	1,029,345	1,029,345	-	-
08-2	Housing construction (do not increase fixed assets)	-	-	1,949,609	1,949,609	-	-
08-3	Construction of the fixed assets	-	-	2,256	2,256	-	-
08-4	Purchase of intangible assets	-	-	34,192	34,192	-	-
10-1	Raw Materials	371,693	-	2,997,651	2,209,237	1,160,107	-
10-2	Fuel	28,937	-	1,536,803	1,481,697	84,043	-
10-3	Spare parts	42,612	-	376,858	202,763	216,707	-
12-1	Low Value Consumables	48,219	-	393,335	215,886	225,668	-
13	Depreciation of Low Value Assets	-	12,164	43,113	95,409	-	64,460
19-1	VAT on materials	85,683	-	363,443	416,647	32,479	-
19-2	VAT on services	-	-	4,369,129	4,369,129	-	-
19-3	VAT on fixed assets	4,386	-	148,057	100,674	51,769	-
19-4	Special Tax on materials	12,869	-	439,095	447,102	4,862	-
19-5	Special Tax on fixed assets	658	-	11,720	8,428	3,950	-
19-6	VAT on intangible assets	-	-	4,708	2,266	2,442	-
19-7	Special Tax on intangible assets	-	-	433	250	183	-
20-1	Basic Production Water	-	-	36,458,010	36,458,010	-	-
20-2	Basic Production Wastewater	-	-	24,917,824	24,917,824	-	-
20-3	Basic Production other service	-	-	402,729	402,729	-	-
23	Auxiliary production	-	-	1,016,416	1,016,416	-	-
25-1	General Production Costs Water	-	-	2,195,198	2,195,198	-	-
25-2	General Production Costs Wastewater	-	-	2,070,132	2,070,132	-	-
25-3	General Production Costs Garage	-	-	2,917,213	2,917,213	-	-
26-1	General Economy Cost	-	-	6,762,138	6,762,138	-	-
26-2	General Economy Cost Security	-	-	943,444	943,444	-	-
29	Service departments	-	-	352,453	352,453	-	-
31	Deferred Expenses	-	-	34,078	17,533	16,545	-
46	Sale of Products	-	-	92,961,654	92,961,654	-	-
47	Sale of fixed assets	-	-	620,702	620,702	-	-
48-1	Sale of material and other assets	-	-	611,388	611,388	-	-
48-2	Sale of other services	-	-	620,066	620,066	-	-
50	Cash (on hand)	22	-	13,297,413	13,295,838	1,597	-
50-2	Cash (on hand) foreign currency	-	-	5,701	5,701	-	-
51	Cash at bank Rbl	1,382,915	-	84,413,646	84,336,790	1,459,771	-
52	Cash at bank USD	5,926	-	463,107	450,453	18,580	-
55-1	Other cash at bank	358	-	2,652	-	3,010	-
60	Settlements with Suppliers-Contractors	437,962	1,861,961	50,408,213	48,368,662	1,978,831	1,363,279
62-1	Settlements with customers for water/wastewater	3,071,992	200,824	92,922,751	85,662,602	10,533,323	402,006
62-2	Settlements with private sector for water/wastewater	-	-	212,467	212,467	-	-
62-3	Settlements for sales of materials and assets	2,196	18,442	391,855	372,540	3,069	-
62-4	Settlements for sales of other services	818	40,283	623,047	632,259	2,329	51,006
63	Payments by claims	-	-	279,696	194,696	85,000	-

TABLE 1
SOCHI VODOKANAL
TRIAL BALANCE AS OF DECEMBER 31, 1995
(000 RUBLES)

RUSSIAN ACCOUNTING CODES	ITEM	OPENING BALANCE		ACCOUNTING ACTIVITY		CLOSING BALANCE	
		DEBIT	CREDIT	DEBIT	CREDIT	DEBIT	CREDIT
65	Payments for property and personal insurance	-	44	546	545	-	43
67-1	Education Tax	934	-	83,923	95,973	-	11,116
67-2	Transportation Tax	-	155	84,351	95,312	-	11,116
67-3	Children's Compensation	-	-	168,490	162,694	5,796	-
67-4	Tax for fuel sales	15	-	-	-	15	-
67-5	Victory Fund	-	-	25,806	25,806	-	-
68-1	Income tax	-	48,744	1,462,373	1,715,025	-	301,396
68-2	Land tax	-	-	52,073	52,073	-	-
68-3	Other tax	-	-	554,147	565,615	-	11,468
68-4	Profit tax	-	52,371	7,280,105	7,446,639	-	218,905
68-5	VAT	28,504	-	15,276,157	15,589,500	-	284,839
68-6	Special Tax	56,938	-	1,280,264	1,322,160	15,042	-
68-7	Road users tax	-	-	1,331,369	1,283,973	47,396	-
68-8	Property tax	-	-	30,199	-22,649	52,848	-
69-1	Settlements with Social Insurance	-	50,169	546,742	522,238	-	25,665
69-2	Pension Fund	-	-	2,443,194	2,766,169	-	322,975
69-3	Employment fund	-	-	167,994	190,149	-	22,155
69-4	Medical Insurance	-	17,037	319,426	342,269	-	39,880
70-1	Settlements with personnel on wages	3,160	315,245	14,735,858	15,507,001	18,884	1,102,112
70-2	Wages deposits	-	4,975	21,118	25,088	-	8,945
71	Settlements with accountable Personnel	1,882	-	179,651	166,183	16,075	725
73-1	Wage deductions	-	7,857	144,314	159,624	-	23,167
73-2	Trade Union fees	-	2,855	51,691	55,683	-	6,847
73-3	Settlements with personnel for housing	-	-	427,661	109,163	318,498	-
76-1	Settlements with bank	-	-	17,682	17,682	-	-
76-2	Settlements with Sberbank	-	-	-	-	-	-
76-3	Settlements with debtors and creditors	9,872	-	3,715,674	3,299,643	425,950	47
76-4	Settlements with leaseholders	562	-	31,843	33,081	293	969
76-5	Settlements for cash operations	-	-	1,052	1,052	-	-
76-6	Settlements for hostels	23,149	164	235,369	170,531	89,215	1,392
79	Settlements with MZHKF	-	10,414	27,000	50,000	-	33,414
80-1	Profit & losses from main activities	-	-	15,056,763	15,056,763	-	-
80-2	Profit & losses from other sales	-	-	251,727	251,727	-	-
80-3	Profit & losses from non-sale operations	-	-	1,188,485	1,188,485	-	-
81	Use of profit	-	-	16,100,807	16,100,807	-	-
83	Revenue of Future Periods	-	3,106	5,957	2,851	-	-
84	Losses due to spoilage	950	-	219	1,169	-	-
85	Authorized Capital	-	62,731	-	-	-	62,731
87-1	Revaluation Surplus	-	40,961,355	120,911,424	238,528,275	-	158,578,206
87-2	Capital granted	-	-	115,965	2,877,423	-	2,761,458
88-1	Retained Profit/Consumption	-	368,284	6,358,761	6,782,078	-	791,601
88-21	Retained Profit/Social Development	-	-	1,949,609	2,019,102	-	69,493
88-22	Retained Profit/Social Development Retained Value	-	2,594	582,997	3,923,016	-	3,342,613
88-3	Retained Profit/Accumulation	-	2,479	77,053	100,000	-	25,426
90	Short-term credit	-	600,000	-	700,000	-	1,300,000
	TOTALS	86,147,958	86,147,958	904,671,666	904,671,666	343,157,327	343,157,327

Source: City Sochi Vodokanal as adjusted by PADCO, Inc.

