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<th>Project Name</th>
<th>Kazakhstan-Pilot Atyrau Water (+) Supply, Sanitation and Drainage Project</th>
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<td>Region</td>
<td>Europe and Central Asia</td>
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<td>Sector</td>
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<td>Project ID</td>
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<td>Environment Category</td>
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<td>Date this PID Prepared</td>
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**Country and Sector Background**

The city of Atyrau is situated in the far west of Kazakhstan at the northern end of the Caspian Sea. It is the capital of Atyrau Oblast (province) and lies on the Ural River, some 25 km from the sea. Much of Atyrau’s commerce is derived from fishing, processing and exporting sturgeon and its roe, caviar. It is home to the largest fish processing plant on the Caspian Sea. Prior to 1991, the city was a transport hub, with a number of industries dedicated to processing raw materials transported from elsewhere in the USSR and subsequently redistributed as finished goods. Since the collapse of the Soviet Union, many of these industries have been forced to close as raw materials are no longer available and markets have shrunk. Economic activity has fallen even more precipitously in Atyrau than in other areas of Kazakhstan.

Recent discoveries of significant quantities of oil offshore in the northern Caspian Sea and onshore in the Tengiz field have boosted economic development in the area. Atyrau will benefit significantly from the economic activity associated with the oil fields. In particular, it is expected that international oil companies involved in the development of the oil fields will set up their administrative headquarters in the city. However, the current infrastructure of the city is in need of rehabilitation and improvement. As in much of the former Soviet Union, there has been little investment in maintenance or operation of public utilities due to budget shortfalls. Improvements are needed in drainage, water, and sewerage before the city can provide a basic level of service to the new oil industry headquarters.

Atyrau has a population of 150,000 with another 50,000 in contiguous urban areas recently designated as part of the city. Development parallels the Ural River, with industrial areas to the east and south of the city and the
main port area on its southern end. Eighty percent of the population live in
apartment blocks, averaging five stories high, which gives the city a compact
layout. The topography of the area is flat and between 23 and 25 m below sea
level. As the Caspian Sea rises, the southern part of the city will become
particularly susceptible to flooding. Drainage in the area needs to be
improved.

There is at present no centralized drainage system in the city. This,
combined with the ground composition (impermeable clay layers) and the high
water table (in much of the city the water table is less than 1 m below ground
level), means that storm water does not readily soak away, but instead lies in
low points on the ground and at road edges. This has a number of adverse
effects on the city and its infrastructure. For example, underground services,
are subject to a highly corrosive environment; roads are easily damaged
because of the pools of standing water in low points. The pools themselves
constitute a public health hazard, providing breeding grounds for mosquitoes
and are often contaminated with sewage or household refuse. The city
authorities have discussed the possibility of combining the sewerage and
drainage systems, but Vodocanal (the city’s water supply and sewerage company)
has resisted this. At present there is no single authority responsible for
drainage, and yet this is considered to be one of the most urgent needs of the
city.

Most of the city is served by two separate waterborne sewerage systems.
These collect sewage from the apartment blocks, industrial premises, and other
buildings, then convey it via separate systems of pumping and gravity mains to
evaporation ponds 7 km from the city on the east and west sides of the river.
No treatment is provided at the evaporation ponds, which are unlined. It is
probable that a large proportion of the waste percolates down into the ground
water. Vodocanal is keen to upgrade the ponds, given that the fishing grounds
of the north Caspian Sea are threatened with pollution from sewage and oil
industry discharges, and the survival of the sturgeon industry is still very
important to the city’s economy.

The main source or potable water for the city is the Ural River. The
ground water in the region, though close to the surface, is highly mineralized
(total salinity ranges from 12g/l to 120 g/l), and unsuitable for use as
potable water or for irrigation. The river water quality is good and presents
no particular treatment problems although sediment loads are high, with up to
500 g/l during floods. Water is abstracted from the river close to the
northern edge of the city, then treated and pumped into the main distribution
system. A continuous supply (24 hours/day) is provided, although pressures are
often low and unable to reach the upper floors of apartment blocks. There is
no significant storage in the system. The distribution system is generally in
a poor state of repair, with an average of seven bursts or leaks requiring
attention each day.

