OSHC "Barqi Tojik"

THE WORLD BANK
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Final

Environmental and Social Management Plan

Nurek Bridge Rehabilitation

Nurek Hydropower Rehabilitation Project

May 2020

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List of Abbreviations and Acronyms

BT	OSHC Barqi Tojik
CEP	Committee for Environmental Protection under the Government of the Republic of Tajikistan
C-ESMP	Construction Environmental and Social Management Plan
Cm	Centimeter
EPRP	Emergency Preparedness and Response Plan
ESHS	Environmental, Social, Health and Safety
ESIA	Environmental and Social Impact Assessment
ESF	World Bank Environmental and Social Framework
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESS	World Bank Environmental and Social Standards
HPP	Hydropower plant (or project)
km	Kilometer
LMP	Labor Management Plan (or Procedure)
m	Meter
masl	Meter above sea level
mg	Milligram
MW	Megawatt
OHS	Occupational health and safety
OP	World Bank Operations Policy
PMC	Project Management Consultant
PPE	Personal Protective Equipment
SEP	Stakeholder Engagement Plan

1 INTRODUCTION

1.1 Background

The Nurek Dam, commissioned in 1972, is 300 meters high and is the highest embankment dam in the world. The powerplant is equipped with 3000MW of installed capacity. The dam and power plant (collectively, the hydropower project, or HPP) are located in western Tajikistan about 70 kilometers east of Dushanbe (see Figure 1). The dam controls the Vakhsh River, which joins the Pyanj River to become the Amu Darya. The Amu Darya is the largest river of Central Asia, and one of the two main tributaries of the Aral Sea.

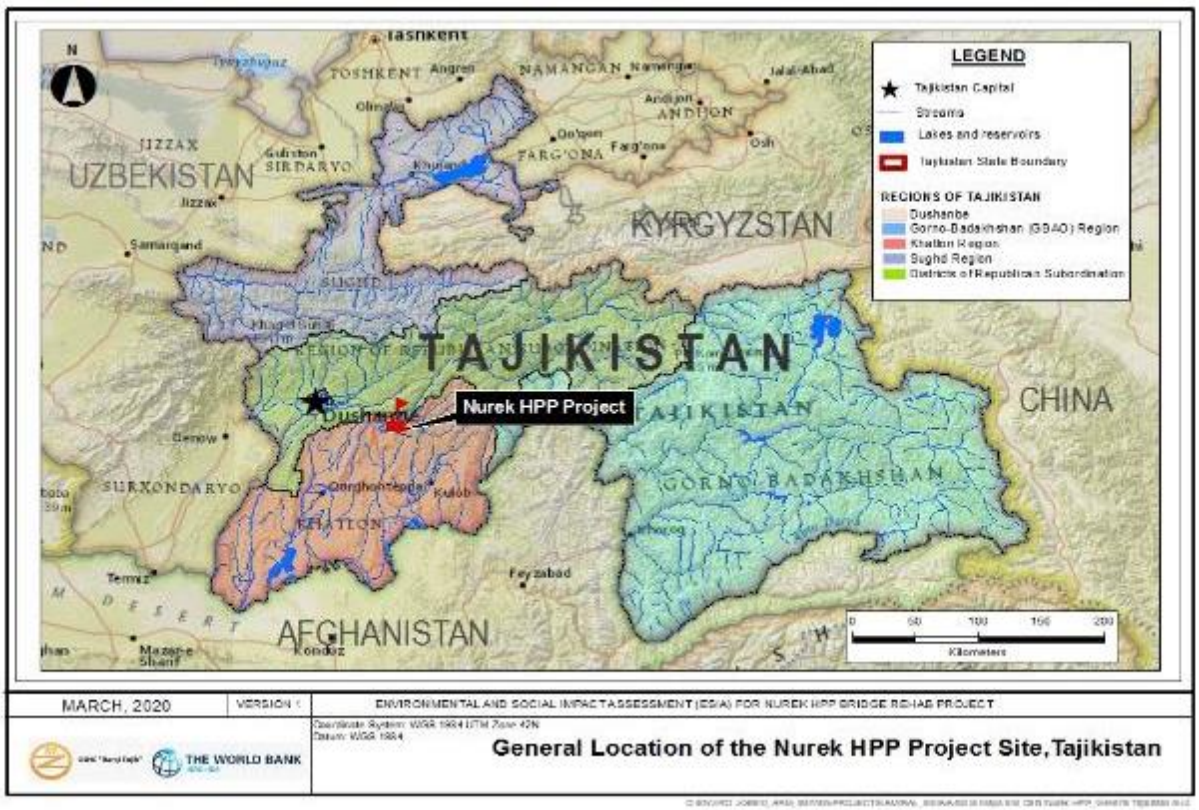

Figure 1. Location of Nurek HPP

The HPP is the most important in Tajikistan because it supplies more than 70 percent of the electricity produced in Tajikistan. In addition to electricity generation, the reservoir directly supplies irrigation water for about 70,000 hectares via a tunnel, with additional irrigation of tens of thousands of hectares made possible by Nurek's regulation of the Vakhsh River. The Nurek HPP is owned by Open Stock Holding Company Barqi Tojik through its subsidiary Nurek Hydropower Company, which operates the plant and associated facilities. Barqi Tojik owns and operates most of the electricity generating plants in Tajikistan and is responsible for electricity transmission, dispatch, and distribution services to around nine million people, covering all but one region of the country.

The Nurek dam and HPP have suffered from lack of maintenance in recent decades, however, and in recent years this has allowed the plant to operate at only about 77 percent of its capacity. The

spillways and intake tunnels are also in poor condition. Further, sediment accumulation in the reservoir has resulted in a reduction of storage capacity. The World Bank and other international lenders are supporting the Nurek Hydropower Rehabilitation Project, which will finance refurbishment of all nine generating units, repair and rehabilitate other key infrastructural components of the plant, replace autotransformers used to evacuate the generated electricity, implement measures to enhance dam safety, and provide technical assistance that is needed for implementation of the project and improve Barqi Tojik's overall business performance.

Barqi Tojik prepared an Environmental and Social Impact Assessment (ESIA) for the two phases of the rehabilitation project in 2017. The ESIA was prepared to meet applicable legal requirements of Tajikistan and the requirements of the World Bank Operations Policy 4.01 (Environmental Assessment) and other environmental and policies of the World Bank. Since the original ESIA was prepared, the World Bank developed and adopted a new Environmental and Social Framework, which includes 10 Environmental and Social Standards (ESSs) the Bank's clients are required to meet. Phase 2 of the rehabilitation project will therefore need to meet these new standards. As a result, Barqi Tojik updated the 2017 ESIA so that it meets the requirements of the new Framework and ESSs. Barqi Tojik has also updated the 2017 Stakeholder Engagement Plan (SEP), which described how government and other stakeholders would be consulted to inform them of project developments and to receive information from them about their concerns or other matters.

One of the components of Phase 2 of the Nurek HPP Project is the rehabilitation of the automobile and pedestrian bridge that links the banks of the Vakhsh River just downstream of the Nurek Dam. The bridge is located immediately downstream of the HPP (Figure 2 and Figure 3). At the time of the 2017 ESIA, this was not part of the project and so bridge rehabilitation was not assessed at that time.

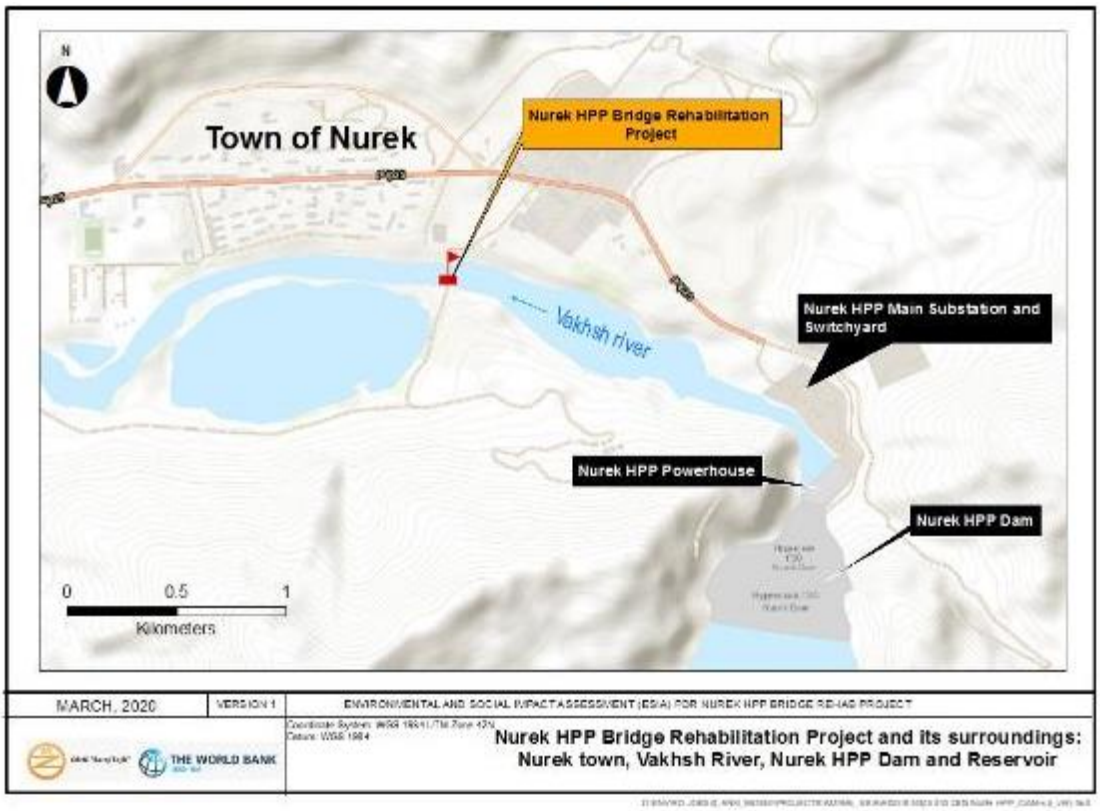

Figure 2. Location of the town of Nurek and the bridge to be rehabilitated

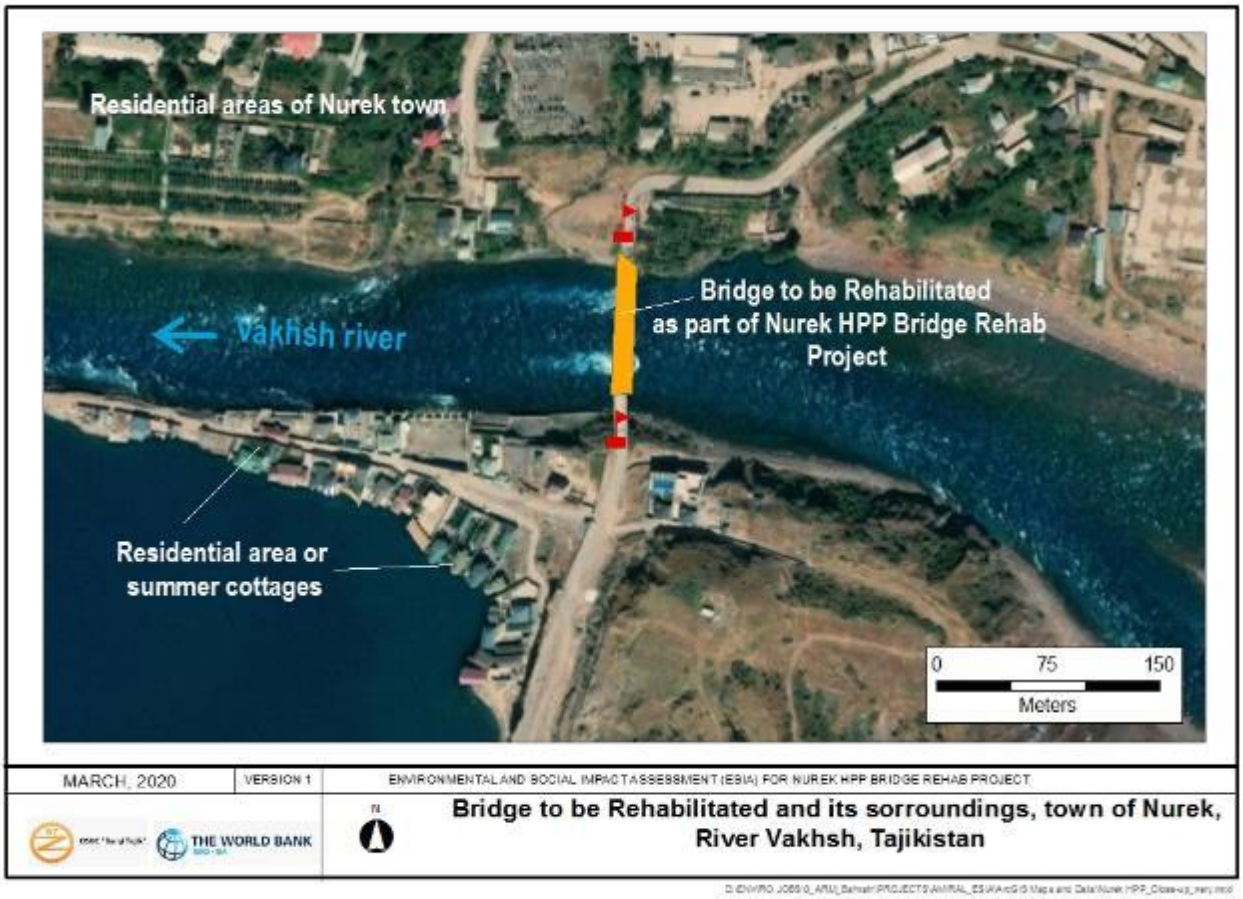

Figure 3. Detail of bridge and surrounding area

1.2 Purpose of Environmental and Social Management Plan

The 2017 ESIA was approved by the Tajikistan Committee for Environmental Protection under the Government of the Republic of Tajikistan ("Committee" or "Committee for Environmental Protection") and that approval remains in effect. However, the ESIA did not specifically assess the potential environmental, social, and health and safety (ESHS) impacts of the bridge rehabilitation component of the overall project, and now it must be addressed separately. This Environmental and Social Management Plan (ESMP) has been developed in order to summarize the potential impacts of the bridge rehabilitation component of the overall project and to identify measures that must be implemented to avoid, reduce, or otherwise mitigate the potential environmental and social risks and impacts. Given the limited area that could be affected and the small-scale nature of the works, the environmental and social impacts of the bridge rehabilitation project are assessed in this Environmental and Social Management Plan (ESMP) rather than in an ESIA. It is expected that the mitigation measures required by this ESMP will reduce all impacts to acceptable levels and will ensure the Project meets the applicable requirements of Tajikistan law and World Bank ESSs. In some cases, the ESMP requires Barqi Tojik and/or contractors to develop more detailed management plans that are tailored to specific activities and/or categories of potential risks and impacts.