TABLE 2
SOCHI VODOKANAL
TRIAL BALANCE AS OF DECEMBER 31, 1996
(000 RUBLES)

RUSSIAN ACCOUNTING CODES	ITEM	OPENING BALANCE		ACCOUNTING ACTIVITY		CLOSING BALANCE	
		DEBIT	CREDIT	DEBIT	CREDIT	DEBIT	CREDIT
01	Fixed assets	326,150,759	-	588,194,028	10,549,891	903,794,896	-
02	Accumulated Depreciation	-	171,902,426	4,426,161	318,008,891	-	485,485,156
04	Intangible assets	39,841	-	136,452	21,168	155,125	-
05	Accumulated Depreciation of Intangible assets	-	15,446	21,168	21,206	-	15,484
06-1	LT investments Stocks	10,800	-	14,540	-	25,340	-
06-2	LT investments Bonds	81,650	-	-	39,050	42,600	-
08-1	Purchase of the fixed assets	-	-	1,363,618	1,363,618	-	-
08-2	Housing construction (do not increase fixed assets)	-	-	1,657,593	1,657,593	-	-
08-3	Construction of the fixed assets	-	-	14,295	14,295	-	-
08-4	Purchase of intangible assets	-	-	136,453	136,453	-	-
10-1	Raw Materials	1,160,107	-	5,108,256	4,286,958	1,981,405	-
10-2	Fuel	84,043	-	1,960,017	1,946,607	97,453	-
10-3	Spare parts	216,707	-	487,326	412,847	291,186	-
12-1	Low Value Consumables	225,668	-	558,905	371,533	413,040	-
13	Depreciation of Low Value Assets	-	64,460	66,868	143,619	-	141,211
19-1	VAT on materials	32,479	-	636,819	669,298	-	-
19-2	VAT on services	-	-	6,579,555	6,579,555	-	-
19-3	VAT on fixed assets	51,769	-	211,208	262,977	-	-
19-4	Special Tax on materials	4,862	-	-	4,862	-	-
19-5	Special Tax on fixed assets	3,950	-	-	3,950	-	-
19-6	VAT on intangible assets	2,442	-	1,775	4,217	-	-
19-7	Special Tax on intangible assets	183	-	-	183	-	-
20-1	Basic Production Water	-	-	65,767,663	65,767,663	-	-
20-2	Basic Production Wastewater	-	-	49,433,281	49,433,281	-	-
20-3	Basic Production other service	-	-	447,954	447,954	-	-
23	Auxiliary production	-	-	1,859,601	1,859,601	-	-
25-1	General Production Costs Water	-	-	3,243,641	3,243,641	-	-
25-2	General Production Costs Wastewater	-	-	4,050,311	4,050,311	-	-
25-3	General Production Costs Garage	-	-	5,163,536	5,163,536	-	-
26-1	General Economy Cost	-	-	17,123,803	17,123,803	-	-
26-2	General Economy Cost Security	-	-	1,575,809	1,575,809	-	-
29	Service departments	-	-	570,852	570,852	-	-
31	Deferred Expenses	16,545	-	724,436	732,484	8,497	-
46	Sale of Products	-	-	170,771,064	170,771,064	-	-
47	Sale of fixed assets	-	-	1,659,483	1,659,483	-	-
48-1	Sale of material and other assets	-	-	1,045,207	1,045,207	-	-
48-2	Sale of other services	-	-	682,478	682,478	-	-
50	Cash (on hand)	1,597	-	22,933,887	22,931,010	4,474	-
50-2	Cash (on hand) foreign currency	-	-	-	-	-	-
51	Cash at bank Rbl	1,459,771	-	93,796,658	95,256,429	-	-
52	Cash at bank USD	18,580	-	67,001	687	84,894	-
55-1	Other cash at bank	3,010	-	5,548,000	5,551,010	-	-
60	Settlements with Suppliers-Contractors	1,978,831	1,363,279	46,249,980	70,334,275	692,316	24,161,059
62-1	Settlements with customers for water/wastewater	10,533,323	402,006	171,652,770	119,593,734	63,492,950	1,302,597
62-2	Settlements with private sector for water/wastewater	-	-	412,582	412,582	-	-
62-3	Settlements for sales of materials and assets	3,069	-	601,603	616,004	13,350	24,682
62-4	Settlements for sales of other services	2,329	51,006	685,295	698,156	216	61,754
63	Payments by claims	85,000	-	87,230	172,230	-	-
65	Payments for property and personal insurance	-	43	1,219	1,262	-	86

TABLE 2
SOCHI VODOKANAL
TRIAL BALANCE AS OF DECEMBER 31, 1996
(000 RUBLES)

RUSSIAN ACCOUNTING CODES	ITEM	OPENING BALANCE		ACCOUNTING ACTIVITY		CLOSING BALANCE	
		DEBIT	CREDIT	DEBIT	CREDIT	DEBIT	CREDIT
67-1	Education Tax	-	11,116	202,660	214,149	-	22,605
67-2	Transportation Tax	-	11,116	202,660	214,149	-	22,605
67-3	Children's Compensation	5,796	-	322,825	315,795	12,826	-
67-4	Tax for fuel sales	15	-	674	730	-	41
67-5	Victory Fund	-	-	-	-	-	-
68-1	Income tax	-	301,396	2,888,978	3,101,171	-	513,589
68-11	Payments for rehabilitation of the Mineral resources	-	-	4,078,011	4,004,605	73,406	-
68-2	Land tax	-	-	78,110	78,110	-	-
68-3	Other tax	-	11,468	179,576	125,377	42,731	-
68-4	Profit tax	-	218,905	10,556,004	10,006,965	330,134	-
68-5	VAT	-	284,839	26,667,351	29,502,013	-	3,119,501
68-6	Special Tax	15,042	-	1,348	16,390	-	-
68-7	Road users tax	47,396	-	3,573,704	3,737,180	-	116,080
68-8	Property tax	52,848	-	76,533	152,840	-	23,459
68-9	Payments for resources	-	-	1,788,700	1,768,402	20,298	-
69-1	Settlements with Social Insurance	-	25,665	1,171,211	1,129,640	15,906	-
69-2	Pension Fund	-	322,975	7,244,678	7,697,649	-	775,946
69-3	Employment fund	-	22,155	309,596	321,496	-	34,055
69-4	Medical Insurance	-	39,880	731,259	773,111	-	81,732
70-1	Settlements with personnel on wages	18,884	1,102,112	25,018,598	25,185,680	27,413	1,277,723
70-2	Wages deposits	-	8,945	38,352	49,808	-	20,401
71	Settlements with accountable Personnel	16,075	725	327,580	324,373	19,255	698
73-1	Wage deductions	-	23,167	293,177	300,332	-	30,322
73-2	Trade Union fees	-	6,847	105,846	109,411	-	10,412
73-3	Settlements with personnel for housing	318,498	-	-	49,954	268,544	-
76-1	Settlements with bank	-	-	13,239	13,239	-	-
76-2	Settlements with Sberbank	-	-	-	-	-	-
76-3	Settlements with debtors and creditors	425,950	47	2,837,445	2,770,172	495,457	2,281
76-4	Settlements with leaseholders	293	969	60,760	57,640	2,444	-
76-5	Settlements for cash operations	-	-	3,515	3,515	-	-
76-6	Settlements for hostels	89,215	1,392	314,066	270,569	131,992	672
79				1,730,516,804	1,730,516,809	972,538,148	972,538,153

