Ukraine:
Urban Infrastructure Project

ENVIRONMENTAL ASSESSMENT REPORT

Volume 1

Part 4: Kharkiv City

FINAL

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NOTE TO FILE:

The following Environmental Assessment Report is one of several that was prepared in support of the Urban Infrastructure Project for Ukraine which was under preparation in 2005-2006. This is a category B project for rehabilitation of various utilities, including water supply, waste water treatment, and solid waste. The EAs cover investments under Component B for Rehabilitation Investments under the project. Any technical variations in the final plans for these sites will be addressed in the review of the EMPs scheduled to take place in conjunction with the launch workshop. All subsequently identified works under Component B. must comply with the preparation of similar EAs in accordance with the Environmental Framework Policy dated November, 2005, before the disbursement of any funds for the specific site. Investments under C. for Energy Efficiency under the Project must comply with the preparation of an abbreviated EA/EMP specified under a separate Environmental Framework Policy prepared specifically for Component C.
PREFACE

Urban Infrastructure Project (UI Project) and Nistru River/Black Sea Protection Project (NR/BSP Project) (GEF sub-project) have been merged into a single Urban Infrastructure Project (GEF sub-projects are treated under the UI Project) as their broad environmental goals include improvement of hygiene and health of the population, provision of low-cost and sustainable water supply and sanitation delivery services, and improvement of environmental conditions in Ukraine, with a special focus on the Nistru River and Black Sea basin as a priority region.

Within the framework of this integrated project, the EA Consultant is responsible for preparation of:
- Environmental Framework Policy (EFP);
- Environmental Assessment (EA).

Environmental Framework Policy

The Environmental Framework Policy document reflects key provisions of environmental policies adopted by Ukraine and the World Bank, the results of their comparative review, and demonstrates their compatibility on all major issues.

The existing methodological frameworks for environmental assessment, developed in Ukraine and adopted by the World Bank, have been reviewed as part of the EFP preparation. This review reveals a very close similarity of these frameworks, with only few minor inconsistencies, which have not been encountered in the preparation of environmental assessments for selected investment projects.

Environmental Assessment

The Environmental Assessment documents, presented in this submission, have been prepared according to the World Bank environmental policies (OP4.01) and procedures, which are compatible with the Law of Ukraine “On Environmental Review” and the EIA-related State Construction Standard DBN A.2.2-1-2003 “The Environmental Impact Assessment Content and Composition for Construction Projects” (Kyiv, 2004).

There have been numerous changes in the list of proposed projects, which should be subject to environmental assessment. The most recent list of projects, provided to the EA Consultant and dated 12 October, 2005, appears to be different from the initial list, included in the Terms of Reference.

At the same time, the Environmental Assessment studies were carried out for a number of other projects/locations, included in the expert’s findings/e-mails dated 13 May, 11 June, 17 August and 26 August, 2005 (Ivano-Frankivsk, and towns in Kharkiv Oblast: Kupyansk, Izium, Chuguev).

According to above mentioned, the present report consists of two volumes:
- Volume 1 - preliminary sub-projects identified for inclusion under UI project (according to the list dated 12 October, 2005).
- Volume 2 - addition sub-projects reviewed according to expert’s findings.

The general content of Final EA Report is given below.
NOTE: This investment option has been withdrawn from the project
1. INTRODUCTION

The objective of the Environmental Assessment (EA) report is to identify and assess the future environmental impacts associated with the proposed Urban Infrastructure Project in a manner that meets the requirements of the World Bank. The proposed Urban Infrastructure Project is anticipated to provide funds for financing the costs of priority investments, designed to address the most urgent issues faced by key municipal service sectors, including water supply, sewerage, and solid waste management.

The need for the Urban Infrastructure Project in Kharkiv is substantial and has many dimensions, key of them being the promotion of socio-economic development in an environmentally sustainable manner.

This report presents the results of preliminary environmental assessment of each project in Kharkiv, proposed for the World Bank funding, with particular focus on the potentially significant impacts of these projects and options for mitigating them.

According to the Terms of Reference, and in order to ensure compliance with World Bank environmental policies (OP/BP/GP 4.01), the Environmental Assessment should be carried out in compliance with the EA requirements for Category A projects.

The existing situation in Kharkiv with respect to drinking water supply, wastewater collection and treatment, and solid waste management is first described before the need for proposed developments is considered. The development proposals and existing environmental features are described to allow the assessment of environmental impacts and identification of mitigation options.

Consultation has taken place with various stakeholders, and feedback is summarized in Section IV of this report.

General Information on the City of Kharkiv

Kharkiv is a major industrial, scientific and cultural centre in Ukraine, and the administrative centre of Kharkiv Oblast. Economically, it is associated with the Donetsk-Dnipro Economic Region. Kharkiv has a cross-border location with respect to two geographic zones (Forest-Steppe and Steppe), both classified as arid. Kharkiv has three rivers (Lopan, Kharkiv, and Udy), with their confluence located within the city boundaries. The Udy River is the tributary of the Siversky Donets River.

The climate in the area is typically continental, with long but relatively mild winter, and hot summer. Mean annual temperature is at 6.9 °C. The coldest months are January (-7.1 °C) and February (-6.7 °C), and the warmest months are June (19.5 °C), July (20.5 °C) and August (19.4 °C). Mean annual precipitation is about 522 mm, with its major proportion (352 mm) falling during the warm season, from April through October.

Local wind pattern can be characterized as follows:
- Eastern and south-eastern winds are predominant in winter;
- Western and north-western winds are predominant in summer;

Mean annual wind velocity is 4.33 m/s, with the 20-year maximum probable wind velocity being at 22 m/s. The wind velocity head is about 30 kg-s/m².
Snow cover settles in early December and melts in late March, with mean thickness being at 20 cm, and normalized snow cover mass ranging between 95 to 100 kg/m². Frost penetration depths are at 1.0 m on the average, and 1.1 m at the maximum.

Kharkiv occupies the area of approximately 305 km², lying on the slightly undulating plain, dissected by river valleys and gorges. Surface elevations in relation to the sea level range between 90 to 192 m.

Kharkiv has a population of about 1.5 million. It has been, and still is, one of the most important regions in Ukraine for industrial development, particularly for machine-building industry. Kharkiv’s economic activities include power engineering, tractor construction, machine-building, aircraft construction, chemistry, metal fabrication, forestry, wood processing, tannery, food processing, construction industry.

Being a major conurbation and centre of industrial activity, Kharkiv needs serious improvements in its municipal infrastructure, including water supply, wastewater collection and treatment, and solid waste management, in order to ensure its sustainable development and maintain a healthy environment. The achievement of these improvements requires large-scale capital investments and, given the scope of investment requirement, loans provided by the international financial institutions are seen as a very important mechanism, particularly during the transitional period, in which the municipal sector moves towards commercial independence.

Further sections of this report describe the proposed improvements and present the results of their environmental assessment.
NOTE: This investment option has been withdrawn from the project
3. MUNICIPAL SOLID WASTE MANAGEMENT

3.1. Existing Situation

The need for developing an effective and sustainable MSW management system in Kharkiv, which has a 1.5 million population, is substantial and demonstrated by the generally poor state of every aspect of current waste management system. The Kharkiv City and Oblast Administrations have consolidated their efforts in order facilitate the progress towards a more sustainable waste management arrangement. The Kharkiv City Waste Management Strategy and Action Plan have been approved by the City Council. These documents identify and prioritise actions that need to be taken in order to improve the existing waste management system through a combination of technical, institutional and organizational measures. Key proposed improvements are listed below:

- Purchase of 60 waste collection vehicles;
- Purchase of 7,000 waste collection containers.

For the description of Kharkiv City climate, geology and geomorphology please see the General Information on the City of Kharkiv in the Introduction Section of the report.
3.2. Proposed Investment Project

As mentioned above, the proposed improvements for municipal solid waste management system are:

- Purchase of 60 waste collection vehicles;
- Purchase of 7,000 waste collection containers.

This would help improve the collection aspect of existing waste management system in Kharkiv by enhancing the capacity for MSW collection and delivery to the existing MSW landfill.

*Purchase of 60 waste collection vehicles:

It is proposed to purchase and operate a new collection vehicle fleet, consisting of domestically manufactured vehicles. This option is considered to be most affordable and economical due to a relatively low price range of Ukrainian waste collection vehicles (45,000 to 72,000 USD). Taking into account the significant size of purchase order, and time required for tendering and delivery, the estimated timeframe for this project component is about 80 weeks.

Preliminary technical characteristics of locally manufactured collection vehicles, using the MAZ-533702 chassis, are provided below:

- High compaction ratio (up to 1:6), achieved due to the use of pushing plate;
- High-quality hydraulic load-handling system;
- Provision for automatic, semi-automatic and manual operation of compaction mechanism;
- Provision for automatic and manual operation of loading system;
- Adjustable container lifting mechanism, which can be used with local and imported collection containers, ranging in capacities between 0.12 m³ to 1.1 m³.