Barqi Tojik is ultimately responsible for implementation of the requirements of this ESMP during the bridge rehabilitation project. The engineering company Stucky Ltd. has been appointed by Barqi Tojik to be the Project Management Consultant, and in that role they will support the process by which the construction contractor is selected and also will provide day-to-day supervision of all aspects of the contractor's performance, including environmental and social performance. In addition, a full-time - time environmental, health and safety, and social consultant will be appointed to support Stucky's supervision of the contractors' performance on both the bridge and HPP rehabilitation works.

The requirements and process set out within this ESMP form the basis of the Environmental and Social Management System (ESMS) that will be implemented by Barqi Tojik, the Project Management Consultant (Stucky Ltd.), and the contractor (including subcontractors) during the bridge rehabilitation. The structure that forms the basis of the Project ESMS is summarized in Figure 4.

The ESMP covers activities during the construction stage of the Project, because the majority of potential E&S impacts are anticipated to take place during construction. Once constructed, the bridge

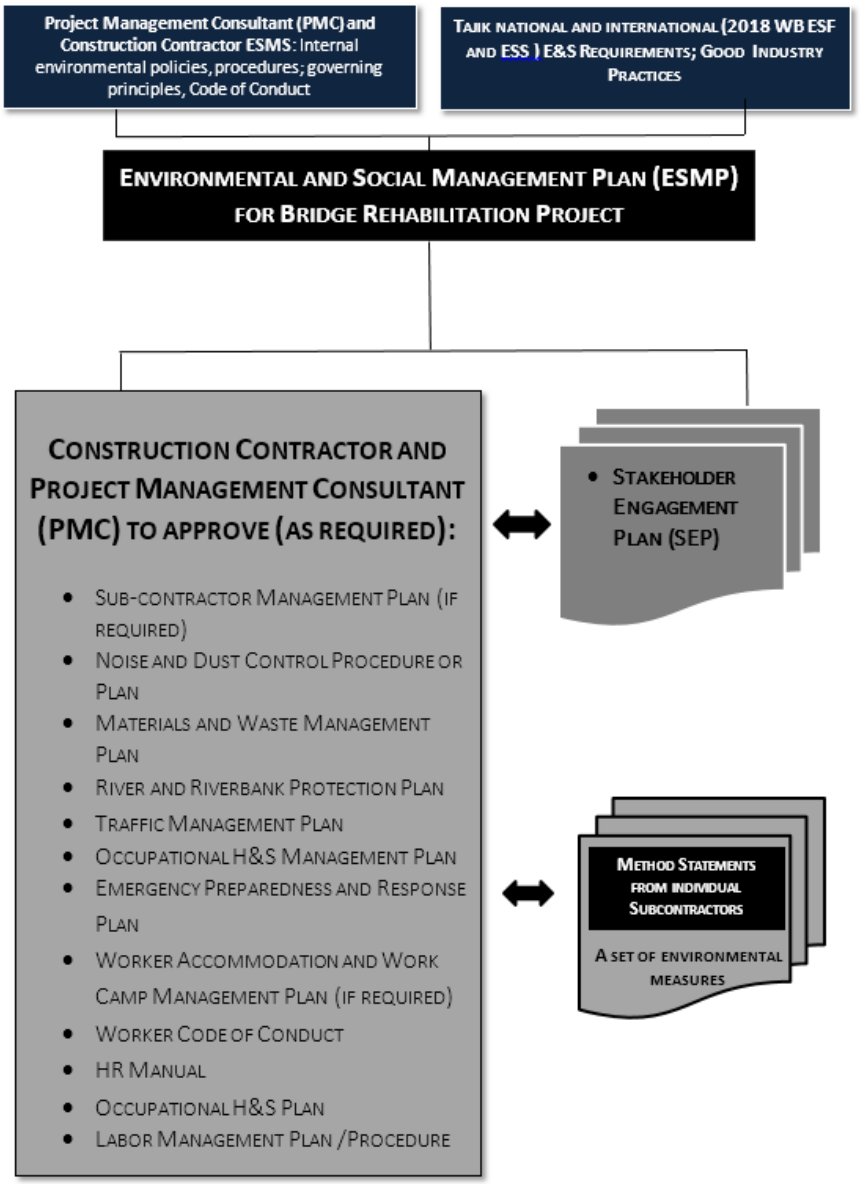

Figure 4. Indicative ESMS for bridge rehabilitation

will be handed over to road authorities and the Government will be responsible for further operations and maintenance of the bridge.

1.3 Organization of ESMP

The remaining sections of this Environmental and Social Management Plan are organized as follows:

- Section 2 describes the Project
- Section 3 identifies the applicable requirements of Tajikistan law and of World Bank and other standards
- Section 4 describes the environmental and social setting
- Section 5 summarizes the potential impacts
- Section 6 presents the environmental and social management and monitoring plans

2 THE PROJECT

All bridge rehabilitation works will be undertaken at the location of the current bridge over the Vakhsh River, which is about 100 meters from the nearest occupied residences. The contractor also may arrange for one or more off-site areas where vehicles and equipment may be stored and maintained, and possibly used to provide accommodations to workers. The location(s) of any such area will be selected by the contractor, but is expected to be in former industrial or otherwise developed areas. There is not expected to be any new land disturbance.

The current bridge is 165 meters long, and has three steel and one concrete span that are supported by abutments on each bank and three piers. As discussed in the Feasibility Study for Bridge Rehabilitation[1], the bridge's current condition can be characterized as 'poor' or 'considerably deteriorated' (Figure 5). This is the result of bombing during the civil war, vandalism, damage due to constant humidity from the open channel water, and lack of maintenance.

Figure 5. Current condition of bridge

Source: Feasibility Study, 2018

The key deficiencies were noted as:

- Absence of concrete deck for 17 meters at the end of the bridge on the left bank

[1] Nurek Bridge Rehabilitation Feasibility Study. Stucky Ltd., 01 March 2018. Document 5489/4209. Rehabilitation of Nurek hydro power plant project, Assignment A. 91pp.

- Presence of 30cm drop in deck between concrete structure and steel structure due to faulty positioning of pins
- No traffic signs other than one illegible one
- No safety measures
- No maintenance on drainage
- No utilities but a water pipe near the sidewalk
- Serious damage to first pier

Corrosion was determined to be limited and not affecting the structural dimensions of some components. The deck, although damaged in part, was determined to be overdesigned and suitable for rehabilitation and upgrading. Pier 2 was found unharmed in the riverbed and Pier 3 was in good condition (Figure 6).

Figure 6. Pier 3

Source: Feasibility Study, 2018

The Feasibility Study suggested two alternatives for the bridge rehabilitation. The alternatives are similar in approach, and duration of construction period, but Alternative A calls for reconstructing the former structure while Alternative B calls for a new modern structure that conforms to EUROCODES and has a cost about six percent less expensive. Table 1 shows the two alternative approaches to addressing deficiencies in each major bridge component.

Table 1. Alternatives considered

Bridge component	*Alternative A*	*Alternative B*
Abutment AB1	To be demolished and new abutment to be constructed	To be demolished and new abutment to be constructed
Pier P1	To be demolished and new abutment constructed	To be demolished and new abutment constructed
Pier P2	To be repaired	To be repaired and height adjusted for the new structure
Pier P3	To be repaired	To be repaired and height adjusted for the new structure
Abutment AB2	To be repaired	To be repaired
Span between AB2 & P3	To be repaired	To be repaired
Existing steel structure	Partial replacement and execution as per previous structure	Total replacement and reconstruction of new modern 2 Beams Deck that conforms to Eurocodes

Cost	US$1,531,500	US$1,447,250-- slightly more economical
Structure height	3.6m Heavy ratio span/depth	2.3m More elegant structure
Freeboard	Same as existing freeboard	2m higher freeboard
Time of execution	Approximately 62 weeks	Approximately 62 weeks
Source: 2018 Feasibility Study		

The rehabilitated bridge will have a total width of 8.5 meters, including the two automobile lanes that are each 3.25 meters wide and a one-meter-wide pedestrian lane on each side. The overall height of the bridge is designed to be about 2.3 meters above the river. Figure 7 provides a schematic of the bridge cross-section.

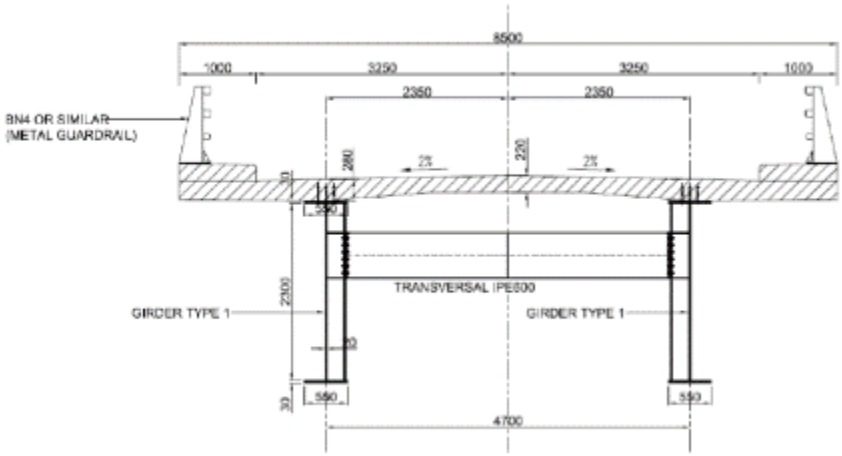

Figure 7. Bridge cross-section

Source: Feasibility Study, 2018

As noted in the table above, construction will take approximately 62 weeks. The exact number of workers will be determined by the contractor, but is likely to be up to about 100. Most workers, likely over half, will be local. The contractor will decide if it will provide accommodations or have workers arrange their own. The location of laydown/storage area will also be selected by Contractor prior to construction works commence and, as noted, it is likely the area will be located in nearby former industrial areas.

The bridge design will incorporate principles of universal access so the bridge is safe and accessible for all users, including children, the elderly, and persons with disabilities. The bridge will remain open to light vehicles and pedestrians as much as possible during construction, with temporary closures only when the works present unavoidable danger. In case of extended limits to bridge crossings, contractors will ensure that alternative arrangements are made to provide access to the opposite side.

3 POLICY, LEGAL AND REGULATORY FRAMEWORK

This chapter describes the national and international legal requirements that may apply to the bridge rehabilitation component of the Nurek Hydropower Rehabilitation Project.

3.1 National Legal and Regulatory Framework

The Law on Environment Protection, the so-called "framework environment law", was adopted in 2011 (21 July 2011, № 208). The previous Law on Nature protection was adopted in 1993 and amended in 1996, 2002, 2004 and 2007. In 2011 it was replaced by the new Law. The new Law stipulates that Tajikistan's environmental policy should give priority to environmental actions based on scientifically proven principles to combine economic and other activities that have an impact on the environment with nature preservation and the sustainable use of resources. The Law defines the applicable legal principles, the protected objects, the competencies and roles of the Government, the Committee for Environmental Protection, the local authorities, public organizations and individuals. The Law also defines measures to secure public and individual rights to a safe and healthy environment and requires a combined system of ecological expertise and environmental impact assessment of any decision on an activity that could have a negative impact on the environment. The Law defines environmental emergencies and ecological disasters and prescribes the order of actions in such situations, defines the obligations of officials and enterprises to prevent and eliminate the consequences, as well as the liabilities of the persons or organizations that caused damage to the environment or otherwise violated the Law. The Law establishes several types of controls over compliance with environmental legislation: State control, ministerial control, enterprise control, and public control. State control is affected by the Committee for Environment Protection, the Sanitary Inspectorate of the Ministry of Health, the Inspectorate for Industrial Safety, and the Mining Inspectorate. Public control is carried out by public organizations or trade unions and can be exercised with respect to any governmental body, enterprise, entity or individual.

3.1.1 Environmental and Social Impact Assessment in Tajikistan

Two laws establish requirements for impact assessment: The ***Law on Environment Protection*** and the ***Law on Ecological Expertise***. Chapter V, Articles 35-39 of the Law on Environment Protection (2012), introduces the concept of state ecological review (literally, "state ecological expertise" – SEE), the purpose of which is to examine the compliance of proposed activities and projects with the requirements of environmental legislation and standards and with the ecological security of society. Financing of programs and projects is allowed only after a positive SEE finding has been issued. As noted, the 2017 ESIA for the overall Nurek Hydropower Rehabilitation Project was accepted and approved by the Committee for Environmental Protection, which issued a positive SEE finding. The updated 2017 ESIA for the HPP rehabilitation and this ESMP for the bridge rehabilitation will be submitted for State Ecological expertise of the Committee for Environment Protection for approval (i.e., a positive conclusion).