Source: City Sochi Vodokanal as adjusted by PADCO, Inc

TABLE 3
SOCHI VODOKANAL
CONNECTION OF THE TRIAL BALANCE AND BALANCE SHEETS AS OF DECEMBER 31, 1994 AND 1995
(000 RUBLES)

RUSSIAN ACCOU NT CODES	ITEM	1994	1995
FIXED ASSETS			
01	Fixed assets	80,435,357	326,150,759
02	Accumulated Depreciation	-41,502,348	-171,902,426
04	Intangible assets	6,199	39,841
05	Accumulated Depreciation of Intangible assets	-1,357	-15,446
06-1	LT investments Stocks	1,540	10,800
06-2	LT investments Bonds	81,650	81,650
06	Investments	83,190	92,450
SUBTOTAL FIXED ASSETS		39,021,041	154,365,178
CURRENT ASSETS			
62-1	Settlements with customers for water/wastewater	3,071,992	10,533,323
62-3	Settlements for sales of materials and assets	2,196	3,069
62-4	Settlements for sales of other services	818	2,329
76-3	Settlements with debtors and creditors	9,872	425,950
62,76-3	Production Receivable	3,084,878	10,964,671
19-1	VAT on materials	85,683	32,479
19-3	VAT on fixed assets	4,386	51,769
19-4	Special Tax on materials	12,869	4,862
19-5	Special Tax on fixed assets	658	3,950
19-6	VAT on intangible assets	0	2,442
19-7	Special Tax on intangible assets	0	183
63	Payments by claims	0	85,000
73-3	Settlements with personnel for housing	0	318,498
76-4	Settlements with leaseholders	562	293
76-6	Settlements for hostels	23,149	89,215
84	Losses due to spoilage	950	0
19,63,73,76-4,76-6,84	Other Accounts Receivable	128,257	588,691
50	Cash (on hand)	22	1,597
51	Cash at bank Rbl	1,382,915	1,459,771
52	Cash at bank USD	5,926	18,580
55-1	Other cash at bank	358	3,010
50,51,52,55	Cash	1,389,221	1,482,958
10-1	Raw Materials	371,693	1,160,107
10-2	Fuel	28,937	84,043
10-3	Spare parts	42,612	216,707
12-1	Low Value Consumables	48,219	225,668
13	Depreciation of Low Value Assets	-12,164	-64,460
10,12,-13	Inventory	479,297	1,622,065
31	Deferred Expenses	0	16,545
60	Settlements with Suppliers-Contractors	437,962	1,978,831
67-1	Education Tax	934	0
67-3	Children's Compensation	0	5,796
67-4	Tax for fuel sales	15	15
68-5	VAT	28,504	0
68-6	Special Tax	56,938	15,042
68-7	Road users tax	0	47,396
68-8	Property tax	0	52,848
70-1	Settlements with personnel on wages	3,160	18,884
71	Settlements with accountable Personnel	1,882	16,075
31,60,67,68,70,71	Prepaid Items	529,395	2,151,432
SUBTOTAL CURRENT ASSETS		5,611,048	16,809,817

TABLE 3
SOCHI VODOKANAL
CONNECTION OF THE TRIAL BALANCE AND BALANCE SHEETS AS OF DECEMBER 31, 1994 AND 1995
(000 RUBLES)

RUSSIAN ACCOU NT CODES	ITEM	1994	1995
TOTAL ASSETS		44,632,089	171,174,995
LIABILITIES			
60	Settlements with Suppliers-Contractors	1,861,961	1,363,279
76-3	Settlements with debtors and creditors	0	47
79	Settlements with MZhKF	10,414	33,414
60,76-3,79	Accounts Payable - Suppliers	1,872,375	1,396,740
65	Payments for property and personal insurance	44	43
69-1	Settlements with Social Insurance	50,169	25,665
69-2	Pension Fund	0	322,975
69-3	Employment fund	0	22,155
69-4	Medical Insurance	17,037	39,880
68-1	Income tax	48,744	301,396
70-1	Settlements with personnel on wages	315,245	1,083,228
70-2	Wages deposits	4,975	8,945
71	Settlements with accountable Personnel	0	-15,350
73-1	Wage deductions	7,857	23,167
73-2	Trade Union fees	2,855	6,847
	Education Tax	0	11,116
	Transportation Tax	155	11,116
	Children's Compensation	0	-5,796
65,69,68-1,70,71,73	Accounts Payable related to labor	447,081	1,835,387
68-3	Other tax	0	11,468
68-4	Profit tax	52,371	218,905
68-5	VAT	0	284,839
67,68-3,68-4,68-5	Taxes Payable	52,371	515,212
76-4	Settlements with leaseholders	0	969
76-6	Settlements for hostels	164	1,392
83	Revenue of Future Periods	3,106	0
76-4,76-6,83	Accounts Payable - Non-production	3,270	2,361
62-1	Settlements with customers for water/wastewater	200,824	402,006
62-3	Settlements for sales of materials and assets	18,442	0
63-4	Settlements for sales of other services	40,283	51,006
62,63	Advances and suppliers' Credits	259,549	453,012
90	Short-term credit	600,000	1,300,000
TOTAL LIABILITIES		3,234,646	5,502,712
EQUITY			
85	Authorized Capital	62,731	62,731
87-1	Revaluation Surplus	40,961,355	158,578,206
87-2	Capital granted	0	2,761,458
88-1	Retained Profit/Consumption	368,284	791,601
88-21	Retained Profit/Social Development	0	69,493
88-22	Retained Profit/Social Development Retained Value	2,594	3,342,613
88-1,88-21,88-22	Development and other Funds	370,878	4,203,707
88-3	Retained Profit/Accumulation	2,479	25,426
TOTAL EQUITY		41,397,443	165,631,528
TOTAL LIABILITIES AND EQUITY		44,632,089	171,134,240

Source: City Sochi Vodokanal

TABLE 4
SOCHI VODOKANAL
CONNECTION OF THE TRIAL BALANCE AND BALANCE SHEETS AS OF DECEMBER 31, 1996
(000 RUBLES)

RUSSIAN ACCOUNT CODES	ITEM	1996
FIXED ASSETS		
01	Fixed assets	903,794,896
02	Accumulated Depreciation	-485,485,156
04	Intangible assets	155,125
05	Accumulated Depreciation of Intangible assets	-15,484
06-1	LT. investments Stocks	25,340
06-2	LT investments Bonds	42,600
06	Investments	67,940
SUBTOTAL FIXED ASSETS		418,517,321
CURRENT ASSETS		
62-1	Settlements with customers for water/wastewater	63,492,950
62-3	Settlements for sales of materials and assets	13,350
62-4	Settlements for sales of other services	216
76-3	Settlements with debtors and creditors	495,457
62,76-3	Production Receivable	64,001,973
73-3	Settlements with personnel for housing	268,544
76-4	Settlements with leaseholders	2,444
76-6	Settlements for hostels	131,992
73,76-4,76-6	Other Accounts Receivable	402,980
50	Cash (on hand)	4,474
52	Cash at bank USD	84,894
50,52	Cash	89,368
10-1	Raw Materials	1,981,405
10-2	Fuel	97,453
10-3	Spare parts	291,186
12-1	Low Value Consumables	413,040
13	Depreciation of Low Value Assets	-141,211
10,12,-13	Inventory	2,641,873
31	Deferred Expenses	8,497
60	Settlements with Suppliers-Contractors	692,316
67-3	Children's Compensation	12,826
68-11	Payments for rehabilitation of the Mineral resources	73,406
68-3	Other tax	42,731
68-4	Profit tax	330,134
68-9	Payments for resources	20,298
69-1	Settlements with Social Insurance	15,906
70-1	Settlements with personnel on wages	27,413
71	Settlements with accountable Personnel	19,255
31,60,67,68,69,70,71	Prepaid Items	1,242,782
TOTAL CURRENT ASSETS		68,378,976
TOTAL ASSETS		486,896,297
LIABILITIES		
60	Settlements with Suppliers-Contractors	24,161,059
76-3	Settlements with debtors and creditors	2,281
79	Settlements with MZhKF	71,240
60,76-3,79	Accounts Payable - Suppliers	24,234,580
65	Payments for property and personal insurance	86

