

Environmental and Social Management System Arrangement

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People's Republic of China: Chemical Industry Energy Efficiency and Emission Reduction Project

Prepared by China National Chemical Group for the Asian Development Bank.

CURRENCY EQUIVALENTS

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Currency unit	=	yuan (CNY)
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ABBREVIATIONS

ADB	–	Asian Development Bank
CAP	–	corrective action plan
CCB	–	China Construction Bank
CGY	–	Zhonghao Chenguang Research Institute of Chemical Industry
ChemChina	–	China National Chemical Group
CHC	–	China Haohua Chemical Group
EHS	–	environmental, health, and safety
EIA	–	environmental impact assessment
EMP	–	Environmental management plan
EMoP	–	Environmental monitoring plan
IEE	–	initial environmental examination
EPB	–	Environmental Protection Bureau
ESMS	–	environmental and social management system
FIL	–	financial intermediation loan
FILIEC	–	financial intermediation loan implementation environment team
GRM	–	grievance redress mechanism
PIAL	–	prohibited investment activities list
PIU	–	project implementing unit
PRC	–	People's Republic of China
PSC	–	Project Steering Committee
REF	–	Revolving Escrow Fund
SPS	–	Safeguards Policy Statement

NOTE

In this report, "\$" refers to US dollars.

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I. INTRODUCTION

A. The Revolving Escrow Fund

1. The proposed Chemical Industry Energy Efficient and Emission Project in the People's Republic of China (PRC) will use the financial intermediation loan (FIL) modality to finance innovative and high-impact technologies and process transformations to improve energy efficiency and reduce emissions from selected plants of China National Chemical Group (ChemChina) through a revolving escrow fund (REF).

1. Current Subproject Components under the Revolving Escrow Fund

2. In the first batch of the REF, two subprojects have been identified: The first subproject is technology upgrade and innovation in vinylchloride and polyvinyl chloride (PVC) production at Dezhou Shihua Chemical (DSC). After completion, the proposed subproject at DSC would save 388,521 tons of coal equivalent (tce) per annum; eliminate 35 tons of mercury per annum, and reduce 1.359 million tons of carbon dioxide (CO₂) equivalent (MtCO₂e). The second subproject is to implement greenhouse gas emission abatement and energy efficiency measures at Zhonghao Chenguang Research Institute of Chemical Industry (CGY). After completion, CGY would treat fluoroform (HFC-23), avoiding emissions of 13.1 MtCO₂e. Energy saving at the CGY would be 8,905 ton of coal equivalent per annum.

2. Future Subproject Components under the Revolving Escrow Fund

3. Less than ten subprojects would be selected for future batches of the REF. All the subproject companies would be a part of ChemChina Group of companies. Likely future portfolio of subprojects is unknown at this moment.

3. Overall Revolving Escrow Fund Implementation Arrangement

4. The executing agency (EA) of the REF is ChemChina. ChemChina is the largest chemical enterprise in the PRC in terms of sales, equity, and assets. It comprises of 106 chemical manufacturing enterprises and a total number of 24 research and development (R&D) companies developing new technologies and materials, which consolidate its innovative edge. ChemChina's holdings include two large group companies—Bluestar group and China Haohua Chemical Group (CHC); and five other business groups, including chemical industry equipment design and manufacturing, agrochemicals, rubber industries, petrochemical refining and processing, and research and design entities. Each of these business groups includes a series of companies. As the EA of the REF, ChemChina will take overall responsibility for the REF implementation.

5. The implementing agency (IA) of the REF is CHC. CHC was established in 1993 with the approval of the State Council. In 2004, CHC was merged with ChemChina and became a key subsidiary of ChemChina. CHC is a management company, providing guidance and suggestion to all the affiliated companies. CHC has a total of 23 chemical companies, including: (i) 15 research institutes with some production lines; (ii) two companies producing phosphoric acid and sulfuric acid; (iii) one company producing methanol catalyst; (iv) four chemical trading companies; and (v) one chemical research institute with no production. Over the past 20 years of rapid growth, CHC has become a leader in the chlor-alkali chemicals, fluorine chemicals, and fine chemicals subsectors. Recently, CHC established an ESCO, called Beijing Zhonghao Huatai Energy Technology (Huatai), which will function as the project implementing unit (PIU) of

the REF. Even though Huatai will perform day-to-day REF implementation tasks, CHC holds responsibility of the REF implementation. CHC will supervise and provide management support to Huatai, and, if needed, provide detailed guidance on the issues arising during the REF implementation.

6. As a new established company, Huatai requires a more mature organizational structure set up as well as capacity improvement to function effectively as PIU and also as a solid platform to disseminate innovative energy efficiency and emission reduction technologies among ChemChina's subsidiaries and beyond. Huatai will be nurtured through CHC's management support, training and capacity building program developed under the REF, and additional support from the REF implementation consultants.

7. China Construction Bank (CCB) is the cofinancier and financial intermediary of the REF. CCB was founded on October 1954 with headquarter in Beijing. CCB is one of the PRC's top five national commercial banks. CCB is listed in Hong Kong Exchanges and Clearing Limited (HKEx) and the Shanghai Stock Exchange (SSE). In terms of future subprojects, CCB is responsible for carrying out financial due diligence of potential subprojects.

8. Under the REF, the Project Steering Committee (PSC) will be established with representatives from ChemChina, CHC, CCB, and Huatai. The main responsibilities of the PSC are to review the progress of the REF implementation, and endorse future subprojects under the FI loan project. The PSC will meet as needed.

B. Environmental and Social Management System of the Revolving Escrow Fund

1. The purpose of the ESMS

9. A number of energy efficiency and emission reduction subprojects in various chemical companies that belong to ChemChina will be funded by a REF. In accordance with the ADB Safeguards Policy Statement (SPS) (2009), this environmental and social management system (ESMS) document is prepared for the REF. This ESMS will be maintained by ChemChina, CHC, Huatai and CCB as part of the overall management systems of the REF to meet the PRC laws and ADB SPS (2009) requirements.

10. The screening and categorization procedure established under this ESMS will ensure that all subprojects will be screened, categorized, pre-selected and properly appraised in terms of their environmental and social impacts as well as the potential of these subprojects in improving energy efficiency and reducing emissions. This ESMS contains (i) environmental and social policies; (ii) screening, categorization, and review procedure; (iii) organizational structure and staffing; (iv) training requirements; and (v) monitoring and reporting. The ESMS shall serve as the basis for subprojects categorization and due diligence for the future batches of subprojects.

11. As there is a gap between the PRC environment, health, and safety (EHS) regulations and the ADB SPS (2009)—for instance, community health and safety is not critical components in the PRC EHS regulations but is in the ADB SPS (2009)—this ESMS provides an enabling mechanism to meet both PRC and ADB environmental and social safeguard requirements on subprojects that will be financed by the REF. This ESMS defines roles, responsibilities, and provides procedures to avoid, minimize, and mitigate any direct, indirect, and potentially: (i) adverse impacts/risks on the environment; (ii) adverse impacts and risks of involuntary

resettlement; and (iii) adverse impacts on ethnic minority peoples and their communities that may arise from the implementation of such subprojects.

12. This ESMS will be (i) established and documented as part of the REF's overall management systems; (ii) agreed by the PSC, prior to loan effectiveness and (iii) adopted by ChemChina, CHC, Huatai, and CCB before disbursement of the ADB loan.

2. ESMS Implementation Arrangement

13. ChemChina holds final responsibility for the ESMS implementation. CHC holds responsibility of the ESMS implementation, while Huatai will perform day-to-day ESMS implementation tasks. CHC will provide supervision, guidance, and support to Huatai on the daily execution of the ESMS implementation. CCB will not be responsible for environmental and social due diligence but will adopt the ESMS as part of its overall management system for the REF. The PSC will review environmental, social, and financial due diligence of candidate subprojects to be financed by the REF and will approve them on a no-objection basis.

14. For any subproject with category A for environment, Huatai, on behalf of the PSC, will refer these subprojects to ADB early on for the due diligence process. ADB will review the due diligence information obtained by Huatai and clear the subproject's environmental impact assessment (EIA) and due diligence (in case of any existing facilities, due diligence refers to an environmental audit) following 120 days disclosure prior to subproject approval by the PSC and stipulate any conditions for proceeding. The following table summarizes the tasks and responsibilities of the REF stakeholders in terms of ESMS implementation.

Table 1: The ESMS Implementation Arrangement

Tasks	Task execution (responsible/focal person)	Implementation Responsibility (Sign-off authority)	Ultimate Responsibility
Subproject specific EMP, EMoP, and GRM implementation	All subproject companies (the EHS managers or designated staff at all subproject companies)	CHC (the EHS manager or designated staff at CHC)	ChemChina
Preparation and submission of subproject-specific environmental and social monitoring reports to Huatai (semi-annual reports during construction and annual during operation)	All subproject companies (the EHS managers or designated staff at all subproject companies)	CHC (the EHS manager or designated staff at CHC)	ChemChina
Regular subproject visits to check EMP, EMoP, GRM performance	Huatai with support of REF implementation consultant(s) (the EHS manager or designated staff at Huatai)	CHC (the EHS manager or designated staff at CHC)	ChemChina
Preparation and submission of consolidated environmental and social monitoring reports (semi-annual reports during construction and annual during operation)	Huatai with support of REF implementation consultant(s) (the EHS manager or designated staff at Huatai)	CHC (the EHS manager or designated staff at CHC)	ChemChina

Tasks	Task execution (responsible/focal person)	Implementation Responsibility (Sign-off authority)	Ultimate Responsibility
Preparation and submission of ESMS implementation reports	Huatai with support of REF implementation consultant(s) (the EHS manager or designated staff at Huatai)	CHC (the EHS manager or designated staff at CHC)	ChemChina
Screening proposed subprojects	Huatai with support of REF implementation consultant(s) (the EHS manager or designated staff at Huatai)	CHC (the EHS manager or designated staff at CHC)	ChemChina
Preparation and submission of environmental and social checklists of proposed subprojects	Each proposed subproject	CHC (the EHS manager or designated staff at CHC)	ChemChina
Initial site visits of proposed subprojects	Huatai with support of REF implementation consultant(s) (the EHS manager or designated staff at Huatai)	CHC (the EHS manager or designated staff at CHC)	ChemChina
Environmental and social categorization of proposed subprojects	Huatai with support of REF implementation consultant(s) (the EHS manager or designated staff at Huatai)	CHC (the EHS manager or designated staff at CHC)	ChemChina
Pre-selection of potential subprojects	Huatai with support of REF implementation consultant(s) (the EHS manager or designated staff at Huatai)	CHC (the EHS manager or designated staff at CHC)	ChemChina
If a pre-selected subproject is categorized as A for the environment, inform ADB	Huatai with support of REF implementation consultant(s) (the EHS manager or designated staff at Huatai)	CHC (the EHS manager or designated staff at CHC)	ChemChina
Conducting environment and social due diligence of pre-selected subprojects (audit for existing facilities, EIA for environment category A subproject, IEE for environment category B subproject)	Huatai with support of REF implementation consultant(s) (the EHS manager or designated staff at Huatai)	CHC (the EHS manager or designated staff at CHC)	ChemChina
If a pre-selected subproject is categorized as A for the environment, submit the environmental and social due diligence report to ADB for clearance and 120 days disclosure	Huatai with support of REF implementation consultant(s) (the EHS manager or designated staff at Huatai)	CHC (the EHS manager or designated staff at CHC)	ChemChina
Preparation and submission of environmental and social due diligence results and a final list of proposed future subprojects to the	Huatai with support of REF implementation consultant(s) (the EHS manager or designated staff at Huatai)	CHC (the EHS manager or designated staff at CHC)	ChemChina

Tasks	Task execution (responsible/focal person)	Implementation Responsibility (Sign-off authority)	Ultimate Responsibility
Final selection of subprojects	CHC (the EHS manager or designated staff at CHC)	PSC	ChemChina

ADB = Asian Development Bank, CHC = China Haohua Chemical Group, ChemChina = China National Chemical Group, EHS = Environmental, Health, and Safety, EIA = environmental impact assessment, EMP = environmental management plan, EMoP = environmental monitoring plan, ESMS = environmental and social management system, GRM = grievance redress mechanism, Huatai = Beijing Zhonghao Huatai Energy Technology, IEE = initial environmental examination, PSC = Project Steering Committee, REF = Revolving Escrow Fund.

II. ENVIRONMENTAL AND SOCIAL MANAGEMENT POLICY AND APPLICABLE REQUIREMENTS

15. This chapter describes environmental and social management policy and applicable requirements that will be used for the REF. Unlike other usual FILs, CCB—the FI of the project—is only responsible for conducting financial due diligence but not for carrying out environmental and social due diligence of subprojects during both processing and implementation. Therefore, this chapter discusses environmental and social management policy and applicable requirements in perspective of ChemChina, CHC, and Huatai. The environmental and social management policy due diligence, thus, was done for the EA, IA, and the PIU.

A. Policy at ChemChina, CHC, and Huatai

16. ChemChina has established EHS management system and implemented the system throughout the entire companies under ChemChina. In 2013, ChemChina upgraded and enhanced the EHS management system by adopting a range of principles, rules and elements from GB/T 24001 (ISO 14001 equivalent) Environmental Management System-specification with guidance for use; GB/T 28001 (OHSAS 18001 equivalent) Occupational Health and Safety Management System-Specification, AQ 3013 General Norm for Safety Standardization of Hazardous Chemical Enterprises; AQ/T 9006 Basic Norms for Work Safety Standardization of Enterprises; GB/T 15498 Enterprise Standard System—Administrative Standard System and Duty Standard system, and other relevant regulations and guidelines.

17. ChemChina set EHS philosophy (ChemChina calls it as a “core concept”), policy and vision, which guide the EHS management system. These are:

- (i) **Philosophy:** Love and cherish life; never sacrifice safety to gain profits.
- (ii) **Policy:** People-oriented, Safety First, Health and Environmental Protection and Sustainable Development
- (iii) **Vision:** Zero hurt, zero accident, zero occupational death and zero pollution.

18. ChemChina’s EHS philosophy, policy, vision and management system are supported by top management commitment. The following contents of the ChemChina’s EHS commitment are stated in the EHS management specification:

- (i) Abide by national and local governmental EHS laws and regulations;
- (ii) Adhere to the principle of “people-oriented,” optimize the configuration of resources and continuously improve EHS management level;
- (iii) Make efforts to eliminate all occupational hazards, improve labor conditions and protect physical and mental health of employee;
- (iv) Promote clean production, implement “zero emission” management and make efforts to improve environment quality;

- (v) Foster ChemChina safety culture cored at “loving and cherishing your life and rejecting profits with blood”;
- (vi) Top management at all levels is primary persons responsible for EHS and shall be comprehensively responsible for EHS in their management scope;
- (vii) Regularly audit EHS system effectiveness and constantly improve EHS system;
- (viii) Pursue the same EHS vision at everywhere in every business field;
- (ix) Regularly make public our EHS performance and accept social supervision
(source: *ChemChina EHS management specification 2013*)

19. Table 2 summarizes ChemChina’s EHS elements and how these elements are practiced in different components of the EHS management system.

Table 2: ChemChina EHS elements and EHS management system

	EHS element	Related management system
1	Leadership commitment, concepts, policy, and vision	<ul style="list-style-type: none"> • Charter of EHS Committee • EHS liability system • EHS regular meeting system • EHS assessment and reward/punishment management regulations • EHS cadre site leading management regulations • Management measures for the creation of safety and civilization construction demonstration enterprises
2	Resources, information and document management	<ul style="list-style-type: none"> • EHS safeguard provisions • EHS account management regulations • Management regulations on the development, amendment and abolishment of EHS systems and regulations • EHS laws and regulations identified and acquisition management regulations • EHS management measures after enterprise merger or restructuring • EHS expert management measures • EHS expert work code
3	Employee safety	<ul style="list-style-type: none"> • EHS education and training regulations • Occupational health management system • Management regulations on the protection of hearing protection • Hot work safety management regulations • Personal protection equipment management regulations • Female worker labor protection management regulations
4	Risk management	<ul style="list-style-type: none"> • EHS risk evaluation and risk control management regulations • EHS hidden danger investigation and treatment management regulations • EHS inspection management regulations
5	Production facility and process safety management	<ul style="list-style-type: none"> • EHS management regulations for dangerous chemicals construction project • Key device and critical (important) place safety management regulations • Safety facilities management regulations • Safety linkage device safety management regulations • Special equipment safety management regulations • Dangerous chemicals safety management regulations

	EHS element	Related management system
		<ul style="list-style-type: none"> • Highly toxic chemical safety management regulations • Safety management regulations of explosion leading chemicals • Precursor chemical safety management regulations • Major hazards safety management regulations • Change management regulations • Anti-static safety regulations • Lightning protection safety regulations • Management regulations on the closed-off management of the production plant • Motor vehicle traffic safety management regulations • Railway and road transportation and traffic safety management regulations inside the plant
6	Pollution prevention	<ul style="list-style-type: none"> • Environmental pollution control facilities operation management and clean production management regulations • EHS input safeguard management regulations
7	Operation safety	<ul style="list-style-type: none"> • Visitors safety management regulations • Management regulations on the closed-off management of the production plant • Safety management regulations on hot work, hoisting and other related operations • Pressure test operation safety management regulations • Radiation protection management regulations • Maintenance and repair operation safety management regulations
8	Product safety and hazard communication	<ul style="list-style-type: none"> • Dangerous chemical safety management regulations • Highly toxic chemical safety management regulations • Safety management regulations of explosion leading chemicals • Precursor chemical safety management regulations
9	Accident prevention and treatment	<ul style="list-style-type: none"> • EHS input safeguard provisions • EHS accident management regulations
10	Contractor and supplier management	<ul style="list-style-type: none"> • Contractor EHS management regulations • Supplier EHS management regulations
11	Community awareness and emergency response	<ul style="list-style-type: none"> • EHS emergency plan management regulations • Firefighting safety management regulations • Firefighting facilities and equipment management regulations • Regulations on the use and management of gas protection equipment
12	Audit and continuous improvement	<ul style="list-style-type: none"> • EHS management system audit management provisions

EHS = environmental, health, and safety.

Source: ChemChina.2013. *Environmental Health and Safety Management Specification*. Beijing.

20. All the affiliated companies of ChemChina must follow the ChemChina EHS philosophy, policy, vision, and EHS management system and are required to have sufficient trained staff to implement the system.

21. Professional management companies like ChemChina, CHC, and Huatai have much smaller scale institutional set-up for the EHS system, comparing to the ones at any chemical

production companies. ChemChina has 10 departments, including the EHS department. There are five full time staff working at the EHS department, including a director with master degree in chemical engineering; a deputy director with a PhD in chemical engineering; one environment focal staff with a PhD in chemistry; one health and safety staff with a PhD in chemical engineering; and one assistant. The main task of the EHS staff at ChemChina is to coordinate with the EHS staff at all the group companies including the EHS staff at CHC. They set up a quarterly face-to-face EHS meeting to discuss EHS performance, any changes in EHS related policies and regulations in the PRC, and any other EHS related issues within the ChemChina Group.

22. CHC has 10 departments with a total number of 58 employees, one of which is the Production and Operation Department that is combined with the EHS department. A total of 6 staff is working in the Production and Operation Department and one of them is in charge of the EHS, who has a Bachelor degree in chemical engineering. The main task of the EHS staff at CHC is to coordinate with the EHS staff of all the CHC affiliated companies in order to ensure proper execution of the EHS management system at all the CHC affiliated companies. Using online database system, the EHS staff at CHC checks and reviews annual EHS reports submitted from all affiliated companies. If there is any issue, CHC follows up with the company the issue. Annual EHS reports cover:

- (i) monthly waste emissions data - (all data are submitted online);
- (ii) authorities checking status of authorities' site inspection (by email);
- (iii) accident status (by email);
- (iv) issues and changes in policies, regulations, standards relevant to EHS and EIA (information is also shared in their EHS online system);
- (v) Environment reports, quarterly (by email); and
- (vi) Health and safety reports are monthly (by email).

23. The EHS managers (or designated staff) at CHC and CHC affiliated companies also have regular meetings every 3 month mainly through teleconference or videoconference. A face-to-face meeting also occurs on a need basis. As Huatai has been established recently, its organizational structure is not yet mature. During the REF implementation, relevant staff of Huatai will be properly formed and gain proper and sufficient capacity required. The proposed staffing requirements and training program are presented in Section IV of this report.

24. When a new subproject is proposed at any affiliated company, it is reviewed and evaluated against the national laws, regulations, and standards on environment, health, safety, involuntary resettlement and land acquisition, labor standards, and social stability to the level of applicability.

B. Applicable Environmental and Social Regulations in the PRC

25. A list of PRC national laws and regulations concerning environmental, health, safety, labor, and other social issues of existing facilities as well as new facilities is provided in Appendix 1, supplemented by relevant ordinances, circulars and technical standards, and guidance as published from time to time. In addition, provincial governments may establish provincial regulations to supplement the national laws and regulations.

26. New industrial projects require completion of the following four key assessments which incorporate the PRC EHS regulatory requirements:

- (i) EIAs for all projects;
- (ii) Safety impact pre-assessments, if applicable;

- (iii) Occupational health/disease hazard assessment, if applicable; and
- (iv) Required permits.

C. ESMS Policy

27. The REF is committed to ensuring environmental and social sustainability of the subprojects it supports. In this context, the goal of the ESMS is to promote the sustainability of subproject outcomes by protecting the environment and people from subprojects' potential adverse impacts. The objectives of the ESMS policy are to:

- (i) Avoid adverse impacts of subprojects on the environment and affected people, where possible;
- (ii) Minimize, mitigate, and/or compensate for adverse subproject impacts on the environment and affected people when avoidance is not possible; and
- (iii) Maximize opportunities for environmental and social benefits including developing subprojects' capacity to manage environmental and social risks.

28. The ESMS includes policy objectives and principles for three areas: (i) the environment; (ii) involuntary resettlement; and (iii) ethnic minority communities.

29. **The environmental objectives** are to (i) ensure the environmental soundness and sustainability of subprojects, and (ii) support the integration of environmental considerations into the subproject decision-making process. The **environmental policy principles** adopted for the REF are:

- (i) Use a screening process for each proposed subproject, as early as possible, to determine the appropriate extent and type of environmental assessment/audit so that appropriate studies are undertaken commensurate with the significance of potential impacts and risks.
- (ii) Conduct an environmental assessment/audit for each proposed subproject to identify potential direct, indirect, cumulative, and induced impacts and risks to physical, biological, socioeconomic (including impacts on livelihood through environmental media, health and safety, vulnerable groups, and gender issues), and physical cultural resources in the context of the subproject's area of influence. Assess potential transboundary and global impacts, including climate change.
- (iii) Examine alternatives to the subproject's location, design, technology, and components and their potential environmental and social impacts and document the rationale for selecting the particular alternative proposed. Also consider the no project alternative.
- (iv) Avoid, and where avoidance is not possible, minimize, mitigate, and/or offset adverse impacts and enhance positive impacts by means of environmental planning and management. Prepare a corrective action plan (CAP) and/or an environmental management plan (EMP) that includes the proposed mitigation measures, environmental monitoring and reporting requirements, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Key considerations for EMP preparation include mitigation of potential adverse impacts to the level of no significant harm to third parties, and the polluter pays principle.