3.1.2 Other Relevant Legislation on Environmental and Social Matters

Other key laws and requirements will also apply to the project or be relevant for design or operation, including those described here.

A number of legal acts establish liability for violation of environmental laws, which can be enforced by several State bodies. In particular, the 2010 ***Code of Administrative Violations*** establishes administrative liability for organizations, their officers and individuals for a range of violations, including careless treatment of land, violation of rules for water use or water protection or failure to comply with a SEE. Administrative sanctions for environment related violations can be imposed by the administrative commissions of Hukumats, courts, Committee for Environmental Protection inspectors, the Veterinary Inspectors of the Ministry of Agriculture, and the State Committee for Land Management and Geodezy. The most common administrative sanction is a fine of up to 10 minimal monthly salaries for individuals and up to 15 minimal salaries to officers of organizations. The 1998 Criminal Code also covers crimes against ecological safety and the environment, such as violations of ecological safety at work, poaching and spoiling land, as well as violation of rules for the protection and use of underground resources. The maximum fine is up to 2,000 minimal monthly salaries and the maximum sentence is up to eight years in prison.

The ***Law on Environmental Information*** (2011) is underpinned by Article 25 of the Constitution, which states that governmental agencies, social associations, and officials are required to provide each person with the possibility of receiving and becoming acquainted with documents that affect her or his rights and interests, except in cases anticipated by law. The Law defines the legal, organizational, economic, and social bases for providing environmental information and establishes the right of individuals and legal entities to receive complete, reliable, and timely environmental information. Article 4 provides the right of access to environmental information and Article 8 defines the conditions for restricting access to environmental information.

The ***Water Code*** (2000, last amended 2012) establishes policies on water management, permitting, dispute resolution, usage planning and cadaster. It promotes rational use and protection of water resources exercised by all beneficiaries and defines the types of water use rights, authority and roles of regional and local governments for water allocations among various users, collection of fees, water use planning, water use rights and dispute resolution. The Code provides Water User Associations with the mandate to operate and maintain on-farm irrigation and drainage infrastructure. It is unlikely the contractor will need to extract water from the river, but the Water Code will apply if that becomes necessary.

The ***Health Care Code*** (2017) replaced the ***Law on Sanitary and Epidemiological Safety of the Population*** (2003, last amended 2011), which introduced the concept of sanitary and epidemiological expertise that establishes the compliance of project documentation and economic activities with the state sanitary and epidemiological norms and rules, as well as strengthened provisions on sanitary-hygienic, anti-epidemic and information measures. These include limits for noise that will apply to the project.

The ***Labor Code*** (2016) prohibits forced labor and adult labor. The Labor Code prohibits discrimination in employment and sets the minimum age at which a child can be employed as well as the conditions under which children can work. The minimum employment age is 15, however, in certain cases of vocational training, mild work may be allowed for 14-year-olds. In addition, there are some labor restrictions on what type of work can be done, and what hours of work are permissible by workers under the age of 18. Children under 18 may not be employed in hazardous work, which includes construction. The Code also establishes rules for minimum wages, leave, overtime, and has provisions

for pregnant women and caretakers for children. It also sets the rules for settling disputes between workers and employers.

The ***Labor Code*** also sets requirements for occupational health and safety. It establishes the right of workers to work in places that are protected from exposure to dangerous and harmful factors. Employers are required to tell workers of risks and hazards of their jobs, and requires employers to provide personal protective equipment. Employers are required to provide compulsory social insurance against accidents, disease, or injuries associated with their jobs. The law gives workers the right to refuse to undertake work that violates labor protection requirements. In addition, workers engaged in hazardous working conditions are entitled to free medial and preventative care, additional paid leave and other benefits and compensation. In case of disability or death, employers must provide compensation in multiples of average annual earnings. Employers must train workers in performing their work safety and must provide for collective and personal protection of workers. Accidents must be investigated. Finally, there must be a "labor protection service" if there are more than 50 employees, which is the case for Barqi Tojik and will also be the case for the construction contractor.

Under the ***Law on Public Associations*** (2007, last amended 2019), a public association may be formed in one of the following organizational and legal forms: public organization, public movement, or a body of public initiative. Article 4 of this law establishes the right of citizens to found associations for the protection of common interests and the achievement of common goals. It outlines the voluntary nature of associations and defines citizens' rights to restrain from joining and withdrawing from an organization. This legislation requires NGOs to notify the Ministry of Justice about all funds received from international sources prior to using the funds and to post financial information on their websites.

The ***2014 Law on Public Meetings, Demonstrations and Rallies*** (Article 12) establishes that organizers must obtain permission fifteen days prior to organizing a mass gathering.

The ***Law on Self-Government Bodies in Towns and Villages*** (1994) and the ***Law on Local Public Administration*** provide the legal basis for local government. The former law assigns to Jamoats a broad range of competencies and the mandate to support community efforts to address local socioeconomic needs. The 2009 amendment aims to strengthen local self-governance and accountability by delegating budget authority to Jamoat councils, and introducing a system of direct election for Jamoat councilors. The 2017 amendment allows Jamoat councils to retain non-tax revenues earned through the provision of administrative services and a percentage of local property taxes. The 2017 amendment suggests a seriousness on the part of national government to enact policies that empower Jamoat councils with authorities and resources needed to support local development and problem-solving.

Other Tajikistan legislation that could apply to project-related activities are listed in Table 2.

Table 2. Other potentially relevant legislation

Law of Republic of Tajikistan on Appeals of Individuals and Legal Entities
Law on Protection of Atmospheric Air (may require permit for emissions from generators or other major sources)
Law on Environmental Audit (may be required by Committee for Environmental Protection)
Law on Production and Consumption of Waste (permit will be required)

The Law on Environmental Monitoring
Water Codex (permission for water usage required)
Law on Road Traffic and Road Activity
Law about Transport
Law on Road Traffic
Law on Road Traffic and Road Activity
Law on Transportation Security

3.1.3 Permits and Permissions Required

Table 3 shows an indicative list of permits, license, authorizations, and other permits required from various authorities.

Table 3. Permits and permissions required

Description of authorization document	Date of issue	*Issuing authority*
Design stage (Barqi Tojik)		
Conclusion of the State Ecological Expertise on the project	Following submission	Committee for Environmental Protection (CEP)
Construction stage (contractor)		
License to conduct the type of activity	Prior to construction	Ministry of Industry and New Technologies of the Republic of Tajikistan
Permission for land use for the construction of the camp, asphalt and concrete plants and the development of quarries for the extraction of soil for the preparation of building materials (gravel, sand, crushed stone) and excavation for road pavement.	Prior to construction	Local authorities (Hukumats)
Permission for special water use	Before and during construction	Committee for Environmental Protection, Tajikgeology (technical water), Ministry of Health and Social Defence (drinking water)
Permission for emissions of harmful substances into the atmosphere (MPE) from stationary and mobile sources	At the construction stage	Committee for Environmental Protection
Permission for discharge of hazardous substances into water bodies (MPD)	At the construction stage	Committee for Environmental Protection
Permission for land acquisition for temporary storage of construction waste (substandard soil, old asphalt, dismantled concrete products, etc.)	At the construction stage	Committee for Environmental Protection, Local authorities (Hukumats)

Description of authorization document	Date of issue	*Issuing authority*
Permission to remove construction and household waste for storage in specially designated areas (disposal areas)	As required	Local authorities (Hukumats)

3.2 International Obligations

In addition to national legislation and regulations on environmental issues, Tajikistan is also party to several potentially relevant international treaties that are focused on environmental issues:

- UN Framework Convention on Climate Change, 1998, with related update Kyoto Protocol, accessed on December 29, 2008, and entered into force on March 29, 2009
- Stockholm Convention on Persistent Organic Pollutants (ratified 2007), as updated
- Aarhus Convention (UNECE Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters) (joined 2001), as updated by Kiev Protocol on Pollutant Release and Transfer Registers to the Convention on Access to Information, on May 21, 2003
- Rotterdam Convention on Prior Informed Consent (PIC) procedure on September 28, 1998, ratification pending
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (2016)

In addition, Tajikistan has ratified a number of core labor standards of the International Labour Organisation, including the following:

- Forced Labor (C029) and Abolition of Forced Labor (C105)
- Minimum Age (C138) and Worst Forms of Child Labour (C182)
- Discrimination (C111)
- Freedom of Association and the Right to Organize (C087)
- Right to Organize and Collective Bargaining (C098)
- Equal Remuneration (C100)

3.3 World Bank Environmental and Social Standards

3.3.1 Environmental and Social Framework

Barqi Tajik is seeking financing for the project from the World Bank, which requires that the Project meet the Bank's environmental and social standards, as well as relevant Tajikistan legislation if it is more stringent. As noted above, the World Bank's Environmental and Social Framework and 10 Environmental and Social Standards (ESSs) establish requirements for Borrowers and grantees such as Barqi Tojik to identify, assess, and control environmental and social risks and impacts of Bank-supported projects. Relevant ESSs include:

- ESS1: Assessment and Management of Environmental and Social Risks and Impacts: identification, control, and monitoring of risks and impacts, including identification of applicable requirements and monitoring outcomes.
- ESS2: Labor and Working Conditions: labor relations, rules of employment, occupational health and safety, workforce protection, worker grievance mechanism, with specific requirements for contractor and subcontractor employees.
- ESS3: Resource Efficiency and Pollution Prevention and Management: conservation of resources and control/prevention of wastes and pollution.
- ESS4: Community Health and Safety: avoidance and control of risks and impacts on communities from project activities and workers, emergencies, security, and other factors. ESS4 includes an annex outlining procedures for Safety of Dams.
- ESS10: *Stakeholder Engagement and Information Disclosure*: identification and engagement of local and other stakeholders throughout the project life cycle, disclosure of project information, grievance redress mechanism for external stakeholders.

The following Standards do not apply to the Project:

- ESS5: *Land Acquisition, Restrictions on Land Use and Involuntary Resettlement*: There is no physical or economic displacement associated with the Project as there is no need for expansion of land needed for the bridge and approaches beyond its existing footprint.
- ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources: protection and conservation of biodiversity and habitats, support livelihood of local communities. The only possibility of impacts to the river would be spills into the river, which could cause only very localized and short-lived impacts.
- ESS7 *Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities*) does not apply since there are no communities that meet the World Bank criteria for Indigenous Peoples living within the Project's area of influence.
- ESS8: *Cultural Heritage*: protection of tangible and intangible cultural heritage. As with ESS5, there will no disturbance of currently undisturbed land, either during construction or operations, beyond its existing footprint, so no cultural heritage will be disturbed.
- ESS9 (Financial *Intermediaries)* does not apply since Bank funding is not being provided to financial institutions for further on-lending.

Table 4 provides a summary of key gaps between the World Bank's environmental and social standards and comparable Government of Tajikistan regulatory requirements. As noted, the more stringent of the requirements will apply to the Project.

3.3.2 World Bank Operational Policy 7.5, Projects on International Waterways

In addition to the Environmental and Social Framework, Operational Policy 7.50 applies to projects on international waterways, which includes rivers that form boundaries between countries, or their tributaries. The Policy requires notification of all countries of the project details. The Vakhsh River is considered an International Waterway since it is a tributary to the Amu Darya, which runs through

Turkmenistan and Uzbekistan and forms a border of Afghanistan. The World Bank notified these riparian countries at the time of Phase 1, and will again notify them of Phase 2 in the spring of 2020.

3.3.3 World Bank Group Environmental, Health, and Safety Guidelines

The World Bank Group has promulgated a number of Environmental, Health, and Safety Guidelines (EHS Guidelines). One is applicable to this project: The *General EHS Guidelines* (April 30, 2007), which includes guidelines for environmental controls during construction, including best practices and standards for air and water emissions, hazardous materials management, noise, contaminated land, etc.) and occupational and community health and safety. As an example of good international industry practice, the EUROCODES standards for structures[2] will be used for the design of the bridge rehabilitation works.

3.3.4 World Bank Good Practice Notes

Several good practice notes promulgated by the World Bank are potentially applicable to the project, including:

- *Non-Discrimination and Disability* (2019) describes how environmental and social assessment and other steps in World Bank financing can identify and overcome issues related to nondiscrimination and disability.
- *Addressing Gender Based Violence in Investment Project Financing involving Major Civil Works* (2018) provides guidance on identifying approaches to identifying risks of gender-based violence, in particular sexual exploitation and abuse, and sexual harassment, and to providing advice to best manage such risks.
- *Gender* (2019) explains how the World Bank Environmental and Social Framework supports the closure of gaps between men and women, girls, and boys, and enhance women's leadership and voice.

In addition, the World Bank has developed guidelines for ongoing operations in response to the ongoing pandemic:

- WBG Response to COVID-19 - Advisory note on Contingency Planning for Existing Operations (16 March 2020)
- ESF/Safeguards Interim Note: COVID-19 Considerations in construction/Civil Works Projects (7 April 2020)

2.1 Environmental and Social Risk Classification

The World Bank ranks the risk associated with all projects that it finances into one of four classifications: *High Risk, Substantial Risk, Moderate Risk or Low Risk*. In determining the appropriate risk classification, the Bank takes into account relevant issues, such as the type, location, sensitivity,

[2] EUROCODES 1 EN 1991-1-1 (2002) (English): Eurocode 1: Actions on structures. The EUROCODES are a series of 10 European Standards, EN 1990 - EN 1999, that provide a common approach for the design of buildings and other civil engineering works and construction products. They are the recommended reference for technical specifications in public contracts in Europe and are widely used around the world.

and scale of the project; the nature and magnitude of the potential environmental and social risks and impacts; and the capacity and commitment of the Borrower (including any other entity responsible for the implementation of the project) to manage the environmental and social risks and impacts in a manner consistent with the ESSs.