TABLE 4
SOCHI VODOKANAL
CONNECTION OF THE TRIAL BALANCE AND BALANCE SHEETS AS OF DECEMBER 31, 1996
(000 RUBLES)

RUSSIAN ACCOUNT CODES	ITEM	1996
68-1	Income tax	513,589
69-2	Pension Fund	775,946
69-3	Employment fund	34,055
69-4	Medical Insurance	81,732
70-1	Settlements with personnel on wages	1,277,723
70-2	Wages deposits	20,401
71	Settlements with accountable Personnel	698
73-1	Wage deductions	30,322
73-2	Trade Union fees	10,412
67- 1	Education Tax	22,605
67- 2	Transportation Tax	22,605
65,68-1,69,70,71,73	Accounts Payable related to labor	2,790,174
67- 4	Tax for fuel sales	41
68-5	VAT	3,119,501
68-7	Road users tax	116,080
68-8	Property tax	23,459
67,68-5,68-7,68-8	Taxes Payable	3,259,081
76-6	Settlements for hostels	672
62-1	Settlements with customers for water/wastewater	1,302,597
62-3	Settlements for sales of materials and assets	24,682
62-4	Settlements for sales of other services	61,754
62	Advances and suppliers' Credits	1,389,033
90	Short-term credit	1,300,000
TOTAL LIABILITIES		32,973,540
EQUITY		
85	Authorized Capital	62,731
87-1	Revaluation Surplus	416,121,082
87-2	Capital granted	24,437,378
88-1	Retained Profit/Consumption	652,700
88-21	Retained Profit/Social Development	42,900
88-22	Retained Profit/Social Development Retained Value	12,602,715
88-1,88-21,88-22	Development and other Funds	13,298,315
88-3	Retained Profit/Accumulation	3,256
TOTAL EQUITY		453,922,762
TOTAL LIABILITIES AND EQUITY		486,896,302

Source: City Sochi Vodokanal

TABLE 5
SOCHI VODOKANAL
BALANCE SHEET FOR THE YEAR ENDING DECEMBER 31, 1994
(000 RUBLES)

RUSSIAN ACCOUNTING CODES	ITEM	NOTES	SUBTOTALS	TOTALS
ASSETS				
Fixed Assets				
01	Fixed Assets		80,435,357	
02	-- Less Accumulated Depreciation		-41,502,348	
	Net Fixed Assets			38,933,009
04	Intangible Assets		6,199	
05	-- Less Accumulated Depreciation		-1,357	
	Net Intangible Fixed Assets			4,842
06	Investments			83,190
	Total Fixed Assets			39,021,041
Current Assets				
Accounts Receivable				
62.76-3	-- Production Receivable		3,084,878	
	Subtotal Accounts Receivable Production		3,084,878	
19,63,73,76-4,76-6,84	Other Accounts Receivable	1	128,257	
50,51,52,55	Cash		1,389,221	
10,12,-13	Inventory		479,297	
31,60,67,68,70,71	Prepaid Items	2	529,395	
	Total Current Assets		5,611,048	
LIABILITIES				
Current Liabilities				
Accounts Payable - Production				
60,76-3,79	Accounts Payable - Suppliers		1,872,375	
65,69,68-1,70,71,73	Accounts Payable related to labor		447,081	
67,68-3,68-4,68-5	Taxes Payable		52,371	
	Subtotal Accounts Payable Production		2,371,827	
76-4,76-6,83	Accounts Payable - Non-production		3,270	
90	Short-term Credits	3	600,000	
62.63	Advances and Credits	4	259,549	
	Total Current Liabilities		3,234,646	
	Working Capital (Current Assets minus Current Liabilities)			2,376,402
	Net Worth			41,397,443
Equity and Capital Stock				
85	Authorized Capital			62,731
87-1	Revaluation Surplus	5		40,961,355
88-1,88-21,88-22	Development and other Funds	6		370,878
88-3	Retained Profit/Accumulation			2,479
	Total Equity and Capital Stock	7		41,397,443

Source: City Sochi Vodokanal accounts as restated by PADCO, Inc.

Notes

- 1 Includes the accounts receivable that are not associated with water and wastewater services.
- 2 Includes prepayment for all types of services and materials purchased by Vodokanal.
- 3 Includes a short term loan received by The Vodokanal for operational uses.
- 4 Includes customer's prepayments for all types of services provided by Vodokanal.
- 5 Represents the revaluation surplus for fixed assets and accrued depreciation.
- 6 Represents mostly the value of the infrastructure passed to the Vodokanal by the local administration.
- 7 The difference between Net Profit and Retained earnings has been spread to other equity accounts.

TABLE 6
SOCHI VODOKANAL
BALANCE SHEET FOR THE YEAR ENDING DECEMBER 31, 1995
(000 RUBLES)

RUSSIAN ACCOUNTING CODES	ITEM	NOTES	SUBTOTALS	TOTALS
ASSETS				
Fixed Assets				
01	Fixed Assets		326,150,759	
02	– Less Accumulated Depreciation		(171,902,426)	
	Net Fixed Assets			154,248,333
04	Intangible Assets		39,841	
05	– Less Accumulated Depreciation		(15,446)	
	Net Intangible Fixed Assets			24,395
06	Investments			92,450
	Total Fixed Assets			154,365,178
Current Assets				
Accounts Receivable				
62,76-3	Production Receivable		10,964,671	
	Subtotal Accounts Receivable Production		10,964,671	
19,63,73,76-4,76-6,84	Other Accounts Receivable	1	588,691	
50,51,52,55	Cash		1,482,958	
10,12,-13	Inventory		1,622,065	
31,60,67,68,70,71	Prepaid Items	2	2,151,432	
	Total Current Assets		16,809,817	
LIABILITIES				
Current Liabilities				
Accounts Payable - Production				
60,76-3,79	Accounts Payable - Suppliers		1,396,740	
65,69,68-1,70,71,73	Accounts Payable related to labor		1,835,387	
67,68-3,68-4,68-5	Taxes Payable		515,212	
	Subtotal Accounts Payable Production		3,747,339	
76-4,76-6,83	Accounts Payable - Non-production		2,361	
90	Short-term Credits	3	1,300,000	
62,63	Advances and suppliers' Credits	4	453,012	
	Total Current Liabilities		5,502,712	
	Working Capital (Current Assets minus Current Liabilities)			11,307,105
	Net Worth			165,672,283
Equity and Capital Stock				
85	Authorized Capital			62,731
87-1	Revaluation Surplus	5		158,578,206
87-2	Capital granted			2,761,458
88-1,88-21,88-22	Development and other Funds	6		4,203,707
88-3	Retained Profit/Accumulation	7		25,426
	Total Equity and Capital Stock			165,631,528

Source: City Sochi Vodokanal accounts as restated by PADCO, Inc.

