

## Environmental and Social Review Summary

### SUEZ ENVIRONNEMENT Investments in Chongqing Water Group

*This Environmental and Social Review Summary (ESRS) is prepared by MIGA staff and disclosed in advance of the MIGA Board consideration of the proposed issuance of a Contract of Guarantee. Its purpose is to enhance the transparency of MIGA's activities. This document should not be construed as presuming the outcome of the decision by the MIGA Board of Directors. Board dates are estimates only.*

*Any documentation which is attached to this ESRS has been prepared by the project sponsor, and authorization has been given for public release. MIGA has reviewed the attached documentation as provided by the applicant, and considers it of adequate quality to be released to the public, but does not endorse the content.*

Country:	China
Sector:	Infrastructure
Project Enterprise:	Chongqing Water Group
Environmental Category:	B
Date ESRS Disclosed:	December 19, 2008
Status:	Due Diligence

#### A. Project Description

SUEZ ENVIRONNEMENT (“SE”) has requested guarantees for its strategic and joint venture investments in Chongqing Water Group (“CWG”), the largest water and wastewater utility in western China. Chongqing Municipality covers more than 82,000 square kilometers and has a population of roughly 32 million, with 8 million in the urban center. SE, through its subsidiary Suez Environment Hong Kong Limited, will acquire 50% of Suyu Business Development Company (“Suyu”), a Chinese firm set up to hold 15% of CWG. NWS Holdings Limited. (“NWS”), SE’s partner for water projects in China, will hold the other 50% of Suyu. Beyond this investment of 70 million Euros in CWG, SE and NWS will each invest a further 7 million Euros in their existing joint venture project with CWG, Chongqing Sino French Tangjiatuo Wastewater Treatment Co., Ltd. This will finance a capacity expansion and installation of sludge dryers at the existing Tangjiatuo sewage plant. The SE-NWS joint venture also has a project investment in Chongqing Sino French Water Supply Co., Ltd. (CSFWSC), which operates Liangtuo Waterworks and three smaller water treatment plants. These two joint venture projects exemplify the types of operations SE and NWS intend to pursue in their partnership with CWG.

#### B. Environmental and Social Categorization

This combination of a investment in a water/wastewater utility group, and the expansion of a wastewater and sludge management equipment installation at an existing joint venture plant is a Category B project under MIGA’s Policy on Social & Environmental Sustainability. The key issues are drinking water quality, effluent discharge water quality, solid waste (sludge) and hazardous materials (chlorine) management, air and odor emissions, and workers’ health and safety.

## C. Applicable Standards

While all Performance Standards are applicable to this investment, based on our current information the investment will have impacts which must be managed in a manner consistent with the following Performance Standards:

- PS 1: Social & Environmental Assessment and Management Systems
- PS 2: Labor & Working Conditions
- PS 3: Pollution Prevention & Abatement
- PS 4: Community Health, Safety & Security

Land acquisition for the Tangjiatuo facility was carried out by the Chongqing Municipal Land Management Bureau in 2001 prior to SE's initial entry to the site. The 3-hectare additional expansion area was similarly acquired by the Chongqing Municipal Land Management Bureau in 2005, without the investor having any role in the process. Information gathered during MIGA's site visit indicates that the 3 hectare land was not occupied, but some parts were used for agriculture; users were compensated in accordance with local regulations then. Thus, Performance Standard 5 is currently not applicable to this project. There are no indigenous peoples communities directly affected by CWG operations to date, so PS 7 is not applicable. There are no indications that cultural resources are affected by CWG operations; most areas in the Municipality are either built-up urban landscapes, or have been intensively cultivated for centuries, reducing the probability of finding cultural artifacts, so PS 8 is not relevant.

## D. Key Documents and Scope of MIGA Review

A MIGA due diligence mission including a Senior Environment Specialist traveled to Beijing and Chongqing in September 2008. Key documents reviewed by MIGA include partial translations of

- *Feasibility Study Report: Drainage Works in the Main City of Chongqing Municipality: Phase III of Tangjiatuo Sewage Treatment Plant.* Undated. Central-South Municipal Engineering Design and Research Institute. Project No. P-15-200706. Chapters translated: 11.