Project Objectives

The objectives of the project are: (i) to provide a suitable environment
for economic growth in selected parts of the city by improving the present
water and sewerage infrastructure; (ii) to begin phased improvement of the
management, operational capacity and financial viability of the Vodocanal;
(iii) for local authorities and Vodocanal to gain experience in developing
operational methodologies and capabilities in all aspects of project
management, international procurement and contracting - all through small-scale investment operation - for better management of the full-scale project; and (iv) to prepare a full-scale rehabilitation program of city infrastructure.

Project Description

This is a pilot project which will finance the capital investments in two areas of the city:

- Privokzalny district - most densely populated part of the city and the most difficult area in terms of providing water supply and sewerage;

- City Center area - designated by the authorities as the future business center of the city, as well as where Tengiz-Chevroil (TCO) plans to construct their Regional Headquarters building and staff housing.

The project will consist of five components: (a) rehabilitation of the water supply system; (b) rehabilitation of the sewerage system; (c) detailed engineering of the full-scale project and institutional strengthening; (d) emergency repairs; and (e) refinancing of the Project Preparation Facility (PPF).

(a) Water Supply: (i) Privokzalny District. This component would include rehabilitation of 2 km of 800 mm diameter, 1 km of 200 mm diameter and 3.0 km of smaller mains together with replacement of basement pipe work in Section 5 of the Privokzalnyi housing development. It would also include construction of three new booster pumping stations; (ii) City Center area. This component would include new water mains (1.2 km of 600 mm, and 5 km of 500 mm pipes), river crossing (1 km) and other connections.

(b) Sewerage: (i) Privokzalny District. This component would comprise replacement of sewerage pipe work within the basements of 65 apartment blocks in the Privokzalnyi development, rehabilitation of selected sections of sewer and renovation of the sewage pumping station; (ii) City Center area. This is to provide new sewers (1.4 km), new pumping mains (0.9 km) and new pumping station.

(c) Detailed Engineering and Institutional Strengthening. This component would include initial studies, detailed engineering design and preparation of bid documents for the full-scale project, and project management and supervision of the pilot. Included are specific technical studies: (i) leak management study; (ii) demand management study; (iii) drainage options study; and (iv) wastewater management options study. It would also include studies and technical assistance on institutional strengthening of the organizations involved in execution of the project (Vodocanal and the city administration).

(d) Emergency Repairs: This component is for small repairs/rehabilitation identified by Vodocanal during project implementation which can make immediate and significant improvements to its operating cost and efficiency.

(e) Refinancing of PPF (US$1 million). This would refinance the PPF used for design and preparation of bid documents for the pilot project.

Project Financing
Total project costs are estimated at USUS$17.0 million. Financing will be from a Bank loan (USUS$14 million) and Government contribution (USUS$3 million). In addition, a bilateral donor agency (USAID) is likely to parallel finance a project for institutional capacity building of the Oblast and city administration (US$2 million).

Project Implementation

Overall responsibility for project coordination would rest with a Project Implementation Unit (PIU) which would be formally established in Atyrau. Atyrau Development Corporation (ADC) is currently acting as an informal PIU. ADC was originally set up to assist in the implementation of various investment projects in Atyrau, but to date its experience is limited. In addition, the existing PIU at the State Committee for Water Resources will be nominated by the Government as the central PIU for this project (they already have significant experience in implementation of investment projects). This should facilitate the preparation and implementation process. As part of the pilot project it is proposed to strengthen their capacity to manage and implement Bank projects.

The implementing agency would be the Vodocanal, assisted by qualified consultants working with local design institutes for the design of the project. The consultants would assist the Vodocanal in supervising the implementation of the project.

Project Sustainability

At present the Atyrau Vodocanal is meeting its O&M requirements out of current revenue, but recently has faced problems due to non-payment of water charges, and the Oblast Government has stepped in to provide the necessary funds. Vodocanal purchases water for 5 T/m$^3$ (US$0.07/m$^3$) from the Water Production Company. This is sold for 11.4 T/m$^3$ (US$0.15/m$^3$, including sewerage charges), which is a low tariff for Kazakhstan. As the city develops as a center of the local oil industry, and general wealth increases, there is scope for increased tariffs, particularly to new industrial users. The present organizations have a good grasp of commercial reality, and with the institutional strengthening and reform and conditionalities to be provided as part of the project, will be able to minimize their costs and maximize revenues. A simple set of monitoring indicators (operational, financial) and performance contract will be adopted to set targets for gradual improvement of its performance.