- (v) Carry out meaningful consultation¹ with affected people and facilitate their informed participation. Ensure women's participation during consultation. Involve stakeholders, including affected people and concerned nongovernment organizations, early in the subproject preparation process and ensure that their views and concerns are made known to and understood by decision makers and taken into account. Continue consultations with stakeholders throughout project implementation as necessary to address issues related to environmental assessment. Establish a grievance redress mechanism (GRM) to receive and facilitate resolution of the affected people's concerns and grievances regarding the subproject's environmental performance.
- (vi) Disclose a draft environmental assessment (including the EMP) in a timely manner, before project appraisal, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. Disclose the final environmental assessment, and its updates if any, to affected people and other stakeholders.
- (vii) Implement the EMP and monitor its effectiveness. Document monitoring results, including the development and implementation of corrective actions, and disclose monitoring reports.
- (viii) Do not implement project activities in areas of critical habitats or legally protected areas. In an area of natural habitats, there must be no significant conversion or degradation. Use a precautionary approach to the use, development, and management of renewable natural resources.
- (ix) Apply pollution prevention and control technologies and practices consistent with international good practices as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines. Adopt cleaner production processes and good energy efficiency practices. Avoid pollution, or, when avoidance is not possible, minimize or control the intensity or load of pollutant emissions and discharges, including direct and indirect greenhouse gases emissions, waste generation, and release of hazardous materials from their production, transportation, handling, and storage. Avoid the use of hazardous materials subject to international bans or phase-outs. Purchase, use, and manage pesticides based on integrated pest management approaches and reduce reliance on synthetic chemical pesticides.
- (x) Provide workers with safe and healthy working conditions and prevent accidents, injuries, and disease. Establish preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks to the health and safety of local communities.
- (xi) To conserve physical cultural resources and avoid destroying or damaging them, do not implement project activities in areas that support physical cultural resources or in areas where "chance-find" physical cultural resources are expected to be found.

¹ Meaningful consultation is a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues.

30. The **involuntary resettlement policy objectives** are to avoid involuntary resettlement. The **involuntary resettlement policy principles** are:

- (i) Screen any proposed subproject early on to identify past, present, and future involuntary resettlement impacts and risks.
- (ii) To avoid involuntary resettlement, do not undertake any subproject that involves involuntary resettlement, has recently required involuntary resettlement, or has serious social legacy issues.

3. Ethnic Minorities

31. The **ethnic minorities policy objectives** are to design and implement subprojects in a way that fosters full respect for ethnic minority peoples' identity, dignity, human rights, livelihood systems, and cultural uniqueness as defined by the ethnic minority communities themselves so that they (i) receive culturally appropriate social and economic benefits, (ii) do not suffer adverse impacts as a result of subprojects, and (iii) can participate actively in subprojects that affect them. For the REF, ethnic minorities policy principles include:

- (i) Screen any proposed subproject early on to determine
 - a. whether ethnic minority communities are present in, or have collective attachment to, the subproject area, and
 - b. whether project impacts on ethnic minority communities are likely.
- (ii) Do not undertake any subproject that have ethnic minority community.

32. The environmental and social management policy of the REF was approved/signed by:

- (i) the Board of Directors/ President/ or other Position/ Designation of ChemChina on [date/month/year].
- (ii) the Board of Directors/ President/ or other Position/ Designation of CHC on [date/month/year].
- (iii) the Board of Directors/ President/ or other Position/ Designation of Huatai on [date/month/year].
- (iv) the Board of Directors/ President/ or other Position/ Designation of CCB [date/month/year].

33. ChemChina, CHC, Huatai, and CCB continually endeavor to ensure and enhance effective environmental and social management practices in all their activities, products, and services with a special focus on the following:

- (i) Ensuring that applicable environmental and social safeguard requirements, as defined in Chapter II are met for all subprojects;
- (ii) Financing companies only when the subprojects are expected to be designed, constructed, operated, and maintained in a manner consistent with applicable environmental and social safeguard requirements, as defined in Chapter II;
- (iii) Integrating environmental and social risk into its internal risk management analysis;
- (iv) Ensuring transparency in its investee company's activities;
- (v) Ensuring investee companies to conduct meaningful consultation with affected people, local communities and the general public;
- (vi) Working together with the investee company management to put into practice applicable environmental and social safeguard requirements; and
- (vii) Promoting investments with environmental and social benefits.

34. This policy will be communicated to all staff and operational employees associated with the REF as well as borrowers.

D. Revolving Escrow Fund Environmental and Social Safeguard Requirements

35. ChemChina, CHC, Huatai, and CCB will ensure that:

- (i) All subprojects are screened against the Prohibited Investment Activities List (PIAL) of the ADB Safeguard Policy Statement (Appendix 2) and that any subprojects involving activities included in the PIAL is not supported by the REF (using the ADB loan proceeds);
- (ii) All subprojects with potentially significant environmental and/or social impacts are reviewed and evaluated against Safeguard Requirements 1-3 of the ADB's Safeguard Policy Statement (2009) (Appendix 3);
- (iii) All subprojects are reviewed and evaluated against the national laws, regulations, and standards on environment, health, safety, involuntary resettlement and land acquisition, ethnic minorities, biodiversity, and physical cultural resources; and
- (iv) All subprojects of future batches are screened against and meet the technical, financial, economic, environmental and social criteria presented in Appendix 6 of this ESMS.

III. ENVIRONMENTAL AND SOCIAL MANAGEMENT PROCEDURES

36. This ESMS sets out screening, categorization, and appraisal procedures for new subprojects that are being considered to be financed using ADB loan proceeds through the REF. Subprojects that comply with all environmental and social requirements under the ESMS will be financed by the REF.

37. The processes involving ADB described in this ESMS will remain active until the REF is closed, after which only processes involving ChemChina, CHC, CCB, and Huatai will be applied.

A. Screening and Categorization

38. The EHS manager (or designated staff) at Huatai, on behalf of CHC, will announce the REF financial opportunity to potential affiliated companies at ChemChina. The announcement would be made 2 years before the estimated fund disbursement timeline. Once the 'express of interests' (EOIs) from potential subprojects are received, the following procedure will be triggered.

39. At an initial stage of identifying subprojects, the EHS manager (or other designated staff) at Huatai will apply ADB's PIAL. If the proposed subproject involves a prohibited activity, the proposed subproject company will be informed that it will not be considered. Otherwise, the EHS manager (or other designated staff) at Huatai will indicate the proposed subprojects to proceed with the next step of preparing a rapid environmental and social assessment.

40. At the subproject identification stage, the EHS manager (or other designated staff) at proposed subproject companies will be requested by the EHS manager (or other designated staff) at Huatai to first prepare a rapid assessment of the likely environmental and involuntary resettlement impacts and effects on indigenous peoples of their proposed subproject by using the attached environmental assessment checklist, including a checklist for preliminary climate risk screening (Appendix 4) and social safeguard screening checklists (Appendix 5). These checklists are developed to assist the determination on the significance of potential environmental and/or social impacts associated with the proposed subprojects. The EHS manager (or designated staff) at the proposed subproject companies shall submit the initial assessment to the EHS manager (or other designated staff) at Huatai.

41. After receiving these checklists from the proposed subproject companies, the EHS manager (or other designated staff) at Huatai, and/or the REF implementation consultant(s) on behalf the EHS manager at Huatai, will pay an initial site visit to the proposed subprojects, check whether the given information are correct, revise if needed, and confirm the initial assessment. If any proposed subproject involves existing facilities, the EHS manager (or other designated staff) at Huatai will request the proposed subproject company to provide the following documents prior to the visit: (i) copies of EIA approval(s), occupational health and safety approval(s), and any other domestic approval(s) of all the existing facilities; (ii) environmental discharge permit(s); (iii) environmental monitoring data approved by a local authority for the last 3 years, demonstrating full compliance with requirements; and (iv) a letter from the local authorities with indication whether or not the subproject has an ongoing environmental and social dispute; a pending court case, unresolved land acquisition and resettlement case, and/or any record of violation. If there is any issue raised by a local authority, the issue should be investigated with results documented to form an attachment to the checklist.

42. During the initial site visit, the EHS manager (or other designated staff) at Huatai and/or the REF implementation EHS consultant(s) on behalf the EHS manager at Huatai will do the following:

- (i) confirm the information to be included in the checklists that could influence environmental and social categorizations (e.g., all potential environmental and social impacts/risks of the subproject have been identified);
- (ii) verify that the facility has proper EIA approval(s) and discharge permits, covering its entire production lines within its premise;
- (iii) verify EHS compliance status of the subproject company;
- (iv) verify whether the facility has valid GB/T 24001 (equivalent to ISO 14001) Environmental Management Systems and GB/T 28001:2001 (equivalent to OHSAS 18001) Occupational Health and Safety Management Systems certifications and check the status of proposed corrective actions for all findings in the recent GB/T 24001 and/or GB/T 28001:2001 audit;
- (v) identify potential operational EHS risks associated with the operational practices observed at the facility;
- (vi) conduct brief environmental and social consultation through interviews with employees, local residents and/or local environmental authorities including the environmental protection bureau (EPB);
- (vii) present and discuss a subproject-level GRM;
- (viii) verify whether there has been recent land acquisition (past 3 years) by the host company and whether there are any outstanding compensation payments or disputes;
- (ix) conduct environment and social due diligence of other associated facilities (e.g., pipelines); and
- (x) confirm boundaries of potential adverse impacts, particularly in respect of environmental receptors.

43. Once the checklists and the verification work are completed by the EHS manager (or other designated staff) at Huatai, she/he will draft environmental and social classifications of the proposed projects and submit them to the EHS manager (or other designated staff) at CHC, who will review and finalize the classifications based on ADB's classification system to reflect the significance of a subproject's potential impacts.

44. As for environmental categorization, a potential subproject's category is determined by the category of its most environmentally sensitive component, including direct, indirect, cumulative, and induced impacts in the subproject's area of influence. Each proposed subproject is scrutinized as to its type, location, scale, and sensitivity and the magnitude of its current (If a subproject involves existing facilities) and potential environmental impacts. It shall be assigned to one of the following three categories:

- (i) **Category A.** A proposed subproject is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An EIA is required.
- (ii) **Category B.** A proposed subproject is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination (IEE) is required.
- (iii) **Category C.** A proposed subproject is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental

assessment is required although environmental implications need to be reviewed. as one of the following categories:

45. As for involuntary resettlement, the categorization will be determined whether or not a potential subproject involves involuntary resettlement. The degree of impacts shall be determined by (i) the scope of physical and economic displacement, and (ii) the vulnerability of the affected persons. Category A refers to project activities with potential significant involuntary resettlement impacts. Category B refers to project activities that have involuntary resettlement impacts but not significant. Category C refers to project activities that do not have any impacts on involuntary resettlement.

46. As for indigenous peoples safeguard, the categorization will be determined whether or not a proposed subproject has potential adverse impacts on ethnic minorities. The degree of impacts is determined by evaluating (i) the magnitude of the impact on ethnic minority customary rights of use and access to land and natural resources; socioeconomic status; cultural and communal integrity; health, education, livelihood systems, and social security status; or indigenous knowledge; and (ii) the vulnerability of the affected ethnic minority people or communities. Category A refers to project activities with potential significant impacts on ethnic minorities. Category B refers to project activities that have impacts but not significant impacts on ethnic minorities. Category C refers to project activities that do not have any impacts on ethnic minorities.

47. Once the safeguards categorizations are completed for the proposed subprojects, the EHS manager (or other designated staff) at Huatai, on behalf of the EHS manager at CHC, will apply the REF's specific selection criteria (Appendix 6). As indicated in Appendix 6, any subproject that is categorized as A or B for involuntary resettlement and/or ethnic minorities will be excluded. Based on the subproject selection criteria, the EHS manager (or other designated staff) at Huatai will present the pre-selection list of the potential subprojects and submit it to the EHS manager (or other designated staff) at CHC, who will confirm pre-selected subprojects.

48. For pre-selected subprojects, the EHS manager (or other designated staff) at Huatai, on behalf of CHC will submit the environmental and social categorizations with complete checklists and the categorization results attached in a letter to ADB project officer for review and concurrence prior to notification to the potential subproject company(ies) to process with further due diligence. The categorization forms; the complete checklists; the result of categorizations of pre-selected subprojects, and result of ADB review shall be also included as an attachment to a relevant annual ESMS implementation report to ADB.

B. Due Diligence

49. Once the pre-selected subprojects are approved by the EHS manager (or designated staff) at CHC, and concurred by ADB, the EHS manager (or designated staff) at Huatai will inform the pre-selected subproject companies on the decision as well as further procedure of comprehensive due diligence. In the meantime, Huatai will inform CCB to undertake financial due diligence of these pre-selected subprojects.

50. At this stage, the EHS manager (or designated staff) will provide the information request list (Appendix 7) and sample survey questionnaire that can be used by the pre-selected subproject companies for their meaningful public consultation (Appendix 8). In addition, the EHS manager (or designated staff) at Huatai will inform the pre-selected subproject companies to proceed with domestic EIA preparation, which shall meet the PRC requirements and the ADB

SPS requirements. The domestic EIA report should comply with national requirements including obtaining appropriate domestic approvals.

51. If the pre-selected subprojects involve existing facilities, environmental audit is required in addition to environmental and social impact assessment of the proposed subproject components. The audit aims to determine the existence of any areas where the subproject may cause or is causing risks or impacts to the environment, workers, and local communities. Huatai, on behalf of CHC, will hire (a team of) qualified REF implementation consultants to conduct environmental audit and comprehensive due diligence using primary and secondary data and information and ensure environmental audit and comprehensive due diligence properly carried out to meet both the PRC requirements and the ADB SPS requirements.

52. The scope of the audit is to include EHS performance throughout the organization, and the audit reviewed the production operations across the entire facility. The audit activities shall include site observations, interviews with site personnel, and review of applicable documents, including EHS documents and records, EHS training, environmental monitoring procedures and results, accident reports, incident responses, third party audit reports, and others. During the audit/due diligence visit by the REF implementation consultants, she/he will carry out site observations and a series of interviews with relevant local EHS authorities including EPB(s), local environmental monitoring stations are familiar with the facility, a plant manager, and an EHS manager, EHS staff and other workers at the pre-selected subproject company, and residences and business from nearby communities (must include people from the nearest receptors) regarding EHS and other social concern areas such as (i) community concerns and (ii) internal labor issues (sample interview questions are provided in Appendix 9).

53. A typical environmental audit report includes the following major elements: (i) executive summary; (ii) facilities description, including both past and current activities; (iii) summary of national, local, and any other applicable environmental laws, regulations, and standards; (iv) audit and site investigation procedure; (v) findings and areas of concern; and (vi) CAP that provides the appropriate corrective actions for each area of concern, including costs and schedule.

54. Depending on the environmental categorization of a pre-selected subproject, EIA or IEE shall be prepared for the components of a pre-selected subproject, which includes a subproject specific environmental management plan (EMP), environmental monitoring plan (EMoP), environmental and social reporting plan, and GRM. If the pre-selected subproject was preliminarily assessed as medium or high in climate risks, a Climate Risk and Vulnerability Assessment (CRVA) must be also prepared. The result of the CRVA should be incorporated during the subproject design phase. In a case that a domestic EIA has been already prepared, the REF implementation consultants need to check whether it also meet the ADB SPS requirements. If not, the consultant(s), on behalf of Huatai, shall advise the pre-selected subproject companies to provide an addendum to the domestic EIA report in order to meet the ADB SPS requirements for environment.

55. If meaningful consultation has not already been done in accordance with the ADB SPS (2009) for the domestic EIA, or if it has been done but Huatai/ADB representative were not able to participate in at least one consultation for the pre-selected subprojects with Category A for the environment, the REF implementation consultants in conjunction with the pre-selected subproject company shall carry out additional meaningful consultation, as part of EIA/IEE preparation, including survey with representatives of affected communities (neighboring residents and businesses), who are located within at least 300 meters or as deemed

appropriate due to the anticipated boundaries of potential adverse impacts of a subproject, whichever is higher. A template questionnaire for the EHS and social survey during public consultation is provided in Appendix 9.

56. As an output of the comprehensive environmental and social due diligence of the pre-selected subprojects, the REF implementation consultants must prepare an English version of IEE/EIA and due diligence (audit) report for each pre-selected subproject in accordance with ADB SPS (2009) and submit them to the EHS manager (or designated staff) at Huatai, who will first review and then, forward it to the EHS manager (or designated staff) at CHC. The EHS manager (or designated staff) at CHC shall submit it to ADB.

C. Selection of Subprojects

57. Based on results of environmental and social, and financial due diligence, the EHS manager (or designated staff) at Huatai will prepare a final list of subprojects to be submitted to the EHS manager (or designated staff) at CHC. Then, the EHS manager (or designated staff) at CHC will propose the final list of subprojects to the PSC and ADB. The PSC will review and clear the subproject audit/EIA/IEE and agree on the selection of subprojects with a no-objection basis. CHC, on behalf of the PSC, must refer the list of selected subprojects with an English due diligence report, including audit and EIA/IEE reports, to ADB. If any of the proposed final subprojects are categorized as A for the environment, the subproject audit/EIA report must be reviewed and cleared by ADB before it is approved by the PSC. A final draft audit/EIA report of the subproject with category A for environment will be made publicly available at least 120 days before the approval of the subproject by ADB.

58. All subproject loan agreements will contain appropriate environmental and social covenants requiring investments to be in compliance in all material respects with the applicable environmental and social safeguard requirements, including the PIAL, PRC regulations, CAP, EMP, EMoP, and GRM.

D. Compliance Monitoring and Reporting

59. After a subproject with category A or B for the environment is approved, the EHS manager (or other designated staff) at Huatai continuously monitors the subproject confirming quarterly that the subproject company is undertaking the obligations of compliance with all applicable environmental and social safeguard requirements, including the PIAL, PRC regulations, CAP, EMP, EMoP, and GRM. Also the EHS manager (or other designated staff) at Huatai, on behalf of ChemChina, CHC, and CCB, will document and promptly report to ADB any actual or potential breach of the compliance requirements after becoming aware of it. For a category A subproject, the Environmental and Social Safeguard Manager (or other designated staff) at Huatai will make regular visits to the site, quarterly during construction and semi-annually during operation to monitor the implementation of subproject-specific CAP, EMP, EMoP and GRM. Opportunities for ADB to accompany Huatai during site visits will be provided. Huatai will also need to ensure that the subproject company has retained qualified and experienced external experts to verify monitoring information for Category A subprojects. For a category B subproject, the EHS manager (or other designated staff) at Huatai will make regular visit to the site, semi-annually during construction and annually during operation to monitor the implementation of subproject-specific CAP, EMP, EMoP and GRM.

60. Environmental and social performance of all subprojects will be evaluated on an annual basis. The benchmark for performance will be the ongoing compliance against the applicable

environmental and social safeguard requirements in the subproject loan agreements, audit/EIA/IEE, CAP, EMP, EMoP, GRM and any other safeguard documents. Huatai, on behalf of ChemChina, CHC, and CCB will ensure that the investee company prepares and submits semi-annual and annual environmental and social monitoring reports during construction and operation phases respectively (Appendix 10), and will review and assess the subproject company's performance on environmental and social safeguard issues. All the subproject level environmental monitoring reports must contain the information on energy savings, greenhouse gas emissions, and emission reduction that are induced by the subproject components as well as a report on progress with the CAP and the environmental monitoring data required by the EMoP. In case of any environmental incident during reporting period, a subproject shall prepare an incident report and attach it to the environmental and social monitoring report using an incident report form (Appendix 11 and 12) including identification of corrective action. In the event of an unanticipated impact or minor/major change in subproject scope occurs, it may be necessary to update the EIA/IEE and prepare a CAP in accordance with ADB's SPS requirements as set out in Appendix 3.

61. Based on the review of the environmental and social monitoring reports for Category A and B subprojects prepared by the subproject companies, the EHS manager (or other designated staff) at Huatai will prepare an English consolidated environmental monitoring report semi-annually when at least one subproject is under construction and annually when all subprojects are in operation for submission to CHC. Upon confirmation by the EHS manager (or other designated staff) at CHC, s/he will submit them to ChemChina and ADB. In addition, the EHS manager (or other designated staff) at Huatai will prepare semi-annual ESMS implementation reports during the first 3 years after the loan effectiveness, and annual ESMS implementation reports until the project closure and submit them to the EHS manager (or other designated staff) at CHC. Upon confirmation by the EHS manager (or other designated staff) at CHC, she/he will submit them to ChemChina, and ADB. The ESMS implementation report form is set out in Attachment 13.

E. Information Disclosure

62. Huatai, on behalf of ChemChina, CHC, and CCB will submit to ADB the following documents for disclosure on ADB's website:

- (i) For Category A subprojects, a full copy of the final draft audit/EIA (including subproject specific CAP, EMP, EMoP, and GRM as applicable) to be disclosed for at least 120 days prior to ADB's subproject endorsement;
- (ii) For Category A subprojects, a full copy of the final audit/EIA, upon receipt from the subproject company;
- (iii) For Category A subprojects, a full copy of any updated EIA and CAP prepared during project implementation, upon receipt from the subproject company;
- (iv) Due diligence reports (not mandatory to disclose but best practice);
- (v) Consolidated environmental monitoring reports, including environmental performance and other social issues including community concerns and internal labor issues; and
- (vi) ESMS implementation reports.

63. Huatai, on behalf of ChemChina, CHC, and CCB will ensure that all the subprojects will provide relevant environmental and social safeguards information, including information from the above documents and any Category B audit/IEE in a timely manner, in an accessible place and in a form and language(s) understandable to affected people, surrounding local

communities, and other stakeholders before subproject approval and during subproject implementation.