Detailed technical characteristics of proposed waste collection vehicle type are provided in Table 3.1.

Table 3.1. Technical Characteristics of Proposed Waste Collection Vehicle Type

<table>
<thead>
<tr>
<th>Parameter, Measuring Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chassis</td>
<td>MAZ-533702</td>
</tr>
<tr>
<td>Chassis weight, kg</td>
<td>6,000</td>
</tr>
<tr>
<td>Accessory drive type</td>
<td>Hydraulic</td>
</tr>
<tr>
<td>Type of operational control</td>
<td>Remote (electrohydraulic)/manual</td>
</tr>
<tr>
<td>Maximum vehicle weight (loaded), kg</td>
<td>19,000</td>
</tr>
<tr>
<td>Maximum permitted loads, kg:</td>
<td></td>
</tr>
<tr>
<td>Front axle</td>
<td>6,000</td>
</tr>
<tr>
<td>Rear axle</td>
<td>13,000</td>
</tr>
<tr>
<td>Maximum loaded weight of fully equipped vehicle, kg</td>
<td>11,915</td>
</tr>
<tr>
<td>Capacity, m³</td>
<td>16-17</td>
</tr>
<tr>
<td>Compaction ratio</td>
<td>Up to 6</td>
</tr>
<tr>
<td>Waste load weight, kg</td>
<td>6,935</td>
</tr>
<tr>
<td>Crew number, persons</td>
<td>2</td>
</tr>
<tr>
<td>Parameter, Measuring Unit</td>
<td>Value</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Container holder capacity, kg</td>
<td>500</td>
</tr>
<tr>
<td>Speed, m/s (km/h)</td>
<td>16.7(60)</td>
</tr>
<tr>
<td>Dimensions:</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>8,300</td>
</tr>
<tr>
<td>Width</td>
<td>2,500</td>
</tr>
<tr>
<td>Height</td>
<td>3,500</td>
</tr>
<tr>
<td>Specific fuel consumption per unit load, g/kg</td>
<td>1.12</td>
</tr>
<tr>
<td>Time required to empty 1 container, s</td>
<td>60</td>
</tr>
</tbody>
</table>

Waste collection vehicles are intended for outdoor operation under the moderately continental climate conditions (temperature range between -30° to +40°C). The designed operational life is at least 10 years at annual mileage of at least 60,000 km. The manufacturer's warranty term is 36 time since the commissioning date. Some additional characteristics of proposed collection vehicle type are provided in Table 3.2.

**Table 3.2. Additional Technical Characteristics of Proposed Collection Vehicle Type**

<table>
<thead>
<tr>
<th>Compaction Ratio</th>
<th>Minimum Number of Container Loads Carried per Trip, Depending on Waste Density</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90-170 kg/m³ (high-rise housing district in urban area)</td>
</tr>
<tr>
<td>4-6</td>
<td>Up to 75</td>
</tr>
</tbody>
</table>

**Purchase of 7,000 waste collection containers:**

The proposal features the imported waste collection containers of MGB type, in 1.1 m³ container capacity. Their key characteristics are described below:

- High level of robustness and functional reliability;
- Low weight and easiness in operation;
- Compliance to the EM 840-1-6 standard;
- Wheel base featuring solid rubber tires and autonomous brake mechanism per each wheel.

Key technical characteristics of proposed waste container type are provided in Table 3.3.

**Table 3.3. Technical Characteristics of Proposed Waste Collection Container Type**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions:</td>
<td></td>
</tr>
<tr>
<td>Depth, mm</td>
<td>1,115</td>
</tr>
<tr>
<td>Width, mm</td>
<td>1,370</td>
</tr>
<tr>
<td>Height, mm</td>
<td>1,470</td>
</tr>
<tr>
<td>Wheel diameter, mm</td>
<td>200</td>
</tr>
<tr>
<td>Nominal capacity, l</td>
<td>100</td>
</tr>
</tbody>
</table>
3.3. Analysis of Potential Environmental Impacts

In accordance with the World Bank’s Operational Policy on Environmental Assessment, the proposed infiltration intake project is rated as an environmental category B in terms of its environmental impacts and their significance.

3.3.1. Physical Impact

The potential physical impacts to the environment are likely to be associated with waste-related traffic. However, the proposed waste collection vehicle and container type appears to be adequate in terms of ensuring that potential environmental impacts of their operation are kept at an acceptable level, which does not affect the ecological equilibrium and the state of environment.

The proposed project design comprises a suite of mitigation measures, identified in accordance with existing legislation and designed to minimize the impact on air quality, water resources, soils and tree plantations in the process of equipment operation and maintenance.

**Atmospheric Effects:**
The proposed project includes adequate measures for minimization and prevention of dust and exhaust gas emission during the operation of waste collection service, which will be compliant with existing regulations. There is a provision for proper control and maintenance of vehicles, operating at the site.

**Water Resources:**
Water-related mitigation measures mainly involve the provision for adequate maintenance and cleaning of container sites and timely collection of waste in order to avoid the overflow of containers.

**Land Resources:**
Similarly, the provision for adequate paving, maintenance and timely cleaning of container sites is designed to minimize the impact on soil. Where necessary, restoration programme will be developed and implemented following the organization of container sites.

3.3.2. Social Impact

The proposed project is expected to produce visible improvements in the quality and organization of MSW collection service. New container capacity will enable the gradual extension of existing separate waste collection initiatives in different areas of Kharkiv, and proposed collection vehicle capacity will enable the increased frequency of waste collections and avoid the overflow of waste in containers. No human resettlement requirement is involved in the project.
3.4. Review of Alternative Options

By increasing the collection vehicle and container capacity, the progress will be made in implementing the City’s Waste Management Strategy, especially in terms of achieving an improved level of waste collection service and minimizing the adverse impact of waste on the environment.

Based on the above, the proposed project appears to be a preferable option relative to the existing situation.

3.5. Environmental Management Plan

3.5.1. Brief Description of Key Environmental Issues

The potential environmental impacts are likely to be associated with the operation of waste collection vehicles and containers purchased as part of the proposed project. Noise and dust are likely to be generated by collection vehicles. In the event of disruption in collection service, container site may become a nuisance, being overflowed with waste. Where container lids are kept open, waste can easily mix with rainwater, accelerating the leachate generation.

The City regulation requires the construction provision of a special paved site for each waste container, in order to provide better containment for containerised waste.

3.5.2. Mitigation and Monitoring

The detailed mitigation and monitoring programme will be developed at a later stage of project implementation, though in general terms, the most effective form of mitigation against adverse impacts, associated with the provision of waste collection service, is to ensure a high level of service management, especially with regard to collection frequencies, container/vehicle fleet maintenance, container site cleaning and maintenance.

Proposed environmental performance indicators and monitoring parameters for MSW management system are provided in Annex B.2.
4. INSTITUTIONAL ISSUES

The regulatory compliance effort of an implementing organization should be supported and assisted by relevant regulatory authorities. The Environmental Management Plan will be implemented by the Borrower in order to ensure compliance with existing environmental and sanitary regulations in the process of implementing the proposed water supply, wastewater collection and solid waste management improvements in Kharkiv. Relevant executive authorities will be responsible for overall control and supervision of construction and operation of all proposed facilities. The day-to-day supervision of environmental performance will be part of the design/construction supervision process.

There is no plan for the involvement of non-governmental organizations in the independent monitoring of the project.

5. PUBLIC CONSULTATION

In accordance with the World Bank requirement, the public consultation process was organized as part of the environmental assessment, in order to discuss the proposed urban infrastructure development projects with various stakeholder groups in Kharkiv. This public consultation involved two stages.

The first public consultation was held on 5 August 2005 to discuss the EA Terms of Reference, EA report structure and preparation schedule. Relevant project information was distributed among the participants present at the meeting.

The second public consultation was held on 6 September 2005 to discuss the results of environmental assessment for all proposed investment projects.

The following key stakeholder groups were involved in the consultation process: statutory/political authorities, NGOs and public group representatives.

Generally, the consultation process was extremely productive and useful, and valuable comments were provided with regard to the project implementation. The public representatives expressed support for the project.

All comments and recommendations have been taken into account in preparation of the present report. Details on public consultation process are provided in Annex C.
4. CONCLUSIONS

Municipal Wastewater Management

The analysis of existing situation indicates that City's sewage pumping capacity needs to be improved.

Based on the results of environmental assessment, it can be concluded that the proposed project represents an environmentally sound solution and can be promoted to the next stage of project preparation cycle.

Municipal Solid Waste Management

It is proposed to focus on the following components:

- Purchase of 60 waste collection vehicles;
- Purchase of 7,000 waste collection containers.