The environmental risks associated with the Nurek HPP Rehabilitation Project are considered *Substantial*. Potential adverse impacts would be during the 62-week construction phase and can be avoided or controlled by implementation of appropriate mitigation measures. The works will take place on the riverbanks and on the bridge itself, with less activity in nearby storage and preparation areas. The primary risks would be to project workers, including working at heights and over water, working with heavy machinery, exposure to asbestos and other hazardous materials and waste (fuels, paints, etc.), and exposure to loud noise. There is some limited risk of spills that could affect water quality if materials are not stored and handled properly. The only risks to community members that could be expected would be due to project traffic, and during periods when pedestrians are allowed on the bridge, from ongoing construction activities. The Environmental and Social Management Plan in Chapter 9 describes actions that Barqi Tojik, the Project Management Consultant, and the Contractor will be required to undertake in order to avoid, reduce, or otherwise mitigate the risks.

Table 4. Summary of World Bank requirements and key gaps with Tajikistan legal requirements

ESS &Topic	*Major requirements*	*Key requirements/gaps in Tajikistan legal framework*
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts		
Scope of application	ESSs apply to Associated Facilities to extent of Borrower's control/influence (there are no associated facilities known at present)	Associated facilities not covered by Tajikistan law as such, except to the extent that all activities in Tajikistan are subject to laws
Borrower's E&S Framework	May use Borrower's framework if can meet objectives of ESSs. This is not the case here, which requires application of World Bank requirements.	No provision for alternative requirements except that international standards take precedence if agreements are in place
A. E&S Assessment	– Conduct E&S assessment, including stakeholder engagement – Retain international expert(s) for high-risk projects – Apply national framework, ESSs, EHSGs/GIIP – Apply mitigation hierarchy – Offset significant residual impacts – Differential measures for vulnerable or disadvantaged people – Consider primary suppliers – Assess cumulative impacts	– ESIA law has much less emphasis on social conditions and impacts, but other laws partly fill gaps, but with less specificity concerning community impacts – No distinction between international and Tajikistan experts – No reference to EHSGs or GIIP – No equivalent provision for offsets – No equivalent provisions for vulnerable and disadvantaged people – No coverage of primary suppliers – No requirement for assessment of cumulative impacts
B. ESCP	ESCP includes specific requirements that must be met within a specified time, and also can and should be updated during implementation as conditions and risks change.	No provision in permits/approvals for delayed compliance or for updating requirements.
C. Project monitoring & reporting	– Monitor proportionate to nature of project, risks and impacts, and compliance requirements – Reports to World Bank	Monitoring required but less emphasis
D. Stakeholder engagement and information disclosure	Engage stakeholders through life cycle	Generally consistent but no requirement for project-specific stakeholder engagement plan

ESS &Topic	*Major requirements*	*Key requirements/gaps in Tajikistan legal framework*
ESS2: Labor and Working Conditions		
Scope of application	ESS2 applies to workers employed by Barqi Tajik who work on the project and to contracted workers, primary supply workers, and community workers	– Labor Code applies to all workers in Tajikistan, including foreign workers – Some requirements apply to employer but do not extend to prime contractor
A. Working conditions and management of labor relations	– Written labor management procedures – Terms and conditions of employment – Nondiscrimination and equal opportunity – Worker's organizations	Generally consistent
B. Protecting the work force	– Prohibition on child labor – Prohibition on forced labor	– Minimum employment age is 14, with other limits consistent with ILO, but no work that could "cause health or moral damage" if under 18 – Forced labor prohibited
C. Grievance mechanism	– Grievance mechanism has to be provided for – all direct and contracted workers	No specific requirement for grievance mechanism for workers
D. Occupational Health and Safety (OHS)	Measures relating to occupational health and safety will be applied to the project: – Apply World Bank Group General and sector-specific EHS Guidelines – Requirements to protect workers, train workers, document incidents, emergency preparation, addressing issues – Provide safe working environment – Workers allowed to report safety issues and refuse to work under certain circumstances – Provide appropriate facilities (canteens, toilets, etc.) and ensure accommodations meet needs of workers – All employers to collaborate on applying OHS requirements – Monitor OHS performance	– Generally consistent but less detailed

ESS &Topic	*Major requirements*	*Key requirements/gaps in Tajikistan legal framework*
E. Contracted workers (Stucky, contractors, subcontractors)	– Reasonable efforts to verify contractors have labor management procedures to meet requirements of ESS2 (except those that apply to community and primary supply workers) – Procedures for managing and monitoring performance – Access to grievance mechanism	Safety requirements apply to all employers, including contractors, but no obligation for developers to verify compliance
F. Community workers (not applicable here)	Requirements for working conditions and OHS applied to community labor	Labor Code applies to employers and employees, not volunteers
G. Primary supply workers	Depending on level of Barqi Tajik/contractor control/influence, assess risk of child labor, forced labor, and safety issues and require suppliers to address significant risks	– Tajikistan law applies if work is done in Tajikistan – No obligation on employers in other countries – No requirements for prime contractor
ESS3: Resource Efficiency and Pollution Prevention and Management		
Resource Efficiency		
Scope of application	Borrowers must apply feasible resource efficiency and pollution prevention measures in accordance with mitigation hierarchy	Some requirements
A. Energy use	Adopt measures in EHSGs if project is significant energy user	No specific limits. No significant energy usage.
B. Water use	Assess water use and impacts and communities and adopt mitigation measures as needed	Permits required for water usage
C. Raw material use	Use GIIP to reduce significant resource usage	Resource usage requires permits
Pollution prevention and management		
General requirements	– Avoid, minimize, and control release of pollutants, apply the more stringent of EHSGs and national law – Historic pollution and non-degradation requirements	Specific numeric requirements

ESS &Topic	*Major requirements*	*Key requirements/gaps in Tajikistan legal framework*
A. Management of air pollution	Requires assessment of potential air emissions and implementation of technically and financially feasible and cost-effective options to minimize emissions	Emissions limits. Project will have only minor emissions.
B. Management of hazardous and nonhazardous wastes	– Apply mitigation hierarchy to waste management – National and international conventions for hazardous waste management and movement – Verify hazardous waste management contractors are licensed and disposal sites operate to meet standards	– Detailed requirements for hazardous and other wastes – Signatory to international conventions – No requirements to verify haulers/contractors
C. Management of chemicals and hazardous materials	– Minimize use of hazardous materials – Avoid use of internationally controlled materials	– Regulations on hazardous materials – Signatory to international conventions
D. Management of pesticides	Requirements for pesticide use: Not applicable to this project	Not applicable
ESS4: Community Health and Safety		
Community health and safety		
A. Community health and safety	– Evaluate risks to community health and safety and apply mitigation hierarchy and GIIP to reduce risks – Consider third-party safety risks in designing infrastructure and equipment, with regard to high-risk locations – Ensure safety of services provided to communities – Identify traffic/road risks, assess risks if needed, consider safety in fleet decisions, take measures to protect public – Assess and avoid impacts on provisioning and regulating ecosystem services as appropriate – Avoid or minimize potential for disease transmission and communication (including HIV/AIDs and sexually transmitted diseases), including due to labor influx – Consider and provide necessary protections for vulnerable groups	General requirements to minimize risk, no specific requirements for services, ecosystem services, emergencies, etc.

ESS &Topic	*Major requirements*	*Key requirements/gaps in Tajikistan legal framework*
	– Address risks to community of hazardous materials management – Prepare for and respond to emergencies, consider in EIAs, prepare response plans	
Security personnel	– Assess and address risks of security arrangements – Apply principles of proportionality, GIIP, and law – Verify contracted workers are not implicated in past abuses and are trained – Investigate incidents, report unlawful acts to authorities	No specific requirements
Annex 1. Safety of Dams	– Design and construction of new dams to be supervised by experienced professionals – Dam safety measures to be adopted and implemented during design, tendering, construction, operation, and maintenance – Safety measures designed by qualified engineers to be adopted in accordance with GIIP (paragraph 5) – Confirmation of no or negligible risks to communities due to failure of dam (in footnote 123)	No equivalent requirements
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement		
Not relevant to this project		
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources		
Not relevant to this project		
ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities		
Not relevant to this project		
ESS8: Cultural Heritage		
Not relevant to this project		

ESS &Topic	*Major requirements*	*Key requirements/gaps in Tajikistan legal framework*
ESS9: Financial Intermediaries		
Not relevant to this project		
ESS10: Stakeholder Engagement and Information Disclosure		
Requirements	– Engage stakeholders throughout project life cycle, determine how they wish to be engaged – Provide stakeholders with information, – Maintain documented record of engagements	Generally consistent but less detailed
. Engagement during project preparation	– Identify and analyze stakeholders, including disadvantaged or vulnerable – Stakeholder Engagement Plan (SEP) required, with detailed requirements for disclosure, timing of consultations, measures for disadvantaged or vulnerable, etc. – Disclosure of information early to allow consultation on design – Consultation to allow ongoing two-way communication throughout project life cycle	– No requirement to analyze stakeholders – No formal plan required – Early disclosure required
. Engagement during project implementation and external reporting	Engagement and disclosure of information to continue throughout implementation, following Plan	No specific requirement for continuing engagement
Grievance mechanism	– Establish and implement prompt, effective, culturally appropriate, and discreet grievance mechanism – No limit on legal remedies	Tajikistan law provides channels for filing complaints, requests, and appeals
Organizational capacity and commitment	Define roles & responsibilities, assign personnel to implement stakeholder engagement activities	No specific requirement for assigning roles and responsibilities
Annex 1: Grievance mechanism	Options for managing mechanism: ways of submission, log, advertised procedures, appeals process, mediation	

4 ENVIRONMENTAL AND SOCIAL SETTINGS

4.1 Topography, Vegetation, and Soils

The bridge connects the left bank of the Vakhsh river with its right bank, where the town of Nurek is situated for a distance of several kilometers downstream from the bridge. The width of the Vakhsh river's valley in this area ranges between 700 to more than 1,100 meters (Figure 5). Land use of the right bank is characterized by occupied and vacant residential houses, private gardens, farmlands, orchards, and other infrastructure facilities of Nurek town.

Elevation of the floodplain on the right (north) side ranges from 645 to 750 meters above sea level. As shown on Figure 8, the floodplain on the left bank of the river (south) is narrower than on the right (north), with elevation between 640 to 680 meters above sea level. The floodplain boundaries from both sides of the river are presented by dissected mountain ranges. The hills on the right bank are not vegetated, while on the left side being partially vegetated with trees and shrubs (walnuts, sycamore and poplars), as shown on Figure 9 and Figure 10.

Soils of the Vakhsh river's floodplain are characterized by sandy, silty alluvial soils, which are extensively used for growing fruits and vegetables.

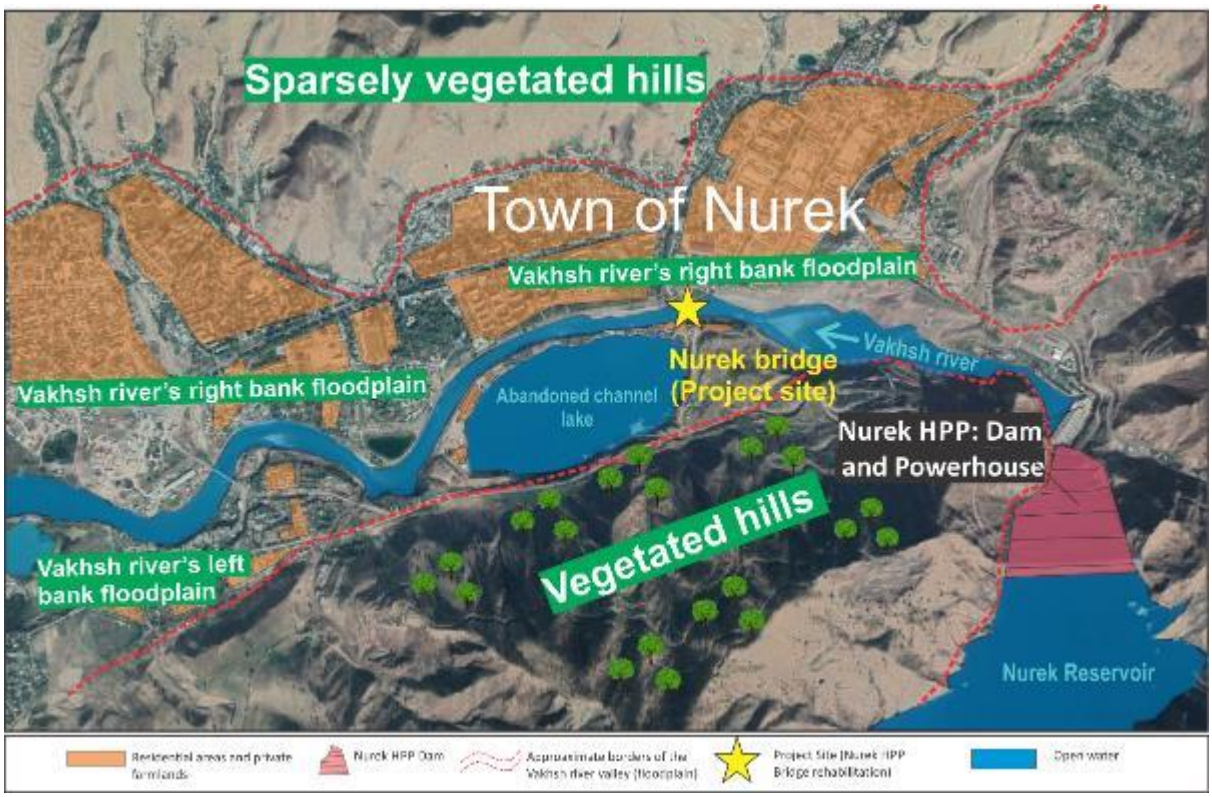

Figure 8. Topography and land use around the Project site

Figure 9 View toward the left bank of the Vakhsh river (note vegetated terraces)

Figure 10 View toward the right bank of the Vakhsh river (note the scarcely vegetated terraces)

4.2 Biodiversity and Habitat

Vegetation of the floodplain of the Vakhsh River and riparian areas is represented mostly by Tugai forests (desert *poplars and olive trees and shrubs)* and giant reeds, sugar cane and other species that are particularly important for local biodiversity. Two amphibian and a number of reptile species can be found in the floodplain areas. The *Vipera lebetina* (Blunt-nosed viper) is categorized as an endangered species by the International Union for Conservation of Nature (IUCN). Nine species of mammals have been identified in the floodplain. *Lutra seistanica* (Eurasian otter) is one of the key species in the floodplain habitat and is categorized IUCN) as Near-Threatened. A total of 44 bird species have been found in the floodplain areas, and 26 of them nest in the floodplain. Eighteen species, mainly water birds (ducks, goose, little egret, grey heron etc.), can be considered as migratory species for spring or autumn.