F. Grievance Redress Mechanism

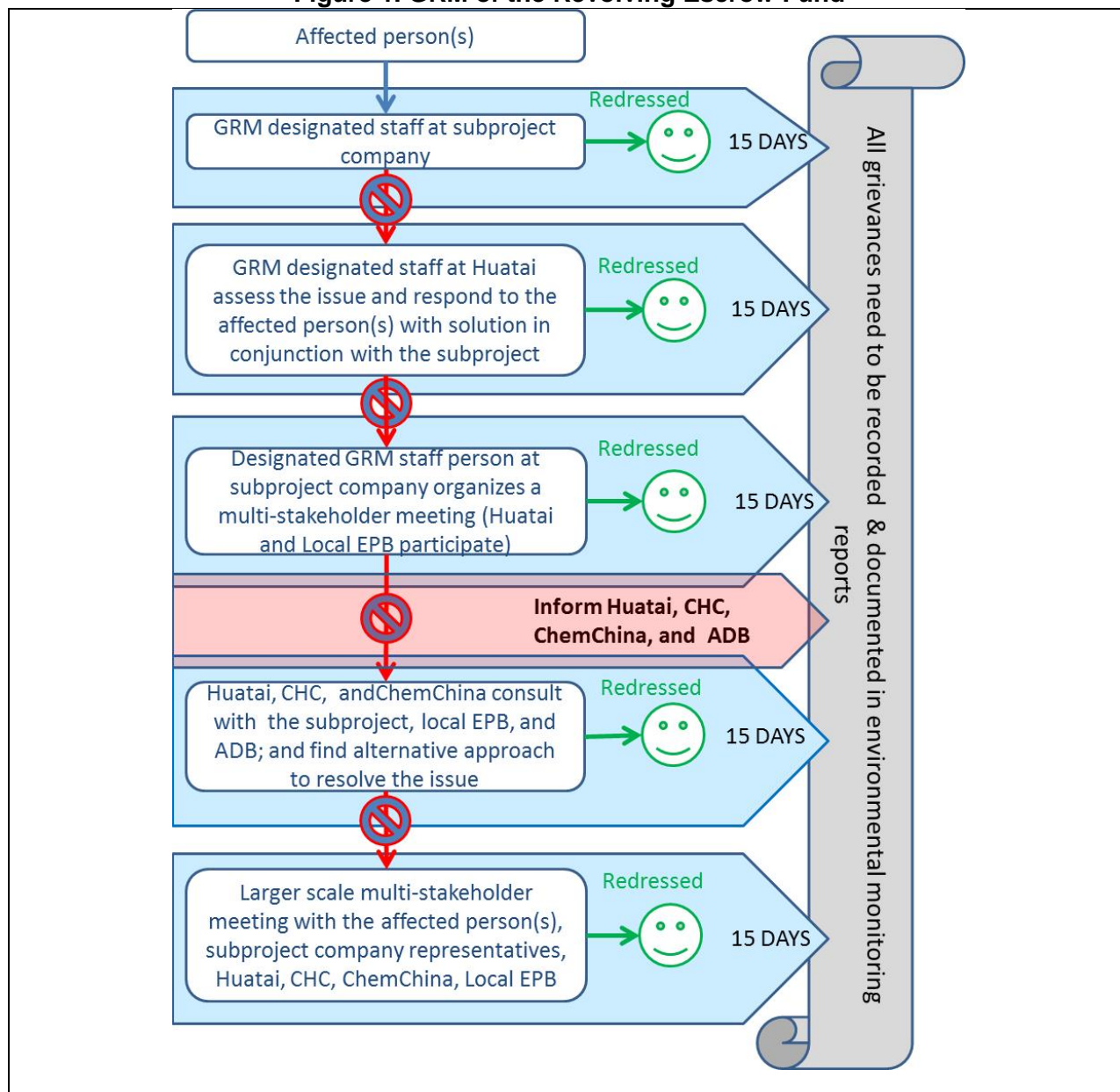
64. Public grievances will most likely relate to environmental and social issues encountered during the implementation of the subprojects, both in construction and operation phases. All complaints will be recorded systematically by the designated GRM staff at all subprojects under the REF. At the subproject level, detailed steps of GRM will be provided within the EIA/IEE. At the REF level, the designated person at Huatai will be the main focal person of the REF's GRM and will ensure effective GRM implementation through close cooperation and communications with subprojects.

65. If any grievance was not effectively solved at subproject level, Huatai, with support from CHC and ChemChina, will further facilitate the development of reasonable, effective, and satisfactory resolution. The following describes the five main steps of the REF level GRM.

- (i) **Step 1:** If a concern arises, the AP should try to resolve the issue of concern informally with the GRM designated staff at the subproject. If the concern is resolved successfully, no further follow-up is required. Nonetheless, the GRM designated staff at the subproject shall record any complaint and actions taken to resolve the issues and report the results to the GRM designated staff at Huatai. If no solution is found within 15 working days or if the complainant is not satisfied with the suggested solution under Step 1, proceed to Step 2.
- (ii) **Step 2:** The AP will submit the grievance directly or via the GRM designated staff at the subproject to the GRM designated staff at Huatai. The GRM designated staff at Huatai must assess the eligibility of the complaint, including whether Step 1 has been implemented properly, identify a solution in conjunction with the subproject, and give a clear reply within 15 working days to the complainant and to the GRM designated staff at the subproject with the suggested solution. The subproject company shall implement the redress solution and convey the outcome to Huatai within 7 working days.
- (iii) **Step 3:** If no solution is identified or if the complainant is not satisfied with the suggested solution under Step 2, the GRM designated staff at the subproject will organize, within 2 weeks, a multi-stakeholder meeting where all relevant stakeholders, including the complainant, the GRM designated staff at the subproject or other representative(s), the GRM designated staff at Huatai, and local District EPB will be invited. The meeting will aim to find in a solution acceptable to all, and identify responsibilities and an action plan. The subproject company will implement the agreed-upon redress solution and convey the outcome to Huatai within 7 working days.
- (iv) **Step 4:** If the multi-stakeholder hearing process under Step 3 is not successful, Huatai, CHC, and ChemChina, with the consultation from the subproject company, the relevant EPBs, and ADB, will review the situation and attempt to develop an alternative approach to resolve the complaint within 15 working days.
- (v) **Step 5:** If the complainant is not satisfied with the suggested solution under Step 4, the subproject company, Huatai, CHC, ChemChina, relevant EPBs and other local government authorities shall organize another multi-stakeholder hearing process and shall find a solution acceptable to all. Based on the agreement, an action plan shall be developed and implemented by the subproject company within the agreed timeframe.

66. The GRM designated staff at the subproject company and Huatai shall accept the complaints/grievances lodged by the affected person free of charge. Any cost incurred in dealing with a complaint/grievance should be covered by the subproject. The grievance procedures will remain valid throughout the duration of subproject construction and until subproject closure. Figure 1 describes the REF level GRM procedures.

Figure 1. GRM of the Revolving Escrow Fund



ADB = Asian Development Bank, CHC = China Haohua Chemical Group, ChemChina = China National Chemical Group, EPB = environmental protection bureau, GRM = grievance redress mechanism, Huatai = Beijing Zhonghao Huatai Energy Technology.

IV. INSTITUTIONAL RESPONSIBILITY, STAFFING, AND TRAINING

A. Organization and responsibilities

67. The EHS manager (or other designated staff) at Beijing Zhonghao Huatai Energy Technology (Huatai) reports directly to the Director of Huatai, and directly or via the Director of Huatai, to CHC, ChemChina, and the PSC. CHC and ChemChina (i) have oversight for environmental and social issues on all subprojects, and (ii) ensure adequate resources are available to Huatai to undertake environmental and social management on all subprojects.

68. The Environmental and Social Manager (or other designated staff) at Huatai (i) has delegated oversight for environmental and social issues on all subprojects, (ii) undertakes or ensures adequate resources are made available for undertaking environmental and social screening, categorization and due diligence on all subprojects, including requirements for audit/EIA/IEE and development of subproject specific CAP, EMP, EMoP, and GRM, as applicable; (iii) undertakes or ensures adequate resources are made available for undertaking supervision and monitoring of environmental and social management performance of all subprojects, including subproject specific CAP, EMP, EMoP and GRM, as applicable; (iv) ensures all the subprojects fulfill environmental monitoring requirements; (v) consolidates subprojects' environmental monitoring reports and submits them to ChemChina, CHC, CCB, and ADB in a timely manner; and (vi) prepares and submits annual ESMS implementation reports to ChemChina, CHC, CCB, and ADB. Huatai, on behalf of ChemChina, CHC, and CCB should ensure that ADB is notified if and when the responsible staff at Huatai has been changed or replaced with new staff.

B. Capacity and resources

69. **Staffing.** A suitably experienced and qualified full-time environmental and social safeguards manager will be appointed at Huatai to fully operationalize the ESMS before the first disbursement of ADB loan. The manager will have chemical engineering, environmental science, environmental engineering and/or equivalent academic background and at least 10 years of professional experience in environmental and social safeguards; and/or EHS management in chemical industry. She/He will be technically qualified to be able to carry out the screening, categorization and due diligence and able to review the work carried out by the REF implementation consultants.

70. Huatai will have and maintain a pool of qualified environmental and social consultants who can be called upon to assist in conducting environmental audit, preparing EIA/IEE, conducting environmental and social reviews and/or trainings, as appropriate.

71. **Training.** The environmental and social safeguards manager (and/or a designated staff) at Huatai, designated EHS staff at CHC, ChemChina, CCB, and subprojects will take a series of capacity suitably experienced and qualified full-time environmental and social safeguards manager will be appointed at Huatai to fully operationalize the ESMS before the first disbursement of ADB loan. She/He will have chemical engineering, environmental science, environmental engineering and/or equivalent academic background and at least 10 years of professional experience in environmental and social safeguards; and/or EHS management in chemical industry. She/He will be technically qualified to be able to carry out the screening, categorization and due diligence, and able to review the work carried out by the REF implementation consultants and requirements, and other relevant environmental and social

issues. Due to the nature of the REF and targeted industry, the training needs on environmental management systems (EMS) and occupational health and safety management systems (OHSAS) are essential. The environmental and social safeguards manager (and/or a designated staff) at Huatai, designated (EHS) staff at ChemChina, CHC, CCB, and subprojects, therefore, will also take training on GB/T 24001: EMS and GB/T 28001:2001 OHSAS. Table 3 presents the proposed training program on environmental and social management and associated costs.

Table 3. Capacity building training on environmental and social management

Training Topic	Trainers	Attendees	Contents	Times	Period (days) per time	# of Persons per time	Budget	Source of Funds
ADB Safeguard Training	FILIEC	ChemChina CHC Huatai, CCB, Subproject companies (Note: All subproject companies must receive this training prior to project implementation)	ADB and PRC EHS laws, regulations and policies <ul style="list-style-type: none"> The REF's ESMS policy and requirements including links to ADB's safeguard policy statement, including policy principles, policy delivery process, environmental and social safeguard requirements, and others, REF applicable PRC EHS laws, policies, standards and regulations International environmental, health and safety management practice in civil constructions including World Bank EHS Guidelines GRM <ul style="list-style-type: none"> GRM structure, responsibilities, and timeframe Types of grievances and eligibility assessment Implementation of EMP and EMoP <ul style="list-style-type: none"> Impacts and mitigation measures during construction and operation Monitoring and auditing mechanism Reporting requirements Corrective actions for EMP <ul style="list-style-type: none"> Implementation of Construction Phase EHS Plans Plan descriptions Roles and responsibilities Implementation of ESMS <p>ESMS objectives, contents, subproject criteria, other issues at ESMS</p>	10	3	20	<p>Course material Development and course evaluation report \$700 x 10 times = \$7000</p> <p>Course Delivery (fees and per diem, lump sum fixed cost): \$700/day x 3 (days) x 10 (times) = \$21,000</p> <p>Logistics costs for trainees \$500 (per person) x 3 (days) x 20 (persons) x 10 (times) = \$300,000</p> <p>Sub-total: \$328,000</p>	ADB loan-Huatai Environment investment budget

Training Topic	Trainers	Attendees	Contents	Times	Period (days) per time	# of Persons per time	Budget	Source of Funds
Environmental Management Training	FILIEC	ChemChina CHC Huatai CCB; Potential subproject companies under ChemChina	GB/T 24001: Environmental Management Systems <ul style="list-style-type: none"> Objectives and benefits of GB/T 24001 Contents and continuous improvement Steps and procedures for getting certification Sharing experiences from a certified company 	10	3	20	Course material development and course evaluation report $\$1,000 \times 10 \text{ (times)} = \$10,000$ Course delivery (fees and per diem, if any) $\$1,000 \text{ (per one trainer)} \times 3 \text{ (days)} \times 10 \text{ (times)} = \$30,000$ Logistics costs for trainees $\$500 \text{ (per person)} \times 3 \text{ (days)} \times 20 \text{ (persons)} \times 10 \text{ (times)} = \$300,000$ Sub-total: \$340,000	ADB loan-Huatai Environment investment budget
Occupational Health and Safety Management Training	FILIEC (a certified auditor and verifier for GB/T 28001-2001)	ChemChina CHC Huatai CCB; Potential subproject companies under ChemChina	GB/T 28001-2001: Occupational health and safety management systems <ul style="list-style-type: none"> Objectives and benefits of GB/T 28001-2001 Contents and continuous improvement Steps and procedures for getting certification Sharing experiences from a certified company 	10	3	20	Course material development $\$1,000 \times 10 \text{ (times)} = \$10,000$ Course delivery (fees and per diem, if any) $\$1000 \text{ (per one trainer)} \times 3 \text{ (days)} \times 10 \text{ (times)} = \$30,000$ Logistics costs for trainees $\$500 \text{ (per person)} \times 3 \text{ (days)} \times 20 \text{ (persons)} \times 10 \text{ (times)} = \$300,000$ Sub-total: \$ 340,000	ADB loan-Huatai Environment investment budget

Training Topic	Trainers	Attendees	Contents	Times	Period (days) per time	# of Persons per time	Budget	Source of Funds
Total				25	75	500	\$1,008,000	

ADB =Asian Development Bank, CCB = China Construction Bank, CHC = China Haohua Chemical Group, ChemChina = China National Chemical Group, EHS = environmental, health, and safety, EIA = environmental impact assessment, EMP = Environmental management plan, EMoP = Environmental monitoring plan, ESMS = environmental and social management system, FILIEC = financial intermediation loan implementation environment team, GRM = grievance redress mechanism, Huatai = Beijing Zhonghao Huatai Energy Technology, PRC = People's Republic of China, REF = Revolving Escrow Fund, SPS = Safeguards Policy Statement.

Source: ADB estimates

V. ASSURANCES OF THE REVOLVING ESCROW FUND

72. The following assurances of the fund are agreed between Huatai, CHC, ChemChina, CCB, and ADB.

- (i) ChemChina will ensure that all subprojects of future batches must meet the technical, financial, economic, environmental, and social criteria presented in this ESMS.
- (ii) ChemChina will ensure that all subprojects approved will improve energy efficiency by 10% and reduce emissions.
- (iii) The fund will not support expansion of production capacities or extension of the use of old and inefficient equipment.
- (iv) The fund will not support subprojects that are included in the ADB Prohibited Investment Activities List (Appendix 2), including subprojects involving chemicals/substances that are subject for phase out by international agreements that PRC is a signatory of.
- (v) ChemChina and CHC will have dedicated staff to provide supervision and management support for the fund.
- (vi) ChemChina will hire full time qualified environmental and social safeguards manager and other relevant PIU staff for Huatai.
- (vii) Qualified Fund implementation consultants will be hired to conduct capacity building training programs; and to support the environmental and social safeguards manager in supervising subprojects' CAP, EMP, EMoP, and GRM performances; conducting comprehensive due diligence; supporting Huatai in preparing consolidated environmental monitoring reports; supporting Huatai in preparing ESMS implementation reports; and supporting Huatai in reviewing any other environmental and social issues at subprojects.
- (viii) Ensure that PIU staff and other relevant staff from ChemChina, CHC and Huatai will attend the training programs.
- (ix) Huatai, on behalf of ChemChina, CHC, and CCB will ensure that all the subprojects will provide relevant environmental and social safeguards information, in a timely manner, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders.
- (x) Meaningful public consultations will be conducted during the preparation of the due diligence for a possible subproject.
- (XI) Subprojects with medium or high climate risk will be required to prepare a CRVA and the result of CRVA should be incorporated with the subproject design.

APPENDIX 1. LIST OF APPLICABLE NATIONAL ENVIRONMENTAL, HEALTH AND SAFETY REGULATIONS

Category	Title of Regulation	Regulator	Edition
Construction Projects	Labor Law (1994)	Standing Committee of National People's Congress	1994
	Rules on the Labor Protection of Female Staff (1988)	State Council	1988
	Rules on the Types of Work Prohibited for Women (1990)	Ministry of Labor and Social Security (now Ministry of Human Resources and Social Security)	1990
	Classification of Intensity of Physical Work (GB3869-1997)	State Bureau of Technical Supervision	1997
	Law on Production Safety (2002)	Standing Committee of National People's Congress	2002
	Safety Signs and Guideline for the Use (GB2894-2008)	General Administration of Quality Supervision, Inspection and Quarantine and the Standardization Administration	2008
	Regulation on the Safety Supervision of Specialized Installations (2009)	State Council	2009
	Interim Rules for Supervision and Management of Occupational Health in Workplaces (2009)	State Administration of Work Safety	2009
	Regulation on the Management of Construction Project Quality (2000)	State Council	2000
Occupational noise	Norms on Hearing Protection for Workers at Industrial Facilities (1999)	Ministry of Health	1999
Electricity	Rules of Electrical Safety Management (1986)	Ministry of Machinery Industry	1986
	Safety Guidelines for Electricity Use (GB/T 13869-2008)	General Administration of Quality Supervision, Inspection and Quarantine and the Standardization Administration	2008
Emergency	Guidelines for Enterprises to Develop Emergency Response Plan for Work Place Accidents (AQ/T 9002-2006)	State Administration of Work Safety	2006
	Rules of Reporting and Investigation of Work Place Accidents (2007)	State Council	2007
	Interim Rules on Inspection and Removal of Potential Risks of Work Place Accidents (2007)	State Administration of Work Safety	2007
	Measures for the Administration of Emergency Response Plans for Work Safety Accidents (2009)	State Administration of Work Safety	2009
	Provisions on Radioactive Accidents (2001)	Ministry of Health and Ministry of Public Security	2001
Fire Protection	Fire Safety Signs (GB13495-1992)	State Bureau of Technical Supervision	1992
	Provisions on Safety for Workplaces with Explosion Risks (1995)	Labor Department	1995
	Firefighting Surveillance and Inspection Rules for Building Construction (1997)	Ministry of Public Security	1997

Category	Title of Regulation	Regulator	Edition
	Maintenance for Fire Equipment in Building (GA 587-2005)	Ministry of Public Security	2005
	Provisions of Fire Prevention in Building Design (GB 50016-2006)	Ministry of Construction and General Administration of Quality Supervision, Inspection and Quarantine	2006
	Fire Prevention Technology Requirements for Residential, Production, Operation or Storage Mixed-Use Areas (GA 703-2007)	Ministry of Public Security	2007
	Safety Regulation for Dust Explosion Prevention (GB 15577-2007)	General Administration of Quality Supervision, Inspection and Quarantine and Standardization Administration	2007
	Code for Acceptance and Inspection of Extinguisher Distribution in Buildings (GB 50444-2008)	Ministry of Housing and Urban-Rural Development	2008
Hygiene standards	Hygienic Standards for the Design of Industrial Enterprises (GBZ 1-2010)	Ministry of Health	2010
	Hygiene Standards for Domestic Drinking Water (GB 5749-2006)	Ministry of Health and Standardization Administration	2006
Insurance	Work-related Injury Insurance Regulation (2010)	State Council	2010
Lifting	Regulations for Periodic Inspection of Lifting/Hoisting Machinery (TSG Q7015 - 2008)	General Administration of Quality Supervision, Inspection and Quarantine	2008
	Regulations on Use and Maintenance of Lifts (TSG Q5001-2009)	General Administration of Quality Supervision, Inspection and Quarantine	2009
Occupational Health and Disease	Management Measures on Occupational Disease Diagnosis and Appraisal (2002)	Ministry of Health	2002
	Measures on Investigation of and Dealing with Occupational Diseases Risk Accidents (2002)	Ministry of Health	2002
	Measures on Occupational Health Care (2002)	Ministry of Health	2002
	Warning Signs for Occupational Disease Hazards in Workplaces (GBZ 158-2003)	Ministry of Health	2003
	Provisions on Management of Occupational Disease Hazard Classification in Construction Projects (2006)	Ministry of Health	2006
Personal Protective Equipments (PPE)	Personal Fall Protection Systems (GB 6095-2009)	General Administration of Quality Supervision, Inspection and Quarantine, and Standardization Administration	2009
	Code of Practice for Selection of Personal Protective Equipments—GB/T 11651-2008	General Administration of Quality Supervision, Inspection and Quarantine and State Standardization Administration Committee	2008
	Provisional Regulation of the Use of Personal Protective Equipment for Construction Personnel (2007)	Ministry of Construction	2007

Category	Title of Regulation	Regulator	Edition
Reporting (statutory) asbestos hazardous dangerous explosive radioactive	Basic Standards for Protection Against Ionizing Radiation and for the Safety of Radiation Sources—GB 18871-2002	General Administration of Quality Supervision, Inspection and Quarantine of People's Republic of China	2002
	Provisions on Preventing Environmental Pollution Caused by Electrical Equipment Containing Polychlorinated Biphenyls (PCBs) and Related Wastes (1991)	State Environmental Protection Administration (Now Ministry of Environmental Protection) and Ministry of Energy	1991
	Control Standard on Polychlorinated Biphenyl Wastes (GB 13015-91)	State Environmental Protection Administration	
	Management Measures on Transportation Safety Permitting of Radioactive Substances (2010)	Ministry of Environmental Protection	2010
	Rules on the Storage of Dangerous Chemicals (GB 15603-1995)	State Bureau of Technical Supervision	1995
	Regulations on the Management of the Controlled Chemicals (1995)	State Council	1995
	Provisions on Safe Use of Chemicals in Workplaces (1996)	Ministry of Labor and Ministry of Chemical Industry	1996
	Provisions on Pesticides Management in China (2001)	State Council	2001
	Management Measures on Registration of Dangerous Chemicals (2002)	State Economic and Trade Commission	2002
	General Rules for Classification and Hazard Communication of Chemicals (GB 13690-2009)	General Administration of Quality Supervision, Inspection and Quarantine and State Standardization Administration	2009
Training	Notion on Safe Production Training Examination for the Principals of Production and Operating Entity, Management Personnel and Other Practitioners (2002)	State Administration of Work Safety	2002
	Provision on Safety Training for Manufacturing and Operations Facilities (2006)	State Administration of Work Safety	2006
	Management Provisions on Examining Safety Technical Training of Special Operation Personnel (2010)	State Administration of Work Safety	2010
Work equipment	Safety in Welding and Cutting (GB 9448-1999)	State Bureau of Quality and Technical Supervision	1999
	Safety Nets (GB 5725-2009)	General Administration of Quality Supervision, Inspection and Quarantine, and Standardization Administration	2009
	Safety and Technical Regulations on Management, Use, Inspection, and Maintenance of Hand-held Power Tools (GB/T 3787-2006)	General Administration of Quality Supervision, Inspection and Quarantine, and Standardization Administration	2006
	Safety of Hand-held Power Tools(GB 3883)	General Administration of Quality Supervision, Inspection and Quarantine and Standardization Administration	
	Safety of Mobile Power Tools(GB 13960)	General Administration of Quality Supervision, Inspection and Quarantine and Standardization Administration	