Along with the Privokzalny area, the project finances the extension and increase of the water and sewer services to the new big customer - TCO and other oil related companies to be located in the newly designated city business center - thus representing a good cash revenue stream against Vodocanal bills. Moreover, since TCO’s office building and housing area will only use a quarter of the planned capacity, this will leave a reserve for future customers.

Lessons Learned from the Past Operations in the Country/Sector

The regional department’s FY96 Annual Report on Portfolio Performance in Russia and Central Asia highlighted several lessons learned in the region including: (a) the challenge of identifying a counterpart team with sufficient
authority to move the project forward; (b) the difficulty of coordination among key government agencies on critical issues; (c) the importance of setting up PIUs early in the project cycle and the training of their staff in Bank procurement and disbursement procedures; and (d) the importance of involving local institutions in project design and preparation. A review of lessons learned from water supply and sanitation projects world-wide shows that, despite efforts at capacity building for the public institutions concerned, few countries achieved acceptable levels of performance for their public water and sewerage utilities, and that the financial performance of these utilities was dismal. Some of the reasons for these deficiencies include: (a) lack of clear sector policies; (b) lack of management and financial autonomy for the utilities; (c) inexperience in project implementation; and (d) lack of participation of users and other stakeholders in the decision-making process.

To the extent possible, these lessons have been incorporated into the preparation and design of the proposed project through: (a) introduction of the central PIU (at the State Committee for Water Resources) in addition to Atyrau Development Corporation, to improve project coordination and implementation; (b) accented training of PIU and local government staff in municipal management, international procurement, and arrangements for study tours; (c) knowledge and expertise transfer by international consulting services; (d) gradual but socially acceptable increase in tariffs; (e) involvement of community organizations in decisions on city planning, infrastructure investment priorities, water and sewerage tariff levels and collections; and (f) adoption of quantitative monitoring indicators and establishment of a simple performance contract between the Vodocanal and the city administration to clarify for all parties the expected financial and operational efficiency improvements that is expected from the project investments over time.

Poverty Category

The proposed project would be in the Program of Targeted Interventions. The beneficiaries of the proposed project would be the inhabitants of Atyrau - one of the poorest regions of Kazakhstan. The proposed project would help meet the local needs of safe drinking water, adequate sewerage, and basic drainage.

Environmental Aspects

The proposed project is classified as environmental category B. The project is intended to implement two subprojects to pilot the full-scale project. The overall impact would be a substantial improvement in quality of life for the residents of a section of the Prevoksalny housing development. The project activities involve the rehabilitation of existing pipelines, and the construction of new pipelines within the development. Impacts on traffic flows and problems of noise and dust from construction activities would be temporary and suitable mitigation measures would be taken to minimize these impacts. Overall the environmental benefits substantially outweigh any adverse impacts.

Participatory Approach

The scope of work for the pilot project has been agreed with the local authorities following discussion of a number of options. There is limited
scope for direct participation of the communities in project implementation, but as part of the project the local residents’ associations will carry out clean-up campaigns of the local environment to enhance the benefits of the project. Residents will also be required to attend to defects in their private plumbing systems prior to connection of the new supplies. The scope for further participation of the residents in the project will be examined by the consultants responsible for detailed engineering of the pilot project.

Benefits

The main benefit of the project would be safer and more reliable water supply services for the 30,000 residents of Prevokzalny and an additional 40,000 people in the City Center area. In particular, the project will provide the majority of residents with a continuous supply of water as the improvement of the overall pipe work system allows pressures to be increased. The repair of leaks from the sewerage pipe work in the apartment basements will reduce the risk of disease from this source.

Rehabilitation of the water main at the river crossing will increase the water supply to the downstream areas. Improving the water and sewerage services in the central area of the city will significantly increase its value for attracting commercial development.

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Note: This is information on an evolving project. Certain activities and/or components may not be included in the final project.

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ANNEX

Environment

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