Fish fauna in the Vakhsh River downstream of Nurek HPP include the common Marinka, Turkestan catfish, Amudarya trout, rainbow trout, brown trout, Tibetan stone loach, crested loach and Carps. There is some local fishing by Nurek residents, but no large-scale or commercial fishing in the area.

The riparian habitat where the bridge is located is heavily modified by past construction and other human activities, and the river is entirely controlled by operation of the hydropower plant. Neither would support important biodiversity, and the presence of any of species of conservation concern is considered very unlikely in the urbanized area around the bridge and in the river.

4.3 Surface Water

The Vakhsh River contributes an average of about 25 percent of the annual flow of the Amu Darya River and another tributary, the Pyanj River, about 40%. The flow pattern of the Vakhsh river is highly seasonal, with high flows in summer due to snow and glacier melt in the mountains, and low flows in winter since most of the precipitation in the catchment area falls as snow. This is moderated somewhat by the ability of the Nurek reservoir to store water in summer and use it to generate electricity in winter. The average annual discharge of the Vakhsh river is about 640 m3/s. Seasonal discharges are regulated by agreements among Tajikistan and other riparian countries.

A lake that represents an abandoned river channel that was cut off from the river in the past is located in approximately 200-250 meters south west from the bridge (Figure 8). The total area of the channel lake is about 60 hectares

The water of the Vakhsh River downstream of the Nurek HPP is influenced by water quality in the Nurek reservoir upstream. Large and deep reservoirs in temperate climates, like Nurek HPP reservoir, usually show a thermal stratification during summer when water temperature at the surface is significantly higher than water below the reservoir surface. This thermal stratification and water intake for the turbines in deeper (cooler) layers can lead to the input of very cold water into the river downstream of the power plant. Moreover, in the deeper layers of the reservoir the small amount of biomass and the reduced oxygen circulation lead to anoxic conditions that can influence the quality of the water released downstream.

The water in the river has a rather high carbonate concentration ([HCO_3^-] = 105 mg/l); the concentration of sulphates regularly exceeds the Tajik requirements for surface water and the concentration of chlorine is rather high, which all together indicates somewhat corrosive water. Overall, the water quality in the Vakhsh river is considered as good, with slight degradation mainly related to salinity (*Nurek HPP rehabilitation ESIA, 2017*).

4.4 Social Setting

The bridge is in the city of Nurek, in Khatlon region. The city is 885 meters above sea level and is 70 kilometers southeast of Dushanbe, the capital of Tajikistan. The population was estimated to be about 28,500 in 2015. The city was founded in 1960 for the construction of the hydropower complex.

The city government includes a mayor and several departments that provide services including a Department of Social Development and Communication with the Public, Department of Organization and Labor, and a General Department of Citizen Monitoring and Treatment. There are two fire stations, one for the city and the other dedicated to the HPP. There is also a Russian military base and a Tajik military base.

Officially, the country has a literacy rate of 100 percent, and Nurek has the following educational institutions:

- 11 kindergartens, nursery schools for children under 7 years old
- 4 primary schools
- 17 secondary schools for children 8-10 years old
- 1 gymnasium for children 11-16 years old
- 1 high school
- 1 MTI

The city also has a hospital and health center, several rural health centers, and other health facilities, including facilities focused on childhood illnesses and on tuberculosis.

The structure of the city's populations corresponds roughly to that of the country, which is shown in Figure 11

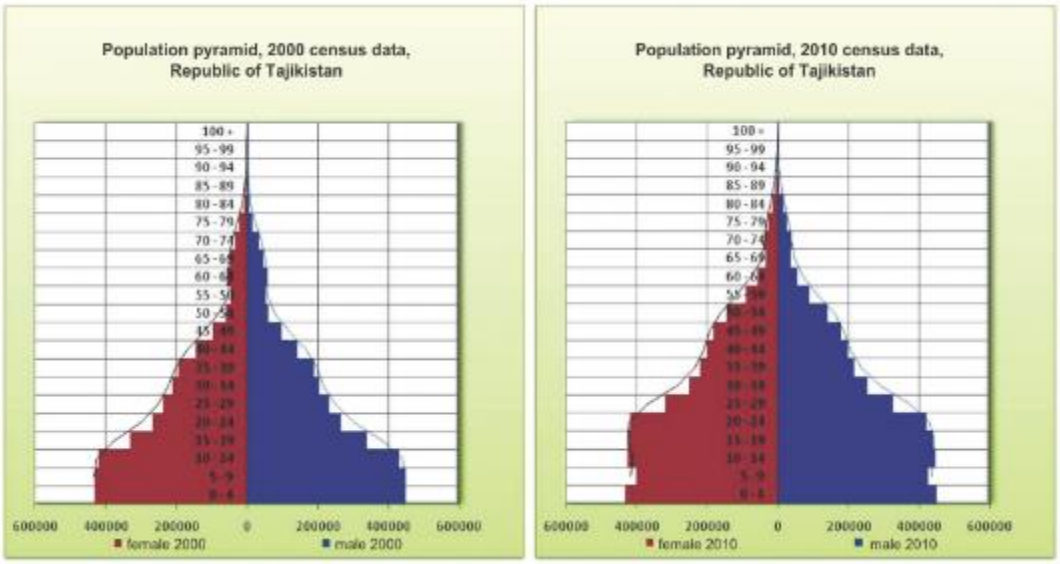

Figure 11. Population of Tajikistan by age and gender (2000 and 2010 census data)

The people of Nurek are mostly Muslim, with about 10 percent Orthodox Christian. Places of worship reflect this distribution, with only one Orthodox church and mosques for the rest.

Apart from Nurek HPP, industry is represented by a reinforced concrete structure factory and a textile factory. There are also local markets, a central market, several commercial streets (agricultural products, textiles, computers, etc.), crafts (garages, woodworking, etc.) and mainly subsistence farming in the vicinity. Construction activities constitute the heart of economic activity. At the national level, unemployment is seven percent but locally it is considered to be significantly higher (the World Bank estimated 35 percent in 2013). Many people leave the region, often to go to Russia, for lack of prospects locally.

There is some summer tourism linked to the reservoir and there is an active socio-cultural center in the city. However, there are only a few hotels inside the city, only one of them relatively large, and no functioning movie theater.

The primary road through Nurek is in good condition, but secondary roads are in average or bad condition away from the center of the city. The road to the bridge on the left (south) bank has several erosion gullies that threaten the road and may make it unsafe for construction vehicles.

The city has a drinking water system exists, but it is not always in service. The electrical network is in good condition, and in fact is better than in the rest of the country thanks to the hydropower plant.

Since the city was only founded in 1960, there is no ancient historical heritage associated with the urban area, although some small physical cultural resources have been found in the area over time. There is also a museum in Nurek City.

5 SUMMARY OF POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

5.1 Potential Impacts During Construction

Potential impacts would take place during the 62 weeks of construction. impact and disturbances are anticipated to take place during construction stage. The contractor for construction works will be selected upon completion of Barqi Tojik's solicitation of bids for bridge construction. The solicitation and contract will use the forms of the World Bank's Standard Procurement Documents, which include robust environmental and social requirements, including for the bridge a copy of this ESMP. Of the estimated 100 construction workers, it is expected that half or more could come from Nurek City and surrounding area and most of the rest from Dushanbe, with a few from other countries.

Table 5 identifies the major stages of construction and activities and the impacts that could result without proper mitigation.

Table 5. Major activities and potential impacts

Activity	*Potential adverse impacts*	*Significance of impact*	
		Without mitigation	*With mitigation*
Solicitation and selection of contractor	Lack of awareness of ESHS requirements leads to unacceptable impacts on people and the environment	Major	Minor to negligible
Employment of workers	– Worker dissatisfaction, strikes – Penalties from Government	Major	Minor to negligible
Contractor site preparation and mobilization	– Damage to land and property – Unsafe conditions and poor work practices – Nuisance (dust, noise) and other impacts on community – Community disruption/disturbance and/or overload of services due to influx of workers	Moderate	Minor to negligible
Establishment of accommodations (if needed), laydown and storage area	– Unsafe and/or unhygienic accommodations – Excessive area occupied, poorly arranged – Spills or loss of fuel and hazardous materials	Moderate	Minor to negligible
Site traffic control	– Accidents on bridge involving vehicles, construction, and/or equipment pedestrians (including workers)	Major	Minor to negligible
Transport of materials and supplies	– Vehicle damage or failure – Accidents on public roads and on site	Major	Minor to negligible

Activity	*Potential adverse impacts*	*Significance of impact*	
		Without mitigation	*With mitigation*
	– Disturbance to communities, including vulnerable receptors (hospitals, schools) – Injury or death to drivers and pedestrians		
Works on riverbanks, in river, or on bridge over water	– Water pollution/contamination – Damage to riverbed – Damage to riverbanks – Reduced biodiversity (no known species or habitats of conservation concern)	Moderate	Minor to negligible
All construction activities	– Unsafe work practices – Injury or death from falls from bridge works or scaffolding – Injury or death from excavation collapse – Injury or death from cuts, crushing, drowning, burns, exposure to hazardous materials (paints, fuels) – Water contamination – Spread of COVID-19 among workers – Community disruption/disturbance and/or overload of services due to influx of workers	Major	Minor
Leisure activities	– Community disruption/disturbance and/or overload of services – Spread of coronavirus to community	Minor	Negligible
Refueling vehicles and equipment	– Spills into Vakhsh River – Soil pollution	Minor	Negligible
Operation of vehicles and machinery	– Air pollution – Climate change (GHG emissions)	– Minor – Negligible	Negligible
Waste management	Damage to land or water (note: limited or no hazardous wastes expected except possibly lead-based paint and spent solvents/lubricants)	Minor	Negligible
Demobilization	– Erosion from unrestored verges of access roads – Unsafe conditions at work sites at laydown/storage areas, camps, etc.	Moderate	Negligible

Construction is inherently dangerous, even more so when it occurs in developed areas such as this one. It is expected the most significant potential risks would be to workers from construction activities

and from traffic, and especially if light vehicles and pedestrians are allowed to use the bridge during at least part of the construction. Such traffic will be allowed except at times when construction activities would present a risk. However, no heavy vehicles will be allowed on the bridge at any time before construction is complete. With the use of proper mitigation measures as described in section 6, all impacts will be reduced to acceptable levels, with many of them avoided altogether.

5.2 Potential Impacts During Operation and Maintenance

As noted earlier, Barqi Tojik will turn the bridge over to Government authorities, which will be responsible for bridge operations and maintenance in accordance with Tajikistan law. Once construction is complete, normal operation and maintenance of the bridge will not have impacts on the environment or on people other than workers. Vehicle operation would pose some risk and cause air pollution. That will be beyond the scope of the World Bank and Barqi Tojik's control, other than required the bridge to be designed and constructed to meet international standards, including signage and other safety measures.

6 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLANS

The environmental and social impacts that could result from bridge rehabilitation are summarized in Table 5 above. As noted, some activities during the rehabilitation and operations phases of the dam and power plant could have a moderate or even major adverse impact on specific environment and social resources if they are not controlled. That makes it imperative for precautions to be taken to ensure that significant adverse effects are avoided, reduced, or otherwise mitigated. It will take a concerted effort by Barqi Tojik, the Project Management Consultant, and the contractor selected for design and construction to ensure that proper procedures are implemented throughout the procurement, project preparation and construction phases of the project, and that the mitigation measures specified here are incorporated into requirements for bidding, selection of contractors, design, and rehabilitation works for the bridge.

6.1 Environmental and Social Management Plan

Table 6 describes and outlines the Environmental and Social Management Plan for the bridge rehabilitation. It identifies the measures that must be implemented to avoid, reduce, or otherwise mitigate the potential moderate and major adverse impacts identified above. It also identifies best management practices and other mitigation measures that will reduce or eliminate many of the impacts of minor or even negligible significance, which could escalate to become more important if they are not handled properly. It is expected that mitigation measures will be sufficient to eliminate or reduce all risks to acceptable levels. For some potential impacts, the ESMP requires development of detailed plans to manage the risks and hazards and includes an overview of the relevant requirements of those plans.

Primary responsibility for implementing mitigation measures during the rehabilitation phase will rest with the contractor, although Barqi Tojik and the Project Management Consultant (also known as the Consulting Engineer, Owner's Engineer, Supervising Engineer, or other names) will have responsibility for some actions. All works by the contractor, including implementation of mitigation measures, will be overseen and supervised by the Project Management Consultant (PMC), with ultimate oversight and responsibility resting with Barqi Tojik. It is important to note that Barqi Tojik, in part through the PMC and contractor, will also be responsible for complying with relevant requirements of Tajikistan law, the World Bank Environmental and Social Standards, the World Bank Group's General Environmental, Health, and Safety (EHS) Guidelines, and the World Bank's Good Practice Notes, each of which may have more detailed requirements than the ESMP presented here.