Category	Title of Regulation	Regulator	Edition
Workplace and welfare	Labor Protection Regulations for Workplaces That Use Toxic Substances (2002)	State Council	2002
General Environmental	Law of the People's Republic of China on Environmental Impact Assessment (2002)	Standing Committee of the National People's Congress	2002
	Law of the People's Republic of China on Environmental Protection (1989)	Standing Committee of the National People's Congress	1989
	Law of the People's Republic of China on Land Management (1986; last amended 2004)	Standing Committee of the National People's Congress	2004
	Management Provisions on the Reporting and Registration of Pollutant Discharges (1992,last amended 2005)		1992
	Environmental Protection Management Measures for Electromagnetic Radiation (1997)	State Environmental Protection Administration	1997
	Measures for the Disclosure of Environmental Information (Trial Implementation) (2007)	Ministry of Environmental Protection	2007
	Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise	Standing Committee of the National People's Congress	
	Management Measures on Automatic Monitoring and Inspection of Pollution Sources (2005)	Ministry of Environmental Protection	2005
	Measures on Management of Pollution Sources Monitoring (1999)	State Environmental Protection Administration	1999
Water	Law of the People's Republic of China on Water (1988; last amended 2002)	Standing Committee of the National People's Congress	2002
	Provisions on the Administration of the Prevention and Control of Pollution in the Protected Zones of Drinking Water Sources (1989)	State Environmental Protection Administration	1989
	Management Measures on the Monitoring of Pollutant Discharge Outlets Entering Rivers (2004)	Ministry of Water Resources	2004
	Management Regulations for Water Extraction Permitting and Collection of Water Resource Fees (2006)	State Council	2006
	Management Measures on Handling of Water Pollution Within a Specified Period (Trial Implementation) (2009)	Ministry of Environmental Protection	2009
	Integrated Wastewater Discharge Standard (GB 8978-1996)	State Environmental Protection Administration	1996
	Technical Guidelines for Environmental Impact Assessment—Groundwater Environment (HJ 610—2011)	Ministry of Environmental Protection	2011
	Quality Standard for Groundwater (GB/T 14848-93)	State Bureau of Technical Supervision	

Category	Title of Regulation	Regulator	Edition
	Discharge Standard for Municipal Wastewater(CJ 3082-1999)	Ministry of Construction	1999
	Environmental Quality Standard for Surface Water (GB 3838-2002)	State Environmental Protection Administration and General Administration of Quality Supervision, Inspection and Quarantine	2002
	Law on Prevention and Control of Water Pollution (1984; last amended 2008)	Standing Committee of the National People's Congress	2008
	Implementing Rules of the Law on the Prevention and Control of Water Pollution (2000)	State Council	2000
Air	Measures on the Administration of Urban Smoke-Dust Controlling Zones (1987)	Environmental Protection Committee of the State Council	1987
	Law of the People's Republic of China on the Prevention and Control of Air Pollution (1987; last amended 2000)	Standing Committee of the National People's Congress	2000
	Management Regulations on ODS (2010)	State Council	2010
	Emission Standards for Odor Pollutants (GB 14554-1993)	State Environmental Protection Administration	1993
	Integrated Emission Standard for Air Pollutants (GB 16297-1996)	State Environmental Protection Administration	1996
	Technical Guidelines for Fugitive Emission Monitoring of Air Pollutants (HJ/T 55-2000)	State Environmental Protection Administration	2000
	Ambient Air Quality Standard (GB 3095-1996)(last amended 2000)	State Environmental Protection Administration and General Administration of Quality Supervision, Inspection and Quarantine	2000
Hazardous Materials	Classification of Radioactive Waste (GB 9133-1995)	State Bureau of Technical Supervision	1995
	Management Measures on Environmental Protection from Electromagnetic Radiation (1997)	State Environmental Protection Administration	1997
	Law on the Prevention and Control of Radioactive Pollution (2003)	Standing Committee of the National People's Congress	2003
	Prevention and Control Measures on Environmental Pollution of Unwanted Dangerous Chemicals (2005)	State Environmental Protection Administration	2005
	Environmental Management Measures on New Chemical Substances (2010)	Ministry of Environmental Protection	2010
	Provisions on Environmental Administration of New Chemical Substances (2010)	Ministry of Environmental Protection	2010
Construction Projects	Provisions on Environmental Protection Design of Construction Projects (1987)	State Planning Commission and State Council Environmental Protection Committee	1987
	Management Procedures on Environmental Protection of Construction Projects (1990)	State Environmental Protection Administration	1990

Category	Title of Regulation	Regulator	Edition
	Regulations on Management of Environmental Protection of Construction Projects (1998)	State Council	1998
	Classified Directory for Environmental Protection Management of Construction Projects (2002)	State Environmental Protection Administration	2002
Emergency Planning	Interim Provision on Management of Emergency Plan for Abrupt Environmental Accidents (2010)	Ministry of Environmental Protection	2010
Energy Efficiency	Interim Measures of Energy Conservation Assessment and Audit for Capital Asset Investment Projects (2010)	National Development and Reform Commission	2010
	Law of the People's Republic of China on Energy Conservation (1997; last amended 2007)	Standing Committee of the National People's Congress	2007
	Measures on Supervision and Management of Energy Conservation of Specialized Equipment with High Energy Consumption (2009)	General Administration of Quality Supervision, Inspection and Quarantine	2009
Waste	Circular Economy Promotion Law of the People's Republic of China (2009)	Standing Committee of the National People's Congress	2009
	Law on the Prevention and Control of Environmental Pollution by Solid Wastes (2004)	Standing Committee of the National People's Congress	2004
	Measures on the Administration of Hazardous Wastes Operating License (2004)	State Council	2004
	Management Measures on Environmental Pollution Prevention and Control of Electronic Wastes (2007)	State Environmental Protection Administration	2007
	National Catalogue of Hazardous Wastes (1998, last amended 2008)	Ministry of Environmental Protection	1999
	Measures on the Management of Hazardous Waste Manifests (1999)	State Environmental Protection Administration	1999
	Standard for Pollution Control on Hazardous Waste Storage (GB 18597-2001)	State Environmental Protection Administration	2001
	Standard for Pollution Control on the Storage and Disposal Site for General Industrial Solid Wastes (GB 18599-2001)	State Environmental Protection Administration and the State Administration of Quality Supervision, Inspection and Quarantine	2001
	Management Measures on Environmental Pollution Prevention and Control of Electronic Wastes (2007)	State Environmental Protection Administration	2007
	Waste Electrical and Electronic Product Disposal and Recycling Management Regulations (2009)	State Council	2009

APPENDIX 2. ASIAN DEVELOPMENT BANK PROHIBITED INVESTMENT ACTIVITIES LIST

The following do not qualify for Asian Development Bank financing:

- (i) production or activities involving harmful or exploitative forms of forced labor¹ or child labor²;
- (ii) production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international phase outs or bans, such as (a) pharmaceuticals,³ pesticides, and herbicides,⁴ (b) ozone-depleting substances,⁵ (c) polychlorinated biphenyls⁶ and other hazardous chemicals,⁷ (d) wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora,⁸ and (e) transboundary trade in waste or waste products;⁹
- (iii) production of or trade in weapons and munitions, including paramilitary materials;
- (iv) production of or trade in alcoholic beverages, excluding beer and wine;¹⁰
- (v) production of or trade in tobacco;¹⁰
- (vi) gambling, casinos, and equivalent enterprises;¹⁰
- (vii) production of or trade in radioactive materials,¹¹ including nuclear reactors and
- (viii) components thereof;
- (ix) production of, trade in, or use of unbonded asbestos fibers;¹²
- (x) commercial logging operations or the purchase of logging equipment for use in
- (xi) primary tropical moist forests or old-growth forests; and
- (xii) marine and coastal fishing practices, such as large-scale pelagic drift net fishing
- (xiii) and fine mesh net fishing, harmful to vulnerable and protected species in large
- (xiv) numbers and damaging to marine biodiversity and habitats.

¹ Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty.

² Child labor means the employment of children whose age is below the host country's statutory minimum age of employment or employment of children in contravention of International Labor Organization Convention No. 138 "Minimum Age Convention" (www.ilo.org).

³ A list of pharmaceutical products subject to phaseouts or bans is available at <http://www.who.int>.

⁴ A list of pesticides and herbicides subject to phaseouts or bans is available at <http://www.pic.int>.

⁵ A list of the chemical compounds that react with and deplete stratospheric ozone resulting in the widely publicized ozone holes is listed in the Montreal Protocol, together with target reduction and phaseout dates. Information is available at <http://www.unep.org/ozone/montreal.shtml>.

⁶ A group of highly toxic chemicals, polychlorinated biphenyls are likely to be found in oil-filled electrical transformers, capacitors, and switchgear dating from 1950 to 1985.

⁷ A list of hazardous chemicals is available at <http://www.pic.int>.

⁸ A list is available at <http://www.cites.org>.

⁹ As defined by the Basel Convention; see <http://www.basel.int>.

¹⁰ This does not apply to project sponsors who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to a project sponsor's primary operations.

¹¹ This does not apply to the purchase of medical equipment, quality control (measurement) equipment, and any equipment for which ADB considers the radioactive source to be trivial and adequately shielded.

¹² This does not apply to the purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.

APPENDIX 3. ENVIRONMENTAL AND SOCIAL SAFEGUARDS REQUIREMENTS

30 Appendix 1

SAFEGUARD REQUIREMENTS 1: ENVIRONMENT

A. Introduction

1. Safeguard Requirements 1 outlines the requirements that borrowers/clients are required to meet when delivering environmental safeguards for projects supported by the Asian Development Bank (ADB). It discusses the objectives and scope of application, and underscores the requirements for undertaking the environmental assessment process. These requirements include assessing impacts, planning and managing impact mitigations, preparing environmental assessment reports, disclosing information and undertaking consultation, establishing a grievance mechanism, and monitoring and reporting. The document also includes particular environmental safeguard requirements pertaining to biodiversity conservation and sustainable management of natural resources, pollution prevention and abatement, occupational and community health and safety, and conservation of physical cultural resources. The applicability of particular requirements is established through the environmental assessment process and compliance with the requirements is achieved through implementation of environmental management plans agreed to by ADB and the borrower/client.

B. Objectives

2. The objectives are to ensure the environmental soundness and sustainability of projects, and to support the integration of environmental considerations into the project decision-making process.

C. Scope of Application

3. The requirements apply to all ADB-financed and/or ADB-administered sovereign and non-sovereign projects, and their components regardless of the source of financing, including investment projects funded by a loan; and/or a grant; and/or other means, such as equity and/or guarantees (hereafter broadly referred to as projects).

D. Requirements

1. Environmental Assessment

4. Environmental assessment is a generic term used to describe a process of environmental analysis and planning to address the environmental impacts and risks associated with a project. At an early stage of project preparation, the borrower/client will identify potential direct, indirect, cumulative and induced environmental impacts on and risks to physical, biological, socioeconomic, and physical cultural resources and determine their significance and scope, in consultation with stakeholders, including affected people and concerned NGOs. If potentially adverse environmental impacts and risks are identified, the borrower/client will undertake an environmental assessment as early as possible in the project cycle. For projects with potentially significant adverse impacts that are diverse, irreversible, or unprecedented, the borrower/client will examine alternatives to the project's location, design, technology, and components that would avoid, and, if avoidance is not possible, minimize adverse environmental impacts and risks. The rationale for selecting the particular project location, design, technology, and components will be properly documented, including, cost-benefit analysis, taking environmental costs and benefits of the various alternatives considered into account. The "no project" alternative will be also considered.

5. The assessment process will be based on current information, including an accurate project description, and appropriate environmental and social baseline data. The environmental assessment will consider all potential impacts and risks of the project on physical, biological, socioeconomic (occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media [Appendix 2, para. 6]) and physical cultural resources in an integrated way. The project's potential environmental impacts and risks will be reviewed against the requirements presented in this document and applicable laws and regulations of the jurisdictions in which the project operates that pertain to environmental matters, including host country obligations under international law.

6. Impacts and risks will be analyzed in the context of the project's area of influence. This area of influence encompasses (i) the primary project site(s) and related facilities that the borrower/client (including its contractors) develops or controls, such as power transmission corridors, pipelines, canals, tunnels, access roads, borrow pits and disposal areas, and construction camps; (ii) associated facilities that are not funded as part of the project (funding may be provided separately by the borrower/client or by third parties), and whose viability and existence depend exclusively on the project and whose goods or services are essential for successful operation of the project; (iii) areas and communities potentially affected by cumulative impacts from further planned development of the project, other sources of similar impacts in the geographical area, any existing project or condition, and other project-related developments that are realistically defined at the time the assessment is undertaken; and (iv) areas and communities potentially affected by impacts from unplanned but predictable developments caused by the project that may occur later or at a different location. The area of influence does not include potential impacts that might occur without the project or independently of the project. Environmental impacts and risks will also be analyzed for all relevant stages of the project cycle, including preconstruction, construction, operations, decommissioning, and postclosure activities such as rehabilitation or restoration.

7. The assessment will identify potential transboundary effects, such as air pollution, increased use or contamination of international waterways, as well as global impacts, such as emission of greenhouse gases and impacts on endangered species and habitats.

8. The environmental assessment will examine whether particular individuals and groups may be differentially or disproportionately affected by the project's potential adverse environmental impacts because of their disadvantaged or vulnerable status, in particular, the poor, women and children, and Indigenous Peoples. Where such individuals or groups are identified, the environmental assessment will recommend targeted and differentiated measures so that adverse environmental impacts do not fall disproportionately on them.

9. Depending on the significance of project impacts and risks, the assessment may comprise a full-scale environmental impact assessment (EIA) for category A projects, an initial environmental examination (IEE) or equivalent process for category B projects, or a desk review. An EIA report includes the following major elements: (i) executive summary, (ii) description of the project, (iii) description of the environment (with comprehensive baseline data), (iv) anticipated environmental impacts and mitigation measures, (v) analysis of alternatives, (vi) environmental management plan(s), (vii) consultation and information disclosure, and (viii) conclusion and recommendations. The annex to this appendix provides further details. An IEE, with its narrower scope, may be conducted for projects with limited impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.

10. When the project involves existing activities or facilities, relevant external experts will perform environmental audits to determine the existence of any areas where the project may cause or is causing environmental risks or impacts. If the project does not foresee any new major expansion, the audit constitutes the environmental assessment for the project. A typical environmental audit report includes the following major elements: (i) executive summary; (ii) facilities description, including both past and current activities; (iii) summary of national, local, and any other applicable environmental laws, regulations, and standards; (iv) audit and site investigation procedure; (v) findings and areas of concern; and (vi) corrective action plan that provides the appropriate corrective actions for each area of concern, including costs and schedule.

11. When the project involves the development of or changes to policies, plans, or programs that are likely to have significant environmental impacts that are regional or sectoral, strategic environmental assessment will be required. A strategic environmental assessment report will include (i) an analysis of the scenario, (ii) an assessment of long-term and indirect impacts, (iii) a description of the consultation process, and (iv) an explanation of option selection.

2. Environmental Planning and Management

12. The borrower/client will prepare an environmental management plan (EMP) that addresses the potential impacts and risks identified by the environmental assessment. The EMP will include the proposed mitigation measures, environmental monitoring and reporting requirements, emergency response procedures, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Where impacts and risks cannot be avoided or prevented, mitigation measures and actions will be identified so that the project is designed, constructed, and operated in compliance with applicable laws and regulations and meets the requirements specified in this document. The level of detail and complexity of the environmental planning documents and the priority of the identified measures and actions will be commensurate with the project's impacts and risks. Key considerations include mitigation of potential adverse impacts to the level of "no significant harm to third parties", the polluter pays principle, the precautionary approach, and adaptive management.

13. If some residual impacts are likely to remain significant after mitigation, the EMP will also include appropriate compensatory measures (offset) that aim to ensure that the project does not cause significant net degradation to the environment. Such measures may relate, for instance, to conservation of habitat and biodiversity, preservation of ambient conditions, and greenhouse gas emissions. Monetary compensation in lieu of offset is acceptable in exceptional circumstances, provided that the compensation is used to provide environmental benefits of the same nature and is commensurate with the project's residual impact.

14. The EMP will define expected outcomes as measurable events to the extent possible and will include performance indicators or targets that can be tracked over defined periods. It will be responsive to changes in project design, such as a major change in project location or route, or in technology, unforeseen events, and monitoring results.

15. At times, a third party's involvement will influence implementation of the EMP. A third party may be, *inter alia*, a government agency, a contractor, or an operator of an associated facility. When the third-party risk is high and the borrower/client has control or influence over the actions and behavior of the third party, the borrower/client will collaborate with the third party to

achieve the outcome consistent with the requirements for the borrower/client. Specific actions will be determined on a case-by-case basis.

16. The borrower/client will use qualified and experienced experts to prepare the environmental assessment and the EMP. For highly complex and sensitive projects, independent advisory panels of experts not affiliated with the project will be used during project preparation and implementation.

3. Information Disclosure

17. The borrower/client will submit to ADB the following documents for disclosure on ADB's website:

- (i) a draft full EIA (including the draft EMP) at least 120 days prior to ADB Board consideration, and/or environmental assessment and review frameworks before project appraisal, where applicable;
- (ii) the final EIA/IEE;
- (iii) a new or updated EIA/IEE and corrective action plan prepared during project implementation, if any; and
- (iv) the environmental monitoring reports.

18. The borrower/client will provide relevant environmental information, including information from the documents in para. 17 in a timely manner, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. For illiterate people, other suitable communication methods will be used.

4. Consultation and Participation

19. The borrower/client will carry out meaningful consultation with affected people and other concerned stakeholders, including civil society, and facilitate their informed participation. Meaningful consultation is a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle;¹ (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues. Consultation will be carried out in a manner commensurate with the impacts on affected communities. The consultation process and its results are to be documented and reflected in the environmental assessment report.

5. Grievance Redress Mechanism

20. The borrower/client will establish a mechanism to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the project's environmental performance. The grievance mechanism should be scaled to the risks and adverse impacts of the project. It should address affected people's concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and

¹ For environment category A projects, such consultations will necessarily include consultations at the early stage of EIA field work and when the draft EIA report is available during project preparation, and before project appraisal by ADB.

readily accessible to all segments of the affected people at no costs and without retribution. The mechanism should not impede access to the country's judicial or administrative remedies. The affected people will be appropriately informed about the mechanism.

6. Monitoring and Reporting

21. The borrower/client will monitor and measure the progress of implementation of the EMP. The extent of monitoring activities will be commensurate with the project's risks and impacts. In addition to recording information to track performance, the borrower/client will undertake inspections to verify compliance with the EMP and progress toward the expected outcomes. For projects likely to have significant adverse environmental impacts, the borrower/client will retain qualified and experienced external experts or qualified NGOs to verify its monitoring information. The borrower/client will document monitoring results, identify the necessary corrective actions, and reflect them in a corrective action plan. The borrower/client will implement these corrective actions and follow up on these actions to ensure their effectiveness.

22. The borrower/client will prepare periodic monitoring reports that describe progress with implementation of the EMP and compliance issues and corrective actions, if any. The borrower/client will submit at least semiannual monitoring reports during construction for projects likely to have significant adverse environmental impacts, and quarterly monitoring reports for highly complex and sensitive projects. For projects likely to have significant adverse environmental impacts during operation, reporting will continue at the minimum on an annual basis. Such periodic reports will be posted in a location accessible to the public. Project budgets will reflect the costs of monitoring and reporting requirements.

7. Unanticipated Environmental Impacts

23. Where unanticipated environmental impacts become apparent during project implementation, the borrower/client will update the environmental assessment and EMP or prepare a new environmental assessment and EMP to assess the potential impacts, evaluate the alternatives, and outline mitigation measures and resources to address those impacts.

8. Biodiversity Conservation and Sustainable Natural Resource Management

24. The borrower/client will assess the significance of project impacts and risks on biodiversity² and natural resources as an integral part of the environmental assessment process specified in paras. 4–10. The assessment will focus on the major threats to biodiversity, which include destruction of habitat and introduction of invasive alien species, and on the use of natural resources in an unsustainable manner. The borrower/client will need to identify measures to avoid, minimize, or mitigate potentially adverse impacts and risks and, as a last resort, propose compensatory measures, such as biodiversity offsets, to achieve no net loss or a net gain of the affected biodiversity.

a. Modified Habitats

25. In areas of modified habitat, where the natural habitat has apparently been altered, often through the introduction of alien species of plants and animals, such as in agricultural areas, the

² The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

borrower/client will exercise care to minimize any further conversion or degradation of such habitat, and will, depending on the nature and scale of the project, identify opportunities to enhance habitat and protect and conserve biodiversity as part of project operations.

b. Natural Habitats

26. In areas of natural habitat,³ the project will not significantly convert or degrade⁴ such habitat, unless the following conditions are met:

- (i) No alternatives are available.
- (ii) A comprehensive analysis demonstrates that the overall benefits from the project will substantially outweigh the project costs, including environmental costs.
- (iii) Any conversion or degradation is appropriately mitigated.

27. Mitigation measures will be designed to achieve at least no net loss of biodiversity. They may include a combination of actions, such as postproject restoration of habitats, offset of losses through the creation or effective conservation of ecologically comparable areas that are managed for biodiversity while respecting the ongoing use of such biodiversity by Indigenous Peoples or traditional communities, and compensation to direct users of biodiversity.

c. Critical Habitats

28. No project activity will be implemented in areas of critical habitat⁵ unless the following requirements are met:

- (i) There are no measurable adverse impacts, or likelihood of such, on the critical habitat which could impair its high biodiversity value or the ability to function.
- (ii) The project is not anticipated to lead to a reduction in the population of any recognized endangered or critically endangered species⁶ or a loss in area of the habitat concerned such that the persistence of a viable and representative host ecosystem be compromised.
- (iii) Any lesser impacts are mitigated in accordance with para. 27.

29. When the project involves activities in a critical habitat, the borrower/client will retain qualified and experienced external experts to assist in conducting the assessment.

³ Land and water areas where the biological communities are formed largely by native plant and animal species, and where human activity has not essentially modified the area's primary ecological functions.

⁴ Significant conversion or degradation is (i) the elimination or severe diminution of the integrity of a habitat caused by a major, long-term change in land or water use; or (ii) the modification of a habitat that substantially reduces the habitat's ability to maintain viable populations of its native species. Significant conversion may include, for example, land clearing; replacement of natural vegetation (for example, by crops or tree plantations); permanent flooding (by a reservoir for instance); drainage, dredging, filling, or canalization of wetlands; or surface mining.