*Environmental Protection.* 12. *Labor Safety, Sanitation and Firefighting.*

- *Approval for Environmental Protection of Construction Projects of Chongqing Municipality.* January 19, 2006. Chongqing Environmental Protection Bureau. Y (S) HZ [2006] No. 21.

- *Environmental Impact Report: Drainage Works in the Main City of Chongqing Municipality: Phase III Expansion Project of Tangjiatuo Sewage Treatment Plant.* August 2007.

Environmental Science Research Institute of Chongqing Municipality. Certificate No. GHPZJZ No. 3103. *Conclusions and Recommendations.*

- *Monitoring Report: Expansion Project of Jiguanshi and Tangjiatuo Sewage Treatment Plants under Chongqing Municipal Drainage Co. Ltd.* August 6, 2007. Environmental Monitoring Center of Chongqing Municipality. YH (J) Z [2007] No. PJ39.

- *Health & Safety Management Rules.* 01/01/2007. Suez Environnement Type: Procedure. Title: Management Rules. Revision No. 00.

- *H&S Management Training Programme, Agenda for Sessions 1, 2, and 3.* 2008-03-19. Chongqing Sino French Water Supply Co., Ltd.

- *Training Plan of 2008.* Undated. Chongqing Sino French Tangjiatuo Wastewater Treatment Co., Ltd.

- *Human Resources Policy Manual- Edition IV*. Effective as of March 2008. Sino French Water Development Company Limited.

## **E. Key Issues and Mitigation**

### Social and Environmental Assessment and Management Systems

CWG must, for all operational projects, submit environmental impact assessments to the Municipal Environmental Protection Bureau (EPB) prior to construction; the Tangjiatuo expansion EIA was approved in January 2006. The EPB requires confirmation of treatment effectiveness at commissioning, and conducts regular ongoing monitoring of operations to ensure national standards are met. The EPB engages a qualified institution to carry out regular sampling and analysis at all CWG facilities, and notifies of (and levies fines) for exceedances of standards.

In the monitoring of the Tangjiatuo sewage treatment plant conducted in 2007, ambient air was monitored for ammonia and hydrogen sulfide, as well as odor. The discharge of treated sewage was monitored for pH, COD, BOD5, ammoniacal nitrogen, and total phosphorus and nitrogen. Noise was monitored day and night on all four sides of the plant over 2 days. All items monitored were within standards.

Both the Tangjiatuo sewage plant and the Liangtuo waterworks have well-equipped onsite laboratories, which conduct routine daily monitoring of performance of the facilities.

### Labor and Working Conditions

Sino French Water Development Company Limited Human Resources (HR) Policy Manual discusses terms of recruitment, employment, termination of employment, payroll policy, and staff's eligibility for medical care, health insurance, paid leaves and training policy. These policies indicate that SE/SFWD promotes fair non-discrimination and equal opportunity, safe and healthy working conditions for its workers. Employees are paid at rates similar to other public utility companies in the sector. Information presented to MIGA indicates that workers are represented by CEM & SAAM's Worker association. These appear to be consistent with PS2 principles. The HR policy of SFWD also encourages staff to express grievances with immediate supervisors. Grievances that cannot be solved through supervisors can be brought to department heads. Managers stated that serious complaints are rare in Chongqing water project. MIGA expects SE/SFWD to comply with PS2 in addition to national laws, in terms of enabling workers to protect their rights regarding working conditions and terms of employment.

SE managers believe the occupational health and safety systems at the joint venture plants have introduced improvements over general practice in China. Tangjiatuo underwent an internal health and safety audit in October 2008, comparing performance against 15 SE management rules or standards. None of these standards showed "no progress," and 12 (80%) were rated "green," or more than 80% implemented. Sino French Water Supply also believes its major contribution to the water utility operations have been improvements in occupational health and safety systems.