Notes

- 1 Includes the accounts receivable that are not associated with water and wastewater services.
- 2 Includes prepayment for all types of services and materials purchased by Vodokanal.
- 3 Includes a short term loan received by The Vodokanal for operational uses.
- 4 Includes customer's prepayments for all types of services provided by Vodokanal.
- 5 Represents the revaluation surplus for fixed assets and accrued depreciation.
- 6 Represents mostly the value of the infrastructure passed to the Vodokanal by the local administration.
- 7 The difference between Net Profit and Retained earnings has been spread to other equity accounts.

TABLE 7
SOCHI VODOKANAL
BALANCE SHEET FOR THE YEAR ENDING DECEMBER 31, 1996
(000 RUBLES)

RUSSIAN ACCOUNTING CODES	ITEM	NOTES	SUBTOTALS	TOTALS
ASSETS				
Fixed Assets				
01	Fixed Assets		903,794,896	
02	-- Less Accumulated Depreciation		(485,485,156)	
	Net Fixed Assets			418,309,740
04	Intangible Assets		155,125	
05	-- Less Accumulated Depreciation		(15,484)	
	Net Intangible Fixed Assets			139,641
06	Investments			67,940
	Total Fixed Assets			418,517,321
Current Assets				
Accounts Receivable				
62,76-3	-- Production Receivable		64,001,973	
	Subtotal Accounts Receivable Production		64,001,973	
73,76-4,76-6	Other Accounts Receivable	1	402,980	
50,52	Cash		89,368	
10,12,-13	Inventory		2,641,873	
31,60,67,68,69,70,71	Prepaid Items	2	1,242,782	
	Total Current Assets		68,378,976	
LIABILITIES				
Current Liabilities				
Accounts Payable - Production				
60,76-3,79	Accounts Payable - Suppliers		24,234,580	
65,68-1,69,70,71,73	Accounts Payable related to labor		2,790,174	
67,68-5,68-7,68-8	Taxes Payable		3,259,081	
	Subtotal Accounts Payable Production		30,283,835	
76-6	Accounts Payable - Non-production		672	
90	Short-term Credits	3	1,300,000	
62	Advances and suppliers' Credits	4	1,389,033	
	Total Current Liabilities		32,973,540	
	Working Capital (Current Assets minus Current Liabilities)			35,405,436
	Net Worth			453,922,757
Equity and Capital Stock				
85	Authorized Capital			62,731
87-1	Revaluation Surplus	5		416,121,082
87-2	Capital granted			24,437,378
88-1,88-21,88-22	Development and other Funds	6		13,298,315
88-3	Retained Profit/Accumulation	7		3,256
	Total Equity and Capital Stock			453,922,762

Source: City Sochi Vodokanal accounts as restated by PADCO, Inc.

Notes

- 1 Includes the accounts receivable that are not associated with water and wastewater services.
- 2 Includes prepayment for all types of services and materials purchased by Vodokanal.
- 3 Includes a short term loan received by The Vodokanal for operational uses.
- 4 Includes customer's prepayments for all types of services provided by Vodokanal.
- 5 Represents the revaluation surplus for fixed assets and accrued depreciation.
- 6 Represents mostly the value of the infrastructure passed to the Vodokanal by the local administration.
- 7 The difference between Net Profit and Retained earnings has been spread to other equity accounts.

TABLE 8
SOCHI VODOKANAL
PROFIT AND LOSS STATEMENT FOR THE YEAR ENDING DECEMBER 31, 1995
(000 Rubles)

Russian Accounting Costs	Item	Notes	Subtotals	Totals
	Revenues			
46	Production Revenues		92,720,655	
48	Other Revenues		1,285,043	
68-5	-Less VAT		-15,589,500	
	Total Revenues			78,416,198
	Expenses			
	Production Expenses			
	- Energy		30,745,659	
70.67-1.67-2.69	- Salaries and bonuses		19,414,866	
	- Materials and Chemicals		1,229,394	
	- Repairs (materials and subcontractors work)		1,104,275	
68-2.68-3.68-8	- Taxes (excluding labor related)		1,879,012	
	- Other Production Expenses		2,990,269	
	Subtotal Production Expenses			57,363,475
	Non-Production Expenses			
	- Interest Charges on Short-term Loans		1,297,119	
	Subtotal Non-Production Expenses			1,297,119
	Total Expenses			58,660,594
	Gross Profit/(Loss) Before Depreciation			19,755,604
	Depreciation			9,398,943
	Net Profit/(Loss) After Depreciation			10,356,661
68-4	Profits Taxes		7,446,639	
	Other Out-of-Profit Expenses		2,214,649	
	Subtotal Out-of-Profit Fines, Taxes and Expenses			9,661,288
	Net Profit/(Loss) for the Year			695,373

Source: City Sochi Vodokanal accounts as restated by PADCO, Inc.

TABLE 9
SOCHI VODOKANAL
PROFIT AND LOSS STATEMENT FOR THE YEAR ENDING DECEMBER 31, 1996
(000 Rubles)

Russian Accounting Costs	Item	Notes	Subtotals	Totals
	Revenues			
46	Production Revenues		170,771,064	
48	Other Revenues		708,769	
68-5	-Less VAT		-29,502,013	
	Total Revenues			141,977,820
	Expenses			
	Production Expenses			
	- Energy		50,898,900	
70,67-1,67-2,69	- Salaries and bonuses		35,212,977	
	- Materials and Chemicals		2,261,944	
	- Repairs (materials and subcontractors work)		1,361,023	
68-2,68-3,68-8,68-11	- Taxes (excluding labor related)		4,094,237	
67-3,67-4,68-7,68-9	- Mandatory payments		5,773,007	
	- Other Production Expenses		4,253,326	
	Subtotal Production Expenses			103,855,414
	Non-Production Expenses			
	- Interest Charges on Short-term Loans		1,314,000	
	Subtotal Non-Production Expenses			1,314,000
	Total Expenses			105,169,414
	Gross Profit/(Loss) Before Depreciation			36,808,406
	Depreciation			25,385,825
	Net Profit/(Loss) After Depreciation			11,422,581
68-4	Profits Taxes		10,006,965	
	Other Out-of-Profit Expenses		2,771,494	
	Subtotal Out-of-Profit Fines, Taxes and Expenses			12,778,459
	Net Profit/(Loss) for the Year			-1,355,878

Source: City Sochi Vodokanal accounts as restated by PADCO, Inc.