⁵ Critical habitat is a subset of both natural and modified habitat that deserves particular attention. Critical habitat includes areas with high biodiversity value, including habitat required for the survival of critically endangered or endangered species; areas having special significance for endemic or restricted-range species; sites that are critical for the survival of migratory species; areas supporting globally significant concentrations or numbers of individuals of congregatory species; areas with unique assemblages of species or that are associated with key evolutionary processes or provide key ecosystem services; and areas having biodiversity of significant social, economic, or cultural importance to local communities. Critical habitats include those areas either legally protected or officially proposed for protection, such as areas that meet the criteria of the World Conservation Union classification, the Ramsar List of Wetlands of International Importance, and the United Nations Educational, Scientific, and Cultural Organization's world natural heritage sites.

⁶ As defined by the World Conservation Union's Red List of Threatened Species or as defined in any national legislation.

d. Legally Protected Areas

30. In circumstances where some project activities are located within a legally protected area, in addition to the requirement specified in para. 28, the borrower/client will meet the following requirements:

- (i) Act in a manner consistent with defined protected area management plans.
- (ii) Consult protected area sponsors and managers, local communities, and other key stakeholders on the proposed project.
- (iii) Implement additional programs, as appropriate, to promote and enhance the conservation aims of the protected area.

e. Invasive Alien Species

31. The borrower/client will not intentionally introduce any new alien species (that is, species not currently established in the country or region of the project) unless carried out in accordance with the existing regulatory framework for such introduction, if such a framework is present, or unless the introduction is subject to a risk assessment (as part of the environmental assessment) to determine the potential for invasive behavior. Under no circumstances must species known to be invasive be introduced into new environments. The borrower/client will undertake assessment of the possibility of accidental or unintended introduction of such invasive alien species and identify measures to minimize the potential for release.

f. Management and Use of Renewable Natural Resources

32. Renewable natural resources will be managed in a sustainable manner. Sustainable resource management is management of the use, development, and protection of resources in a way, or at a rate, that enables people and communities, including Indigenous Peoples, to provide for their current social, economic, and cultural well-being while also sustaining the potential of those resources to meet the reasonably foreseeable needs of future generations. This includes safeguarding the life-supporting capacity of air, water, and soil ecosystems. Where possible, the borrower/client will demonstrate the sustainable management of resources through an appropriate system of independent certification.

9. Pollution Prevention and Abatement

33. During the design, construction, and operation of the project the borrower/client will apply pollution prevention and control technologies and practices consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's *Environment, Health and Safety Guidelines*.⁷ These standards contain performance levels and measures that are normally acceptable and applicable to projects. When host country regulations differ from these levels and measures, the borrower/client will achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, the borrower/client will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in this document.

⁷ World Bank Group, 2007. *Environmental, Health, and Safety General Guidelines*. Washington, DC.

a. Pollution Prevention, Resource Conservation, and Energy Efficiency

34. The borrower/client will avoid, or where avoidance is impossible, will minimize or control the intensity or load of pollutant emission and discharge. In addition the borrower/client will examine and incorporate in its operations resource conservation and energy efficiency measures consistent with the principles of cleaner production. When the project has the potential to constitute a significant source of emissions in an already degraded area, strategies that help improve ambient conditions, such as evaluating alternative project locations and considering emissions offsets, will be introduced.

b. Wastes

35. The borrower/client will avoid, or where avoidance is not possible, will minimize or control the generation of hazardous and nonhazardous wastes and the release of hazardous materials resulting from project activities. Where waste cannot be recovered or reused, it will be treated, destroyed, and disposed of in an environmentally sound manner. If the generated waste is considered hazardous, the client will explore reasonable alternatives for its environmentally sound disposal considering the limitations applicable to its transboundary movement.⁸ When waste disposal is conducted by third parties, the borrower/client will use contractors that are reputable and legitimate enterprises licensed by the relevant regulatory agencies.

c. Hazardous Materials

36. The borrower/client will avoid the manufacture, trade, and use of hazardous substances and materials subject to international bans or phaseouts because of their high toxicity to living organisms, environmental persistence, potential for bioaccumulation, or potential for depletion of the ozone layer⁹ and will consider the use of less hazardous substitutes for such chemicals and materials.

d. Pesticide Use and Management

37. The environmental assessment will ascertain that any pest and/or vector management activities related to the project are based on integrated pest management approaches and aim to reduce reliance on synthetic chemical pesticides in agricultural and public health projects. The borrower/client's integrated pest/vector management program will entail coordinated use of pest and environmental information along with available pest/vector control methods, including cultural practices, biological, genetic and, as a last resort, chemical means to prevent unacceptable levels of pest damage. The health and environmental risks associated with pest management should be minimized with support, as needed, to institutional capacity development, to help regulate and monitor the distribution and use of pesticides and enhance the application of integrated pest management.

38. The borrower/client will not use products that fall in World Health Organization Recommended Classification of Pesticides by Hazard Classes Ia (extremely hazardous) and Ib (highly hazardous) or Class II (moderately hazardous), if the project host country lacks restrictions on distribution and use of these chemicals, or if they are likely to be accessible to personnel without proper training, equipment, and facilities to handle, store, apply and dispose

⁸ Consistent with the objectives of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes.

⁹ Consistent with the objectives of the Stockholm Convention on Persistent Organic Pollutants and the Montreal Protocol on Substances that Deplete the Ozone Layer.

of these products properly. The borrower/client will handle, store, apply and dispose of pesticides in accordance with international good practice such as the Food and Agricultural Organization's International Code of Conduct on the Distribution and Use of Pesticides.

e. Greenhouse Gas Emissions

39. The borrower/client will promote the reduction of project-related anthropogenic greenhouse gas emissions in a manner appropriate to the nature and scale of project operations and impacts. During the development or operation of projects that are expected to or currently produce significant quantities of greenhouse gases,¹⁰ the borrower/client will quantify direct emissions from the facilities within the physical project boundary and indirect emissions associated with the off-site production of power used by the project. The borrower/client will conduct quantification and monitoring of greenhouse gas emissions annually in accordance with internationally recognized methodologies.¹¹ In addition, the borrower/client will evaluate technically and financially feasible and cost-effective options to reduce or offset project-related greenhouse gas emissions during project design and operation, and pursue appropriate options.

10. Health and Safety

a. Occupational Health and Safety

40. The borrower/client will provide workers¹² with a safe and healthy working environment, taking into account risks inherent to the particular sector and specific classes of hazards in the borrower's/client's work areas, including physical, chemical, biological, and radiological hazards. The borrower/client will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring during the course of work by (i) identifying and minimizing, so far as reasonably practicable, the causes of potential hazards to workers; (ii) providing preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances; (iii) providing appropriate equipment to minimize risks and requiring and enforcing its use; (iv) training workers and providing them with appropriate incentives to use and comply with health and safety procedures and protective equipment; (v) documenting and reporting occupational accidents, diseases, and incidents; and (vi) having emergency prevention, preparedness, and response arrangements in place.

41. The borrower/client will apply preventive and protective measures consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's *Environment, Health and Safety Guidelines* (footnote 7).

b. Community Health and Safety

42. The borrower/client will identify and assess the risks to, and potential impacts on, the safety of affected communities during the design, construction, operation, and decommissioning of the project, and will establish preventive measures and plans to address them in a manner commensurate with the identified risks and impacts. These measures will favor the prevention

¹⁰ Even though the significance of a project's contribution to greenhouse gas emissions varies between industry sectors, the significance threshold to be considered for these requirements is generally 100,000 tons of carbon dioxide equivalent per year for the aggregate emissions of direct sources and indirect sources associated with electricity purchased for own consumption.

¹¹ Estimation methodologies are provided by the Intergovernmental Panel on Climate Change (IPCC), various international organizations, and relevant host country agencies.

¹² Including nonemployee workers engaged by the borrower/client through contractors or other intermediaries to work on project sites or perform work directly related to the project's core functions.

or avoidance of risks and impacts over their minimization and reduction. Consideration will be given to potential exposure to both accidental and natural hazards, especially where the structural elements of the project are accessible to members of the affected community or where their failure could result in injury to the community. The borrower/client will avoid or minimize the exacerbation of impacts caused by natural hazards, such as landslides or floods, that could result from land use changes due to project activities.

43. The borrower/client will inform affected communities of significant potential hazards in a culturally appropriate manner. The borrower/client will be prepared to respond to accidental and emergency situations. This preparation will include response planning document(s) that addresses the training, resources, responsibilities, communications, procedures, and other aspects required to respond effectively to emergencies associated with project hazards. Appropriate information about emergency preparedness and response activities, resources, and responsibilities will be disclosed to affected communities.

44. When structural elements or components, such as dams, tailings dams, or ash ponds, are situated in high-risk locations and their failure or malfunction may threaten the safety of communities, the borrower/client will engage qualified and experienced experts, separate from those responsible for project design and construction, to conduct a review as early as possible in project development and throughout project design, construction, and commissioning.

11. Physical Cultural Resources

45. The borrower/client is responsible for siting and designing the project to avoid significant damage to physical cultural resources.¹³ Such resources likely to be affected by the project will be identified, and qualified and experienced experts will assess the project's potential impacts on these resources using field-based surveys as an integral part of the environmental assessment process specified in paras. 4–10.

46. When a project may affect physical cultural resources, the borrower/client will consult with affected communities who use, or have used them within living memory, for long-standing cultural purposes to identify physical cultural resources of importance and to incorporate the views of the affected communities on such resources into the borrower's/client's decision-making process. Consultation will also involve relevant national or local regulatory agencies that are entrusted with protecting physical cultural resources. The findings are disclosed as part of, and in the same manner as, the environmental assessment report, except when such disclosure would compromise or jeopardize the safety or integrity of the physical cultural resources.

47. When the project is likely to have adverse impacts on physical cultural resources, the borrower/client will identify appropriate measures for avoiding or mitigating these impacts as part of the environmental planning process specified in paras. 12–16. These measures may range from avoidance to full site protection to selective mitigation, including salvage and documentation, in cases where a portion or all of the physical cultural resources may be lost.

48. When the proposed location of a project is in areas where physical cultural resources are expected to be found as determined during the environmental assessment process, chance finds procedures will be included in the EMP. Chance finds shall not be disturbed until an

¹³ Defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings and may be above or below ground or under water. Their cultural interest may be at the local, provincial, national, or international level.

assessment by a competent specialist is made and actions consistent with these requirements are identified.

49. The project will not remove any physical cultural resources unless the following conditions are met:

- (i) No alternatives to removal are available.
- (ii) The overall benefits of the project substantially outweigh the anticipated cultural heritage loss from removal.
- (iii) Any removal is conducted in accordance with relevant provisions of national and/or local laws, regulations, and protected area management plans and national obligations under international laws, and employs the best available techniques.

OUTLINE OF AN ENVIRONMENTAL IMPACT ASSESSMENT REPORT

This outline is part of the Safeguard Requirements 1. An environmental assessment report is required for all environment category A and B projects. Its level of detail and comprehensiveness is commensurate with the significance of potential environmental impacts and risks. A typical EIA report contains the following major elements, and an IEE may have a narrower scope depending on the nature of the project. The substantive aspects of this outline will guide the preparation of environmental impact assessment reports, although not necessarily in the order shown.

A. Executive Summary

This section describes concisely the critical facts, significant findings, and recommended actions.

B. Policy, Legal, and Administrative Framework

This section discusses the national and local legal and institutional framework within which the environmental assessment is carried out. It also identifies project-relevant international environmental agreements to which the country is a party.

C. Description of the Project

This section describes the proposed project; its major components; and its geographic, ecological, social, and temporal context, including any associated facility required by and for the project (for example, access roads, power plants, water supply, quarries and borrow pits, and spoil disposal). It normally includes drawings and maps showing the project's layout and components, the project site, and the project's area of influence.

D. Description of the Environment (Baseline Data)

This section describes relevant physical, biological, and socioeconomic conditions within the study area. It also looks at current and proposed development activities within the project's area of influence, including those not directly connected to the project. It indicates the accuracy, reliability, and sources of the data.

E. Anticipated Environmental Impacts and Mitigation Measures

This section predicts and assesses the project's likely positive and negative direct and indirect impacts to physical, biological, socioeconomic (including occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media [Appendix 2, para. 6]), and physical cultural resources in the project's area of influence, in quantitative terms to the extent possible; identifies mitigation measures and any residual negative impacts that cannot be mitigated; explores opportunities for enhancement; identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions and specifies topics that do not require further attention; and examines global, transboundary, and cumulative impacts as appropriate.

F. Analysis of Alternatives

This section examines alternatives to the proposed project site, technology, design, and operation—including the no project alternative—in terms of their potential environmental

impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. It also states the basis for selecting the particular project design proposed and, justifies recommended emission levels and approaches to pollution prevention and abatement.

G. Information Disclosure, Consultation, and Participation

This section:

- (i) describes the process undertaken during project design and preparation for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders;
- (ii) summarizes comments and concerns received from affected people and other stakeholders and how these comments have been addressed in project design and mitigation measures, with special attention paid to the needs and concerns of vulnerable groups, including women, the poor, and Indigenous Peoples; and
- (iii) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for carrying out consultation with affected people and facilitating their participation during project implementation.

H. Grievance Redress Mechanism

This section describes the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental performance.

I. Environmental Management Plan

This section deals with the set of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts (in that order of priority). It may include multiple management plans and actions. It includes the following key components (with the level of detail commensurate with the project's impacts and risks):

- (i) Mitigation:
 - (a) identifies and summarizes anticipated significant adverse environmental impacts and risks;
 - (b) describes each mitigation measure with technical details, including the type of impact to which it relates and the conditions under which it is required (for instance, continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; and
 - (c) provides links to any other mitigation plans (for example, for involuntary resettlement, Indigenous Peoples, or emergency response) required for the project.
- (ii) Monitoring:
 - (a) describes monitoring measures with technical details, including parameters to be measured, methods to be used, sampling locations,

- frequency of measurements, detection limits and definition of thresholds that will signal the need for corrective actions; and
- (b) describes monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and document the progress and results of mitigation.
- (iii) Implementation arrangements:
 - (a) specifies the implementation schedule showing phasing and coordination with overall project implementation;
 - (b) describes institutional or organizational arrangements, namely, who is responsible for carrying out the mitigation and monitoring measures, which may include one or more of the following additional topics to strengthen environmental management capability: technical assistance programs, training programs, procurement of equipment and supplies related to environmental management and monitoring, and organizational changes; and
 - (c) estimates capital and recurrent costs and describes sources of funds for implementing the environmental management plan.
- (iv) Performance indicators: describes the desired outcomes as measurable events to the extent possible, such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods.

J. Conclusion and Recommendation

This section provides the conclusions drawn from the assessment and provides recommendations.

SAFEGUARD REQUIREMENTS 2: INVOLUNTARY RESETTLEMENT

A. Introduction

1. ADB experience indicates that involuntary resettlement under development projects, if unmitigated, could give rise to severe economic, social, and environmental risks: production systems are dismantled; people face impoverishment when their productive assets or income sources are lost; people are relocated to environments where their productive skills may be less applicable, and the competition for resources greater; community institutions and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished or lost. ADB therefore seeks to avoid involuntary resettlement wherever possible; minimize involuntary resettlement by exploring project and design alternatives; enhance, or at least restore, the livelihoods of all displaced persons in real terms relative to pre-project levels; and improve the standards of living of the affected poor and other vulnerable groups.

2. Safeguard Requirements 2 outlines the requirements that borrowers/clients are required to meet in delivering involuntary resettlement safeguards to projects supported by the Asian Development Bank (ADB). It discusses the objectives, scope of application, and underscores the requirements for undertaking the social impact assessment and resettlement planning process, preparing social impact assessment reports and resettlement planning documents, exploring negotiated land acquisition, disclosing information and engaging in consultations, establishing a grievance mechanism, and resettlement monitoring and reporting.

B. Objectives

3. The objectives are to avoid involuntary resettlement wherever possible; to minimize involuntary resettlement by exploring project and design alternatives; to enhance, or at least restore, the livelihoods of all displaced persons¹ in real terms relative to pre-project levels; and to improve the standards of living of the displaced poor and other vulnerable groups.

C. Scope of Application

4. The requirements apply to all ADB-financed and/or ADB-administered sovereign and non-sovereign projects, and their components regardless of the source of financing, including investment projects funded by a loan; and/or a grant; and/or other means, such as equity and/or guarantees (hereafter broadly referred to as projects). The requirements also cover involuntary resettlement actions conducted by the borrower/client in anticipation of ADB support.

5. The involuntary resettlement requirements apply to full or partial, permanent or temporary physical displacement (relocation, loss of residential land, or loss of shelter) and economic displacement (loss of land, assets, access to assets, income sources, or means of livelihoods) resulting from (i) involuntary acquisition of land, or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas. Resettlement is considered involuntary when displaced individuals or communities do not have the right to refuse land acquisition that results in displacement. This occurs in cases where (i) lands are acquired through expropriation based on eminent domain; and (ii) lands are acquired through negotiated settlements, if expropriation process would have resulted upon the failure of negotiation.

¹ In the context of involuntary resettlement, displaced persons are those who are physically displaced (relocation, loss of residential land, or loss of shelter) and/or economically displaced (loss of land, assets, access to assets, income sources, or means of livelihoods) as a result of (i) involuntary acquisition of land, or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas.

6. If potential adverse economic, social, or environmental impacts from project activities other than land acquisition (including involuntary restrictions on land use, or on access to legally designated parks and protected areas) are identified, such as loss of access to assets or resources or restrictions on land use, they will be avoided, or at least minimized, mitigated, or compensated for, through the environmental assessment process. If these impacts are found to be significantly adverse at any stage of the project, the borrower/client will be required to develop and implement a management plan to restore the livelihood of affected persons to at least pre-project level or better.

D. Requirements

1. Compensation, Assistance and Benefits for Displaced Persons

7. Displaced persons in a project area could be of three types: (i) persons with formal legal rights to land lost in its entirety or in part; (ii) persons who lost the land they occupy in its entirety or in part who have no formal legal rights to such land, but who have claims to such lands that are recognized or recognizable under national laws; and (iii) persons who lost the land they occupy in its entirety or in part who have neither formal legal rights nor recognized or recognizable claims to such land. The involuntary resettlement requirements apply to all three types of displaced persons.

8. The borrower/client will provide adequate and appropriate replacement land and structures or cash compensation at full replacement cost for lost land and structures, adequate compensation for partially damaged structures, and relocation assistance, if applicable, to those persons described in para. 7(i) and 7(ii) prior to their relocation. For those persons described in para. 7(iii), the borrower/client will compensate them for the loss of assets other than land, such as dwellings, and also for other improvements to the land, at full replacement cost. The entitlements of those under para. 7(iii) is given only if they occupied the land or structures in the project area prior to the cutoff date for eligibility for resettlement assistance.

9. Preference will be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based. These strategies may include resettlement on public land, or on private land acquired or purchased for resettlement. Whenever replacement land is offered, displaced persons are provided with land for which a combination of productive potential, locational advantages, and other factors is at least equivalent to the advantages of the land taken. If land is not the preferred option of the displaced persons, or sufficient land is not available at a reasonable price, non-land-based options built around opportunities for employment or self-employment should be provided in addition to cash compensation for land and other assets lost. The lack of land will be demonstrated and documented to the satisfaction of ADB.

10. The rate of compensation for acquired housing, land and other assets will be calculated at full replacement costs. The calculation of full replacement cost will be based on the following elements: (i) fair market value; (ii) transaction costs; (iii) interest accrued, (iv) transitional and restoration costs; and (v) other applicable payments, if any. Where market conditions are absent or in a formative stage, the borrower/client will consult with the displaced persons and host populations to obtain adequate information about recent land transactions, land value by types, land titles, land use, cropping patterns and crop production, availability of land in the project area and region, and other related information. The borrower/client will also collect baseline data on housing, house types, and construction materials. Qualified and experienced experts will undertake the valuation of acquired assets. In applying this method of valuation, depreciation of structures and assets should not be taken into account.

11. In the case of physically displaced persons, the borrower/client will provide (i) relocation assistance, secured tenure to relocation land, better housing at resettlement sites with comparable access to employment and production opportunities, and civic infrastructure and community services as required; (ii) transitional support and development assistance, such as land development, credit facilities, training, or employment opportunities; and (iii) opportunities to derive appropriate development benefits from the project.

12. In the case of economically displaced persons, regardless of whether or not they are physically displaced, the borrower/client will promptly compensate for the loss of income or livelihood sources at full replacement cost. The borrower/client will also provide assistance such as credit facilities, training, and employment opportunities so that they can improve, or at least restore, their income-earning capacity, production levels, and standards of living to pre-displacement levels. The borrower/client will also provide opportunities to displaced persons to derive appropriate development benefits from the project. The borrower/client will compensate economically displaced people under paragraph 7(iii) for lost assets such as crops, irrigation infrastructure, and other improvements made to the land (but not for the land) at full replacement cost. In cases where land acquisition affects commercial structures, affected business owners are entitled to (i) the costs of reestablishing commercial activities elsewhere; (ii) the net income lost during the transition period; and (iii) the costs of transferring and reinstalling plant, machinery, or other equipment. Business owners with legal rights or recognized or recognizable claims to land where they carry out commercial activities are entitled to replacement property of equal or greater value or cash compensation at full replacement cost.

13. Involuntary resettlement should be conceived of and executed as part of a development project or program. In this regard, the best strategy is to provide displaced persons with opportunities to share project benefits in addition to providing compensation and resettlement assistance. Such opportunities would help prevent impoverishment among affected persons, and also help meet the ethical demand for development interventions to spread development benefits widely. Therefore borrowers/clients are encouraged to ascertain specific opportunities for engaging affected persons as project beneficiaries and to discuss how to spread such opportunities as widely as possible among affected persons in the resettlement plan.

14. The borrower/client will ensure that no physical displacement or economic displacement will occur until (i) compensation at full replacement cost has been paid to each displaced person for project components or sections that are ready to be constructed; (ii) other entitlements listed in the resettlement plan have been provided to displaced persons; and (iii) a comprehensive income and livelihood rehabilitation program, supported by an adequate budget, is in place to help displaced persons improve, or at least restore, their incomes and livelihoods. While compensation is required to be paid before displacement, full implementation of the resettlement plan might take longer. If project activities restrict land use or access to legally designated parks and protected areas, such restrictions will be imposed in accordance with the timetable outlined in the resettlement plan agreed between the borrower/client and ADB.

2. Social Impact Assessment

15. The borrower/client will conduct socioeconomic survey(s) and a census, with appropriate socioeconomic baseline data to identify all persons who will be displaced by the project and to assess the project's socioeconomic impacts on them. For this purpose, normally a cut-off date will be established by the host government procedures. In the absence of such procedures, the borrower/client will establish a cut-off date for eligibility. Information regarding the cutoff date will be documented and disseminated throughout the project area. The social impact assessment (SIA) report will include (i) identified past, present and future potential social impacts, (ii) an

inventory of displaced persons² and their assets,³ (iii) an assessment of their income and livelihoods, and (iv) gender-disaggregated information pertaining to the economic and sociocultural conditions of displaced persons. The project's potential social impacts and risks will be assessed against the requirements presented in this document and applicable laws and regulations of the jurisdictions in which the project operates that pertain to involuntary resettlement matters, including host country obligations under international law.

