

**COMBINED PROJECT INFORMATION DOCUMENTS / INTEGRATED
SAFEGUARDS DATA SHEET (PID/ISDS)
CONCEPT STAGE**

Report No.: PIDISDSC17946

Date Prepared/Updated: 25-Jul-2016

I. BASIC INFORMATION

A. Basic Project Data

Country:	China	Project ID:	P158713
		Parent Project ID (if any):	
Project Name:	China: Liaoning Safe and Sustainable Urban Water Supply Project (P158713)		
Region:	EAST ASIA AND PACIFIC		
Estimated Appraisal Date:	31-Jan-2017	Estimated Board Date:	03-Jul-2017
Practice Area (Lead):	Water	Lending Instrument:	Investment Project Financing
Borrower(s):	PEOPLE'S REPUBLIC OF CHINA		
Implementing Agency:	LUCRPO		
Financing (in USD Million)			
Financing Source			Amount
Borrower			107.00
International Bank for Reconstruction and Development			250.00
Total Project Cost			357.00
Environmental Category:	B - Partial Assessment		
Concept Review Decision:	Track I - The review did authorize the preparation to continue		
Is this a Repeater project?	No		
Other Decision (as needed):			

B. Introduction and Context

Country Context

China has experienced unprecedented economic growth and urbanization over the past three

decades. Although its economic development is slowing down recently from the ten percent annual growth to a little over seven-percent, it has been anticipated. The country's medium-term policy directions, which focus on reducing economic, environmental, and social imbalances accumulated throughout the rapid economic growth. In particular, China's 12th five-year plan (2011-2015) emphasizes on green growth models, aiming to reduce pollution and increase energy efficiency. Following the direction from the national government, Liaoning Province, which used to be the industrial centers of northeast China, is also pursuing more sustainable development through policy reform and institutional innovation. Building on a long-standing relationship between Liaoning Province and the Bank, the province, with total population of around 43.9 million inhabitants, requested the Bank to continue its assistance in urban water supply.

Sectoral and Institutional Context

1. The urban water supply in Liaoning faces three major issues. First, it has low per capita water resources of 820 m³/year (1/3rd of the national average and 1/12th of the world average) available for all purposes including domestic and industrial needs. Due to the recent growth, the water quality at source has deteriorated significantly, and securing safe drinking water has become a challenge. The current water quality compliance rate is around 50%, and the provincial government wishes to improve it to over 95%. The government also wants to strengthen the monitoring capabilities of drinking water. Second, water utilities in Liaoning province struggle to maintain operational efficiency because of aged assets, including networks with high losses, excessive energy use, and insufficient HR capacity. Currently, non-revenue-water (NRW) in the province is about 40 percent, and the local government wishes to reduce it to 25 percent. Besides NRW, replacing aged infrastructure, such as pumps, will improve energy efficiency per production. Third, the utilities need to improve their management capacity.

2. Liaoning Province has a longstanding partnership with the Bank since 1985. In the water sector, the Bank financed the Liaoning Environment Project (1995-2003) and the Liao River Basin Project (2002-2008), which supported sustainable and safe water supply, wastewater, and enhanced water quality management for the basis of an integrated river basin management approach. In more recent years, the Second Liaoning Medium Cities Infrastructure Project (LMC2) (P092618), which was completed in 2015, financed investments in water supply, wastewater and solid waste management in six project cities, including Anshan, Haicheng, Fushun, Yingkou, Panjin and Xingcheng. One of the major outcomes was improvement in performance and sustainability of water supply services through expanding the service coverage, developing network mapping by using GIS system. In addition, the project financed technical assistance to enhance the capacity of water utilities. As a result, NRW was reduced significantly, thanks to the successful implementation of pilot NRW programs in Anshan, Yingkou, Panjin, Haicheng and Xingcheng. Based on the successful results of LMC2, Liaoning Government intends to scale-up the activities and the scope in other cities in the province as well as further strengthening operational efficiency of the utilities in the proposed cities and counties which include Shenyang, Anshan, Fushun, Fuxin and Gaizhou. In addition, the proposed project will build on the success of reducing the NRW in a number of pilot areas that were tested under LMC2 and will address the energy efficiency where Liaoning water utilities are below the national average in terms of specific energy consumption (0.51kW.hr/m³ compared to the national figure of 0.35kW.hr/m³, i.e. 45% below the national average).