TABLE 10
SOCHI VODOKANAL
SOURCES AND USES FOR 1995 AND 1996
(000 RUBLES)

RUSSIAN ACCOUNT CODES	ITEM	1995	1996	PERCENT CHANGE
SOURCES				
	Net profit after depreciation	695,373	-1,355,878	-295.0%
	Add depreciation	9,398,943	25,385,825	170.1%
	Increase in Accounts Payable - Suppliers	-	22,837,840	n/a
	Increase in Accounts Payable related to labor	1,388,306	954,787	-31.2%
	Increase in Taxes Payable	462,841	2,743,869	492.8%
	Increase in Short-term Credits	700,000	-	n/a
	Increase in Advances and suppliers' Credits	192,554	936,021	386.1%
	Retained Profit	22,947	-22,170	-196.6%
	Capital granted	2,761,458	24,437,378	784.9%
	Increase in funds	3,832,829	9,094,608	137.3%
	TOTAL SOURCES	19,455,251	85,012,280	337.0%
USES				
	Fixed Assets	7,187,127	33,396,595	364.7%
	Increase in Intangible Assets	19,553	115,246	489.4%
	Increase in Investments	9,260	-24,510	-364.7%
	Increase in Production Receivable	7,879,793	53,037,302	573.1%
	Increase in Other Accounts Receivable	460,434	-185,711	-140.3%
	Increase in Cash	93,737	-1,393,590	-1586.7%
	Inventory	1,142,768	1,019,808	-10.8%
	Prepaid Items	1,622,037	-908,650	-156.0%
	Decrease in Accounts Payable - Suppliers	475,635	-	n/a
	TOTAL USES	18,890,344	85,056,490	350.3%
	SUSPENSION FACTOR	-564.907	44,210	

Source: City Sochi Vodokanal accounts as analyzed by PADCO, Inc.

TABLE 11
SOCHI VODOKANAL
COMBINED OPERATING EXPENSE ANALYSIS - 1995 AND 1996
(000 RUBLES)

ITEM	1995	1996	PERCENT CHANGE
Personnel Costs			
Wages (includes administration)	9,020,328	14,192,424	57.3%
Employee Compensation Fund	6,138,245	10,353,302	68.7%
Taxes labor related	379,785	745,355	96.3%
Pension, Social Insurance, Employment, Medical, etc	3,876,508	9,921,896	155.9%
Subtotal Personnel Costs	19,414,866	35,212,977	81.4%
Production Expenses			
Energy	30,745,659	50,898,900	65.5%
Materials and Chemicals (Production Materials)	1,229,394	2,261,944	84.0%
Repairs (materials and subcontractors work)	1,104,275	1,361,023	23.3%
Interest payments for the loans received	1,297,119	1,314,000	1.3%
Taxes (excluding labor related)	1,879,012	4,094,237	117.9%
Mandatory payments	-	5,773,007	0.0%
Other Expenses	2,990,269	4,253,326	42.2%
Subtotal Production Expenses	58,660,594	105,169,414	79.3%
Non-production Expenses			
Profit Taxes	7,446,639	10,006,965	34.4%
Other Non-production Expenses*	2,214,649	2,771,494	25.1%
Subtotal Non-Production Expenses	9,661,288	12,778,459	32.3%
Total Production and Non-Production Expenses	68,321,882	117,947,873	72.6%
Depreciation of Fixed Assets	9,398,943	25,385,825	170.1%
Total Expenses Including Depreciation	77,720,825	143,333,698	84.4%

Source: City Sochi Vodokanal accounts as analyzed by PADCO, Inc.

TABLE 12
SOCHI VODOKANAL
TAX AND OTHER REQUIRED PAYMENTS ANALYSIS
1995
(000 RUBLES)

	BILLED	PAID	% OF BILLED	CASH	OFF SETS	BALANCE
Profit Tax	7,446,639	7,280,105	98%	7,280,105	0	166,534
VAT	16,911,660	16,556,421	98%	8,355,268	8,201,153	355,239
Other taxes (excluding those related to labor)	1,879,012	1,967,788	105%	1,967,788	0	-88,776
Taxes related to the labor costs	379,785	362,570	95%	362,570	0	17,215
Income tax	1,715,025	1,462,373		1,462,373		252,652
Mandatory payments to the non-budgetary funds related to the labor costs (Pension.fund 28%)	3,876,508	3,529,047	91%	3,529,047	0	347,461
TOTAL	32,208,629	31,158,304		22,957,151	8,201,153	1,050,325

Note: All major taxes are paid to the local budget according the special status given to Sochi by the Federal legislation.

* Off-sets on VAT payment include off-sets with a/c 19 (VAT on purchases).

TABLE 13
SOCHI VODOKANAL
TAX AND OTHER REQUIRED PAYMENTS ANALYSIS
1996
(000 RUBLES)

	BILLED	PAID	% OF BILLED	CASH	OFFSETS	BALANCE
Profit Tax	10,006,965	10,556,004	105%	10,556,004	0	(549,039)
VAT*	29,518,403	26,668,699	90%	18,466,782	8,201,917	2,849,704
Other taxes (excluding those related to labor)	4,094,237	3,908,597	95%	3,908,597	0	185,640
Taxes related to the labor costs	745,355	729,364	98%	729,364	0	15,991
Income tax	3,101,171	2,888,978		2,888,978	0	212,193
Mandatory payments to the non-budgetary funds except those related to the labor costs	5,773,007	5,866,711	102%	5,866,711	0	(93,704)
Mandatory payments to the non-budgetary funds related to the labor costs (Pension fund 28%)	9,921,896	9,456,744	95%	9,456,744	0	465,152
TOTAL	63,161,034	60,075,097		51,873,180	8,201,917	3,085,937

Note: All major taxes are paid to the local budget according the special status given to Sochi by the Federal legislation.

* Off-sets on VAT payment include off-sets with a/c 19 (VAT on purchases).

TABLE 14
SOCHI VODOKANAL
COMBINED WATER AND WASTEWATER REVENUE ANALYSIS - 1995
(000 RUBLES)

ITEM	TOTAL	PERCENT	POPULATION	BUDGETARY ENTERPRISES	INDUSTRIES	RECREATION
Services Billed	92,720,655	100.0%	4,090,958	21,487,932	25,492,752	41,649,013
- Cash Collected - Combined	80,764,765	95.2%	2,731,020	20,175,706	21,720,523	36,137,516
- Received via Offsets	2,417,416	2.8%	1,029,768	0	572,948	814,700
- Received via Barter	316,945	0.4%	0	0	308,816	8,129
- Received via Promissory Notes/Treasury Notes	1,341,735	1.6%	0	0	0	1,341,735
Total Collected	84,840,861	100.0%	3,760,788	20,175,706	22,602,287	38,302,080
= Change in Accounts Receivable	7,879,794		330,170	1,312,226	2,890,465	3,346,933

Source: City Sochi Vodokanal accounts as analyzed by PADCO, Inc.

TABLE 15
SOCHI VODOKANAL
COMBINED WATER AND WASTEWATER REVENUE ANALYSIS - 1996
(000 RUBLES)

ITEM	TOTAL	PERCENT	POPULATION	BUDGETARY ENTERPRISES	INDUSTRIES	OTHERS
+ Services Billed	170,771,064 -		9,996,593	45,729,395	44,541,680	70,503,396
- Cash Collected - Combined	89,948,540	76.4%	7,286,460	18,493,829	26,951,953	37,216,298
- Received via Offsets	22,833,769	19.4%	730,416	2,875,933	5,105,869	14,121,551
- Received via Barter	1,908,897	1.6%	0	64,242	1,489,604	355,051
- Received via Promissory Notes/Treasury Notes	3,042,556	2.6%	0	0	0	3,042,556
Total Collected	117,733,762	100.0%	8,016,876	21,434,004	33,547,426	54,735,456
= Change in Accounts Receivable	53,037,302		1,979,717	24,295,391	10,994,254	15,767,940

Source: City Sochi Vodokanal accounts as analyzed by PADCO, Inc.