16. As part of the social impact assessment, the borrower/client will identify individuals and groups who may be differentially or disproportionately affected by the project because of their disadvantaged or vulnerable status. Where such individuals and groups are identified, the borrower/client will propose and implement targeted measures so that adverse impacts do not fall disproportionately on them and they are not disadvantaged in relation to sharing the benefits and opportunities resulting from development.

3. Resettlement Planning

17. The borrower/client will prepare a resettlement plan, if the proposed project will have involuntary resettlement impacts. The objective of a resettlement plan is to ensure that livelihoods and standards of living of displaced persons are improved, or at least restored to pre-project (physical and/or economic) levels and that the standards of living of the displaced poor and other vulnerable groups are improved, not merely restored, by providing adequate housing, security of land tenure and steady income and livelihood sources. The resettlement plan will address all relevant requirements specified in Safeguard Requirements 2, and its level of detail and comprehensiveness of the resettlement plan will be commensurate with the significance of involuntary resettlement impacts. An outline of resettlement plan is provided in the annex to this appendix.

18. A resettlement plan will be based on the social impact assessment and through meaningful consultation with the affected persons. A resettlement plan will include measures to ensure that the displaced persons are (i) informed about their options and entitlements pertaining to compensation, relocation, and rehabilitation; (ii) consulted on resettlement options and choices; and (iii) provided with resettlement alternatives. During the identification of the impacts of resettlement and resettlement planning, and implementation, the borrower/client will pay adequate attention to gender concerns, including specific measures addressing the need of female headed households, gender-inclusive consultation, information disclosure, and grievance mechanisms, to ensure that both men and women receive adequate and appropriate compensation for their lost property and resettlement assistance, if required, as well as assistance to restore and improve their incomes and living standards.

19. The borrower/client will analyze and summarize national laws and regulations pertaining to land acquisition, compensation payment, and relocation of affected persons in the resettlement plan. The borrower/client will compare and contrast such laws and regulations with ADB's involuntary resettlement policy principles and requirements. If a gap between the two exists, the borrower/client will propose a suitable gap-filling strategy in the resettlement plan in consultation with ADB.

² A population record of all displaced persons by their residence based on the census. If a census is not conducted prior to project appraisal and the resettlement plan is based on a sample survey, an updated resettlement plan will be prepared based on a census of displaced persons after the detailed measurement survey has been completed but before any land acquisition for the project.

³ The asset inventory is a preliminary record of affected or lost assets at the household, enterprise, or community level.

20. All costs of compensation, relocation, and livelihood rehabilitation will be considered project costs. To ensure timely availability of required resources, land acquisition and resettlement costs may be considered for inclusion in ADB financing. Resettlement expenditure is eligible for ADB financing if incurred in compliance with ADB's safeguard policy statement and with ADB-approved resettlement planning documents. If ADB funds are used for resettlement costs, such expenditure items will be clearly reflected in the resettlement plan.

21. The borrower/client will include detailed measures for income restoration and livelihood improvement of displaced persons in the resettlement plan. Income sources and livelihoods affected by project activities will be restored to pre-project levels, and the borrower/client will make every attempt to improve the incomes of displaced persons so that they can benefit from the project. For vulnerable persons and households affected, the resettlement plan will include measures to provide extra assistance so that they can improve their incomes in comparison with pre-project levels. The resettlement plan will specify the income and livelihoods restoration strategy, the institutional arrangements, the monitoring and reporting framework, the budget, and the time-bound implementation schedule.

22. The information contained in a resettlement plan may be tentative until a census of affected persons has been completed. Soon after the completion of engineering designs, the borrower/client will finalize the resettlement plan by completing the census and inventories of loss of assets. At this stage, changes to the resettlement plan take the form of revising the number of displaced persons, the extent of land acquired, the resettlement budget, and the timetable for implementing the resettlement plan. The entitlement matrix of the resettlement plan may be updated at this stage to reflect the relevant changes but the standards set in the original entitlement matrix cannot be lowered when the resettlement plan is revised and finalized. The borrower/client will ensure that the final resettlement plan (i) adequately addresses all involuntary resettlement issues pertaining to the project, (ii) describes specific mitigation measures that will be taken to address the issues, and (iii) ensures the availability of sufficient resources to address the issues satisfactorily.

23. Projects with significant involuntary resettlement impacts will need adequate contingency funds to address involuntary resettlement impacts that are identified during project implementation. The borrower/client will ensure that such funds are readily available. Moreover, the borrower/client will consult with displaced persons identified after the formulation of the final resettlement plan and inform them of their entitlements and relocation options. The borrower/client will prepare a supplementary resettlement plan, or a revised resettlement plan, and will submit it to ADB for review before any contracts are awarded.

24. The borrower/client will use qualified and experienced experts to prepare the social impact assessment and the resettlement plan. For highly complex and sensitive projects, independent advisory panels of experts not affiliated with the project will be used during project preparation and implementation.

4. Negotiated Land Acquisition

25. Safeguard Requirements 2 does not apply to negotiated settlements, unless expropriation would result upon the failure of negotiations. Negotiated settlements help avoid expropriation and eliminate the need to use governmental authority to remove people forcibly. The borrower/client is encouraged to acquire land and other assets through a negotiated settlement wherever possible, based on meaningful consultation with affected persons, including those without legal title to assets. A negotiated settlement will offer adequate and fair price for land and/or other assets. The borrower/client will ensure that any negotiations with displaced

persons openly address the risks of asymmetry of information and bargaining power of the parties involved in such transactions. For this purpose, the borrower/client will engage an independent external party to document the negotiation and settlement processes. The borrower/client will agree with ADB on consultation processes, policies, and laws that are applicable to such transactions; third-party validation; mechanisms for calculating the replacement costs of land and other assets affected; and record-keeping requirements.

5. Information Disclosure

26. The borrower/client will submit the following documents to ADB for disclosure on ADB's website:

- (i) a draft resettlement plan and/or resettlement framework endorsed by the borrower/client before project appraisal;
- (ii) the final resettlement plan endorsed by the borrower/client after the census of affected persons has been completed;
- (iii) a new resettlement plan or an updated resettlement plan, and a corrective action plan prepared during project implementation, if any; and
- (iv) the resettlement monitoring reports.

27. The borrower/client will provide relevant resettlement information, including information from the documents in para. 26 in a timely manner, in an accessible place and in a form and language(s) understandable to affected persons and other stakeholders. For illiterate people, suitable other communication methods will be used.

6. Consultation and Participation

28. The borrower/client will conduct meaningful consultation with affected persons, their host communities, and civil society for every project and subproject identified as having involuntary resettlement impacts. Meaningful consultation is a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues. Consultation will be carried out in a manner commensurate with the impacts on affected communities. The borrower/client will pay particular attention to the need of disadvantaged or vulnerable groups, especially those below the poverty line, the landless, the elderly, female headed households, women and children, Indigenous Peoples, and those without legal title to land.

7. Grievance Redress Mechanism

29. The borrower/client will establish a mechanism to receive and facilitate the resolution of affected persons' concerns and grievances about physical and economic displacement and other project impacts, paying particular attention to the impacts on vulnerable groups. The grievance redress mechanism should be scaled to the risks and adverse impacts of the project. It should address affected persons' concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and readily accessible to the affected persons at no costs and without retribution. The mechanism should not impede

access to the country's judicial or administrative remedies. The borrower/client will inform affected persons about the mechanism.

8. Monitoring and Reporting

30. The borrower/client will monitor and measure the progress of implementation of the resettlement plan. The extent of monitoring activities will be commensurate with the project's risks and impacts. In addition to recording the progress in compensation payment and other resettlement activities, the borrower/client will prepare monitoring reports to ensure that the implementation of the resettlement plan has produced the desired outcomes. For projects with significant involuntary resettlement impacts, the borrower/client will retain qualified and experienced external experts or qualified NGOs to verify the borrower's/client's monitoring information. The external experts engaged by the borrower/client will advise on safeguard compliance issues, and if any significant involuntary resettlement issues are identified, a corrective action plan will be prepared to address such issues. Until such planning documents are formulated, disclosed and approved, the borrower/client will not proceed with implementing the specific project components for which involuntary resettlement impacts are identified.

31. The borrower/client will prepare semiannual monitoring reports that describe the progress of the implementation of resettlement activities and any compliance issues and corrective actions. These reports will closely follow the involuntary resettlement monitoring indicators agreed at the time of resettlement plan approval. The costs of internal and external resettlement monitoring requirements will be included in the project budget.

9. Unanticipated Impacts

32. If unanticipated involuntary resettlement impacts are found during project implementation, the borrower/client will conduct a social impact assessment and update the resettlement plan or formulate a new resettlement plan covering all applicable requirements specified in this document.

10. Special Considerations for Indigenous Peoples

33. The borrower/client will explore to the maximum extent possible alternative project designs to avoid physical relocation of Indigenous Peoples that will result in adverse impacts on their identity, culture, and customary livelihoods. If avoidance is impossible, in consultation with ADB, a combined Indigenous Peoples plan and resettlement plan could be formulated to address both involuntary resettlement and Indigenous Peoples issues. Such a combined plan will also meet all relevant requirements specified under Safeguard Requirements 3.

OUTLINE OF A RESETTLEMENT PLAN

This outline is part of the Safeguard Requirements 2. A resettlement plan is required for all projects with involuntary resettlement impacts. Its level of detail and comprehensiveness is commensurate with the significance of potential involuntary resettlement impacts and risks. The substantive aspects of the outline will guide the preparation of the resettlement plans, although not necessarily in the order shown.

A. Executive Summary

This section provides a concise statement of project scope, key survey findings, entitlements and recommended actions.

B. Project Description

This section provides a general description of the project, discusses project components that result in land acquisition, involuntary resettlement, or both and identify the project area. It also describes the alternatives considered to avoid or minimize resettlement. Include a table with quantified data and provide a rationale for the final decision.

C. Scope of Land Acquisition and Resettlement

This section:

- (i) discusses the project's potential impacts, and includes maps of the areas or zone of impact of project components or activities;
- (ii) describes the scope of land acquisition (provide maps) and explains why it is necessary for the main investment project;
- (iii) summarizes the key effects in terms of assets acquired and displaced persons; and
- (iv) provides details of any common property resources that will be acquired.

D. Socioeconomic Information and Profile

This section outlines the results of the social impact assessment, the census survey, and other studies, with information and/or data disaggregated by gender, vulnerability, and other social groupings, including:

- (i) define, identify, and enumerate the people and communities to be affected;
- (ii) describe the likely impacts of land and asset acquisition on the people and communities affected taking social, cultural, and economic parameters into account;
- (iii) discuss the project's impacts on the poor, indigenous and/or ethnic minorities, and other vulnerable groups; and
- (iv) identify gender and resettlement impacts, and the socioeconomic situation, impacts, needs, and priorities of women.

E. Information Disclosure, Consultation, and Participation

This section:

- (i) identifies project stakeholders, especially primary stakeholders;
- (ii) describes the consultation and participation mechanisms to be used during the different stages of the project cycle;

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- (iii) describes the activities undertaken to disseminate project and resettlement information during project design and preparation for engaging stakeholders;
- (iv) summarizes the results of consultations with affected persons (including host communities), and discusses how concerns raised and recommendations made were addressed in the resettlement plan;
- (v) confirms disclosure of the draft resettlement plan to affected persons and includes arrangements to disclose any subsequent plans; and
- (vi) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for consultation with affected persons during project implementation.

F. Grievance Redress Mechanisms

This section describes mechanisms to receive and facilitate the resolution of affected persons' concerns and grievances. It explains how the procedures are accessible to affected persons and gender sensitive.

G. Legal Framework

This section:

- (i) describes national and local laws and regulations that apply to the project and identify gaps between local laws and ADB's policy requirements; and discuss how any gaps will be addressed.
- (ii) describes the legal and policy commitments from the executing agency for all types of displaced persons;
- (iii) outlines the principles and methodologies used for determining valuations and compensation rates at replacement cost for assets, incomes, and livelihoods; and set out the compensation and assistance eligibility criteria and how and when compensation and assistance will be provided.
- (iv) describes the land acquisition process and prepare a schedule for meeting key procedural requirements.

H. Entitlements, Assistance and Benefits

This section:

- (i) defines displaced persons' entitlements and eligibility, and describes all resettlement assistance measures (includes an entitlement matrix);
- (ii) specifies all assistance to vulnerable groups, including women, and other special groups; and.
- (iii) outlines opportunities for affected persons to derive appropriate development benefits from the project.

I. Relocation of Housing and Settlements

This section:

- (i) describes options for relocating housing and other structures, including replacement housing, replacement cash compensation, and/or self-selection (ensure that gender concerns and support to vulnerable groups are identified);
- (ii) describes alternative relocation sites considered; community consultations conducted; and justification for selected sites, including details about location, environmental assessment of sites, and development needs;
- (iii) provides timetables for site preparation and transfer;

- (iv) describes the legal arrangements to regularize tenure and transfer titles to resettled persons;
- (v) outlines measures to assist displaced persons with their transfer and establishment at new sites;
- (vi) describes plans to provide civic infrastructure; and
- (vii) explains how integration with host populations will be carried out.

J. Income Restoration and Rehabilitation

This section:

- (i) identifies livelihood risks and prepare disaggregated tables based on demographic data and livelihood sources;
- (ii) describes income restoration programs, including multiple options for restoring all types of livelihoods (examples include project benefit sharing, revenue sharing arrangements, joint stock for equity contributions such as land, discuss sustainability and safety nets);
- (iii) outlines measures to provide social safety net through social insurance and/or project special funds;
- (iv) describes special measures to support vulnerable groups;
- (v) explains gender considerations; and
- (vi) describes training programs.

K. Resettlement Budget and Financing Plan

This section:

- (i) provides an itemized budget for all resettlement activities, including for the resettlement unit, staff training, monitoring and evaluation, and preparation of resettlement plans during loan implementation.
- (ii) describes the flow of funds (the annual resettlement budget should show the budget-scheduled expenditure for key items).
- (iii) includes a justification for all assumptions made in calculating compensation rates and other cost estimates (taking into account both physical and cost contingencies), plus replacement costs.
- (iv) includes information about the source of funding for the resettlement plan budget.

L. Institutional Arrangements

This section:

- (i) describes institutional arrangement responsibilities and mechanisms for carrying out the measures of the resettlement plan;
- (ii) includes institutional capacity building program, including technical assistance, if required;
- (iii) describes role of NGOs, if involved, and organizations of affected persons in resettlement planning and management; and
- (iv) describes how women's groups will be involved in resettlement planning and management,

M. Implementation Schedule

This section includes a detailed, time bound, implementation schedule for all key resettlement and rehabilitation activities. The implementation schedule should cover all aspects

of resettlement activities synchronized with the project schedule of civil works construction, and provide land acquisition process and timeline.

N. Monitoring and Reporting

This section describes the mechanisms and benchmarks appropriate to the project for monitoring and evaluating the implementation of the resettlement plan. It specifies arrangements for participation of affected persons in the monitoring process. This section will also describe reporting procedures.

SAFEGUARD REQUIREMENTS 3: INDIGENOUS PEOPLES

A. Introduction

1. The United Nations Declaration on the Rights of Indigenous Peoples was adopted by the United Nations General Assembly in September 2007. Many countries in Asia and the Pacific have voted in favor of this nonbinding declaration. The Asian Development Bank (ADB) recognizes the rights of Indigenous Peoples to direct the course of their own development. Indigenous Peoples do not automatically benefit from development, which is often planned and implemented by those in the mainstream or dominant population in the countries in which they live. Special efforts are needed to engage Indigenous Peoples in the planning of development programs that affect them, in particular, development programs that are supposedly designed to meet their specific needs and aspirations. Indigenous Peoples are increasingly threatened as development programs infringe into areas that they traditionally own, occupy, use, or view as ancestral domain.

2. Safeguard Requirements 3 outlines the requirements that borrowers/clients are required to meet in delivering Indigenous Peoples safeguards to projects supported by ADB. It discusses the objectives and scope of application, and underscores the requirements pertaining to (i) undertaking the social impact assessment and planning process; (ii) preparing social impact assessment reports and planning documents; (iii) disclosing information and undertaking consultation, including ascertaining consent of affected Indigenous Peoples community to selected project activities; (iv) establishing a grievance mechanism; and (v) monitoring and reporting. This set of policy requirements will safeguard Indigenous Peoples' rights to maintain, sustain, and preserve their cultural identities, practices, and habitats and to ensure that projects affecting them will take the necessary measures to protect these rights.

B. Objectives

3. The objective is to design and implement projects in a way that fosters full respect for Indigenous Peoples' identity, dignity, human rights, livelihood systems, and cultural uniqueness as defined by the Indigenous Peoples themselves so that they (i) receive culturally appropriate social and economic benefits, (ii) do not suffer adverse impacts as a result of projects, and (iii) can participate actively in projects that affect them.

C. Scope of Application

4. The requirements apply to all ADB-financed and/or ADB-administered sovereign and non-sovereign projects, and their components regardless of the source of financing, including investment projects funded by a loan; and/or a grant; and/or other means, such as equity and/or guarantees (hereafter broadly referred to as projects). The requirements also cover actions conducted by the borrower/client in anticipation of ADB projects.

5. Within Asia and the Pacific, individual indigenous communities reflect tremendous diversity in their cultures, histories, and current circumstances. The contexts in which such peoples live are varied and changing and no universally accepted definition of Indigenous Peoples exists. Indigenous Peoples may be referred to in different countries by such terms as indigenous ethnic minorities, indigenous cultural communities, aboriginals, hill tribes, minority nationalities, scheduled tribes, or tribal groups. Such groups can be considered Indigenous Peoples for operational purposes when they possess the characteristics listed in para. 6.

6. For operational purposes, the term Indigenous Peoples is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing the following characteristics in varying degrees:

- (i) self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- (ii) collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;
- (iii) customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and
- (iv) a distinct language, often different from the official language of the country or region.

7. In considering these characteristics, national legislation, customary law, and any international conventions to which the country is a party will be taken into account.

8. A group that has lost collective attachment to geographically distinct habitats or ancestral territories in the project area because of forced severance remains eligible for coverage under this policy.

9. The Indigenous Peoples safeguards are triggered if a project directly or indirectly affects the dignity, human rights, livelihood systems, or culture of Indigenous Peoples or affects the territories or natural or cultural resources that Indigenous Peoples own, use, occupy, or claim as their ancestral domain.

D. General Requirements

1. Consultation and Participation

10. The borrower/client will undertake meaningful consultation with affected Indigenous Peoples to ensure their informed participation in (i) designing, implementing, and monitoring measures to avoid adverse impacts on them or, when avoidance is not possible, to minimize, mitigate, and compensate for such effects; and (ii) tailoring project benefits that accrue to them in a culturally appropriate manner. Meaningful consultation is a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues. Consultation will be carried out in a manner commensurate with the impacts on affected communities. The consultation process and its results will be documented and reflected in the Indigenous Peoples plan (IPP).

11. To carry out meaningful consultation with affected Indigenous Peoples, the borrower/client will establish a context-specific strategy for inclusive and participatory consultation, including approaches of identifying appropriate Indigenous Peoples representatives, and consultation methods appropriate to the social and cultural values of the affected Indigenous Peoples communities. The borrower/client will pay special attention to the concerns of indigenous women and youth.

12. When the borrower/client and the affected Indigenous Peoples have serious differences and disagreements in relation to the project, its components, or the IPP, the borrower/ client will undertake good faith negotiations to resolve such differences and disagreements.

2. Social Impact Assessment

13. When screening by ADB confirms likely impacts on Indigenous Peoples, the borrower/client will retain qualified and experienced experts to carry out a full social impact assessment (SIA), and if impacts on Indigenous Peoples are identified, the borrower/client will prepare an IPP in conjunction with the feasibility study. The project's potential social impacts and risks will be assessed against the requirements presented in this document and applicable laws and regulations of the jurisdictions in which the project operates that pertain to Indigenous Peoples matters, including host country obligations under international law.

14. Based on the screening, a field-based SIA will be conducted either as part of the feasibility study or as a stand-alone activity. The SIA will, in a gender-sensitive manner, in consultation with Indigenous Peoples communities, identify the project-affected Indigenous Peoples and the potential impacts of the proposed project on them. The SIA will provide a baseline socioeconomic profile of the indigenous groups in the project area and project impact zone; assess their access to and opportunities to avail themselves of basic social and economic services; assess the short- and long-term, direct and indirect, and positive and negative impacts of the project on each group's social, cultural, and economic status; assess and validate which indigenous groups will trigger the Indigenous Peoples policy principles; and assess the subsequent approaches and resource requirements for addressing the various concerns and issues of projects that affect them.

15. The level of detail and comprehensiveness of the SIA will be proportional to the complexity of the proposed project and commensurate with the nature and scale of the proposed project's potential effects on Indigenous Peoples, whether positive or negative.

3. Indigenous Peoples Planning

16. If the screening and SIA indicate that the proposed project will have impacts, positive and/or negative, on Indigenous Peoples, the borrower/client will prepare an IPP in the context of the SIA and through meaningful consultation with the affected Indigenous Peoples communities. The IPP will set out the measures whereby the borrower/client will ensure (i) that affected Indigenous Peoples receive culturally appropriate social and economic benefits; and (ii) that when potential adverse impacts on Indigenous Peoples are identified, these will be avoided to the maximum extent possible. Where this avoidance is proven to be impossible, based on meaningful consultation with indigenous communities, the IPP will outline measures to minimize, mitigate, and compensate for the adverse impacts. The level of detail and comprehensiveness of IPPs (annex to this appendix) will vary depending on the specific project and the nature of impacts to be addressed. The borrower/client will integrate the elements of the IPP into the project's design.

17. If Indigenous Peoples are the sole or the overwhelming majority of direct project beneficiaries,¹ and when only positive impacts are identified, the elements of an IPP could be included in the overall project design in lieu of preparing a separate IPP. In such cases, the project document will include a summary of about how the project complies with Indigenous Peoples safeguards. In particular, it will explain how the requirements for meaningful

¹ This may be the case in certain developing countries such as Pacific island nations.

consultation are fulfilled and how the accrual of benefits has been integrated into the project design.

18. The borrower/client will update the IPP following the completion of detailed engineering design and detailed measurement surveys. The updated IPP will closely follow the award of contract packages and the implementation time schedules of each project component or subproject. Mitigating measures to avoid adverse impacts on Indigenous Peoples and measures to enhance culturally appropriate development benefits will be adjusted, but the agreed outcomes as specified in the draft IPP will not be lowered or minimized. If new groups of Indigenous Peoples are identified prior to submission of the final IPP to ADB, meaningful consultation will be undertaken with them also.

19. The borrower/client will use qualified and experienced experts to prepare the social impact assessment and IPP. For highly complex and sensitive projects, independent advisory panels of experts not affiliated with the project will be used during project preparation and implementation. Any highly complex and sensitive projects affecting Indigenous Peoples will require an Indigenous Peoples expert on the advisory panel.