This would help improve the collection aspect of existing waste management system in Kharkiv by enhancing the capacity for MSW collection and delivery to the existing MSW landfill.
ANNEX A. Mitigation Plan
### Annex A.1. Mitigation Plan: Rehabilitation of Municipal Sewer Network

<table>
<thead>
<tr>
<th>Phase</th>
<th>Issue</th>
<th>Mitigation Measure</th>
<th>Cost</th>
<th>Institutional Responsibility</th>
</tr>
</thead>
</table>
| Construction           | Potential impact of construction activity on the pedestrian safety in the location of construction site | - Provision of safety fence around the construction site.  
- Restricted access to the construction site on the basis of passes | Allowance made in the project budget                                                                | Contractor                               |
| Dust emissions during construction |                                                                  | - Implement dust avoidance measures.  
- Covering of earth/building material transporting vehicles.  
- Watering of access roads and excavation zones, implementation of good construction practice, site cleaning at the end of working hours.  
- Use of protective covers and screens to contain fugitive dust emissions wherever possible. | Allowance made in the project budget                                                                | Contractor                               |
| Noise and vibration    |                                                                      | - Restricting noisy construction activities to normal daily working hours.  
- Aiding a reasonable work schedule.  
- Use of acoustical enclosures or noise suppressors for noisy equipment where appropriate. | Allowance made in the project budget                                                                | Contractor                               |
|                        |                                                                      | - Regular inspection and proper maintenance of vehicles and equipment.  
- Provision of adequate containment for fuel oils and lubricants, paints, cooling agents, solvents etc.  
- Prompt elimination and control of leaks and spills.  
- Identification of a minimum required number of delivery routes for fuel and lubricants, cooling agents, paints, solvents and asphalt material to minimize risk of accidental spills and releases.  
- Limiting vehicle maintenance operations to specially designated sites. | Allowance made in the project budget                                                                | Contractor                               |
| Short-term surface water and soil contamination from leaks or spills of process chemicals such as fuel oils/lubricants, paints, cooling agents etc. |                                                                  | - Strict compliance with construction standards and design specifications | Allowance made in the project budget                                                                | Contractor                               |
| Short-term groundwater and soil contamination from spills during the connection of new piping to the existing sewer network |                                                                  | - Ensure proper technical state of all equipment.  
- Restricting construction activities to reasonable working hours. | Allowance made in the project budget                                                                | Contractor                               |
| Air emissions during equipment operation |                                                                  | - Provide adequate temporary storage for top soil material and subsequent restoration of disturbed site | Allowance made in the project budget                                                                | Contractor                               |
| Top soil stripping may affect soil properties |                                                                  | - Short-term impact. No special mitigation measures are required. | Allowance made in the project budget                                                                | Contractor                               |
| Interference with natural drainage |                                                                      | - Minimise the potential for damage.  
- Replant/restore affected vegetation cover. | Allowance made in the project budget                                                                | Contractor                               |
<table>
<thead>
<tr>
<th>Phase</th>
<th>Issue</th>
<th>Mitigation Measure</th>
<th>Cost</th>
<th>Institutional Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction waste and old piping can be a potentially significant</td>
<td>• All waste materials, generated during construction, including hazardous waste, should be delivered to</td>
<td>Allowance made in the project budget</td>
<td>Contractor</td>
</tr>
<tr>
<td></td>
<td>effect unless properly managed</td>
<td>the official sanitary landfill(s).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Operation | Odours and noise generated by sewage pumping station can cause       | • Air emissions from sewer mains should be minimised.  
|         | considerable nuisance to local residents                            | • Pumping stations should be appropriately located at a sufficient distance from residential areas, in | Allowance made in the operating cost estimate | Operator                   |
|         |                                                                     | adequately insulated buildings.                                                                        |                                           |                              |
|         | Soil and groundwater contamination due to leaks from sewer system    | • Adequate leak control.  
|         |                                                                     | • Comprehensive quality assurance/control programme during construction, with subsequent technical | Allowance made in the operating cost estimate | Operator                   |
|         |                                                                     | inspection and maintenance programme                                                                  |                                           |                              |
### Annex A.2 Mitigation Plan: Rehabilitation of Municipal Solid Waste Management System

<table>
<thead>
<tr>
<th>Phase</th>
<th>Issue</th>
<th>Mitigation Measure</th>
<th>Cost</th>
<th>Institutional Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation</td>
<td>Atmospheric Effects: dust and exhaust gas emission during the operation of waste collection service.</td>
<td>- Proper control and maintenance of vehicles, operating at the site.</td>
<td>Allowance made in the operating cost estimate</td>
<td>Operator</td>
</tr>
</tbody>
</table>
|         | Water Resources: contamination of surface runoff waters and infiltration of pollutants into groundwater. | - Provision for adequate maintenance and cleaning of container sites.  
- Timely collection of waste in order to avoid the overflow of containers. | Allowance made in the operating cost estimate | Operator                  |
| Construction | Land Resources: contamination of ground beneath container sites.    | - Provision for adequate paving.                                                   | Allowance made in the project budget | Contractor                |
| Operation |                                                                      | - Maintenance and timely cleaning of container sites.                              | Allowance made in the operating cost estimate | Operator                  |
ANNEX B. Monitoring Plan
## Annex B.1. Monitoring Plan: Rehabilitation of Municipal Sewer Network

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Monitoring Parameter</th>
<th>Monitoring Location</th>
<th>Monitoring Technique</th>
<th>Monitoring Frequency</th>
<th>Institutional Responsibility for Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction / Supervision</td>
<td>Pollution load carried with effluent discharges</td>
<td>Discharge outfall (prior to the discharge)</td>
<td>Instrumented measurements (physical, chemical, bacteriological, radiological parameters) in accordance with the Unified Inter-Ministerial Regulation on the Organisation and Implementation of State Water Monitoring (approved by the Ministry of Environment and Natural Resources of Ukraine Order No. 485 of 24.12.2001)</td>
<td>Daily</td>
<td>Contractor, local environmental authorities, local water management authorities, supervisor</td>
</tr>
<tr>
<td>Construction / Supervision</td>
<td>Percentage of sewage flow losses due to leaks in the sewer system</td>
<td>Within a sewer system</td>
<td>Instrumented measurements in accordance with the Operation Rules for Centralised Water Supply and Sewerage Systems (approved by the State Municipal Utility Management Committee of Ukraine Order No. 30 of 05.07.95)</td>
<td>Daily during construction</td>
<td>Contractor, Sanitary Epidemiological Service</td>
</tr>
<tr>
<td>Construction / Supervision</td>
<td>Groundwater contamination by oil products, sewage grease, bacteriological contamination</td>
<td>Control boreholes in the vicinity of sewer collectors</td>
<td>Instrumented measurements (physical, chemical, bacteriological, radiological parameters) in accordance with the Unified Inter-Ministerial Regulation on the Organisation and Implementation of State Water Monitoring (approved by the Ministry of Environment and Natural Resources of Ukraine Order No. 485 of 24.12.2001)</td>
<td>Daily during construction and operation</td>
<td>Contractor, local environmental authorities, local water management authorities, supervisor</td>
</tr>
<tr>
<td>Construction / Supervision</td>
<td>Soil contamination by oil products and sewage grease in the locations of sewer collectors</td>
<td>Control points in the vicinity of sewer collectors</td>
<td>Instrumented measurements in accordance with the Regulation on Land Monitoring (approved by the Cabinet of Ministers of Ukraine Resolution No. 661 of 20.06.1993)</td>
<td>Monthly during construction</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities, Supervisor</td>
</tr>
<tr>
<td>Construction</td>
<td>Air emissions (dust, nitrogen dioxide, carbon oxide, carbon dioxide, iron oxide, manganese, nickel oxide, chromium (6+), fluorides, xylene, phenol, glycol, butyl acetate, ethyl acetate, ethyl-</td>
<td>Construction site and surroundings</td>
<td>Instrumented measurements in accordance with the Guideline Document RD 52.04.186-89 “Air Pollution Control Manual” and the Technique for Determination of Emission Loads from Mobile Sources (the RF Ministry of Transport, 1993)</td>
<td>In accordance with the State Sanitary Rules (DSP 201-97) for Air Protection in the Populated Areas</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities, Supervisor</td>
</tr>
<tr>
<td>Project Phase</td>
<td>Monitoring Parameter</td>
<td>Monitoring Location</td>
<td>Monitoring Technique</td>
<td>Monitoring Frequency</td>
<td>Institutional Responsibility for Monitoring</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------</td>
<td>---------------------</td>
<td>---------------------</td>
<td>---------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Construction</td>
<td>cellulose, acetone,</td>
<td>Construction site</td>
<td>Acoustic measurements in accordance with the State Standard GOST 20444-85 &quot;Noise, Traffic Flows in Populated Areas. Technique for Determination of Noise Levels&quot;; public/personnel complaints</td>
<td>In accordance with the State Sanitary Rules for Urban Planning and Development (approved by the Ministry of Health of Ukraine Order No. 173 of 19.06.96)</td>
<td>Contractor, Sanitary Epidemiological Service, Environmental Inspectorate</td>
</tr>
<tr>
<td>Construction</td>
<td>cyclohexanone, solvent, white spirit</td>
<td>and surroundings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>Noise and vibration</td>
<td>Construction site and surroundings</td>
<td>Instrumented measurements in accordance with the Regulation on Land Monitoring (approved by the Cabinet of Ministers of Ukraine Resolution No. 661 of 20.06.1993)</td>
<td>In accordance with the Regulation on Land Monitoring (approved by the Cabinet of Ministers of Ukraine Resolution No. 661 of 20.06.1993)</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities, Supervisor</td>
</tr>
<tr>
<td>Construction</td>
<td>Soil contamination by fuel/oils and paints</td>
<td>Construction site</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>Waste generation and management</td>
<td>Construction site and surroundings</td>
<td>Visual inspection, waste inventory, evidence from landfill operator</td>
<td>Continuous daily control</td>
<td>Construction contractor, supervisor</td>
</tr>
<tr>
<td>Construction / Supervision</td>
<td>Surplus activated sludge generation and management</td>
<td>Construction site and surroundings</td>
<td>Visual inspection, waste inventory, evidence from landfill operator</td>
<td>Continuous daily control</td>
<td>Construction contractor, supervisor</td>
</tr>
<tr>
<td>Construction / Supervision</td>
<td>Management and disposal of waste generated in wastewater treatment process</td>
<td>WwTP site</td>
<td>Visual inspection, waste inventory, evidence from landfill operator</td>
<td>Continuous daily control</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities, Supervisor</td>
</tr>
</tbody>
</table>
### Annex B.2. Monitoring Plan: Rehabilitation of Municipal Solid Waste Management System