TABLE 16
SOCHI VODOKANAL
COMBINED WATER AND WASTEWATER ANALYSIS OF ACCOUNTS RECEIVABLES - 1995
(000 RUBLES)

	ITEM	TOTAL	PERCENT	POPULATION	BUDGETARY		
					ENTERPRISES	INDUSTRIES	RECREATION
+	Accounts Receivable 1/1/1995	3,084,878	3.3%	138,618	502,187	1,370,379	1,060,808
	Services Billed	92,720,655	100.0%	4,090,958	21,487,932	25,492,752	41,649,013
	Total Billed and A/R	95,805,533		4,229,576	21,990,119	26,863,131	42,709,821
-	Cash Collected - Combined	80,764,766	95.2%	2,731,020	20,175,706	21,720,523	36,137,516
-	Received via Offsets	2,417,416	2.8%	1,029,768	0	572,948	814,700
-	Received via Barter	316,945	0.4%	0	0	308,816	8,129
-	Received via Promissory Notes/Treasury Notes	1,341,735	1.6%	0	0	0	1,341,735
	Total Collected	84,840,862	100.0%	3,760,788	20,175,706	22,602,287	38,302,080
=	Accounts Receivable	10,964,671		468,788	1,814,413	4,260,844	4,407,741

Source: City Sochi Vodokanal accounts as analyzed by PADCO, Inc.

TABLE 17
SOCHI VODOKANAL
COMBINED WATER AND WASTEWATER ANALYSIS OF ACCOUNTS RECEIVABLES - 1996
(000 RUBLES)

ITEM	TOTAL	PERCENT	POPULATION	BUDGETARY		
				ENTERPRISES	INDUSTRIES	RECREATION
+ Accounts Receivable 1/1/1996	10,964,671	6.0%	468,788	1,814,413	4,260,844	4,407,741
+ Services Billed	170,771,064	94.0%	9,996,593	45,729,395	44,541,680	70,503,396
Total Billed and A/R	181,735,735	100.0%	10,465,381	47,543,808	48,802,524	74,911,137
- Cash Collected - Combined	89,948,540	76.4%	7,286,460	18,493,829	26,951,953	37,216,298
- Received via Offsets	22,833,769	19.4%	730,416	2,875,933	5,105,869	14,121,551
- Received via Barter	1,908,897	1.6%	0	64,242	1,489,604	355,051
- Received via Promissory Notes/Treasury Notes	3,042,556	2.6%	0	0	0	3,042,556
Total Collected	117,733,762	100.0%	8,016,876	21,434,004	33,547,426	54,735,456
= Accounts Receivable	64,001,973		2,448,505	26,109,804	15,255,098	20,175,681

Source: City Sochi Vodokanal accounts as analyzed by PADCO, Inc.

TABLE 18
SOCHI VODOKANAL
AGING OF ACCOUNTS RECEIVABLE FOR 1996
(000 RUBLES)

ITEM	> 365 DAYS	181 - 365 DAYS	< 181 DAYS	TOTALS
+ Accounts Receivable				
<i>Including</i>				
Population	133,644	474,130	1,840,731	2,448,505
Budgetary Organizations	446,055	4,106,343	21,194,443	25,746,841
Recreation Facilities	743,957	1,051,020	19,119,514	20,914,491
Production Enterprises	1,883,928	1,710,918	11,297,289	14,892,135
Total Accounts Receivable	3,207,584	7,342,411	53,451,977	64,001,972
- Bad Debt Estimatee				
<i>Including</i>				
Population	0	0	0	0
Budgetary Organizations	0	0	0	0
Recreation Facilities	10,382	0	0	10,382
Production Enterprises	1,412,798	474,130	0	1,886,928
Total Bad Debt Estimate	1,423,180	474,130	0	1,897,310
Accounts Receivable with a Good Probability of Collection				
<i>Including</i>				
Population	133,644	474,130	1,840,731	2,448,505
Budgetary Organizations	446,055	4,106,343	21,194,443	25,746,841
Recreation Facilities	733,575	1,051,020	19,119,514	20,904,109
Production Enterprises	471,130	1,236,788	11,297,289	13,005,207
= Total Accounts Receivable	1,784,404	6,868,281	53,451,977	62,104,662

* Bad debts include the debts of the bankrupt companies and companies, that are not paying for more than half a year.

TABLE 19
SOCHI VODOKANAL
ACCOUNTS PAYABLE FOR 1995
(000 RUBLES)

ITEM	TOTAL	METHOD OF PAYMENT			
		CASH	BARTER	OFFSETS	OTHERS *
Accounts Payable at the beginning of the period	3,234,646				
<i>Including:</i>					
Energy	1,835,080				
Labor	447,081				
Taxes (excluding labor related)	-				
Loans	600,000				
Others	300,114				
Profit Tax	52,371				
VAT and Special Tax	-				
Expenses of the Vodokanal (Sum of liabilities for the period excluding depreciation)	85,933,542				
<i>Including:</i>					
Energy	30,745,659				
Labor	19,414,866				
Taxes (excluding labor related)	1,879,012				
Loans	700,000				
Other Production Expenses	5,323,938				
Non-Production Expenses	1,297,119				
Use of profit	2,214,649				
Profit tax	7,446,639				
VAT*	16,911,660				
Accounts Paid	83,713,799				
<i>Including:</i>					
Energy	31,279,270	30,475,771	-	803,499	-
Labor	18,026,560	18,026,560	-	-	-
Taxes (excluding VAT & Profit tax))	1,915,867	1,915,867	-	-	-
Loans	-	-	-	-	-
Others	8,585,176	8,268,231	316,945	-	-
Profit tax	7,280,105	7,280,105	-	-	-
VAT*	16,626,821	8,425,668	-	8,201,153	-
Accounts Payable at the end of the Period	5,502,712				
<i>Including:</i>					
Energy	1,301,469				
Labor	1,835,387				
Taxes	11,468				
Loans	1,300,000				
Others	550,644				
Profit tax	218,905				
VAT*	284,839				

Source: City Sochi Vodokanal accounts as analyzed by PADCO, Inc.

Notes:

* VAT as an expense shows whole amount due, i.e. VAT rate multiplied by the turn over. The portion of VAT that was paid via off-set with a/c 19 (VAT on purchased materials and services) is shown as an off-set.

TABLE 20
SOCHI VODOKANAL
ACCOUNTS PAYABLE FOR 1996
(000 RUBLES)

ITEM	TOTAL	METHOD OF PAYMENT			
		CASH	BARTER	OFFSETS	OTHERS *
Accounts Payable at the beginning of the period	5,502,712				
<i>Including:</i>					
Energy	1,301,469				
Labor	1,835,387				
Taxes	11,468				
Loans	1,300,000				
Others	550,644				
Profit tax	218,905				
VAT*	284,839				
Expenses of the Vodokanal (Sum of liabilities for the period excluding depreciation)	147,666,276				
<i>Including:</i>					
Energy	50,898,900				
Labor	35,212,977				
Taxes (excluding labor related)	4,094,237				
Mandatory Payments	5,773,007				
Loans	200,000				
Other Production Expenses	7,876,293				
Non-Production Expenses	1,314,000				
Use of profit	2,771,494				
Profit tax	10,006,965				
VAT*	29,518,403				
Accounts Paid	119,976,543	87,382,666	1,590,748	26,379,796	4,623,333
<i>Including:</i>					
Energy	28,164,698	5,282,133	96,395	18,162,837	4,623,333
Labor	34,258,190	34,258,190			
our related (excluding VAT & Profit tax))	3,966,125	3,966,125	-	-	-
Mandatory Payments	5,773,007	5,773,007			
Loans	200,000	200,000			
Others	10,923,817	9,429,464	1,494,353		
Profit tax	10,006,965	10,006,965			
VAT*	26,683,741	18,466,782		8,216,959	
Accounts Payable at the end of the Period	32,973,540				
<i>Including:</i>					
Energy	24,035,671				
Labor	2,790,174				
our related (excluding VAT & Profit tax))	139,580				
Mandatory Payments	-				
Loans	1,300,000				
Others	1,588,614				
Profit tax	-				
VAT*	3,119,501				

Source: City Sochi Vodokanal accounts as analyzed by PADCO, Inc.