4. Information Disclosure

20. The borrower/client will submit to ADB the following documents to disclose on ADB's website:

- (i) a draft IPP and/or Indigenous Peoples planning framework, including the social impact assessment, endorsed by the borrower/client, before appraisal;
- (ii) the final IPP upon completion;
- (iii) a new or updated IPP and a corrective action plan prepared during implementation, if any; and
- (iv) the monitoring reports.

21. The borrower/client will provide relevant information, including information from the above documents in a timely manner, in an accessible place and in a form and language(s) understandable to the affected Indigenous Peoples and other stakeholders. If the Indigenous Peoples are illiterate, other appropriate communication methods will be used.

5. Grievance Redress Mechanism

22. The borrower/client will establish a mechanism to receive and facilitate resolution of the affected Indigenous Peoples communities' concerns, complaints, and grievances. The grievance mechanism will be scaled to the impacts of the project. It should address concerns and complaints promptly, using an understandable and transparent process that is culturally appropriate, gender responsive, and accessible to the affected Indigenous Peoples communities at no cost and without retribution. The mechanism should not impede access to the country's judicial or administrative remedies. The affected Indigenous Peoples communities will be appropriately informed about the mechanism.

6. Monitoring and Reporting

23. The borrower/client will monitor and measure the progress of implementation of the IPP. The extent of monitoring activities will be commensurate with the project's risks and impacts. In addition to recording information to track performance, the borrower/client should use dynamic mechanisms, such as inspections and audits, to verify compliance with requirements and

progress toward achieving the desired outcomes. For projects with significant adverse impacts on Indigenous Peoples, the borrower/client will retain qualified and experienced external experts or qualified NGOs to verify monitoring information. The external experts engaged by the borrower/client will advise on compliance issues, and if any significant Indigenous Peoples issues are found, the borrower/client will prepare a corrective action plan or an update to the approved IPP. The borrower/client will implement the corrective actions and follow up on these actions to ensure their effectiveness.

24. The borrower/client will prepare periodic monitoring reports on the progress of IPP implementation, highlighting compliance issues and corrective actions, if any. The borrower/client will submit semiannual monitoring reports. The costs of monitoring requirements will be reflected in project budgets.

7. Unanticipated Impacts

25. If unanticipated impacts on Indigenous Peoples become apparent during project implementation, such as a change in the project's footprint, the borrower/client will carry out a social impact assessment and update the IPP or formulate a new IPP covering all applicable requirements specified in this document.

E. Special Requirements

1. Ancestral Domains and Lands and Related Natural Resources

26. Indigenous Peoples are closely tied to land, forests, water, wildlife, and other natural resources, and therefore special considerations apply if the project affects such ties. In this situation, when carrying out the social impact assessment and preparing the IPP, the borrower/client will pay particular attention to the following:

- (i) the customary rights of the Indigenous Peoples, both individual and collective, pertaining to ancestral domains, lands, or territories that they traditionally own or customarily use or occupy, and where access to natural resources is vital to the sustainability of their cultures and livelihood systems;
- (ii) the need to protect such ancestral domains, lands, and resources against illegal intrusion or encroachment;
- (iii) the cultural and spiritual values that the Indigenous Peoples attribute to such lands and resources;
- (iv) the Indigenous Peoples' natural resources management practices and the long-term sustainability of such practices; and
- (v) the need to rehabilitate the livelihood systems of Indigenous Peoples who have been evicted from their lands.

27. If the project involves activities that are contingent on establishing legally recognized rights to lands and territories that Indigenous Peoples have traditionally owned or customarily used or occupied, such as land titling projects, or the acquisition of such lands, the borrower/client will integrate an action plan for the legal recognition of customary rights to such lands, territories, and ancestral domains in the IPP. The action plan is normally carried out before project implementation, but in some cases it may need to be formulated concurrently with the project itself. Such legal recognition may take the following forms:

- (i) full legal recognition of existing customary land tenure systems of Indigenous Peoples, or

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- (ii) conversion of customary usage rights to communal and/or individual ownership rights.

28. If neither option is possible under national law, the IPP will include an action plan for legal recognition of perpetual or long-term renewable custodial or user rights.

29. In addition, for projects with potential impacts on Indigenous Peoples, the borrower/client will ensure their meaningful consultation and facilitate their informed participation on matters affecting them directly, such as proposed mitigation measures, sharing of project benefits and opportunities, and implementation arrangements.

2. Consent of Affected Indigenous Peoples Communities

30. Indigenous Peoples may be particularly vulnerable when project activities include (i) commercial development of the cultural resources and knowledge of Indigenous Peoples; (ii) physical displacement from traditional or customary lands; and (iii) commercial development of natural resources within customary lands under use that that would impact the livelihoods or the cultural, ceremonial, or spiritual uses that define the identity and community of Indigenous Peoples. In deciding whether to proceed with a project involving such project activities, the borrower/client will seek the consent of affected Indigenous Peoples communities.

31. For purposes of policy application, consent of affected Indigenous Peoples communities refers to a collective expression by the affected Indigenous Peoples communities, through individuals and/or their recognized representatives, of broad community support for the project activities listed in para. 30. Such broad community support may exist even if some individuals or groups object to the project activities.

32. Where broad community support has been ascertained, the borrower/client will provide documentation that details the process and outcomes of consultations with Indigenous Peoples and Indigenous Peoples' organizations, including (i) the findings of the SIA; (ii) the process of meaningful consultation with the affected Indigenous Peoples communities; (iii) the additional measures, including project design modification, that may be required to address adverse impacts on the Indigenous Peoples and to provide them with culturally appropriate project benefits; (iv) the recommendations for meaningful consultation with and participation by Indigenous Peoples communities during project implementation, monitoring, and evaluation; and (v) the content of any formal agreements reached with Indigenous Peoples communities and/or Indigenous Peoples' organizations. The borrower/client will submit documentation of the engagement process to ADB for review and for ADB's own investigation to assure itself of the existence of broad community support for the project activities. ADB will not finance the project if such support does not exist.

33. When the borrower/client and the affected Indigenous Peoples have major disagreements relating to the design, the IPP, or the implementation of the activities relating to commercial development of the cultural resources, physical displacement of Indigenous Peoples, and/or to commercial development of natural resources, the borrower/client will adopt a process of good faith negotiations for resolving such differences and disagreements.

34. **Commercial Development of Cultural Resources.** If the project involves the commercial development of Indigenous Peoples' cultural resources and knowledge, the borrower/client will ensure that the affected communities are informed of (i) their rights to such resources under statutory and customary law; (ii) the scope and nature of the proposed commercial development and the parties interested or involved in such development; and (iii)

the potential effects of such development on Indigenous Peoples' livelihoods, environment, and use of such resources. The IPP will reflect the nature and content of agreements and will include arrangements to ensure that Indigenous Peoples receive an equitable share of the benefits to be derived from such commercial development in a culturally appropriate way.

35. **Physical Displacement of Indigenous Peoples.** The borrower/client will explore to the maximum extent possible alternative project designs to avoid physical displacement of Indigenous Peoples that will result in adverse impacts on their identity, culture, and customary livelihoods. In exceptional circumstances, when avoidance is impossible, the borrower/client will prepare an IPP that could be combined with a resettlement plan. Such a combined plan needs to be compatible with the Indigenous Peoples' cultural preferences and will include a land-based resettlement strategy. Where possible, the plan will allow the affected Indigenous Peoples to return to the lands and territories they traditionally owned or customarily used or occupied if the reasons for their relocation cease to exist. The plan should include provisions to rehabilitate such lands, if needed.

36. **Commercial Development of Natural Resources.** If the project involves the commercial development of natural resources (such as minerals, hydrocarbons, forests, water, or hunting or fishing grounds) within customary lands under use by Indigenous Peoples, the borrower/client will ensure that the affected communities are informed of (i) their rights to such resources under statutory and customary law; (ii) the scope and nature of the proposed commercial development and the parties interested or involved in such development; and (iii) the potential effects of such development on the Indigenous Peoples' livelihoods, environment, and use of such resources. The borrower/client will include in the IPP arrangements to enable the Indigenous Peoples to receive in a culturally appropriate manner an equitable share of the benefits to be derived from such commercial development that is at least equal to or higher than that of any other affected landowners.

3. Indigenous Peoples and Development

37. In furtherance of the objectives to benefit Indigenous Peoples, developing member countries can ask ADB to support them in their development planning and poverty reduction strategies by providing financial assistance for a variety of initiatives, such as the following:

- (i) strengthen local legislation to establish legal recognition of the customary or traditional land tenure systems of Indigenous Peoples;
- (ii) enhance participation by Indigenous Peoples in the development process by incorporating their perspectives into the design of development programs and poverty reduction strategies and providing them with opportunities to benefit more fully from development programs through policy and legal reforms, capacity building, and meaningful consultations, participation, and empowerment;
- (iii) support the development priorities of Indigenous Peoples through programs developed by governments in cooperation with Indigenous Peoples;
- (iv) address the gender and intergenerational issues that exist among many Indigenous Peoples, including the special needs of indigenous women, youth, and children;
- (v) prepare participatory profiles of Indigenous Peoples to document their culture, demographic structure, gender and intergenerational relations, and social organization, institutions, production systems, religious beliefs, and resource use patterns;
- (vi) strengthen the capacity of Indigenous Peoples communities and Indigenous Peoples' organizations to prepare, implement, monitor, and evaluate

- development programs;
- (vii) strengthen the capacity of government agencies responsible for providing development services to Indigenous Peoples;
- (viii) preserve and respect indigenous knowledge, including strengthening intellectual property rights; and
- (ix) facilitate partnerships among the government, Indigenous Peoples' organizations, civil society organizations, and the private sector to promote Indigenous Peoples' development programs.

OUTLINE OF AN INDIGENOUS PEOPLES PLAN

This outline is part of the Safeguard Requirements 3. An Indigenous Peoples plan (IPP) is required for all projects with impacts on Indigenous Peoples. Its level of detail and comprehensiveness is commensurate with the significance of potential impacts on Indigenous Peoples. The substantive aspects of this outline will guide the preparation of IPPs, although not necessarily in the order shown.

A. Executive Summary of the Indigenous Peoples Plan

This section concisely describes the critical facts, significant findings, and recommended actions.

B. Description of the Project

This section provides a general description of the project; discusses project components and activities that may bring impacts on Indigenous Peoples; and identify project area.

C. Social Impact Assessment

This section:

- (i) reviews the legal and institutional framework applicable to Indigenous Peoples in project context.
- (ii) provides baseline information on the demographic, social, cultural, and political characteristics of the affected Indigenous Peoples communities; the land and territories that they have traditionally owned or customarily used or occupied; and the natural resources on which they depend.
- (iii) identifies key project stakeholders and elaborate a culturally appropriate and gender-sensitive process for meaningful consultation with Indigenous Peoples at each stage of project preparation and implementation, taking the review and baseline information into account.
- (iv) assesses, based on meaningful consultation with the affected Indigenous Peoples communities, the potential adverse and positive effects of the project. Critical to the determination of potential adverse impacts is a gender-sensitive analysis of the relative vulnerability of, and risks to, the affected Indigenous Peoples communities given their particular circumstances and close ties to land and natural resources, as well as their lack of access to opportunities relative to those available to other social groups in the communities, regions, or national societies in which they live.
- (v) includes a gender-sensitive assessment of the affected Indigenous Peoples' perceptions about the project and its impact on their social, economic, and cultural status.
- (vi) identifies and recommends, based on meaningful consultation with the affected Indigenous Peoples communities, the measures necessary to avoid adverse effects or, if such measures are not possible, identifies measures to minimize, mitigate, and/or compensate for such effects and to ensure that the Indigenous Peoples receive culturally appropriate benefits under the project.

D. Information Disclosure, Consultation and Participation

This section:

- (i) describes the information disclosure, consultation and participation process with the affected Indigenous Peoples communities that was carried out during project preparation;
- (ii) summarizes their comments on the results of the social impact assessment and identifies concerns raised during consultation and how these have been addressed in project design;
- (iii) in the case of project activities requiring broad community support, documents the process and outcome of consultations with affected Indigenous Peoples communities and any agreement resulting from such consultations for the project activities and safeguard measures addressing the impacts of such activities;
- (iv) describes consultation and participation mechanisms to be used during implementation to ensure Indigenous Peoples participation during implementation; and
- (v) confirms disclosure of the draft and final IPP to the affected Indigenous Peoples communities.

E. Beneficial Measures

This section specifies the measures to ensure that the Indigenous Peoples receive social and economic benefits that are culturally appropriate, and gender responsive.

F. Mitigative Measures

This section specifies the measures to avoid adverse impacts on Indigenous Peoples; and where the avoidance is impossible, specifies the measures to minimize, mitigate and compensate for identified unavoidable adverse impacts for each affected Indigenous Peoples groups.

G. Capacity Building

This section provides measures to strengthen the social, legal, and technical capabilities of (a) government institutions to address Indigenous Peoples issues in the project area; and (b) Indigenous Peoples organizations in the project area to enable them to represent the affected Indigenous Peoples more effectively.

H. Grievance Redress Mechanism

This section describes the procedures to redress grievances by affected Indigenous Peoples communities. It also explains how the procedures are accessible to Indigenous Peoples and culturally appropriate and gender sensitive.

I. Monitoring, Reporting and Evaluation

This section describes the mechanisms and benchmarks appropriate to the project for monitoring, and evaluating the implementation of the IPP. It also specifies arrangements for participation of affected Indigenous Peoples in the preparation and validation of monitoring, and evaluation reports.

J. Institutional Arrangement

This section describes institutional arrangement responsibilities and mechanisms for carrying out the various measures of the IPP. It also describes the process of including relevant local organizations and NGOs in carrying out the measures of the IPP.

K. Budget and Financing

This section provides an itemized budget for all activities described in the IPP.

APPENDIX 4. RAPID ENVIRONMENTAL ASSESSMENT CHECKLIST

Instructions:

- (i) The subproject team completes this checklist to support the environmental classification of a subproject. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES) for endorsement by Director, RSES and for approval by the Chief Compliance Officer.
- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
- (iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Subproject Title:

Screening Questions	Yes	No	Remarks
A. SUBPROJECT SITING Is the subproject area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site			
▪ Protected Area			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Buffer zone of protected area			
▪ Special area for protecting biodiversity			
B. POTENTIAL ENVIRONMENTAL IMPACTS Will the subproject cause...			
▪ impairment of historical/cultural monuments/areas, and loss/damage to these sites?			
▪ interference with other utilities and blocking access to buildings; nuisance areas due to noise and odor?			
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			

Screening Questions	Yes	No	Remarks
▪ air pollution resulting from emissions of hydrocarbons from process equipment, accidents, inadequate equipment maintenance, and poor planning?			
▪ dangers to a safe and healthy working environment due to physical, chemical, biological, and radiological hazards during subproject construction and operation?			
▪ noise and dust from construction activities?			
▪ air pollution resulting from emissions from production process, accidents, and poor equipment maintenance?			
▪ pollution of water bodies and aquatic ecosystem resulting from production wastes, utility operations, sanitary sewage, and miscellaneous discharges?			
▪ contamination of soil and groundwater from solid wastes from water treatment sludges, cafeteria or lunchroom wastes, ashes and incineration residues, etc.?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ risks to community health and safety during construction and operation caused by chemical spills from road accidents and possible groundwater contamination?			
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?			
▪ community safety risks due to both accidental and natural hazards, especially where the structural elements or components of these are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?			

A Checklist for Preliminary Climate Risk Screening

Subproject Title:

Screening Questions		Score	Remarks ¹
Location and Design of subproject	Is siting and/or routing of the subproject (or its components) likely to be affected by climate conditions including extreme weather related events such as floods, droughts, storms, landslides?		
	Would the subproject design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc.)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?		
Performance of subproject outputs	Would weather/climate conditions and related extreme events likely affect the performance (e.g. annual power production) of subproject output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk subproject. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the subproject will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high risk subproject.

Result of Initial Screening (Low, Medium, High): _____

Other

Comments: _____

Prepared by: _____

¹ If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

APPENDIX 5. SOCIAL SAFEGUARD SCREENING CHECKLISTS

1. Land Acquisition and Involuntary Resettlement Impact Pre-Screening Checklist

Date: _____

A. Subproject Data				
Subproject Title _____				
Probable Involuntary Resettlement Effects	Yes	No	Not Applicable	Remarks
B. Involuntary Acquisition of Land				
1. Will there be land acquisition or has land acquisition been acquired recently (within 3 years ¹)?				
2. Will there be residential house demolition causing loss of shelter to people/workers due to land acquisition or construction activities?				
3. Will there be any temporary occupation of land that affects the land, housing, assets or livelihoods/business of people.				

Prepared by:

Name and Position

Date:

¹ If "yes" to any question, further due diligence is required using Checklist 3 to determine whether the subproject should be excluded (e.g., there are potential or outstanding land acquisition and resettlement issues). If all answers are "no", the project will be Category C.

2. Ethnic Minorities Impact Pre-Screening Checklist

Date: _____

A. Subproject Data				
Subproject Title				
KEY CONCERNS (Please provide elaborations on the Remarks column, if necessary)	YES	NO	NOT APPLICABLE	Remarks
B. Ethnic Minorities Identification¹				
1. Are there “minorities” (ethnic or national minorities) communities or groups in the subproject area (city or town)?				
2. Are there “minorities” (ethnic or national minorities) communities or groups living within 300m or as deemed appropriate due to the anticipated boundaries of potential adverse impacts of the chemical plant?				
3. Are their ethnic minorities working in the chemical plant?				
Prepared by:				
Name and Position				
Date:				

¹ If yes to question 2 or 3, further due diligence is required using Checklist 4 to determine the subproject categorization (B or C) or whether the subproject should be excluded (e.g., adverse impacts on ethnic minority community). If all answers are “no”, the project will be Category C.

3. Involuntary Resettlement Impact Categorization Checklist

Probable Involuntary Resettlement ¹ Effects	Yes	No	Not Known	Remarks
Involuntary Acquisition of Land				
1. Will there be land acquisition?				
2. Is the site for land acquisition known?				
3. Is the ownership status and current usage of land to be acquired known?				
4. Will easement be utilized within an existing Right of Way (ROW)?				
5. Will there be loss of shelter (i.e., house demolition) and residential land due to land acquisition?				
6. Will there be loss of agricultural and other productive assets due to land acquisition?				
7. Will there be losses of crops, trees, and fixed assets due to land acquisition?				
8. Will there be loss of businesses or enterprises due to land acquisition?				
9. Will there be loss of income sources and means of livelihoods due to land acquisition?				
Temporary Land Occupation Impacts				
10. During construction, will there be temporary occupation of lands that do not belong to the company?				
11. Will temporary land occupation cause impacts in existing land uses or people?				
House Demolition				
12. Will there be any building demolition?				
13. Do such buildings belong to the company?				
14. Will any people be impacted by house demolition (e.g., workers, residents, others)?				

¹ The definition and scope of involuntary resettlement as per ADB's Safeguard Policy Statement (2009) and safeguard requirement 2 (which is included as Appendix 3 of this ESMS).

Information on Displaced Persons:		
Any estimate of the likely number of persons that will be impacted by the subproject?	<input type="checkbox"/> No	<input type="checkbox"/> Yes
If yes, approximately how many? _____		
Are any of them poor, female-heads of households, or vulnerable to poverty risks?	<input type="checkbox"/> No	<input type="checkbox"/> Yes
Are any displaced persons from ethnic minority groups?	<input type="checkbox"/> No	<input type="checkbox"/> Yes

Note: You may attach additional information on the subproject, as necessary.

Overall conclusion on Involuntary Resettlement Category (circle one):

A

B

C

Note: for a subproject to be approved for FI loan, it should be category C and any due diligence for prior land acquisition should confirm there are no remaining issues.

Reason for conclusion:
Notes:

4. Ethnic Minorities Impact Screening Checklist

KEY CONCERNS (Please provide elaborations on the Remarks column)	YES	NO	NOT KNOWN	Remarks
A. Identification of Potential Impacts				
1. Will the subproject directly benefit ethnic minority communities?				
2. Will the subproject have direct or indirect adverse impacts on ethnic minority communities or workers?				
3. Will the subproject affect health of ethnic minorities? (positive or negative)				
4. Will the subproject have any temporary or permanent environmental impacts on an ethnic minority community?				
5. Will the subproject have any impact on working conditions (i.e., occupational health and safety) for ethnic minority workers? (positive or negative)				
6. Does this chemical plant pose any health risk to local communities in the case of an accidental spill or explosion either within the plant or materials transported to or from the plant?				
7. Do such ethnic minority groups speak a distinct language or dialect?				

B. Anticipated subproject impacts on Ethnic Minorities

Subproject activity	Anticipated positive effect	Anticipated negative effect
1.		
2.		
3.		
4.		
5.		

Note: You may attach additional information on the subproject, as necessary.

Overall conclusion on Indigenous Peoples Category (circle one):

A

B

C

Note: Category A and B subprojects will be excluded. A subproject that has no ethnic minorities will be Category C and no further actions are required.

Reason for conclusion:

Notes:

APPENDIX 6. SUBPROJECT SELECTION CRITERIA

1. The first batch of subprojects has been assessed under Asian Development Bank (ADB) project preparatory technical assistance.¹ For subprojects to be included in the subsequent batches, the applicable national and provincial laws, regulations, and procedures will apply in selecting the subprojects. The energy service company, Beijing Zhonghao Huatai Energy Technology (Huatai), will be responsible for screening, evaluating, and preparing projects for implementation. It will conduct necessary technical, economic, environmental, and social assessments in accordance with ADB guidelines, the Environmental and Social Management System, and ADB's Safeguard Policy Statement (2009) prepared Huatai, and the procurement manual. China Construction Bank will be responsible for the preparation of the financial due diligence, including financial analysis of potential subprojects and creditworthiness assessment of subborrowers. The proposed future batch subprojects will be presented to the project steering group consisting of representatives of China National Chemical Group (ChemChina), China Haohua Chemical Group, and China Construction Bank for endorsement. China Construction will have an objection right with regard to the financial performance criteria for selection of a proposed project. After the endorsement of proposed future batch subprojects, ChemChina will inform the National Development and Reform Commission on a non-objection basis.

2. All subprojects of future batches must meet the technical, financial, economic, environmental, and social criteria as presented below. These criteria will ensure that the selected subprojects lead and demonstrate energy efficiency and emission reduction with advance technology, prompt returns, and presents substantial benefits to the economy, society, and environment. The steering committee may approve, on special occasions, certain subprojects that meet most but not all the criteria, contingent on ADB's review and formal endorsement in writing.