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Monitoring Parameter</th>
<th>Monitoring Location</th>
<th>Monitoring Technique</th>
<th>Monitoring Frequency</th>
<th>Institutional Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction and</td>
<td>Number of illegal dumps</td>
<td>Within the area of human settlement</td>
<td>Regular inspection</td>
<td>Monthly</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities, supervisor</td>
</tr>
<tr>
<td>Supervision</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Construction and</td>
<td>Sanitary state of access road(s) to landfill site(s)</td>
<td>Access road and surrounding area</td>
<td>Regular inspection</td>
<td>Weekly</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities, supervisor</td>
</tr>
<tr>
<td>Supervision</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Construction and</td>
<td>Sanitary state of collection points (container sites)</td>
<td>Container sites and surroundings</td>
<td>Regular inspection, instrumented measurements where necessary</td>
<td>Daily during construction and operation</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities, supervisor</td>
</tr>
<tr>
<td>Supervision</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Construction and</td>
<td>Level of collection service</td>
<td>Container sites</td>
<td>Regular inspection</td>
<td>Daily during construction and operation</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities, public</td>
</tr>
<tr>
<td>Supervision</td>
<td></td>
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<tr>
<td>Construction and</td>
<td>State of waste transfer stations</td>
<td>Transfer station sites</td>
<td>Regular inspection</td>
<td>Daily during construction and operation</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities, public</td>
</tr>
<tr>
<td>Supervision</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Construction and</td>
<td>Environmental performance of sanitary landfill operator</td>
<td>Landfill sites</td>
<td>Regular inspection</td>
<td>Weekly during construction and operation</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities</td>
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<tr>
<td>Supervision</td>
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</tr>
<tr>
<td>Construction and</td>
<td>Progressive restoration of landfill sites</td>
<td>Landfill sites and surroundings</td>
<td>Regular inspection</td>
<td>Monthly during construction and operation</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities</td>
</tr>
<tr>
<td>Supervision</td>
<td></td>
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<tr>
<td>Construction and</td>
<td>Environmental performance of waste incineration/recycling facilities</td>
<td>Facility sites and surroundings</td>
<td>Regular inspection</td>
<td>Weekly during construction and operation</td>
<td>Contractor, Sanitary Epidemiological Service, local environmental authorities</td>
</tr>
<tr>
<td>Supervision</td>
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</table>
ANNEX C. Materials on Public Consultations
FOREWORD

The Need for Public Consultation

According to the requirements of the World Bank and Ukrainian legislation, it is necessary to consult project-affected groups and local nongovernmental organizations (NGOs) about the project's environmental aspects and to take their views into account when performing Environmental Assessment (EA) of investment project on municipal infrastructure. Thus, generation of positive attitude on all stages of projects is the necessary requirement for the project performance.

Organisation of Public Consultations

According to Terms of References, the Consultant (IWMC) has organized the public consultation process in the following way:

1. Two public consultations for each project location were carried out:
   - **The first public consultation** - the purpose of this consultation was to present the planned project, review the EA outline and schedule, Terms of Reference, and to solicit from affected groups and local NGOs any environmental issues they consider to be a priority and they wish to see addressed in the EA report.
   - **The second public consultation** - the purpose of this consultation was to present the results of EA work, discuss positive and negative impacts of planned project, to review the draft EA document to insure that the issues identified in the first public consultation have been properly addressed and resolved to the satisfaction of locally affected groups and NGOs.

The main objectives of public consultations were as follows:
- To make the EA project transparent and open for the public;
- To discuss various issues and concerns with project-affected groups, to familiarize public with potential negative impacts and problems during realization of investment projects;
- To have feedback from competent bodies and local project-affected groups during the EA process on potential positive and negative impacts.

2. To invite local stakeholders, the places and dates of two public consultations were announced in local/oblast newspapers, followed by the telephone and fax communications. Key participants are:
   - Loan Recipients (Municipal Utilities);
   - Key field institutions;
   - Key research organizations and organizations performing Environmental Impact Assessment (EIA);
   - Local state administrations;
   - State authorities (environmental authorities and sanitary epidemiological service);
   - NGOs;
   - TV, radio stations, newspapers.

3. Responsible persons (from IWMC and Grant Recipients) were appointed for each location.

4. The following information materials were prepared for each consultation:
   - Agenda:
Public Consultations in Kharkiv City

The First Public Consultation

1. A working meeting with the potential loan recipients was held in the premises of Kharkiv Water Supply Utility (90 Krasnooktyabrskaya street, Kharkiv) to discuss key issues relating to the organization of the first consultation meeting (for presenting and discussing proposed investment projects in Kharkiv City, Chuguev town, Izium town and Kupyansk town). The meeting date and place were discussed, and the 1st Consultation Meeting Preparation Plan was approved. It was decided to hold the first consultation meeting on 5 August, 2005 at the conference hall of the VODA Water Supply Utility (90 Krasnooktyabrskaya street, Kharkiv).

2. The meeting date and place were announced in the regional newspaper “Vremya” on 4 August 2005, No. 52(15498) (Attachment 1).

3. Key participants were invited personally by phone and by sending fax invitations (Attachment 2).

4. The meeting agenda (Attachment 3), distribution material (Attachment 4) and press-release (Attachment 5) were prepared.

5. The minutes of the first consultation meeting were maintained (Attachment 6), and pictures (Attachment 7) were made.

6. The mass media (ATN City TV Channel, UkrInform Ukrainian Agency, Status-Quo News Agency, Media-Objective Media Group) provided coverage for the event and reflected public views and opinions in their news programmes and publications (Attachment 8).

The Second Public Consultation

1. A working meeting with potential loan recipients was held in the premises of Kharkiv VODA Water Supply Utility (90 Krasnooktyabrskaya street, Kharkiv) to discuss key organizational issues relating to the second consultation meeting. The meeting date and place were discussed, and the 2nd Consultation Meeting Preparation Plan was agreed. It was decided to hold the second public consultation meeting on 6 September, 2005, at the conference hall of the VODA Water Supply Utility (90 Krasnooktyabrskaya street, Kharkiv).

2. The meeting date and venue were announced in the oblast newspaper “Slobodskoy Krai” on 3 September 2005, No. 144 (20695) (Attachment 9).

3. Key participants were invited personally by phone and by sending fax invitations (Attachment 10).

4. Meeting agenda (Attachment 11), distribution material (Attachment 12) and press-release (Attachment 13) were prepared.

5. The minutes of the second consultation meeting were maintained (Attachment 14), and pictures (Attachment 15) were made.
The mass media (ATN City TV Channel, UkrInform Ukrainian Agency, Status-Quo News Agency) have covered the event and public views in their news programmes and publications (Attachment 16).

Conclusions

A set of very important and interesting issues/comments/opinions were identified/received as a feedback from interested and project-affected groups, in particular, potential Grant Recipients, NGOs and general public. All comments have been taken into account and properly addressed during the preparation of EA reports.

The feedback received from the public consultations has proved invaluable in assessing the following aspects of the proposed projects:

- Compliance of planned investment projects with the Ukrainian environmental legislation and regulations;
- Completeness of available information on the current environmental situation;
- Current environmental permitting status of each proposed project;
- Completeness of available information on the potential environmental impacts associated with the proposed investment project implementation;
- Adequacy of proposed mitigation measures in terms of ensuring the environmental safety and sustainability;
- Acceptability of potential environmental impacts and environmental feasibility of each proposed project;
- Need for additional environmental information or clarification of available environmental data.