The Environmental and Social Management Plan (Table 6) is organized as follows:

- Section 1.0 includes measures for the procurement phase (that is, the process during which Barqi Tojik will select the contractor)
- Section 2.0 includes measures to be implemented during the project preparation stage, between the time the contractor is appointed and the main rehabilitation activities begin. This will include employing workers and specialists, developing detailed management

plans (as required by the ESMP), training workers in mobilization jobs, acquiring construction storage areas, preparation areas, and camps.

- Section 3.0 includes measures during construction, which will include mobilization of all workers and equipment to the site, completing the establishment of storage areas and camps, training all workers in performing their jobs safely, and implementation of the rehabilitation works.
- Section 4.0 includes measures to be implemented during demobilization by the contractor.
- Section 5.0 includes measures that must be implemented during all phases of activities, from procurement through demobilization.

6.2 Environmental and Social Monitoring Plan

Following the table of mitigation measures, Table 7 provides the Environmental and Social Monitoring Plan. Implementation of this Plan is necessary to ensure there is close scrutiny over actual environmental and socioeconomic performance so that prompt action can be taken if mitigation measures are not being implemented or if the measures are not adequately mitigating actual impacts. It is important to note that most of the monitoring responsibilities of the Project Management Consultant are not shown in the Table, since they will be monitoring all aspects of the contractor's activities on a continuous basis. The objectives of the Environmental and Social Monitoring Plan are to ensure the following goals are achieved during all phases of the project:

- Tajikistan, World Bank, Barqi Tojik, and community obligations are met
- Project impacts are identified during preconstruction, construction, and demobilization
- Mitigation measures are implemented as required, and verified as being implemented
- The effectiveness of mitigation measures is evaluated and shortcoming are identified
- Mitigation measures are refined and enhanced as needed to further reduce impacts
- Mitigation measures are developed and implemented as needed to deal with unforeseen issues or changes in operations
- Barqi Tojik, Tajikistan authorities, and the World Bank are able to verify that their respective requirements are being met.

As noted, Barqi Tojik will oversee the Project Management Consultant (PMC), which will support the procurement process and will then review and approve the contractors' management plans and oversee the contractors to ensure that these companies, their subcontractors, and all workers are fully implementing the required mitigation measures during the preconstruction, construction, and demobilization phases. These measures include training for workers so they are familiar with their own personal responsibilities as well as their employers'.

Table 6. Environmental and Social Management Plan for Bridge Rehabilitation Project

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
1.0 Procurement Phase					
1.1	Preparation of bidding documents for bridge design	– Failure to optimize designs to avoid impacts on people and environment – Unsafe bridge	As required by World Bank Standard Procurement Documents, include relevant requirements for ESHS documentation (SEP, LMP, this ESMP) in procurement documents. Include the following in work requirements: – For storage and laydown areas, and camps, use developed land some distance from residences – Design to include specific safety measures necessary to ensure safe construction (fall protection measures, etc.) – Design to call for any upgrades of workplaces (lighting, footing, ventilations, etc.) that are needed for safe performance of duties by all workers – Design to incorporate principles of universal access (that is, the bridge will be safe and accessible for all users, including children, elderly and persons with disabilities).	– Prospective bidders understand the need to minimize impacts on workers and river – Design includes requirements for safe works and safe roadway use – Minimal unqualified bidders	PMC, Barqi Tojik World Bank (no-objection approval)
1.2	Preparation of bidding/ procurement documents for rehabilitation works	– Failure of bidders to recognize ESHS requirements, to plan for ESHS management, and to incorporate ESHS requirements in cost proposals and planning – Unacceptable impacts	As required by World Bank Standard Procurement Documents, include relevant requirements for ESHS documentation (SEP, LMP, this ESMP) in procurement documents and require proposals to include key elements of the following plans as part of Management Strategies and Implementation Plan (MSIP): – Outline of Occupational Health and Safety Plan – Labor management plan – Worker Code of Conduct and worker Grievance Redress Mechanism, to include provisions specified in SPDs and others specified in this ESMP Define project-level (that is, not corporate-level) key personnel to include: – ESHS manager	– Bidders understand ESHS requirements and prepare responsive proposals – Higher ESHS capacity by bidders – Realistic proposals	PMC, Barqi Tojik World Bank (approval)

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
			– Safety expert/manager – HR manager Require ESHS Performance Security of at least two percent of contract value		
1.3	Review and evaluation of proposals	– Failure to consider bidders' ESHS qualifications and experience in scoring proposals – Unacceptable impacts	– Inclusion of ESHS specialist(s) in proposal review team, with evaluation considering the amount of ESHS specialist time provided the entire construction period Awareness by entire evaluation team of key ESHS requirements – Scoring includes corporate ESHS experience and qualifications, ESHS staff experience and qualifications (especially or safety) and evaluation of MSIP (including adequacy of OHS Plan outline, Labor Management Plan, worker Code of Conduct, and worker GRM – Recognition and exclusion of unqualified bidders or bidders with unsatisfactory ESHS performance in past	– Bidders' ESHS qualifications and experience receive full consideration in evaluations – Bidders disqualified for poor safety and ESHS record – ESHS capacity recognized and scored	PMC, Barqi Tojik
1.4	Selection of contractors	– Selection of contractor unqualified and/or unprepared to develop and implement full Construction ESMP – Unacceptable impacts	– MSIP plans show Contractor is aware of requirements and can adapt program to avoid or control impacts – Key staff qualified and available – Award only to contractors with ESHS qualifications and experience that meet specific criteria	– Award to contractor able to implement this ESMP and to develop and implement specific ESHS Plans – Contractor ultimately implements ESHS requirement satisfactorily – Fewer delays in project preparation and construction – No unacceptable impacts	Barqi Tojik World Bank (no-objection approval)
2.0 Project preparation and pre-construction					
2.1	Implementation of Stakeholder Engagement Plan (SEP)	– Uninformed local people and other stakeholders	– Outreach to identified stakeholders – Realistic information on employment opportunities	– Well-informed supportive community – Realistic expectations	Barqi Tojik (with specific assignments for

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
		– Unrealistic expectations by local people and prospective employees – Long-term distrust of contractors and Barqi Tojik – Protests or other disruptions – Vandalism	– Meetings with community leaders and citizens as appropriate – Implementation of external Grievance Redress Mechanism – Train project personnel (Barqi Tojik, PMC, contractors, etc.) in relevant requirements of SEP, including receiving and reporting grievances	– Trust of contractor and Barqi Tojik to resolve issues – Timely resolution of grievances – Barqi Tojik awareness of concerns and issues – Grievances handled promptly and in accordance with Grievance Redress Mechanism	PMC and contractor)
2.2	Preparation for management of ESHS issues	– Failure to hire qualified specialists and give them sufficient time to manage issues – Noncompliance with applicable requirements – Excessive ESHS impacts due to mismanagement or failure to manage ESHS issues	– Assign key ESHS personnel that were identified in proposal and provide sufficient time to perform duties, including: - HSE manager (1/2 time or more) - Qualified safety expert/supervisor (full-time) - Staff qualified to manage wastes (as needed, estimated at ¼ time) – Employ and train sufficient safety officers: at least one per work crew and overall ratio of at least 1 per 50 workers – Train managers and supervisors/foremen in key requirements for ESHS mitigation (i.e., this ESMP and monitoring plan), including Code of Conduct and worker GRM – Develop checklists for use by ESHS staff to record and report findings – Develop templates for monthly ESHS reports to PMC – Develop templates for investigating and addressing root cause of serious incidents /injuries/accidents – Develop registers for recording grievances from external stakeholders and from workers and procedures for passing them to PMC and Barqi Tojik	Qualified staff in sufficient numbers to implement/ oversee C-ESMP	Contractor

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
2.3	Prepare Contractor Management Plan (see row 3.4)	– Management of contractors not sufficient to avoid unacceptable impacts – Noncompliance with ESHS requirements	– Plan prepared by qualified ESHS specialist – Plan to be approved by PMC project manager/Resident Engineer, then by Barqi Tojik – Plan to include checklists for inspections and observations, schedules for oversight activities, reporting requirements, staff assignments, etc.	– Clear guidance for ESHS supervision	– PMC (prepare) – (Barqi Tojik (approve)
2.4	Complete Contractors' Construction ESMP (C-ESMP) by preparing/ updating: – Subcontractor Management Plan (if required) – Materials and Waste Management Plan (see row 5.5 below) – Labor Management Plan, including Grievance Redress Mechanism – Traffic Management Plan (row 3.2 and 5.2) – Emergency Preparedness and Response Plan (row 5.7) – Occupational Health and Safety Plan (row 3.2, 3.6) – HR Manual (finalize MSIP draft) – River and Riverbank Protection Plan (row 3.9) – Worker Code of Conduct (finalize MSIP draft) Develop Plans or detailed method statements/ procedures on: – Noise and dust control	– Contractor begins works without programs to avoid or minimize impacts on human and environmental resources: – Unsafe vehicles, accidents – Subcontractor ESHS performance not managed – Noise and/or dust disturbances to communities – Community disruption, violence, crime, disease due to worker influx – Unsafe working conditions, workers not prepared for conditions – Unsafe and/or unsanitary accommodations	– Plans prepared by qualified ESHS specialists and accepted by project managers – PMC to review and approve all C-ESMP plans and procedures, including updated MSIP plans that had been submitted in contractor's proposal – All plans reviewed and ultimately approved by qualified experts – All plans to require job and safety training of all workers – Awareness-raising sessions on GBV conducted for all workers – Code of Conduct adopted, acknowledged and signed by all workers on site (Contractor, subcontractors, PMC, as applicable) – All plans include specific detailed training requirements (who is trained, when and how often training will be provided, what is covered) – Plans to be submitted at least six weeks prior to planned mobilization – OHS Plan to include provisions for safe handling and management of debris (including possibly lead-based paint debris), noise control/protection, working at heights, hotworks/welding, working over or near water, working in confined spaces, lifting, and other special risks – Consult with relevant authorities about Traffic Management Plan (including public use of bridge during rehabilitation activities) – Relevant Plans must include measures to to prevent spread of COVID-19	– No activities undertaken without underlying procedure or plan to protect workers, community, and environmental resources – Comprehensive contractor program for avoiding and minimizing impacts – Subcontractor compliance with plans – All activities conducted in accordance with C-ESMP – No unacceptable or unpredictable impacts	– Contractor (prepare) – PMC (approve) – Barqi Tojik to review as needed

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
	– Worker accommodation and work camp management (if needed)				
2.5	Appoint additional ESHS specialist to support PMC supervision of ESHS performance	– Inadequate oversight of contractors by limited time available by PMC specialist – Poor ESHS performance by contractors	– Develop TOR and solicit bids from qualified ESHS specialist(s) – Appoint qualified specialist to spend full-time on-site supervising contractor ESHS performance in support of PMC supervision of HPP and bridge rehabilitation	- Qualified specialist appointed and on-site for supervision - Improved performance by contractors	Barqi Tojik or PMC
2.6	Obtain all required permits and permissions	Illegal operations	All permits obtained before activity begins, including: – Positive Conclusion following review of ESMP by Committee for Environmental Protection – License to conduct the type of activity (issued by Ministry of Industry and New Technologies of the Republic of Tajikistan) – Permission for land use for the construction of camp, asphalt, and concrete plants and (if required) development of quarries for the extraction of soil for the preparation of building materials (gravel, sand, crushed stone) and excavation for road pavement (issued by Hukumats) – Permission for special water use, if needed (issued before or during the construction stage by Committee for Environmental Protection, Tajik geology (technical water), Ministry of Health and Social Defence of the Population (drinking water) – Permission for emissions of harmful substances into the atmosphere (MPE) from stationary and mobile sources (issued prior to construction or during construction stage by Committee for Environmental Protection) – Permission for discharge of hazardous substances into water bodies (MPD) (issued at	– Permits obtained – Legal operation	Contractor

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
			the construction stage by Committee for Environmental Protection) – Permission for land acquisition for temporary storage of construction waste (substandard soil, old asphalt, dismantled concrete products, etc.) (issued prior or at the construction stage by Committee for Environmental Protection, Hukumats) – Permission to remove construction and household waste for storage in specially designated disposal areas (issued as required by Hukumats)		
2.7	Recruit and employ workers and subcontractors	– Unqualified workers and/or subcontractors – Misunderstandings over hiring practices – Poor labor practices (substandard pay, uninformed workers, unsafe conditions, etc.) – Excessive staff turnover	– Implement Contractors' Labor Management Plan (LMP)-see 2.4 above – Advertise positions that are open for hiring – Preference for local hiring, with local people given preference (>50% local unless Barqi Tojik approves less, with justification) – No employees under age 18 – Written contracts with workers, per LMP and Tajik law – Other provisions per Labor Code of Tajikistan – Subcontracts include and require compliance with contractor's LMP, C-ESMP, and Tajikistan law – Workers receive full induction training	– Maximum hiring of PAPs and other locals – Workers employed in compliance with law (nondiscrimination, equal opportunity, income, etc.) – Low staff turnover	Contractor
2.8	Establishment of construction camps/ laydown areas, storage areas	– Contractor trespasses on unauthorized land – Placement of construction zones in inappropriate locations – Impacts outside boundary of designated area	– No rehabilitation activities until C-ESMP approved – Construction zone(s) marked clearly – Implement C-ESMP requirements for noise, fuel and hazardous materials, noise, worker safety, community safety, etc., including worker training on topics relevant to their jobs and on Code of Conduct – Train/warn workers to remain within boundaries and penalize for violations	– Compliance with approved C-ESMP – No unexpected or unacceptable impacts – Minimal disruption to traffic	Contractor