A. Subproject Technical Criteria

3. All subprojects must be technically viable. In particular:
 - (i) All subprojects must use proven high energy efficiency technologies. The energy efficiency and emission reduction of greenhouse gases and other pollutants mainly carbon dioxide, sulfur dioxide, nitrogen oxide and/or total particulate matter results shall be reliable, measurable and verifiable.
 - (ii) Funds shall not be used for expansion of production capacities or extension of the uses of old and inefficient equipment. Any investment that improves energy efficiency and emission reduction by at least 10% from the base case should be considered under this project.
 - (iii) All subprojects should address particular issues of the chemical industry or provide solutions from the chemical industry for other energy and pollution intensive industries.

¹ ADB. 2013. *Technical Assistance to the People's Republic of China for Preparing Chemical Industry Energy Efficiency and Emission Reduction Project*. Manila (TA 8383-PRC, approved on 17 June, for \$700,000).

B. Subproject Financial Criteria

4. All subprojects must be financially viable. The financial analysis should be prepared in accordance with ADB Financial Management and Analysis of Projects guidelines. In particular:

- (i) The estimated subproject investment and operations costs, as well as cash in-flows, must be clearly presented and must be reasonable.
- (ii) The financial internal rate of return shall be greater than the weighted average cost of capital.
- (iii) The financial internal rate of return must be robust under various sensitivity scenarios, such as (i) a cost overrun of 10%; (ii) an implementation delay of 1 year; (iii) an increase in operation and maintenance costs of 10%; and (iv) reduced sales revenues of 10%.
- (iv) The payback period shall match the repayment period.
- (v) The average debt–service coverage ratio shall be at least 1.2.

C. Subborrower Financial Criteria

5. All subborrowers must be financially creditworthy and does not have poor credit record, as recorded in the People's Bank of China credit history database. The subborrower, as well, should meet the following financial performance indicators:²

- (i) total debt/equity ratio not more than 80/20,
- (ii) overall debt–service ratio 1.2, and
- (iii) overall current ratio at least 1.1.

6. The subborrowers must contribute a minimum of 20% of the total subproject investment cost as counterpart financing.

7. In case Huatai will act as borrower, it will sign an energy savings performance contract, which is consistent with the standard energy savings performance contract as published by the Government of the People's Republic of China.

8. In case the subproject company does not belong to the ChemChina, Huatai will also sign an energy savings performance contract. This energy savings performance contract may take the form of a shared savings performance contract or a guaranteed savings performance contract; both contractual arrangements should be consistent with the standard energy savings performance contract published by the National Development Reform Commission.

D. Subproject Economic Criteria

9. All subprojects must meet the following criteria, in particular:

² In the event a subborrower does not meet these indicators but the projected energy savings are considerably higher than average, it should provide acceptable collateral and/or loan guarantee for the amount of the subloan or as agreed with the financial intermediary.

- (i) For all the proposed subprojects, the total economic benefits must exceed the total economic costs. The economic internal rate of return of the subproject must be greater than the discount rate of 12%, and must be viable under adverse sensitivity scenarios.
- (ii) The subborrowers shall commit to enhance capacities in project planning, financing, implementing and monitoring during the subproject preparation and implementation periods.

E. Subproject Social and Environmental Safeguards Criteria

10. All subprojects must meet the following criteria, in particular:
 - (i) A subproject must not involve any land acquisition, temporary land occupation or demolition of residential or private commercial buildings. The subproject proposal will be screened through an involuntary resettlement impact screening checklist (Appendix 5 of this environmental and social management system [ESMS]). The checklist will be submitted to ADB for approval to confirm that there are no involuntary resettlement impacts, as defined by ADB's SPS. If a subproject is categorized as A or B for involuntary resettlement, the subproject will be excluded.
 - (ii) A subproject must not have adverse impacts on ethnic minorities. The subproject proposal will be screened through an ethnic minorities impact screening checklist (Appendix 5 of ESMS). The checklist will be submitted to ADB for approval to confirm that there are no adverse impacts on ethnic minorities. If a subproject is categorized as A or B for ethnic minorities, the subproject will be excluded.
 - (iii) A subproject must not be located in any designated environmental protection zone.
 - (iv) A subproject that involves existing facilities must hold proper approvals from proper national and provincial authorities in charge, must possess all the relevant environment permits, and have complied with all relevant domestic environment regulations and standards and relevant domestic occupational health and safety standards.
 - (v) A subproject must be designed, constructed, and operated in accordance with relevant national and provincial social and environmental laws and regulations.
 - (vi) A subproject company that involves existing facilities and/ or plan future facilities where a potential subproject be located and implemented will have demonstrated strong management commitment and have excellent environmental, occupational health and safety systems in place. It will have a flawless track record in environmental, occupational health and safety management. A GB/T 24001 (equivalent to ISO 14001) Environmental Management Systems and GB/T 28001:2001 (equivalent to OHSAS 18001) Occupational Health and Safety Management Systems certification would be beneficial.
 - (vii) Subproject must meet requirements of the ESMS developed for the loan project.

- (viii) A subproject should not result in labor retrenchment and labor redundancies.

APPENDIX 7. A LIST OF INFORMATION AND DOCUMENTS REQUIRED FOR ENVIRONMENTAL AUDIT OF EXISTING FACILITY

In accordance with the ADB SPS (2009), an environmental audit is required for any subproject that involves existing facilities. Relevant external experts hired by Huatai will perform environmental audit to determine the existence of any areas where the subproject may cause or is causing environmental risks or impacts. The following list of information and documents need to be prepared by the subproject company prior to the environmental audit and submitted to Huatai. The environmental audit will assess whether the subproject has sufficient capacity, institutional setup, system set-up, and sufficient resources to implement environmental, health, and safety (EHS) management, including occupational and community health and safety; emergency response and management procedure, including communities' response to accidents and emergency; whether the existing facilities are fully complied with the applicable environmental, health and safety regulations of the People's Republic of China and internally recognized EHS measures and standards, including the World Bank Group's EHS Guidelines; and others. The following comprises a checklist of relevant availability of information and documents prior to the audit visit. During the audit visit, interviews with local Environmental Protection Bureau and Environmental Monitoring Station Management who are familiar with the facility will be conducted.

Information and/or Document	Yes	No	Remarks
Location map indicating site in relation to surrounding residential and industrial properties, streams, rivers, conservation areas, etc.			
A copy of the land use permit; a summary of land use history, including the year the land is re-zoned from agricultural or residential to industrial land and the year the land is acquired by the current company.			
Summary of current site activities (including simplified process flow diagram, if available) and assess compliance with applicable environmental and social safeguard requirements			
Organizational chart indicating who is responsible for environmental matters at the facility			
General housekeeping of the premises.			
Adherence to health and safety requirements for industrial premises.			
Principal sources of energy and annual consumption			
Details of water use, including Sources of water used for industrial use, and domestic use, and drinking water(e.g. mains, well); Amount of water uses; and Amount of water discharge			
Plant layout to show locations of: (i) Hazardous chemicals, solvents, and oil storage, with details of storage arrangements			

<ul style="list-style-type: none"> (ii) Stacks and vents (iii) Proposed area for subproject components to be built; (iv) Buried services (pipes, drains, sewers); (v) Buried tanks (vi) Sumps and pits (vii) Lagoons and any points of wastewater discharge (viii) Onsite waste disposal areas (ix) Accident pools 			
Descriptions of pollution control equipment at the facility (e.g., effluent treatment and air pollution control equipment).			
Planning permissions/operation permits.			
Details of consent agreements and licenses for: <ul style="list-style-type: none"> (i) Effluent discharges; (ii) Air emissions; and (iii) Waste disposal 			
Copies of applicable national and local standards on ambient air, source emissions, fugitive emissions, effluent discharge standards, and specific approval conditions.			
Monitoring results last three years, which were produced by the facility, the regulatory authorities or by a third party on: <ul style="list-style-type: none"> (i) Ambient air with projected areas with maximum concentrations and at nearest environmental receptors and/or downwind receptors; (ii) Source emissions; (iii) Fugitive emissions; (iv) Wastewater discharge before treatment and after treatment, if any, (v) Noise impacts at the boundaries of the plant and at nearest environmental receptors; (vi) Integrity testing (underground tanks); (vii) Soil and groundwater testing; (viii) Types and amount of solid and hazardous wastes, including treatment methods; and (ix) Records of wastes removed by contractors 			
Correspondence with authorities relating to any environmental violations and pollution incidents (air, waste, effluent, wastes, and noise).			
Inventory and annual quantities used/generated of Chemicals, solvents, oils, etc. and Waste materials			

Details of storage arrangements: (i) Volumes and contents of bulk storage tanks; (ii) Ages and monthly throughput of storage tanks; (iii) Alarms, vent pumps and cathodic protection fitted to bulk tanks; and (iv) documented procedures for filling and unloading bulk storage tanks.			
Surveys/disposal records of polychlorinated biphenyls and asbestos.			
Records of environmental and safety incidents and remedial steps taken.			
Recent third party audit reports on EMS and OHSAS indicating any gaps with respect to environment, health, and safety requirements and recommendations on corrective actions.			
Copies of environmental impact assessment approvals, environmental emission permits (environmental acceptance approvals), production safety impact assessment report and approval/permit (if applicable), and occupational disease hazard assessment report and approval.			
Details and outcome of complaints if any (plus correspondence).			
Documented procedures and operating manuals relating to environmental matters (e.g., emergency response, spill containment, waste handling and disposal).			
Copy of domestic EIA for the proposed subproject component, if any.			

APPENDIX 8. ENVIRONMENTAL, HEALTH, AND SAFETY AND SOCIAL CONSULTATION INTERVIEW QUESTIONNAIRE

For each of the environmental, health and safety and social areas, meaningful public consultation must be performed in accordance with the ADB SPS (2009). Meaningful public consultation must include affected people and communities, especially including residents and businesses within 300 meters or as deemed appropriate due to the anticipated boundaries of potential adverse impacts. During the public consultation, more detailed survey and/or interviews should extend to representatives of neighboring residents/businesses. A representative from local Environmental Protection Bureau familiar with the subproject would be present during the consultation process and the FIL implementation environment team FILIEC(s), if necessary, will meet with the local environmental protection bureau office separately. The following is the sample questions to be asked to obtain better understanding of public concern.

Question	Choices	Yes	Comments
1. In your opinion, what are the major environment pollution issues in your areas?	Ambient air		
	Noise		
	Surface water		
	Ground water		
	Soil		
	Solid waste		
	Odor		
	Risks associated with chemicals and hazardous chemicals		
	Other concern		
2. Which are the impacts to surrounding environment by [name of subproject plant] during existing production process?	Ambient air		
	Noise		
	Surface water		
	Ground water		
	Soil		
	Solid waste		
	Odor		
	Risks to community health and safety		
	Other concern		
3. Are you satisfied with environment protection measures of [name of subproject plant]?	Very satisfied		
	Satisfied		
	Barely satisfied		
	Very disappointed		
	Do not understand		
4. Are you aware of chemical risks to the community associated with existing process of [name of subproject plant]?	Yes		
	No		
5. If any emergency, such as chemical spill, leaks, and explosion, occurs, do you know how to respond?	Yes		
	No		
6. Do you consider the impacts of existing production process of [name of subproject plant] to	Yes		
	No		

Question	Choices	Yes	Comments
surrounding environment and your lifestyle are acceptable?	I do not know		
7. Before the survey, did you hear about the proposed subproject components by of [name of subproject plant]?	Yes		
	No		
8. Before the survey, did you understand environmental impacts associated with the proposed subproject components by of [name of subproject plant]?	Understand		
	Barely understand		
	Do not understand		
9. After knowing about the EIA findings, is it clear to you all the potential positive and adverse impacts of the proposed subproject components by of [name of subproject plant]?	Clearly understand		
	Somewhat understand		
	Barely understand		
	Do not understand		
10. In your opinion, what should be the most critical area that the subproject should focus on?	Exhaust air efficiency treatment		
	Controlling fugitive emissions		
	Wastewater treatment		
	Groundwater protection		
	Soil protection		
	Chemicals handling		
	Odor control		
	Make use of recyclable resources to reduce solid waste		
	Noise disturbing to residents		
	Protection for community health and safety		
	Protection to workers health and safety		
	Others		
11. Do you understand the potential adverse impacts during the construction of the proposed subproject components?	Clearly understand		
	Somewhat understand		
	Barely understand		
	Do not understand		
12. What do you think about the subproject construction? Do you think it is necessary?	Necessary		
	Barely necessary		
	Not necessary		
	It does not matter		
13. What would be the major impacts during project construction?	Noise		
	Dust		
	Solid waste		
	Traffic congestion		
	Others		
	No major impacts		
14. Without mitigation measures, do you accept anticipated construction	Accept		
	Barely accept		

Question	Choices	Yes	Comments
phase impacts?	Do not accept		
	Have no idea		
15. After learning about mitigation measures during the construction, do you accept anticipated construction phase impacts?	Accept		
	Barely accept		
	Do not accept		
	Have no idea		
16. Do you agree with project construction after comprehensive consideration?	Yes		
	No		
	I do not know		
17. Do you understand all the anticipated environmental adverse impacts of the subproject during operation?	Clearly understand		
	Somewhat understand		
	Barely understand		
	Do not understand		
18. Do you understand all the anticipated health and safety adverse impacts of the subproject during operation?	Clearly understand		
	Somewhat understand		
	Barely understand		
	Do not understand		
19. Do you understand the proposed mitigation measures during the subproject operation?	Clearly understand		
	Somewhat understand		
	Barely understand		
	Do not understand		
20. Do you accept the impacts to ambient air quality by this subproject?	Accept		
	Barely accept		
	Do not accept		
	Have no idea		
21. Do you accept the impacts to surface water quality by this subproject?	Accept		
	Barely accept		
	Do not accept		
	Have no idea		
22. Do you accept the impacts to ground water quality by this subproject?	Accept		
	Barely accept		
	Do not accept		
	Have no idea		
23. Do you accept the impacts to acoustic environment quality by this subproject?	Accept		
	Barely accept		
	Do not accept		
	Have no idea		
24. Do you accept the impacts to solid waste pollution by this subproject?	Accept		
	Barely accept		
	Do not accept		
	Have no idea		
25. Do you accept the impacts to ecological environment by this subproject?	Accept		
	Barely accept		
	Do not accept		
	Have no idea		
26. Do you accept environment, health, and safety risks caused by this subproject?	Accept		
	Barely accept		
	Do not accept		
	Have no idea		
27. What are the major concerns of this subproject	Ambient air		
	Noise		
	Surface water		

Question	Choices	Yes	Comments
	Ground water		
	Soil		
	Solid waste		
	Odor		
	Risks associated with chemicals and hazardous chemicals		
	Other concern		
28. Which is your top concern of this subproject?	Ambient air		
	Noise		
	Surface water		
	Ground water		
	Soil		
	Solid waste		
	Odor		
	Risks associated with chemicals and hazardous chemicals		
	Other concern		
29. Do you support the subproject?	Yes		
	No		
	I do not know		
Note: Survey questions should not be not limited to the following sample questions			

APPENDIX 9. INTERVIEW QUESTIONNAIRE WITH LOCAL ENVIRONMENTAL PROTECTION BUREAU AND ENVIRONMENTAL MONITORING STATIONS DURING ENVIRONMENTAL AUDIT

During the audit visit of existing facilities, interviews shall be conducted with local Environmental Protection Bureau and Environmental Monitoring Station staff, who are familiar with the facility. In addition, interview with a plant manager, and an environmental, health and safety (EHS) manager, and some workers would be necessary. The following is sample questions, but not limited to, for the interviews.

Questions	Yes/No	Additional Remarks
Environmental (Attendants:)		
(i) whether the subproject company paid pollution charges or fines/penalties for noncompliance in the last 2 years in accordance with national laws.		
(ii) whether the subproject company is exposed to potentially significant liabilities, such as those arising from known or suspected land/groundwater contamination, major accidents and incidents related to the company's past or ongoing operations.		
(iii) state further actions required/planned by the subproject, in particular actions to address any non-compliance problems and liabilities.		
(iv) whether there are complaints from the public or local communities regarding the subproject company's environmental performance		
(v) whether there are complaints from the public or local communities regarding any accidents caused by the subproject company.		
Safety (Attendants:)		
(i) whether the subproject company paid safety or fire code related fines/penalties for noncompliance in the last 2 years in accordance with national laws.		
(ii) whether the subproject company has had any major safety accidents and incidents related to the company's ongoing operations or in the past 2 years.		
(iii) state further actions/mitigation measures required/planned by the subproject, in particular actions to address any noncompliance problems and liabilities.		
(iv) whether there are complaints from the employees, public or local communities regarding the subproject company's safety performance.		
Health (Attendants:)		
(i) whether the subproject company paid occupational health related fines/penalties for non-compliance in the last two years in accordance with national laws.		
(ii) whether the subproject company has had any major occupational health accidents and incidents related to the company's ongoing operations or in the past two years.		
(iii) state further actions/mitigation measures required/planned by the subproject, in particular actions to address any non-compliance problems and liabilities.		
(iv) Whether the facility conduct regular health exams for employees (if yes, please provide records for review).		
(v) whether there are complaints from the employees regarding the subproject company's occupational health performance.		
(vi) Whether the subproject company involves local communities for drills		
Human Resources or Plant Manager		
(i) Would the proposed subproject create redundancy? If yes, how would you reassign or compensate the redundant workers?		
(ii) What is the total number of employees in the facility? What is the number of female employees in the facility? What is the number of ethnic minority employees.		
(iii) With the proposed subproject, would you tend to use more or fewer		

	female employees?		
(iv)	How many NEW long-term job positions do you expect to create as a result of this subproject.		

**APPENDIX 10.SUGGESTED SCOPE FOR ENVIRONMENTAL AND SOCIAL
MONITORING REPORT FOR SUBPROJECT COMPANY**

<p>Environment and Social Monitoring Report -Reporting Period-</p> <p>(Indicative Outline)</p> <p>I. INTRODUCTION</p> <p>1. Describe scope of report and reporting period, and overall project implementation progress.</p> <p>II. PROGRESS IN IMPLEMENTING THE FOLLOWING (WHERE APPLICABLE) ENVIRONMENTAL MANAGEMENT PLAN/ENVIRONMENTAL MONITORING PLAN/ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM</p> <p>III. COMPLIANCE WITH ADB LOAN COVENANTS AND APPLICABLE GOVERNMENT LAWS, REGULATIONS AND REQUIREMENTS</p> <p>IV. SIGNIFICANT EVENTS OR ISSUES ENCOUNTERED, OR CHANGES IN PROJECT SCOPE AND CORRESPONDING SAFEGUARD MEASURES UNDERTAKEN, IF APPLICABLE (SEE ATTACHMENT TO THIS APPENDIX)</p> <p>V. SUMMARY OF MONITORING REPORT FINDINGS</p> <p>VI. FOLLOW-UP ACTIONS REQUIRED (IF ANY)</p> <p>VII. SUMMARY/CONCLUSION</p> <p>2. The report should include the name, signature, position and contact address of the person submitting the report to ADB.</p>
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Notes:

1. Above outline is indicative and could be tailored-fit to the subproject.
2. In case a subproject is assisted by an external or independent panel, the panel's environmental and social issues monitoring report will suffice.

APPENDIX 11. ENVIRONMENTAL INCIDENT REPORT FORM

	Name of Company	
Environmental Incident Report		

An environmental incident is an unexpected event that may result in harm to the environment and requires some action to minimise the impact or restore the environment. See page 2 of this form for guidance notes.

Business unit:

Subproject name:

Subproject number:

Incident details	(Site manager to complete—Subproject Development Manager, Works Supervisor or Team Leader)	Incident report number
Date of incident:	Time (24:00 format):	(ESMS Coordinator to complete)
Exact location of the incident, including Region. (see note 1)		

What type of activity was the team engaged in when the incident occurred?

Who notified you of the incident? (e.g., employee, local authority, member of public):

Name and phone no. of complainant:

Nature and level of the incident

- ☐ Major ☐ Minor (see [note 2](#))
☐ Chemical spill (incl. fuel) ☐ Air emission ☐ Noise complaint ☐ Unauthorised removal of vegetation
☐ Contaminated water discharged ☐ Erosion & sedimentation (Not muddy water) Other: (specify)

Description of the incident (see [note 3](#))

Estimated quantity, volume or area involved (include unit of measure)

☐ See pages attached

Immediate actions taken and control measures implemented (See note 4)

☐ See pages attached

Proposed corrective (or preventive) action (see [note 5](#))

☐ See pages attached

Sign	Print name	Position	Date
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After signing, forward to senior manager for further action

Further action

Senior manager to complete—Subproject Director,
Subproject Development Manager

Sign:

Other authorities notified

(see note 6)

Follow up actions undertaken (see [note 7](#))

☐ See pages attached

APPENDIX 12. GUIDANCE NOTES

Note 1: Exact location of Incident

Provide details of the location of the incident in relation to the subproject site. Include:

- (i) the name of the region.
- (ii) distances from environmentally sensitive areas (e.g., watercourses, conservation reserves).
- (iii) landmarks, cross streets, etc.

Note 2: Major or Minor Incident?

A major incident has occurred if:

- (i) material has escaped from site, or
 - (ii) clean-up requires external assistance (Fire brigade or other emergency services).
- If neither of these conditions apply, the incident is rated 'minor'.

Note 3: Description of Incident

Provide a brief, succinct, factual description of the incident including:

- (i) what happened leading up to the incident.
- (ii) the material involved (if a leak or spill).
- (iii) the estimated volume of spilled or leaked material.
- (iv) the area of land or water affected.
- (v) who was affected by the incident.

Note 4: Immediate Actions and Control Measures

Describe the actions taken immediately to minimize the impact of the incident.

Note 5: Corrective and Preventive Action

Provide details of actions implemented to clean up and remediate the affected area and actions implemented to prevent the incident from occurring again.

Note 6: Other Authorities Notified

Other authorities you might need to notify:

- (i) Fire brigade or other emergency services.
- (ii) local government if incident occurs within the local drinking water catchment area.

Note 7: Follow-up Actions

- (i) Include any actions undertaken or proposed to be undertaken as a result of the incident (e.g., additional training, purchasing new plant, using alternative materials).
- (ii) Forward a copy of the incident report to Huatai following company management review.

APPENDIX 13. OUTLINE OF AN ANNUAL ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM IMPLEMENTATION REPORT

Annual ESMS Implementation Report			
Subproject		Subproject number	
Report prepared by		Month and year	
Item	Details, comments		
Institutional Aspects: Whether there has been any changes to the ESMS, staffing of environment unit at HUATAI, budget available for ESMS implementation) Whether there has been any major difficulties in implementing ESMS and if so the remedial actions taken.			
Due diligence and/or audits undertaken during the year (List the number and type of investigations undertaken.)			
Non-conformances report (NCR) and corrective actions report (CAR) Whether the subprojects regularly submit the environment and social reports and the status of compliance of subprojects with EMP and other relevant environment and social requirements. If there are major gaps or defects, the remedial actions taken by HUATAI.			
Environmental Incidents (Any incidents reported by subborrowers, provide details)			
Training delivered			
Other environmental including health and safety or social issues (if any) (Describe any other issues arising)			