## Pollution Prevention and Abatement

CWG plants abstract 90% of its raw water directly from the Yangtze River channel, with the remaining 10% supplied by tributary reservoirs operated by the Municipal Water Resources Department. CWG management stated that there have been no particular problem parameters in raw water quality, and that Yangtze water quality has been improving due to Government actions associated with the Three Gorges project, as well as reforestation programs in the upper Yangtze basin. Upstream of Chongqing, the river water meets National Standard Level 3; downstream of the city, with Tangjiatuo and CWG's other wastewater treatment operations, it reaches the slightly higher Level 2.

Currently, sewage sludge is disposed in municipal landfills. Tangjiatuo plant management stated that farmers in the area do not trust the safety of the sludge for use as agricultural fertilizer, though laboratory analyses have consistently showed metals concentrations are low. Quarterly sludge metals analyses were discontinued, as they never exceeded standards. The Chongqing EPB representative who met with MIGA found that sludge management effort was particularly useful, as the Municipality's increased wastewater treatment program has created problems in dealing with large and increasing sludge volumes. EPB and associated agencies are therefore conducting research on sludge management, including incineration with energy recovery and use in concrete and bricks. The most feasible is use as fertilizer, but the EPB confirmed there is farmer resistance, and the sludge is more likely to be accepted in fertilizing forest plantations, grasslands, and some types of horticulture.

## Community Health, Safety & Security

**Public Health.** Established in 2000 as part of the institutional reform of publicly owned enterprises, CWG provides water supply and drainage services to the entire Municipality. Currently, the Group treats 2 million m<sup>3</sup>/d of potable water; by the end of the 12<sup>th</sup> Five-Year Plan in 2015, this is expected to double to 4 million m<sup>3</sup>/d. In this period, the central urban population is expected to exceed 10 million, and CWG must keep up with this growth if it is to maintain its contributions to community health and safety in the Municipality. Wastewater treatment is currently the Group's main priority; at present sewage treatment is only provided to the 8 million population of Chongqing City and immediately surrounding areas. From 1.8 million m<sup>3</sup>/d treated at present, the Group must reach 4 million m<sup>3</sup>/d, matching the water supply goal.

**Chlorine Management.** The major risks to nearby inhabitants posed by water supply and sewage treatment plants are associated with the hazards of storing large volumes of liquefied chlorine gas at these facilities. Observing the multiple management precautions in place in the chlorine stores of the two facilities visited, as well the major priority given to the issue in SE's internal audit materials, it can be concluded that these risks are appropriately managed.

**Security Personnel.** No armed or unarmed, public or private security personnel were observed at the facilities visited. It does not appear that site security is a major issue for CWG operations.

## **F. Environmental Permitting Process and Community Engagement**

The Environmental Impact Assessment for the Tangjiatuo expansion was approved by the Chongqing Environmental Protection Bureau in January 2006. This plant and the waterworks visited are in industrial riverfront sites with few nearby residents. The water supply joint venture operation (CSFWSC) conducts extensive community outreach within its 377-km<sup>2</sup> urban service area, and believes it has made significant progress installing improved household water meters, conducting customer surveys, and improving responsiveness to customers. Specially equipped trucks have been developed for emergency response, and the company claims a 30- to 40-minute response time to burst mains.

In 2003 the company established a Customer Service Center, including a call center with a 24-hour hot line; in 2004, a website provided another means to distribute information and take complaints. Water customers now pay their bills online, at post offices and banks, and at CSFWSC offices. In 2007, the company won the award Most Socially Responsible Company in China. In a meeting with the Chongqing Municipal Development and Reform Commission, MIGA was told the Sino French investments are quite well operated, seen locally as successful, and that the public sees benefits from them.

## **G. Availability of Documentation**

No further documentation is available for this project at [www.MIGA.org](http://www.MIGA.org).