The feedback received from various stakeholder groups was one of strong support to the proposed projects in Kharkiv and Kharkiv Oblast. Their implementation is expected to provide much needed improvements in water supply, waste water collection/treatment and solid waste management sectors. These improvements would facilitate the provision of good quality services to population and compliance with the national and international standards. The proposed projects would provide social benefits to the populations of Kharkiv, Chuguev, Izium and Kupiansk by improving the quality and reliability of vital services.

The projects will not cause involuntary resettlement of population.

Their potential physical impacts on local geology, climate, air quality, fauna, water bodies, soil, vegetation cover, and existing utilities/infrastructure are likely to be minimal, being limited to the construction phase.

The existing situation in water supply, waste water collection/treatment and solid water management sector is critical, and would deteriorate even further if the proposed projects were not implemented. This would greatly increase the risk of major disruption in service provision and collapse of municipal infrastructure.
The first public consultation – 5 August, 2005

Announcement in the Newspaper

Source: the Oblast newspaper “Vremya”, 4 August 2005, No. 52(15498)

The public consultation on the proposed investment projects on rehabilitation of water supply, wastewater and solid waste management systems in Kharkiv City, Chuguev town, Izium town and Kupyansk town, and discussion of TOR on Environmental assessment (schedule, structure of reports, etc.) will be conducted at 11.00 on the 5th of August, 2005, at the Conference Hall of the Voda Municipal Water Supply Company (90 Krasnooktyabrskaya street, Kharkiv). Interested persons are welcome.
Константин Емельянович Грабчак: Я не могу сказать, что нам предстояло биться с самыми лучшими. Я думаю, что мы имели достаточно шансов на выход в полуфинал. Но у нас было много проблем: небольшие травмы, отсутствие игровой формы... Но главное - это то, что мы не показали своего лучшего уровня. Мы не смогли реализовать все свои возможности.

Все в мире хоккея знают, что это большая литература. Но мы не можем забывать, что мы играем за наше право на выход в следующий раунд. Мы должны быть профессиональны и не позволить себе упустить такие возможности.

Я думаю, что мы можем выиграть этот турнир, если мы будем играть с полной отдачей и не позволим себе делать ошибки. Мы должны быть внимательны на每一个 момент, и не давать возможность противнику использовать наши слабости.

И, в конечном итоге, мы должны быть готовы к любой ситуации, которая может возникнуть на поле. Мы должны быть уверены в себе и в своих возможностях.

Мы должны быть готовы к любой ситуации, которая может возникнуть на поле. Мы должны быть уверены в себе и в своих возможностях.
List of Participants Received Personal Invitations (by Phone and/or Fax)

1. Municipality – Polituchiy S.Ya., Deputy City Mayor.
2. Kharkiv Oblast State Administration – Uglov V.I., Assistant to the Head of Administration.
3. Oblast Municipal Housing Department – Nepomnyashiy A.M., Head.
5. Kharkiv City Sanitary Epidemiological Service – Kolpakova T.M.
6. Kharkiv State Technical University of Construction and Architecture:
   - Goncharenko D.F. – Deputy Rector, Doctor of Technical Sciences, Professor
   - Epoyan S.M. – Head of Chair, Doctor of Technical Sciences, Professor
   - Pantelyat G.S. – Doctor of Technical Sciences, Professor
10. Moskovkiy District Executive Committee – Babenkov Ye.P., Chairman.
11. Representatives of Kochetok Local Council and population of Kochetok village.
12. Kharkiv Oblast State Department of Ecology and Natural Resources – Kapustnik I.V., Head (the fax invitation contained a request to invite representatives from other Oblast Administration Departments).
13. Mayor of Kupyansk town (the fax invitation contained a request to invite representatives from local municipal utilities).
14. Mayor of Chuguev town (the fax invitation contained a request to invite representatives from local municipal utilities).
15. Mayor of Izium town (the fax invitation contained a request to invite representatives from local municipal utilities).
17. NGO Agency of International Cooperation – Tuluzov I.G., Executive Director
18. NGO MAMA-86 – Tsiguleva O.
19. NGO Independent Agency of Environmental Information (NGO Ekoinform), Popova I.M., Director.
Agenda

The First Public Consultation Meeting
in the Framework of EA Process for Proposed Investment Projects
on Urban Infrastructure Development

1. Chairman of the public consultation meeting – Kuzin A.K., Scientific Director of
   Association IWMC
   About Terms of References for EA assignment, potential impacts of
   proposed projects, schedule and structure of the report.

2. Co-chairman of the public consultation meeting – Petrosov V.A., General Director of
   the Voda Municipal Water Supply Company
   Explanation of the situation, about the aim of the consultation, timing and
   agenda.

3. Petrosov V.A., General Director Voda Municipal Water Supply Company
   Explanation of the situation, the aim and key elements of proposed projects
   in the domain of water supply, potential alternative options.

4. Representative from State Municipal Utility Kharkivkommunochistvod –
   Explanation of the situation, the aim and key elements of proposed projects
   in the field of wastewater collection/treatment, potential alternative options.

5. Representative from Municipal Waste Management Company –
   Explanation of the situation, aim and the key elements of proposed projects
   in the domain of management, potential alternative options.

6. Representative from Chuguev town
   Explanation of the situation, aim and the key elements of proposed projects
   in Chuguev, potential alternative options.

7. Representative from Kupyansk town
   Explanation of the situation, aim and the key elements of proposed projects
   in Kulyansk, potential alternative options.

8. Representative from Izium town
   Explanation of the situation, aim and the key elements of proposed projects
   in Izium, potential alternative options.

9. Abramov I.B., Deputy Director of Ukrainian Environmental Engineering Research
   and Design Institute
   About potential positive and negative physical impacts of proposed projects.

10. Discussion.
Information Material

WORLD BANK URBAN INFRASTRUCTURE PROJECT

Public Consultation

in the framework of EA process for investment projects on development of urban infrastructure aimed at improvement of hygiene and health of the population and improvement of environmental conditions that can be achieved through low-cost and sustainable water supply and sanitation delivery services.

Key Activity Areas:
- Rehabilitation of Water Supply System;
- Rehabilitation of Waste Water Collection/Treatment System;
- Rehabilitation of Solid Waste Management System.

KHARKIV CITY
Water supply:
- Water treatment facility;
- Rehabilitate motors at first stage pumping station;
- Rehabilitate water distribution pipes;
- Construct two water storage towers.
Wastewater:
- Replacement of pumping equipment.
Solid waste:
- Purchasing 60 waste collection vehicles;
- Purchasing 7,000 waste containers.

KOPYANSK TOWN
Water supply:
- Replacement of pumping equipment.
Wastewater:
- Rehabilitation works;
- Procurement.

IZIUM TOWN
Water supply:
- Replacement of 10 well pumps;
- Replacement of 16 pumps in 4 pumping stations.
Wastewater:
- Replacement of equipment and rehabilitation works.
Solid waste:
- Development of new landfill site;
- Supply of metal containers.

CHUGUEV TOWN
Water supply.
Wastewater:
- Replacement of pumping equipment;
- Study for rehabilitation or replacement of existing sewage treatment plant.
Solid waste.

PUBLIC CONSULTATIONS
August 2005 - review the EA outline and schedule, Terms of Reference, and identification from affected groups and local NGOs any environmental issues they consider to be a priority and they wish to see addressed in the EA report.
September 2005 - review the draft EA document.

Head: Scientific Direction IWMC
Kuzin Alexander

Contact person: Utkina Kateryna
Tel./fax.: (057) 702 15 78
E-mail: akousine@mail.ru
Press Release

Today, on 5 August 2005, at 11.00, at the Conference Hall of the Voda Municipal Water Supply Company (90 Krasnooktyabrskaya street, Kharkiv), the first public consultation on the WB Urban Infrastructure Project was held. Key areas of investment – rehabilitation of water supply, wastewater and solid waste management systems. Locations – Kharkiv City, Chuguev town, Izium town and Kupyansk town.

According to the WB requirements, the proposed project can only be implemented after the EA process. EA must be carried out in accordance with the WB procedures and Ukrainian legislation requirements.

Generation of positive public attitude at all stages is a key requirement for proposed projects. It is planned to conduct two public consultations in order to ensure that the identified issues have been properly addressed and resolved to the satisfaction of locally affected groups and NGOs. It is planned to have feedback from local population, corresponding points for meeting with representative of local population and NGOs will be organized.

The consultation process has been initiated by the Industrial Waste Management Centre Association (the Consultant responsible for EA) and the Voda Municipal Water Supply Company (potential loan recipient).
Minutes (No. 1) of the First Public Consultation on the WB Urban Infrastructure Project

Subject: review the EA outline and schedule, Terms of Reference, and solicit from affected groups and local NGOs any environmental issues they consider to be a priority and they wish to see addressed in the EA report.