Notes:

* VAT as an expense shows whole amount due, i.e. VAT rate multiplied by the turn over. The portion of VAT that was paid via off-set with a/c 19 (VAT on purchased materials and services) is shown as an off-set

TABLE 21
SOCHI VODOKANAL
AGING OF ACCOUNTS PAYABLE FOR 1996
(000 RUBLES)

ITEM	> 365 DAYS	181 - 365 DAYS	< 181 DAYS	TOTALS
+ Account payables (total)	1,300,000	0	31,673,540	32,973,540
including:				
loans	1,300,000	0	0	1,300,000
energy*	0	0	24,035,671	24,035,671
labor/personnel	0	0	2,276,585	2,276,585
workshops	0	0	0	0
taxes (excluding labor)	0	0	3,259,081	3,259,081
labor taxes	0	0	513,589	513,589
other	0	0	1,588,614	1,588,614

Note:

* Though the accounts payable to the electrical companies are high they were formed in the last half of the year.

TABLE 22
SOCHI VODOKANAL
RATIO ANALYSIS 1995 AND 1996

RATIO	Notes	1995	1996
BALANCE SHEET RATIOS:			
Revenue as a % of fixed assets (net)	1	51%	34%
Revenue as a % of net total assets	2	46%	29%
Current assets as a % of fixed assets (net)		11%	16%
Accounts receivable as a % of revenue	3	12%	37%
Average collection period (accounts receivable) months		1.42	4
Accounts payable as a % of expenses		8%	27%
Average payment period (accounts payable) months		1	3
LIQUIDITY RATIOS:			
Inventories as a % of current assets		10%	4%
Accounts receivable as a % of current assets	4	82%	96%
Current assets as a ratio of current liabilities		3.1	2.1
Cash/bank balances as a ratio of current liabilities		0.27	0.003
Cash collection as a % of total collection		95%	76%
PROFITABILITY RATIOS:			
Net profit after depreciation as a % of revenue	5	13%	8%
Net profit for the year as a % of revenue	6	1%	-1%
Net profit as a % of total net assets (return on capital employed)	7	7%	0.03

Notes:

1&2 Revenues does not include VAT & Special Tax

3&4 A/R include VAT and Special Tax due to Vodokanal

5&7 Profit after depreciation, but before "use of profit" (out of profit expenses that are not associated with production.

6 Profit after tax and "use of profit".

Appendix III - Notes to Financial Tables

1. Financial Policies and Principles

- **Accounting** - The Sochi vodokanal follows the Russian system of accounting. Since 1995, the Vodokanal has kept its books on an accrual basis. Thus, the PADCO team reviewed the materials supplied by the Chief Accountant, but did not restate the accounts. Since the accounts were kept on an accrual basis, VAT payables reflect the actual liabilities of the Vodokanal. In other vodokanals, restatement of revenues increased VAT payables to the extent that billed revenue had not been recognized on a cash basis. Thus, VAT liabilities may have been overstated. This was not the case in Sochi.
- **Documentation** - The Vodokanal has adequate documentation and formats to comply with the financial policies and principles. The filing system is satisfactory - much of the documentation has been computerized.
- **Compliance with laws and regulations of the State** - The Vodokanal complies with the laws and instructions issued by the State and Tax Directorate.
- **Consistency**- The systems are relatively consistent from one year to the next. Accounts have been prepared on an accrual basis up to 1997.
- **Stock valuation** - Stocks are valued on an average value basis.
- **Depreciation**- Fixed assets are depreciated annually. Depreciation rates are applied on the cost of assets and are consistent from one year to another. Some of the depreciation rates used by the Vodokanal are given below.

Asset Category	Approximate Average Annual Depreciation Rate
Buildings	3.2%
Motor vehicles	12.5%
Pipelines	2.6%
Equipment	13.2%
Pumps	14.1%

- **Income tax withholding and social taxes on staff salary** - The Vodokanal withholds income tax on staff salaries for onward transmission to the Tax Directorate. One percent of the gross salary is withheld from staff salaries as a contribution to the pension fund. The Vodokanal pays social taxes on staff salaries to various funds including pension fund, medical fund, social insurance and other funds as required by law.
- **Profit tax and other taxes** - Profit tax is calculated at 35% of the annual taxable profit. Other taxes include value-added tax, property tax etc.
- **Contingent liabilities** - There are no contingent liabilities or pending litigations against the Vodokanal as at the end of the Balance Sheet date.
- **Budgetary Control System** - An annual financial plan (budget) is prepared by the Economist of the Vodokanal. The budget shows the revenue and expenses on a quarterly basis for the full year. Actual revenue and expenses are compared for budget monitoring purposes quarterly. There is no cash flow forecast supporting the budget document.

- **Book-keeping System** - The Vodokanal began computerizing its financial database as of the start of 1995. Other books of accounts maintained are: Cash-book, stock ledger, payroll and salaries register and billing register. The general ledger records primarily monthly totals from the subsidiary ledgers and shows the opening balance as of January 1 and December 31. However, a trial balance is not prepared by the Vodokanal. The Balance Sheet and the annual financial results statement of the Vodokanal are prepared from balances in the general ledger. These financial statements are filed with the Tax Directorate.

2. **Explanatory Notes to Accounts**

When PADCO conducted its review of Sochi accounts, the team was not given access to the original books of account. Vodokanal staff prepared summary and tabular information for the team. Therefore, the team was unable to verify the accuracy of the information presented in the summaries and tables, and accordingly makes no conclusions about the accuracy of the data presented in those summaries and tables.

Balance sheet Tables 5 - 7.

1. Other Accounts receivable includes receivable for non-water and wastewater related services and VAT on purchased materials and services.
2. Prepaid items include other paid taxes, mandatory payments and advances to suppliers. This amount is not considered in the Tables 17 through 19 as paid accounts payable.
3. A short-term loan was taken back in 1995 for operational needs. Vodokanal management determined that it was advantageous to do so since interest on short-term loans could be included in production costs under Russian accounting rules and therefore profit tax could be minimized.
4. This amount is not considered in the Tables 14 - 16 as the amount paid, as it represents advances received from the clients.
5. These sums represent the additional capital from the revaluation of the fixed assets that was conducted according Russian Federation legislation.
6. The "Development Fund" includes funds accumulated from profit after profit tax. It also includes the housing construction for the vodokanal employees. The latter amount was transferred from Account 08-2. According Russian accounting rules such housing construction does not increase the fixed assets of the company.
7. The increase in the fixed assets was caused by the revaluation that was conducted in 1995 according Russian legislation by application the coefficients established on the Federal level.
8. The increase in the depreciation is due to the revaluation of the depreciation and does not represent actually accrued funds.
9. Capital granted includes the utilities that were passed on the balance of the vodokanal by administration.
10. The increase in the fixed assets was caused by the revaluation that was conducted in 1996 according Russian legislation by application the coefficients established on the Federal level.
11. The increase in the depreciation is due to the revaluation of the depreciation and does not represent actually accrued funds.



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