Relationship to CAS/CPS/CPF

3. The proposed project is consistent with the current Country Partnership Strategy (CPS) for FY 13- 16. (Report No. 95709-CN) The project is directly linked to: Strategic Theme 1, Supporting Greener Growth, specifically, Outcome 1.2: Enhancing Urban Environmental

Services, by directly supporting: (i) the expansion of safe water supply small towns and cities, while improving quality and efficiency; and (ii) Supporting private-sector investments in water and sanitation projects. The proposed project will tackle the challenges that the water supply sector is facing in Liaoning province by improving the performance of the water supply system and the management capacity of the water utilities in the project area.

4. The project is consistent with the World Bank Group's twin goal of ending extreme poverty and promoting shared prosperity in an environmentally, socially and fiscally sustainable manner. The project is promoting inclusive growth by improving services in a province experiencing lagging growth, and encouraging greener growth by improving water and energy efficiency, within the context of China's development challenges. The project is also expected to lead to the improvement of various quality of life aspects, including expected reduction in waterborne illnesses and costs associated with loss of days of work, out-of-pocket medical expenses, also impacts on school attendance, etc. Moreover, the project will have positive impact on gender owing to the fact that the burden of care for sick household members (adult and children alike) primarily fall on females, and further impact loss of days worked, compounding negative effects on household incomes.

C. Proposed Development Objective(s)

Proposed Development Objective(s) (From PCN)

5. The proposed development objectives are to improve access to quality water supply services, and strengthen the operational efficiency of water supply utilities in the project area of Liaoning Province.

6. This objective will be achieved through investment in the repair rehabilitation and upgrading of the water supply infrastructure facilities and the improvement of the water supply companies operational and management capacity.

Key Results (From PCN)

- (i) Coverage of water supply in project cities (percentage)
- (ii) Direct project beneficiaries (number), of which female (percentage);
- (iii) Compliance with water supply service quality standards;
- (iv) NRW reduction in service areas of each project city (percentage); and
- (v) Energy efficiency (kW.hr/m³).

D. Concept Description

7. The proposed project intends to improve the water supply service in a total of five cities in Liaoning Province, namely Shenyang, Anshan, Fushun, Fuxin and Gaizhou. These five cities were chosen because (i) they have real demands to improve water supply systems; and (ii) they are large industrial cities, which are the primary focus of the Government's policy to invest in rehabilitation in Northeast provinces, including Liaoning. All five localities have experience with the implementation of and management projects financed by the World Bank, but mostly in other sectors.

8. Through the People's Republic of China, via on-lending agreements, the project will provide the participating water supply companies an IBRD loan of US\$250 million in Investment Project Financing to improve the piped distribution network as well as its institutional ability to

provide efficient services and cover its costs. As described in the "Introduction and Context" section, the loan is well aligned with Government and World Bank priorities. The counterpart contribution is estimated at \$100 million. Moreover, the following key aspects will be considered during the project design:

9. Lessons learned from previous and similar operations: The project will benefit from the lessons learned from LMC2 (P092618) and Jiangsu Water and Wastewater project (P096926). Namely this includes (i) ensuring the availability of counterpart funds before project Effectiveness to avoid implementation delays; (ii) identification of institutional weaknesses that may impede the pace of implementation; (iii) selection of performance targets that are consistent with the prevailing policy environment and precedents; (iv) have some detailed designs for sub-projects ready by the start of implementation and also develop some pre-screened standby spare sub-projects; (v) package similar works under one or few number of contracts; (iv) plan and implement Training and TA programs at an early stage to benefit the implementation; and (vii) solicit effective and efficient implementation through the public private partnership. In this case, for some cities/counties, performance based service contracts can be outsourced to the private sector. This will also allow to compare the performance of public utilities and PPP arrangement in achieving certain targets like reduction in NRW and improving the energy efficiency.

10. Innovation: Referenced to the development of the water industry in China, the project activities will enable an innovative approach of improving the efficiency of the water services that will place the participating cities of Liaoning among other worldwide well recognized water supply utilities with good practice. Such innovation is demonstrated through the integrated and comprehensive approach to address the improvement of the distribution system efficiency and the operational and management efficiency of the utility while addressing the institutional and organizational aspects that converge towards achieving the project objectives. In this context, non-revenue water (NRW) will be addresses under one project from the various angles which covers the infrastructure investments that will finance pipes repairs, replacement and rehabilitation in addition to the managerial aspects in and integrated manner including district metering, pressure monitoring, leak detection program, promotion of efficient customer meters, remote readings of water meters, and the development of the SCADA systems which will be integrated with other systems including GIS, hydraulic modeling systems, and computerized customer service system.