Kharkiv 5 August 2005

Place - conference hall, Voda Municipal Water Supply Company, 90 Krasnooktyabrskaya str. Kharkiv


Chairman– Kuzin A.K., Scientific Director of Association IWMC

Co-chairman– Petrosov V.A., General Director Voda Municipal Water Supply Company

Secretary – Utkina K.B., IWMC expert.

Coordinator on public relations – Pabolkov V.V., Deputy Director, Voda Municipal Water Supply Company

Presidium Members:
Abramov I.B., Deputy Director of Ukrainian Environmental Engineering Research and Design Institute, IWMC expert;
Sherenkov I.A., Head of Chair “Environmental Engineering and Life Safety”, Kharkiv State Technical University of Construction and Architecture;

About 130 persons were present. Registration sheets are available at the IWMC office.


2. Kuzin A.K., Scientific Director of IWMC – presented information about the WB Urban Infrastructure Project and potential activities planned in the framework of this project in Kharkiv, Chuguev, Izium and Kupyansk, potential participants (Municipal Utilities), about planned activity in the framework of EA report preparation, and IWMC expertise.

3. Petrosov V.A., General Director Voda Municipal Water Supply Company – described existing situation in the field of water supply and planned investment activity, provided specific examples and emphasized the need for achieving compliance with the national and international standards of drinking water quality.
4. Goncharenko V.D., Deputy Head, Department of Science, Investments and Development, State Municipal Utility Kharkivkommunochistvod – described existing situation in the field of wastewater collection/treatment. He told briefly about the development of Programme on Rehabilitation of Seversky Donets River. He presented the proposed investment projects, in particular:
- Replacement of pumping equipment on Dikanevka treatment plant;
- Replacement of pumping equipment at 27 pumping stations in Kharkiv.

5. Rimskiy M.I., Mayor of Kupyansk town – told about existing situation with municipal services, highlighted the scale of waste management problem and the need for a new sanitary landfill.

6. Dyachenko V.Y., Head of Kupyansk Vodokanal Utility – made a short report about the activity of the Utility. The Utility provides water supply and wastewater collection/treatment services. He underlined the necessity to perform rehabilitation of pipelines (length of water supply pipelines – 38 km, length of sewer pipelines – 78 km, about 60 % of pipes are in bad condition). He explained the aim and specific sub-projects, in particular sub-projects on replacement of new equipment.

7. Shevchenko L.F., Director of Izium Vodokanal Utility – gave information about the Strategic Action Plan for Izium Vodokanal. Key problems relate to the modernization of water supply and sewer pipeworks (including reconstruction of water abstraction facility, networks, pumping equipment, rehabilitation of wastewater system) was developed in the framework of preparation of the above mentioned Action Plan. Key information and data for formulation of proposed investment projects were taken from the Action Plan.

8. Shtondenko V.E., Director of Chuguev Vodokanal Utility – underlined that the main problem for the Utility was equipment of sewage pumping stations. Most part of equipment was put into operation in 1970-s. He made a brief report on developed “Programme on rehabilitation”. A list of priority measures was developed during the preparation of the programme.

9. Alyabiev S.G., Director of Municipal Waste Management Facility, Chuguev – explained the situation with waste management in Chuguev. The Programme on rationale waste management was developed with IWMC support in order to improve waste management. It includes up-to-date approaches to solution of waste management problems. Additional funding is necessary for fulfillment of the Programme, that is why WB investment projects are very topical.

10. Babenko V.V., Deputy Director of Kharkiv Municipal Waste Management Company – described the urgency and need for waste management improvements in Kharkiv, with special focus on the fact that existing landfill site has reached the end of its life. The Utility plans to purchase waste collection vehicles (20 t capacity) and containers (1100 l) in the framework of proposed project.

11. Abramov I.B., Deputy Director of Ukrainian Environmental Engineering Research and Design Institute, IWMC expert – explained the WB and Ukrainian requirements for EA process. He provided brief review of Ukrainian legislation for waste management, in particular, concerning the development of new regulation (to come into effect from 1 January 2006). The systemic approach and engineering surveying are necessary for practical introduction of this document.
Discussion:

12. Tsiguleva O., NGO MAMA-86 – said that MAMA-86 was responsible for the social assessment for the proposed projects. The most interesting point for population is the impact of proposed projects on service tariffs.

13. Epoyan S.M., Kharkiv State Technical University of Construction and Architecture, Head of Chair, Doctor of Technical Sciences, Professor – proposed cooperation in implementing the rehabilitation projects for water supply and wastewater management systems. He underlined the need in resolving existing problems with the help of proposed projects and attracting the WB investment.

14. Popova I.M., NGO Ekoinform – a question on separate waste collection. She proposed cooperation in the field of waste management and informed about the conference that would take place in February 2006. The conference will be under the aegis of Kharkiv National Economical University, State Department of Ecology in Kharkiv Oblast, Ukrainian Scientific and Research Institute of Ecological Problems and IWMC. She invited everybody to take part in the conference and to discuss various issues. She gave information about the World of Waste website.

15. Sherenkov I.A., Head of Chair "Environmental Engineering and Life Safety", Kharkiv State Technical University of Construction and Architecture – underlined the necessity to analyse the costs and benefits of proposed projects. He focused attention on specific issues, in particular, on landfill gas collection (should be taken into account during design works on construction of new waste site), construction of infiltration intake system, application of bio-technologies.

16. Kuzin A.K., Scientific Director of IWMC – thanked all participants for attention, promised to address all identified issues in EA report. He invited the participants to cooperate on the implementation of proposed projects. He announced that the second public consultation would take place in September, with the advertisement to be published in newspaper.

Signatures:
Chairman
Secretary
Coordinator on public relations
Goncharenko V.D., Deputy Head, Department of Science, Investments and Development, State Municipal Utility Kharkivkommunochistvod

Rimskiy M., Mayor of Kupyansk Town
Dyachenko V.Y., Head of Kupyansk Vodokanal Utility

Shevchenko E.F., Director of Izium Vodokanal Utility
Shtondenko V.E., Director of Chuguev Vodokanal Utility

Babenko V.I., Deputy Director of Kharkiv Municipal Waste Utility
Discussion
Urban Infrastructure Investment Projects Discussed in Kharkiv

Today the first public consultation on investment projects on urban infrastructure was conducted. Rehabilitation of water supply, wastewater and solid waste systems in Kharkiv City, Chuguev town, Izium town and Kupyansk town is the topic.

Association Industrial Waste Management Centre and Voda Municipal Water Supply Company are the organizers of the consultation. Industrial Waste Management Centre is responsible for Environmental Assessment (EA) of proposed projects and their potential impacts. According to WB requirements proposed project may be performed only after EA process.

N.Yakovleva, Director of IWMC, has informed that IWMC will perform EA of proposed investment projects as an independent consultant. According to WB requirements proposed project may be performed only after EA process. That is why EA is an essential part of the first stage. Municipal Utilities are really very interested in WB loans.

Another WB requirement is positive public attitude at all stages of proposed projects. It is planned to conduct two public consultations in order to insure that the identified issues have been properly addressed and resolved to the satisfaction of locally affected groups and NGOs. It is planned to have feedback from local population, corresponding points for meeting with representative of local population and NGOs will be organized.
В Харькове обсуждали инвестпроекты по развитию коммунальной сферы

Сегодня в Харькове прошли общественные слушания, на которых обсуждались инвестиционные проекты по развитию коммунальной сферы города. Речь шла о реконструкции систем водоснабжения, очистке сточных вод и организации полигонов твердых бытовых отходов в Харькове, Чугуеве, Изюме и Купянске.

Слушания организовала ассоциация «Центр управления промышленными отходами» ("ЦУПО") и КП "Промышленно-технологическое предприятие «Вода». «Центр управления промышленными отходами» должен был оценить экологические последствия инвестпроектов. Без такой экспертизы Мировой Банк, в котором авторы проектов собираются брать деньги, не предоставляет деньги на реализацию проектов.
ПИСЬМО («пред · след »)

Ответить Переслать Перенаправить Удалить

От кого: "Hdinau"<hdinau@kharkov.ukrtel.net>
в адресную книгу · в черный список · в фильтры

Кому: "Nataliya Yakovleva"<nati_yakovleva@mail.ru>

Дата: 05 Apr 2005 17:42:17

Тема: urkinform

win koi mac uf

Перевод: rus > eng eng > rus больше языков и словарей — Translate.ru

УКРАЇНА: НОВІНИ ДНЯ

У ХАРКОВІ ВІДБУЛИСЯ ПЕРШІ ГРОМАДСЬКІ СЛУХАННЯ З ОБГОВОРЕНИЯ ІНВЕСТІЙ КОМУНАЛЬНОЇ ІНФРАСТРУКТУРИ МІСТА ХАРКІВ, 5 серпня. /Володимир Фоменко-Укрінформ//. У Харкові відбулися перші громадські слухання з обговорення інвестиційних проектів реконструкції систем водопостачання, очищення стічних вод і полігонів твердих побутових відходів у Харкові і ряді міст області. Слухання організувала асоціація "Центр управління промисловими відходами" («ЦУПВ») і КП "Промислово-технологічне підприємство "Вода".