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
			– Consult with roads authority concerning Traffic Management Plan – Maintain photographic and written log of all areas to be affected (camps, storage areas, etc.)		
2.9	Establishment of accommodations, kitchens, sanitary facilities	– Worker illness or death – Worker dissatisfaction and lower productivity – Contamination of land and water	– If accommodations are to be provided, comply with ESS2/IFC/EBRD guidance "Workers' Accommodation: Processes and Standards" – Develop and use operating and maintenance checklists for operation of canteens, kitchens, and accommodations, etc. – Appoint persons to be responsible for cleanliness of accommodations, workplaces, and other areas under contractor control. – Provide toilets at or near all work locations, establish and enforce rules prohibiting workers from using the bush	– Sanitary and compliant facilities and amenities – Healthy workers – Toilets in place where needed	Contractor
3.0 Construction phase					
3.1	Authorization to proceed with works	– Works begin prior to C-ESMP approval and implementation – Unacceptable impacts	– Verify all required permits are in place – Review all Plans that are required as part of C-ESMP (see row 2.3) – When plans fully meet requirements of Tajikistan law, World Bank ESSs, World Bank Group EHSGs, and GIIP, approve and issue authorization to commence work	– C-ESMP meets all standards	PMC
3.2	All activities, beginning with mobilization	– Worker injury or death	Implement Occupational Health and Safety Plan (see row 2.4), including: - Ensure a medical specialist is on call or on-site during construction – Medical clearance for workers to perform their tasks, medical personnel on duty (nurse(s)) – Assessment of risks and identification of mitigation measures for all tasks, with PPE as last resort – Design tasks for maximum safe operations	– Tasks completed with no worker injuries or deaths – Tasks completed with no damage to vegetation, land or property outside construction zone	– Contractor (contractor Plans)

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
			– Workers provided with proper equipment and tools, and PPE, to accomplish tasks safely (head protection, boots, gloves, coveralls, eye protection, hearing protection, respiratory protection, etc.) – Provide personal fall arrest systems, safety nets, guardrail systems, specialized bridge access equipment (UBITs, hydra platforms, etc.), and other means necessary to prevent workers falling into water from bridge works – Only trained workers allowed to complete tasks – Safety Officers oversee all works (minimum 1 per crew and 1:50 workers overall) – Sufficient First Aiders to provide first-level medical care as needed – Fully supplied first aid kits in all vehicles and equipment and quickly accessible at all workplaces – Communications established with nearest medical facilities and personnel regarding works to be completed, arrange for support as appropriate – Record safety statistics (work hours, near misses, minor & incidents and accidents, fatalities) – Provide accessible lifesaving equipment at workplaces over and near water – Detailed requirements and training for working with and near lead-based paint – Qualified safety officers to enforce requirements, up to and including dismissal for repeated violations – Protection against COVID-19 Implement Traffic Management Plan/Procedure (see rows 2.4 and 5.4), to include: – Minimal restrictions to traffic and pedestrians, with alternative transport or assistance as needed – Signage to notify drivers and pedestrians of bridge restrictions, opening/closing times		

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
			– Consultation with local traffic authorities on timing of heavy traffic, road repairs, timing of bridge closures, etc. – Drivers/operators licensed for vehicles and equipment, drivers trained and tested – Vehicles properly licensed/registered – All vehicles/equipment checked for safety daily by drivers/operators (horns, tires, fire extinguisher, headlights and taillights, safety belts, intact glass, working gauges, etc.) – Speed limits established and enforced – Routes planned to avoid sensitive areas (hospitals, schools, etc.) if possible, otherwise establish time and speed limits – Keys never left in vehicle/equipment when driver/operator not present – Barriers to direct pedestrians and vehicles away from work areas and workers – Procedure to stop all heavy vehicles for the entire construction period, and (as required) stop light vehicles and pedestrians as needed to protect workers, works, and drivers/pedestrians: flagpersons, barriers, lights, signs, etc.		
3.3	Implement all other relevant C-ESMP plans (see row 2.4) as part of all activities	Excessive impacts on people and environmental resources	Management of activities as planned to avoid or minimize potential impacts on people and environment	– Implementation of mitigation measures – Adaptive management and modification of Plans in case of unexpected impacts – Minimal impacts, compliance with law and ESSs	Contractor
3.4	Manage contractors	- Inadequate or incomplete implementation of ESHS requirements	PMC to implement Contractor Management Plan (see row 2.4):	– Full implementation of ESHS requirements	PMC

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
		- Contractor paid for substandard ESHS works/performance	– Supervision of contractor C-ESMP implementation by contractor: observations, frequent inspections, review records review, – Require contractor compliance with LMP, safety, and other requirements – Include evaluation of ESHS performance in decisions on payment of invoices for work completion – Do not approve milestone completion invoices until ESHS requirements for those milestone activities have been fully implemented as required – Do not approve invoice for final payment until ESHS requirements are fully met, recommend payment only when 100% complete	– No unacceptable ESHS impacts – Contractor paid 100%	
3.5	Manage subcontractors	– Subcontractors not aware of ESHS requirements – Poor labor practices and poorly trained workers – Failure to implement C-ESMP – Subcontractor paid for substandard ESHS works/performance – Poor ESHS performance, including safety, leading to environmental impacts, impacts on local communities, and worker injury or death	– Include relevant portions of C-ESMP in subcontractor procurement documents and subcontracts (see row 2.4) – Supervision by contractor and PMC of C-ESMP implementation by subcontractors: observations, frequent inspections, review records review, - Require compliance with contractor's LMP, safety, and other requirements, or equivalent requirements approved by contractor – Structure milestone payments to include C-ESMP implementation and withhold payments until ESHS requirements fully implemented – Do not pay milestone invoices until ESHS requirements for that milestone are 100% met, pay final invoice only when 100% complete	– Subcontractor implementation of C-ESMP – No unacceptable ESHS impacts – Subcontractors paid 100%	Contractor
3.6	Work in or near the river and on bridge	Excessive damage to river morphology and aquatic habitat	Implement relevant parts of Occupational Health and Safety Plan to minimize risk of working near or over water – Train workers on buddy system and lifesaving practices/equipment – Provide lifesaving equipment/measures	– Minimal impacts on river and aquatic habitats – Safe workers	Contractor

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
			– No refueling operations within 15m of water – Sanitary facilities (e.g., toilets) at least 10m from water (or on bunded impermeable surface), enforce use of toilets – Immediate cleanup of excess/waste concrete, tools, and debris – Provide barriers or other erosion controls between works on riverbank and flowing water – Minimize works in river, including careful placement of riprap or other materials to stabilize riverbanks		
3.7	Protection of camps, storage areas, equipment, property, substation, etc. (security)	– Abuse of local population or workers, including injury or death – Loss of community support, possibly active opposition – Liability for contractor and Barqi Tojik	Subcontractor to have rules for security (if applicable): – No armed private security – Contractor/Subcontractor and guards checked for licenses, past abuses – Guards trained in appropriate use of force – Consultations with local law enforcement authorities	– No vandalism or theft – No incidents involving security	– Contractor (for camps, storage areas, work areas)
3.8	Payment of contractor/ subcontractor invoices for completion of milestones	– Contractor disregard of safety and other ESHS requirements. – Repeated poor safety practices – Repeated risks to community	– See rows 3.3 and 3.4 above – Consider relevant ESHS management requirements to be an integral part of each construction milestone – Penalize initial failures to implement mitigations by withholding partial or full payment until mitigations are properly implemented – If contractor fails to correct, appoint third party to implement corrective measures, reduce contractor invoices by that amount and more – Penalize repeated failures to implement mitigations by considering milestones incomplete and reducing payments permanently	– Proper implementation of C-ESMP – Timely implementation of requirements of C-ESMP – Minimal impacts	– PMC (for recommendations to Barqi Tojik for milestone payments of contractor invoices) – Contractor (for subcontractor invoices)
3.9	Protection of river	– Spills into river, water contamination – Excessive damage to riverbank	Implement River and Riverbank Protection Plan – No fuel or hazardous materials stored on the bridge or over water, no refueling over water	No spills or other impacts on river or river	Contractor

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
			– Hazardous materials to be used only over impermeable surfaces wherever possible – Netting or other materials to reduce/prevent materials from dropping into river – Protection against erosion for works near river – Careful placement of riprap to minimize disturbance to riverbank and riverbed		
3.10	Appointment of third-party ESHS auditor	– No independent assessment of ESHS performance – Failure to identify ESHS issues	– Appoint qualified international consultant to conduct comprehensive audit of ESHS performance, including contractor performance, supervision by PMC and oversight by Barqi Tojik – Audit to be conducted within first six months of construction and again prior to demobilization – Can be conducted by same team as audits of HPP rehabilitation	Confidence by World Bank, community, and all stakeholders that ESHS performance meets standards	Barqi Tojik
4.0 Demobilization					
4.1	Completion of work	Unsafe and unstable conditions following completion of rehabilitation	– All installations working as required, all areas safe and stable – Satisfactory inspection by PMC and Barqi Tojik prior to demobilization	– Construction complete with C-ESMP fully implemented	– Contractor – PMC and Barqi Tojik (to verify)
4.2	Closure of construction areas, camps, accommodations, etc.	– Debris, wastes, contaminated soil, waters remain after contactor departs – Liability for Barqi Tojik	– Removal of all tools, equipment, storage units/tanks, debris, wastes, etc. – Cleanup of all contaminated soil – Restoration of areas used for storage, camps, etc., as required by lease or other agreement for use – Removal of residual wastes (asbestos, scrap, etc.) – All areas to be inspected by PMC before release/turnover	– Areas used for construction operations restored to pre-construction uses or as agreed with land users – No residual liability or damages	– Contractor – PMC (to verify)
4.3	Payment of final invoice	Demobilization incomplete, with residual damage, leftover waste,	– Recommend that Barqi Tojik withhold final payment until PMC can confirm demobilization is complete from ESHS perspective – Appoint third party to complete restoration activities if contractor fails, at contractor's expense	– No continuing or residual damages or contamination – Land restored to former use as required – Final payment made	PMC

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
5.0 All phases: preparation to demobilization					
5.1	Oversight of ESHS performance of design and construction	– Lack of timely knowledge about contractors' ESHS performance – Unnecessary ESHS impacts – Minor issues become major problems	– Appoint qualified professional(s) to oversee ESHS performance – PMC to communicate with Barqi Tojik on weekly basis on ESHS issues, submit written reports on ESHS performance on monthly basis – Monthly progress meetings involving contractor, PM, Barqi Tojik – Barqi Tojik corporate staff to visit site unannounced at least monthly – Barqi Tojik to report to World Bank on ESHS performance quarterly – Barqi Tojik HSE Department (corporate) to: - Schedule and participate in consultation meetings and informal interviews - Periodically consult with municipal and village authorities - Review grievance logs periodically - Maintain communications with important NGOs - Maintain communications with Committee for Environmental Protection	– PMC supervision of ESHS matters – ESHS compliance – Barqi Tojik project HSE staff and corporate HSE Department knowledgeable and up to date on ESHS performance – Barqi Tojik management well-informed of issues before they become problems	PMC Barqi Tojik
5.2	Operating passenger and heavy vehicles	– Traffic accidents – Injury or death to drivers or passengers – Damage to pedestrians, other drivers and passengers, property – Liability to contractor and project	Implement Traffic Management Plan throughout mobilization, construction, and demobilization phases (see rows 2.4 and 3.2): – Trained and licensed drivers – Speed limits – Daily safety checklist – Passengers only in seats designed for persons (safety belts, etc.), no standing or riding in back of trucks or on equipment – No giving rides to public – Travel on planned routes through Nurek City	– Vehicles and equipment operated by authorized personnel – Safe vehicles and equipment – No traffic accidents – No injuries to drivers or passengers, no damage to property	Owner/ Operator of each vehicle: Contractor, PMC, Barqi Tojik
5.3	Completion of all construction works	Nuisance or injury to community	– Maintain up-to-date schedule of activities at both ends of bridge and other main work areas	– Code of Conduct implemented	Contractor

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
			– Control noise by maintaining equipment and vehicles, training workers – Control dust by damping, speed limits, and other measures as needed – Implement Code of Conduct to prevent worker interference with community affairs (GBV, disruption, etc.) – Enforce strict adherence to restrictions on activities due to COVID-19	– Minimal grievances due to nuisance and worker behavior – Work completed safely	
5.4	Stakeholder engagement and grievance management	– Uninformed stakeholders – Distrust of Barqi Tojik – Increased vandalism	– Barqi Tojik to implement Stakeholder Engagement Plan – PMC and/or contractor to notify local authorities of ongoing activities and schedule – Barqi Tojik implement stakeholder GRM, with support from PMC & Contractor: record, address, and communicate resolutions – Barqi Tojik, PMC, and Contractor implement own worker GRMs: record, address, and communicate resolutions – Barqi Tojik monitors PMC's worker GRM – PMC monitors Contractor's GRM – Barqi Tojik holds stakeholder meetings annually or as needed	– Informed stakeholders – Public support – Grievances addressed and resolved	– Barqi Tojik – PMC – Contractor
5.5	Hazardous and nonhazardous waste and materials management	– Spills and contamination of soil and surface water – Extra cost due to wastage – Risks to workers	Implement Materials and Wastes Management Plan, including – Minimize use of hazardous materials, using nonhazardous substitutes wherever possible, reuse or recycle wastes/materials where possible – Store hazardous materials (including fuels) in secure area over impermeable surface, but not on bridge or within 15m of river – No storage of fuel or hazardous materials on bridge or within 15m of water – No refueling on bridge or within 15m of river	– Minimal spills and contamination, rapid and proper cleanup as needed – Proper and safe waste management, including third-party management	Contractor