11. In addition the project will pioneer the use of durable pipelines with longer life erosion resistance that will be appropriate to the local conditions, like the use of pre-stressed concrete pipe, sand inclusion glass fiber reinforced plastic pipe, three stage pre-stressed pipe, and UPVC pipes.

12. The project will also address the energy efficiency and saving through the reduction in NRW as well as the utilization of more efficient pumps, reconfiguration of the distribution system and the pressure control. It is interesting to note that these activities are interlinked with the NRW management activities.

13. Transformational merits: The project will impact the water supply services in 5 cities/counties totaling of significant population of around 10.7 million inhabitants. The scale is enormous and the objectives will undoubtedly se rves the transformation of the entire water supply services in Liaoning and hopefully in other provinces and cities. Needless to mention that

the net revenue increase due to reducing NRW from the current level of 40% to 25% and the energy consumption from 0.53 to 0.3 kW.hr/m³ will lead to net revenue increase of around US \$109 million a year. A remarkable improvement that will increase the revenues to operating cost ratio from around 1.0 to 1.35. In addition, the project is expected to result in a yearly saving of around 170 million cubic meter of water resources (15% less than the current production) that will reduce the pressure on the surface water as well as the stressed groundwater and delay need to raise capital for the expansion of production capacity

14. The detailed sub-activities of the infrastructure component will be finalized during the project appraisal, but key priorities have already been identified by the client and described in this section. The project consists of four components: Water Supply Service Infrastructure Improvement (Component 1); Water Supply Service Management Improvement (Component 2); Institutional Strengthening and Capacity Building (Component 3); and Project Implementation Support (Component 4). The total project cost is estimated at US\$357 million), out of which US \$250 million is from the loan.

15. Component 1: Water Supply Service Infrastructure Improvement. This component will focus on civil works construction that will directly increase the quantity of water supply and improve the distribution network capacity and performance. Activities to be financed under the component include (i) construction and rehabilitation of water treatment plants including construction of a 50,000m³/day WTP at Gaizhou city and the rehabilitation of one existing water treatment plant at Anshan city and Fushun city respectively; (ii) upgrade, rehabilitation and replacement of water supply distribution networks, including about 200km main trunks (diameter less than 1.1m) and several hundred kilometers of secondary and tertiary pipelines; and (iii) upgrade, rehabilitation and replacement of booster pumps, aiming at improving their performance and reducing secondary contamination.

16. Component 2: Water Supply Service Management Improvement. This component will focus on enhancing the water supply service management through NRW reduction, water quality monitoring, energy savings, and effective asset management. Activities to be financed under this component include (i) mapping and modeling of all water distribution systems in selected cities, using GIS; (ii) development of comprehensive NRW reduction programs, covering the reduction of technical and commercial losses, including the development of on-line monitoring and analysis systems for pipeline operation and leakage control, the purchase of leak detection equipment and related monitoring and measuring instruments, preparation and implementation of the NRW reduction plans; (iii) development and upgrade of water supply service computerized intelligent water supply management systems, including SCADA and MIS; (iv) enhancement of water quality monitoring schemes for all water treatment plants as well as other distribution system facilities; and (v) provisions for PPP arrangement that would include preparation of appropriate PPP arrangement and the operating cost of contract(s) under such arrangements.

17. Component 3: Institutional strengthening and Capacity Building. This will provide consultancy services to build and strengthen the institutional capacities of water supply companies in the participating cities with emphasis on the utility reform in terms of its organizational arrangement to cope with achieving the project objectives. Activities to be financed under the component would cover training and capacity building of utility staff, particularly on (i) utility management; (ii) financial management and commercialization; (iii) customer service and public engagement; (iv) improved accountability and development of utility

benchmarking system to enhance the competition between public utilities; (v) project management, (vi) water quality testing, (vii) intelligent water supply management systems, (viii) operation and management of water treatment plants and secondary pump stations, and (ix) leakage detection and NRW management.

18. Component 4: Project Implementation Support. This component would provide incremental operation costs and consultancy services for effective and efficient implementation of the project. Activities under the component include (i) office equipment; (ii) domestic and international training; (iii) project management consultants for design and construction supervision; and (iv) external monitoring of implementation of environmental and social safeguards.

19. Citizen Engagement and Gender. The team will further explore specific actions for citizen engagement and gender during preparation, including at least one citizen engagement indicator in the results framework. This will include customer feedback mechanisms within the participating municipal water companies, and inclusion of gender analysis, action and monitoring and evaluation mechanisms.