Як повідомила кореспонденту Українформу виконавчий директор асоціації Наталія Яковлева, "ЦУПВ" як незалежний експерт проведе екологічну оцінку наслідків реалізації інвестиційних проектів у комунальній сфері. Проведення такої експертизи є необхідною умовою надання кредитів комунальним підприємствам Міжнародним банком реконструкції та розвитку, від якого керівники харківських комунальних підприємств сподіваються отримати фінансування.

МБРР також вимагає формування позитивної громадської думки на всіх стадіях виконання проекту. Для широкого обліку думок зацікавлених осіб, громадських екологічних організацій і окремих громадян заплановано проведення двох громадських слухань і постійного моніторингу ходу виконання проекту яким створення пунктів зв'язку з громадством

http://win.mail.ru/cgi-bin/readmsg?id=112325275200000030017 17.09.2005
The second public consultation – 6 September, 2005

Announcement in the Newspaper

Source: the Oblast Newspaper “Slobodskoy Krai”, 3 September 2005, No. 144 (20695)

The second public consultation on investment projects on rehabilitation of water supply, wastewater and solid waste management systems in Kharkiv City, Chuguev town, Izium town and Kupyansk town for presentation and discussion of Draft EA Report will be conducted at 11.00 on the 6-th of September on the address: conference hall, Voda Municipal Water Supply Company, 90 Krasnooktyabrskaya str. Kharkiv. Interested persons are welcome.
Наталія БАСЮТА.
Фото Віктора КОЧЕТОВА
List of Participants Received Personal Invitations (by Phone and/or Fax)

1. Municipality – Polituchiy S.Ya., Deputy City Mayor.

2. Kharkiv Oblast State Administration – Uglov V.I., Assistant, Head of Administration.

3. Oblast Municipal Housing Department – Nepomnyashiy A. M., Head.


5. Kharkiv City Sanitary Epidemiological Service - Kolpakova T.M.

6. Kharkiv State Technical University of Construction and Architecture:
   - Goncharenko D.F. – Deputy Rector, Doctor of Technical Sciences, Professor
   - Epoyan S.M. – Head of Chair, Doctor of Technical Sciences, Professor
   - Pantelyat G.S. - Doctor of Technical Sciences, Professor


10. Moskovkiy District Executive Committee - Babenkov Ye.P., Chairman.

11. Representatives of Kochetok Local Council and population of Kochetok village.

12. Kharkiv Oblast State Department of Ecology and Natural Resources – Kapustnik I.V., Head (the fax invitation contained a request to invite representatives from other Oblast Departments).

13. Mayor of Kupyansk town (the fax invitation contained a request to invite representatives from local municipal utilities).

14. Mayor of Chuguev town (the fax invitation contained a request to invite representatives from local municipal utilities).

15. Mayor of Izium town (the fax invitation contained a request to invite representatives from local municipal utilities).


17. NGO Agency of International Cooperation - Tuluzov I.G., Executive Director

18. NGO MAMA-86 – Tsiguleva O.

Agenda
The Second Public Consultation Meeting
in the Framework of EA Process for Proposed Investment Projects
on Urban Infrastructure Development

1. Registration of participants, distribution of materials
   Chairman of the public consultation – Kuzin A.K., Scientific Director of Association IWMC
   Co-chairman of the public consultation - Petrosov V.A., General Director of Voda Municipal Water Supply Company

2. Opening - Petrosov V.A., General Director of Voda Municipal Water Supply Company
   Explanation of the situation, about the aim of the consultation, timing and agenda.

3. Abramov I.B., Deputy Director of Ukrainian Environmental Engineering Research and Design Institute
   Draft EA Reports for Kharkiv City. Potential positive and negative impacts.

4. Kuzin A.K., Scientific Director of Association IWMC
   Draft EA Reports for Chuguev town, Kupyansk town, Izium town. Potential positive and negative impacts.


6. Discussion

Information Material

WORLD BANK URBAN INFRASTRUCTURE PROJECT

Public Consultation

in the framework of EA process of investment projects on development of urban infrastructure aimed at improvement of hygiene and health of the population and improvement of environmental conditions that can be achieved through low-cost and sustainable water supply and sanitation delivery services

KHARKIV CITY

Water supply:
- Construction of water treatment plant (infiltration intake system)
- Rehabilitation and upgrade of Kochetok water treatment plant;
- Rehabilitate motors at first stage pumping station;
- Construct two water storage towers (Olexiyivka, Saltivka);
- Rehabilitation, replacement and capital repair of water mains.

Wastewater:
- Rehabilitation/Upgrade of Sewage Pumping Stations.

Solid waste:
- Purchasing 60 waste collection vehicles;
- Purchasing 7,000 waste containers.

KUPYANSK TOWN

Water supply:
- Rehabilitation of water pumping stations at Operating Levels 1, 2, and 3;
- Rehabilitation of water mains (water transmission and local distribution pipelines).

Wastewater:
- The installation of 2 ultraviolet disinfection units;
- Replacement of old equipment and accessories;
- Construction and repair works at the WwTP site.

Solid waste:
- Municipal solid waste landfill construction;

IZIUM TOWN

Water supply:
- Rehabilitation/Upgrade of Water Abstraction Facility and Water Pumping Stations;
- Rehabilitation of Water Mains Conveying Water to the Central Part of Izium and to the Residential Area Developed by the Izium Instrument Manufacturing Plant.

Wastewater:
- Rehabilitation of central gravity sewer in the area of the Central Sewage Pumping Station (CSPS);
- Construction of bottom sewer crossing under the Siversky Donets River bed;
- Rehabilitation and upgrade of existing WwTP.

CHUGUEV TOWN

Water supply:
- Technical reequipment, modernization and expansion of a water-intake facility;
- Replacement of aging pipelines in the town of Chuguev.

Waste water:
- Technical reequipment of all wastewater pumping stations of Chuguev.

PUBLIC CONSULTATIONS

August 2005 - review the EA outline and schedule, Terms of Reference, and identification from affected groups and local NGOs any environmental issues they consider to be a priority and they wish to see addressed in the EA report.

September 2005 - review the draft EA document.

Head: Scientific Direction IWMC
Kuzin Alexander

Contact person: Utkina Kateryna
Tel./fax: (057) 702 15 78
E-mail: akousine@mail.ru
Press Release

Today, on 6 September 2005, at 11.00, at the conference hall of the Voda Municipal Water Supply Company (90 Krasnooktyabrskaya street, Kharkiv), the second public consultation on WB investment projects on urban infrastructure was held. Key areas of investment – rehabilitation of water supply, wastewater and solid waste management systems. Locations – Kharkiv City, Chuguev town, Izium town and Kupyansk town.

More specifically, the proposed projects are aimed at improvement and rehabilitation of water supply, wastewater and solid waste management systems. The following investment projects are proposed:

<table>
<thead>
<tr>
<th>Location</th>
<th>Water supply:</th>
<th>Wastewater:</th>
<th>Solid waste:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KHARKIV</strong></td>
<td>• Construction of water treatment plant (infiltration intake system)</td>
<td>• Rehabilitation/Upgrade of Sewage Pumping Stations.</td>
<td>• Purchasing 60 waste collection vehicles;</td>
</tr>
<tr>
<td><strong>CITY</strong></td>
<td>• Rehabilitation and upgrade of Kochetok water treatment plant;</td>
<td>• Rehabilitation/Upgrade of Sewage Pumping Stations.</td>
<td>• Purchasing 7,000 waste containers.</td>
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<td></td>
<td>• Rehabilitate motors at first stage pumping station;</td>
<td>• Rehabilitation of water pumping stations at Operating Levels 1, 2, and 3;</td>
<td>• The installation of 2 ultraviolet disinfection units;</td>
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<td></td>
<td>• Construct two water storage towers (Olexiyivka, Saltivka);</td>
<td>• Rehabilitation of water mains (water transmission and local distribution</td>
<td>• Replacement of old equipment and accessories;</td>
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<tr>
<td></td>
<td>• Rehabilitation, replacement and capital repair of water mains.</td>
<td>pipelines).</td>
<td>• Construction and repair works at the WwTP site.</td>
</tr>
<tr>
<td><strong>KUPYANSK</strong></td>
<td>• Water supply:</td>
<td>Wastewater:</td>
<td></td>
</tr>
<tr>
<td><strong>TOWN</strong></td>
<td>• Rehabilitation/Upgrade of Water Abstraction Facility and Water Pumping</td>
<td>• Rehabilitation of central gravity sewer in the area of the Central Sewage</td>
<td>• Municipal solid waste landfill construction;</td>
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<td></td>
<td>Stations;</td>
<td>Pumping Station (CSPS);</td>
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<td></td>
<td>• Rehabilitation of Water Mains Conveying Water to the Central Part of Izium</td>
<td>• Construction of bottom sewer crossing under the Siversky Donets River bed;</td>
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<tr>
<td></td>
<td>and to the Residential Area Developed by the Izium Instrument Manufacturing</td>
<td>• Rehabilitation and upgrade of existing WwTP.</td>
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<tr>
<td></td>
<td>Plant.</td>
<td>• Wastewater:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Water supply:</td>
<td>• Rehabilitation:</td>
<td>• Technical reequipment, modernization and expansion of a water-intake</td>
</tr>
<tr>
<td></td>
<td>• Technical reequipment, modernization and expansion of a water-intake</td>
<td>• Replacement of old equipment and accessories;</td>
<td>facility;</td>
</tr>
<tr>
<td></td>
<td>facility;</td>
<td>• Rehabilitation and upgrade of existing WwTP.</td>
<td>• Replacement of aging pipelines in the town of Chuguev.</td>
</tr>
<tr>
<td></td>
<td>• Replacement of aging pipelines in the town of Chuguev.</td>
<td>• Waste water:</td>
<td>• Technical reequipment of all wastewater pumping stations of Chuguev.</td>
</tr>
</tbody>
</table>

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According to the WB procedure, the EA process is required for the proposed project. The EA must be conducted according to WB procedure and Ukrainian legislation requirements.

The analysis of proposed projects demonstrates their significant social benefits, resulting from the improvements in existing water supply, wastewater collection/treatment and solid waste management systems in Kharkiv, Chuguev, Kupiansk and Izium. These projects will contribute to the improvement of environmental situation in the region, provide access to better quality services, and result in reduced energy costs of these services.

The proposed projects will not cause involuntary resettlement. Their potential physical impacts on local geology, climate, air quality, fauna, water bodies, soil, vegetation cover, and existing utilities/infrastructure are considered to be minor and limited to the construction phase.

Since the generation of positive public attitude at all stages is a key requirement for proposed projects, the results of EA are presented to public.

The consultation process has been initiated by the Industrial Waste Management Centre Association (the Consultant responsible for EA) and Voda Municipal Water Supply Company (potential loan recipient).
Minutes (No. 2) of the Second Public Consultation on the WB Investment Projects on Urban Infrastructure Development

Subject: review the draft EA document to ensure that the issues identified in the first public consultation have been properly addressed and resolved to the satisfaction of locally affected groups and NGOs.

Kharkiv 6 September 2005

Place - conference hall, Voda Municipal Water Supply Company, 90 Krasnooktyabrskaya str. Kharkiv


Chairman– Kuzin A.K., Scientific Director of Association IWMC

Co-chairman – Petrosov V.A., General Director of Voda Municipal Water Supply Company

Explanation of the situation, about the aim of the consultation and agenda.

Secretary – Utkina K.B., IWMC expert.

Coordinator on public relations – Pabolkov V.V., Deputy Director, Voda Municipal Water Supply Company

About 220 persons were present. Registration sheets are available at the IWMC office.


2. Petrosov V.A., General Director of Voda Municipal Water Supply Company – expressed regret that invited representatives of Municipality and City Council were not present. He gave information about the results of work completed in cooperation with the Ukrainian Environmental Engineering Research and Design Institute, Ukrainian Scientific and Research Institute of Ecological Problems, Ukrainian Municipal Infrastructure Design and Research Institute. He told about calculations on repayment of loans. He emphasized the benefits associated with improved water quality and achieved energy savings (pipe breaks will be reduced by 20%, 5 million UAH will be saved in transportation costs).

3. Abramov I.B., Deputy Director of the Ukrainian Environmental Engineering Research and Design Institute, IWMC expert – told about proposed projects in Kharkiv. Projects on construction of water treatment plant (infiltration intake system), rehabilitation and upgrade of Kochetok water treatment plant, rehabilitate motors at first stage pumping station, construct two water storage towers (Olexyivka, Saltivka), rehabilitation, replacement and capital repair of water mains were considered in details. Speaking about waste water system rehabilitation, he told about rehabilitation/upgrade of sewage pumping stations. In the section solid
waste management special attention was given to purchase of 60 transporters and 7000 containers. Draft EA Reports includes all potential physical and social impacts. He underlined social aspect

4. **Kuzin A.K.**, Scientific Director of IWMC – told about investment projects in Kharkiv Oblast (Kupiansk, Izium and Chuguev). Key activity areas are water supply, waste water and solid wastes. Presentation includes all potential physical and social impacts for each project.

5. **Petrosov V.A.**, General Director of Voda Municipal Water Supply Company – made a remark that implementation of proposed projects would be subject to the approval of City Administration, Ministry of Finance and Verkhovna Rada.

6. **Shtondenko V.E.**, Director of Chuguev Vodokanal Utility – underlined that proposed investment projects were very topical for Chuguev. He said that EA was performed on high level and there were no comments and no negative remarks to the Draft EA Report.

7. **Pustovoit V.V.**, Deputy Mayor of Kupiansk – said that projects were very necessary for the town. Corresponding calculation on repayment of loans were made. Loan will be returned in agreed period. Town Council fully supports the projects.

8. **Shevchenko L.F.**, Director of Izium Vodokanal Utility – told about the developed Strategic Action Plan for Izium Vodokanal. Special attention was given to repayment period (18-19 years).

Discussion:

- **Epoyan S.M.**, Kharkiv State Technical University of Construction and Architecture, Head of Chair, Doctor of Technical Sciences, Professor – placed special emphasis on proposed project on construction of infiltration intake system and construction of water storage towers. He underlined the necessity and importance of proposed projects for Kharkiv. He proposed cooperation.

- **Person from public** – question: what will be done with wastes collected separately?

  - **Answer**: **Abramov I.B.**, Deputy Director of Ukrainian Environmental Engineering Research and Design Institute, IWMC expert – there are two options: the first option is to transport them to Mefia and other towns where special plants will be constructed for waste treatment; the second option is to the existing site, in this case it is planned to create a system for utilization of various types of wastes. However, such issues were not covered in the framework of proposed projects.

- **Kuzmenok N.V.**, NGO MAMA-86 – noted that EA was performed on high level and it allowed to see potential problems that might occur in the result of performed projects. The most interesting point for population is how the proposed project will impact on tariffs.

  - **Answer**: **Petrosov V.A.**, General Director of Voda Municipal Water Supply Company – performance of proposed projects will allow to reduce energy consumption and will give other economic benefits. That is why our Utility will have possibility to repay the loan without increasing tariffs.
- **Shpak O.N.,** Deputy Head of Kharkiv Oblast asked about plans on reconstruction of 2-nd and 3-rd units of Kochetok water treatment plant and rehabilitation, replacement and capital repair of water mains (60 km).

- **Answer:** Petrosov V.A., General Director of Voda Municipal Water Supply Company – new construction is planned. New technologies will be used for treatment, conditioning and disinfection of water. Replacement and reconstruction (60 km) will be during the whole project period (22 years). Replant/restore affected vegetation cover is foreseen after earthworks.

- **Person from public** – why don’t you consider and include issues on the cleanup of the Lopan and Kharkiv rivers?

- **Answer:** Abramov I.B., Deputy Director of Ukrainian Research Institute of Engineering and Ecological Surveys, IWMC expert – we will consider this issue on next stages.

Chairman Kuzin A.K. summarized all comments and remarks, thanked all participants for attention. He said that he was very pleased to see such interest from public. He promised to address all identified issues in Final EA report. He said that further information would be given on the next stages of project development.

**Signatures:**
Chairman
Secretary
Coordinator on public relations
Kuzin A.K., Chairman, Scientific Director of Association IWMC
and Petrosov V.A., Co-chairman General Director of Voda Municipal Water Supply Company

Abramov I.B., Deputy Director of Ukrainian Research Institute of Engineering in Ecological Surveys, "IWMC-expert"
STATUS QUO
6 September 2005

Association IWMC Has Prepared Draft EA Reports for Urban Infrastructure Investment Projects

Association IWMC has prepared Draft EA Reports for urban infrastructure investment projects in Kharkiv City, Chuguev town, Izium town and Kupyansk town. Today the second public consultation on investment projects on urban infrastructure was conducted in conference hall of Voda Municipal Water Supply Company.

The second public consultation was organized by Association Industrial Waste Management Centre and Voda Municipal Water Supply Company.

N.Yakovleva, Director of IWMC, has informed that EA process and preparation of EA Reports is an important part of work on preliminary stage for investment projects. EA has shown that due to carry out of proposed projects, quality of municipal services will be improved. Projects will have great social impact in Kharkiv City, Chuguev town, Izium town and Kupyansk town. Expected physical impacts are minimal.

On the preliminary stage Bank does not provide any information on loan size to general public.

Note: investment projects include construction of water treatment plant (infiltration intake system), rehabilitation and upgrade of Kochetok water treatment plan, rehabilitate motors at first stage pumping station, construct two water storage towers, rehabilitation, replacement and capital repair of water mains. In Oblast towns most projects are aimed at rehabilitation of water supply system.

Association IWMC. N.Yakovleva, Director. Tel.: 7021843