II. SAFEGUARDS

A. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

20. The proposed project is in Liaoning Province, which is in the southern part of the Northeast of PRC. The Province includes 14 prefecture-level cities and has an area of 145,900 km² with a population of 43.91 million people. The proposed project will be in five cities of Liaoning Province, i.e. Shenyang (capital city of Liaoning), Anshan, Fushun, Fuxin, and Gaizhou. The project mainly focuses on the rehabilitation and improvement of existing water distribution network and treatment facilities. Most of the physical investment under Component I will be in the urban area of the five selected cities. The proposed new water treatment plant at Gaizhou City will need additional land in rural area and may draw water directly from the existing Shimen Reservoir, and the proposed 31km water supply pipelines likely run along existing roads. Two existing water treatment plants to be rehabilitated under the project draws directly from two existing reservoirs (i.e. Naodehai Reservoir in Fuxin City, Tanghe Reservoir in Anshan City). Dam safety is presented in Section II.D.

B. Borrower's Institutional Capacity for Safeguard Policies

21. The Liaoning Provincial Leading Group (LPLG), chaired by a Vice Governor of Liaoning, will provide high-level guidance to the project, and coordinate on policy and institutional issues related to the project. A well-established office under the Liaoning Provincial Construction Department (LPCD), called the Liaoning Urban Construction and Renewal Project Office (LUCPRO), will provide overall project management. The LUCPRO has obtained rich experience with the World Bank financed projects since 1989. Each participating city will have a City Leading Group (CLG), in which government leaders participate. The CLGs will be responsible for providing policy guidance, and coordination support for the project. Each city will also establish project management offices (PMOs) under their construction bureaus to coordinate the different sub-projects within its jurisdiction and will provide linkage with the World Bank and LUCPRO. All water supply projects will be implemented by the respective municipally-owned utility or by the respective municipal construction bureau PMO. All five localities have experience with the projects financed by the World Bank and will designate staff for environmental safeguards management. During project preparation, the client will engage experienced EA and SA consultants to prepare EA and SA safeguards

document. The capacity of the borrower is deemed to be satisfactory.

C. Environmental and Social Safeguards Specialists on the Team

Feng Ji (GEN2A)

Meixiang Zhou (GSU02)

D. POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>It is confirmed that Environmental Assessment (OP 4.01) is triggered. The proposed project will reduce leakage rate of water distribution network, improve the capacity and performance of the distribution network, improve drinking water quality to water users, and enhance the urban water supply management capacity in five selected cities of Liaoning province. Though the project will bring about great environmental benefits, there will be construction nuisance such as airborne dust, noise, disposal of spoil materials and disturbance to local communities and traffic. During operation there will be of waste and wastewater management and chemical use (i.e. disinfectant) at the WTPs, and noise management for pump stations.</p> <p>The project is proposed as a Category B project for the following reasons: (i) the project mainly focuses on the rehabilitation and improvement of existing water distribution network and treatment facilities; (ii) all the new proposed facilities (i.e. WTP and pump stations) are of small scale and not located in areas with sensitive receptors which could be adversely influenced by the construction or operation of the project; and (iii) all environmental issues associated with construction and operation for water distribution networks and WTP are of limited extent, reversible and can be readily managed with well-known good construction management and engineering.</p> <p>Environmental Management Plan: An EMP will be prepared for each of the five cities summarizing the key environmental issues and proposing adequate mitigation measures. The EMPs will include, among others, Environmental Code of Practice to address general construction impacts, and specific mitigation measures during operation such as proper</p>

		<p>management of waste, wastewater, and noise at the WTPs and pump stations; and chemical management and emergency plan for WTPs. The EMP will include social impact management plan/measures to be proposed by the standalone social assessment report.</p> <p>Environmental and Social Management Framework: Given that the details of some activities may not be identified prior to project appraisal, an ESMF will be prepared to identify the potential types of investments, set out the guidelines and procedures to assess the environmental and social impacts, and contain measures and plans to reduce, mitigate and avoid adverse impacts and enhance positive impacts.</p>
Natural Habitats OP/BP 4.04	No	The project mainly focuses on improvement of existing water distribution and treatment facilities. The proposed new facilities such as WTP and pump stations are located in urban or peri-urban areas which have been heavily influenced by human activities. The project activities will not likely affect any protected reserves, known as natural habitats, or established or proposed critical natural habitats. This policy is not triggered.
Forests OP/BP 4.36	No	The project mainly focuses on the improvement of existing water distribution and treatment facilities. The project will not have impacts on the health and quality of forests, nor affect the rights and welfare of people and their level of dependence upon or interaction with forests, nor aim to bring about changes in the management, protection, or utilization of natural forest or plantations. This policy is not triggered.
Pest Management OP 4.09	No	The project will not include any procurement of pesticides or pesticide application equipment; nor introduce any new pest management practices, or expand/alter existing pest management practices; nor lead to substantially increased pesticide use and subsequent environmental and health risks. This policy is not triggered.
Physical Cultural Resources OP/BP 4.11	TBD	The project mainly focuses on the rehabilitation of existing water supply and treatment facilities in the selected cities. The project is not likely to cause significant adverse impacts on the PCRs in the project influence area. However, whether this policy is triggered or not will be confirmed during project

		preparation, and subject to the findings of safeguards documents at PAD stage. If the safeguards documents confirm that OP4.11 is triggered by the project, relevant mitigation measures for PCRs will be included in the EMP.
Indigenous Peoples OP/BP 4.10	TBD	Initial social screening shows that the IP policy will not be triggered. A social assessment will be prepared and can further confirm this situation. Most of the physical investment under Component I will be in the urban area, while some investment (e.g. water supply pipelines) will be in peri-urban area. The project sites in Shenyang, Anshan and Fushun are in urban areas with no presence of indigenous people. Even some rural areas will be project sites in Gaizhou and Fuxin, the local residents are Han people. Few of them are ethnic minorities meanwhile they are well integrated with the majority Han people. There is unlikely to see presence of IPs in the project sites. A social assessment will be prepared for all the five project cities/counties by hiring a professional consulting team. The SA is aimed to assess the presence of any ethnic minority, mobilize project community to support the project, analyze stakeholders and their interest and needs for the project, social risks and impacts, and come up with a practical social action plan to address the social issues. Adequate and meaningful consultation will be undertaken in project sites with gender and social inclusion perspectives. A consolidated social assessment report will be prepared in accordance with the Bank's requirements.
Involuntary Resettlement OP/ BP 4.12	Yes	This policy is triggered. Main project activities to be financed under component I include (i) construction of new water treatment plants, and expansion, rehabilitation and replacement of existing plant; (ii) upgrade, rehabilitation and replacement of water supply distribution network; and (iii) upgrade, rehabilitation and replacement of water pumps aiming at improving their performance and efficiency. Most of the civil works will be constructed on existing public land, but about 6 mu (0.5 ha) additional land will be acquired for the construction of a WTP and its access road in Gaizhou, and a very small amount of land will be acquired for temporary use of pipe line network in project sites in Fuxin and Gaizhou. The rest project sites are in urban areas with no need for land

		<p>acquisition.</p> <p>A resettlement action plan (RAP) will be prepared to address land acquisition and resettlement for both Gaizhou and Fuxin. For any potential land demands under the project after appraisal, a resettlement policy framework (RPF) is needed and can be integrated with the ESMF. The RAP will show the land demands and social impacts and risks, social and economic surveys of the affected project city/county, compensation package, procedures of land acquisition, mechanism for grievance redress, time frame, budget and implementation agencies. A professional experienced consulting firm will be contracted to prepare the RAP and or other social documents.</p>
Safety of Dams OP/BP 4.37	Yes	<p>The project does not finance the construction of dams, but a new WTP (with a capacity of 50,000m³/day) to be constructed at Gaizhou City may draw water directly from Shimen Reservoir controlled by an existing dam; and two existing WTPs to be improved which draw directly from two existing reservoirs (i.e. Naodehai Reservoir in Fuxin City, Tanghe Reservoir in Anshan City). The client will hire one independent dam specialist to (a) inspect and evaluate the safety status of the existing dams, their appurtenances, and their performance history; (b) review and evaluate the owner's operation and maintenance procedures (e.g. Operation and Maintenance (O&M) and Emergency Preparedness Plan); and (c) provide written reports of findings and recommendations for any remedial work or safety-related measures necessary to upgrade the existing dam to an acceptable safety standard.</p>
Projects on International Waterways OP/BP 7.50	No	<p>The project is not associated with an international waterway. This policy is not triggered.</p>
Projects in Disputed Areas OP/BP 7.60	No	<p>The project is not located in disputed areas. This policy is not triggered.</p>

E. Safeguard Preparation Plan

1. Tentative target date for preparing the PAD Stage ISDS

30-Nov-2016

2. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the PAD-stage ISDS.

The EA documents will be drafted by September 15, 2016.

III. Contact point**World Bank**

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V. Approval

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Approved By		
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Country Director:	Name: Zoubida Kherous Allaoua (CD)	Date: 27-Jul-2016

1 Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.