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
			– Avoid use of hazardous materials over water whenever possible – Material Data Safety Sheets to be kept at all locations where hazardous materials (including fuels, paints, lubricants) are stored or used – Allow only authorized and trained personnel to work with fuels and hazardous materials – Segregate used materials/wastes in categories to maximize ability to restore, reuse, recycle and minimize disposal – Dispose wastes in licensed disposal area or hire licensed hauler to take wastes to a licensed area (verified by contractor) – Consult with authorities on proper management of lead-based paint waste – Use licensed haulers for waste removal, verify hauler's license and verify that final disposal/recycling location is properly permitted – Verify materials taken off-site for recycling are actually recycled or properly disposed		
5.6	Vehicle and equipment fueling and maintenance	– Spills and contaminated soil or water – Unsafe or inoperative vehicles and equipment – Fire	– Vehicle and equipment fueling and maintenance only over impermeable surfaces, but not on bridge or within 15m of the river. Use drip trays when not over paved surface. – Fire extinguishers with proper chemicals in all vehicles/equipment and at all fueling locations – Spill cleanup kits at all locations where fuel and hazardous chemicals are stored, and in all vehicles and mobile equipment – Vehicles maintained per manufacturers' recommendations: mufflers, safety equipment, engine and fuel burning (no black smoke), etc.	– No contamination from incidents involving fueling – Vehicles maintained as required	Contractor
5.7	Responses to emergencies	– Unsafe working conditions – Worker injury or death	Implement Emergency Preparedness and Response Plan for rehabilitation works (see row 2.4). EPRP is to include:	– Emergencies avoided	Contractor

No.	*Activities*	*Potential Adverse Impact*	*Mitigation Measures/ Best Management Practice*	*Target outcome of mitigation*	*Responsible body*
		– Community member injury or death – Excess damage to property or people	– Appointment of emergency response team(s) – Train workers in their responsibilities in case of emergencies and in responding – Identify possible emergencies and possible consequences (fire, accidents, injuries or deaths, earthquake or weather event, civil unrest, spills) – Develop and use checklists to verify readiness for emergencies – Place and maintain emergency response equipment (fire extinguishers, first aid kits, cleanup kits, radios/communication devices, etc.) – Account for nearby Nurek HPP rehabilitation project in close proximity to bridge rehabilitation workplaces and for cooperation with Nurek HPP and HPP rehabilitation contractor – Conduct investigations/reviews to identify causes and avoidance measures following emergencies, including accidents	– Emergency equipment in place and ready if needed – Quick and effective responses to emergencies	

Table 7. Environmental and Social Monitoring Plan for Bridge Rehabilitation Project

Activity	*What*	*Where*	*How*	*When*	*Why*	*Who*
	(Is the parameter to be monitored?)	*(Is the parameter to be monitored?)*	*(Is the parameter to be monitored?)*	*(Define the frequency / or continuous?)*	*(Is the parameter being monitored?)*	*(Is responsible for monitoring?)*
All construction works	Technical progress and implementation of ESHS mitigation measures, compliance with Tajikistan ESHS law, World Bank ESSs, and C-ESMP	Selected past and all current work areas	– Observations during normal activities – Inspections – Monthly reports and incident reports	Continuous or as necessary	Verify implementation of mitigation measures	PMC
			ESHS monitoring audit	First year of construction, one further time during last year	– Verify implementation of C-ESMP	Third-party consultant appointed by Barqi Tojik and accepted by World Bank

Activity	*What*	*Where*	*How*	*When*	*Why*	*Who*
	(Is the parameter to be monitored?)	*(Is the parameter to be monitored?)*	*(Is the parameter to be monitored?)*	*(Define the frequency / or continuous?)*	*(Is the parameter being monitored?)*	*(Is responsible for monitoring?)*
					– Identify needed modifications to C-ESMP	
			Workplace inspections	At least weekly	Verify implementation	Contractor supervisors and PMC
	Working conditions (equipment, tools, safety equipment, etc.) and workers (PPE)	All active work areas	Observations	During daily rounds (continuous)	– Verify implementation of OHS Plan – Verify safety of working conditions and workers – Provide guidance to supervisors and workers	Contractor supervisors & Safety Officers, PMC supervisors & ESHS specialist
			Inspections	At least weekly		Contractor safety manager, PMC ESHS specialist
	Worker and supervisor safety training	ESHS office, active work areas	Records checks & interviews	Daily or as needed before beginning new work	Ensure workers are trained to work safely	Supervisor (foreman)
				Spot checks (at least once every monthly at each workplace)		Contractor safety/ESHS manager
Progress reports/ meetings	Technical progress and status of C-ESMP implementation: – Safety, traffic, waste management, etc. – Grievance management (workers and external stakeholders)	Project-wide	– Interviews with contractor ESHS & technical staff – Reviews of monthly contractor and PMC ESHS reports – Reviews of worker & stakeholder grievance registers – Workplace visits	Monthly	Verify technical progress and ESHS protection	Mandatory attendees: project management and ESHS managers/specialists of Barqi Tojik, PMC, contractor

Activity	*What* (*Is the parameter to be monitored?*)	*Where* (*Is the parameter to be monitored?*)	*How* (*Is the parameter to be monitored?*)	*When* (*Define the frequency / or continuous?*)	*Why* (*Is the parameter being monitored?*)	*Who* (*Is responsible for monitoring?*)
Drivers and vehicle safety	Driver qualifications	Office	– Verify valid driver's license and operator's permit as required – Check with traffic police if needed – Skills testing as needed	– Before allowed to vehicles/equipment (at hiring) – Annually thereafter	Ensure drivers are licensed and trained	– Contractor PM & safety manager – PMC spot-check
	Mobile plant/ vehicle safety (horns, backup alarms, lights, tires, safety belts, fire extinguisher, cleanup kit, first aid kit, etc.). Remove from service as needed	All mobile plant in use	Inspect and complete checklist	Daily before first use	Minimize traffic accidents, protect workers and other drivers/pedestrians	Driver/operator
			Review checklists and vehicles	Spot checks: at least monthly for each vehicle		Contractor safety manager
Noise generation	Noise levels	Workplaces	Noise meters	Monthly at each type of workplace	Verify noise is within standard or identify need for mitigation	Contractor ESHS specialist
		Site boundary (bridge and camps/storage areas)		Within 24 hours of request or noise complaint by worker or external party		
		At nearest residence when works are within 250m		Weekly, while work is ongoing within 250m of houses		
		All monitoring locations (as above)	Records review, spot checks with meter	Quarterly or as needed	Verify contractor is monitoring and controlling noise	PMC
Materials and waste management	Materials storage	Storage areas	Visual inspection, records review	– Continual observation – Weekly inspection and records review	– Verify materials stored properly – Impermeable surface under fuels, paint, other hazmat	Contractor ESHS specialist
				– Weekly inspection – Monthly records review		PMC ESHS specialist

Activity	*What*	*Where*	*How*	*When*	*Why*	*Who*
	(Is the parameter to be monitored?)	*(Is the parameter to be monitored?)*	*(Is the parameter to be monitored?)*	*(Define the frequency / or continuous?)*	*(Is the parameter being monitored?)*	*(Is responsible for monitoring?)*
					– Proper labeling and MSDSs	
	Waste management	All work areas and waste storage areas	Visual inspection, records review	– Continual observation – Weekly inspection	– Verify waste register is up to date – Verify wastes are segregated and stored properly – Verify hauler licensing – Verify disposal meets legal requirements	Contractor ESHS specialist
				– Weekly inspection – Monthly records review		PMC ESHS specialist
River and water quality	Suspended solids, pH, temperature, turbidity		Electronic	Monthly during construction		
	Turbid water	Riverbank and river	Visual observation	Continuously, at least daily	Verify erosion control, verify no unnecessary disturbance of riverbank and river	Contractor ESHS specialist
				As needed, at least weekly		PMC ESHS specialist
Ensuring adequate hygiene	Sanitation, water, etc.	Kitchens, break areas, toilets, accommodations	Inspections	Weekly	Verify amenities meet GIIP standards	Contractor PM and ESHS manager
	Toilets & potable water	Work locations	Observations	Daily during rounds	Verify workers have potable water – Verify toilet facilities are available	Safety Officers and/or ESHS specialists, supervisors, managers
			Inspections	At least weekly		Contractor ESHS specialist and/ or safety officer
		Selected work locations, office	Inspections and records review	Monthly		PMC ESHS specialist
	Contractor, worker grievance register	Work sites and records offices	Review of register	Weekly		Contractor HR manager and PM

Activity	*What*	*Where*	*How*	*When*	*Why*	*Who*
	(Is the parameter to be monitored?)	*(Is the parameter to be monitored?)*	*(Is the parameter to be monitored?)*	*(Define the frequency / or continuous?)*	*(Is the parameter being monitored?)*	*(Is responsible for monitoring?)*
Worker grievance resolution	PMC worker grievance register				– Verify grievances are being recorded and resolved – Take action if they are not	PMC ESHS manager
	Barqi Tojik grievance register					Barqi Tojik ESHS/HR manager
	Grievance handling and resolution		Review of selected grievances: interviews of managers responsible for resolution and of complaining workers	Before monthly progress meeting during rehabilitation	Verify grievances are being addressed properly, require action if not	Contractor, PMC, Barqi Tojik: HR & ESHS manager
External stakeholder grievance resolution	Stakeholder grievance register	Contractor records office	Review of register	Weekly	Verify grievances are being recorded and resolved	Contractor HR manager and PM
	Grievance handling and resolution	Community	Interviews of selected stakeholders who submitted grievances and with persons responsible for addressing	Before monthly progress meetings	Verify grievances are being addressed properly	Contractor HR/ESHS manager, social specialist/CLP
			Detailed review of registers and persons responsible for addressing grievances	Monthly	Verify grievances are being recorded and addressed	PMC ESHS/HR manager
Stakeholder engagement	Worker behavior in communities	Community	– Reviews of grievance log – Interviews with community leaders	Quarterly	Determine need for training/dismissals/ etc.	Contractor HR manager, PM, social specialist/CLO
	Community satisfaction with project	Community	– Reviews of grievance log – Interviews with community leaders and local residents	Quarterly	Identify community issues	Social specialist, CLO
			– Stakeholder engagement meetings to provide information, receive feedback	Annually	Info community, identify issues	Barqi Tojik ESHS team

6.3 Training and Awareness

To ensure that all participants in the bridge rehabilitation project are aware of ESHS requirements that are relevant to their responsibilities, the Contractor will implement a training and awareness program. This program will be progressively tailored to the needs of those who are exposed to risk or who are managing workers or various elements of the project. The level of detail of the training would increase depending on the work to be performed by the trainee. The objective is that all personnel will be aware of the potential impacts the project and their work could have on them and the impacts they could have on other workers, the community, and the environment.

Training will be provided to every person who comes on the construction site:

- **Induction training** will be provided to everyone who comes onto the construction site, including Barqi Tojik staff and managers, World Bank staff, and others who are not at site frequently, with training each time they visit. This training for the various categories of trainees (visitors, vendors, managers and supervisors, workers, etc.) will identify the risks to which the trainee may be exposed, required measures to reduce or avoid the risks, actions to take in case of emergency, areas and actions that are forbidden or off-limits, minimum PPE required, and other topics as needed. Visitors must be escorted at all times by contractor or PMC employees. Managers and workers will receive induction training at the time they first come to the site and at least annually thereafter.
- **Job training** will be provided to all contractor and PMC managers, workers, and other staff. This training will describe how to perform their jobs safely, including required use of safety equipment and PPE, and the areas and activities that are off-limits. Supervisors will be trained in how the workers they supervise are required to perform their work safely.
- **Additional safety training for work requiring permits** will be provided for workers whose jobs require them to be engaged in activities or locations with higher risks, such as working at height, working over water, working in excavations, operating heavy equipment, working in confined space, etc.
- **ESHS supervision training** will be provided to managers and supervisors/foremen and personnel in leadership positions. All persons in a supervisor or management role will be briefed on environmental and social requirements, including health and safety requirements, that are part of this ESMP and the Contractor's Construction-ESMP.

The Contractor will maintain records of all training, including date and time, length of training, topics covered, names and positions of trainees, signatures of trainees, and signatures of trainers. Records will be kept in the Contractor's main office.

The Contractor will also post signs throughout camps, accommodations, and workplaces that warn of specific and general risks and requirements. These signs will be repaired or replaced as needed to maintain their presence at or near all workplaces.

6.4 Incidents, Non-Conformances, and Corrective Actions

The Contractor will develop a procedure to register, track, identify corrective measures document, and close violations of applicable ESHS requirements, including this ESMP and the Construction-ESMP. If monitoring observations, inspections, or reviews of records required by Table 7 reveal the Contractor or others are not complying with applicable requirements, including the Construction-ESMP, this will be documented and followed up until there are satisfactory responses and compliance. Instances of noncompliance with ESHS requirements will be addressed immediately or as soon as practicable, with response actions commensurate to the risk of the nonconformance (which could range from simple non-use of proper PPE to life-threatening misuse of equipment). All but the most minor will be documented, and repeat violations will always be documented. There should be a graduated system of penalties for workers who repeatedly violate ESHS requirements, including proper use of PPE, beginning with verbal warning, proceeding to written reprimand, and continuing through dismissal for repeated violations. Similarly, there should be a graduated system of penalties or supervisors and managers if there are repeated instances of safety or other violations or issues associated with work or workers under their supervision.

ESHS personnel must have the authority to order work to stop if serious breaches of safety or other ESHS requirements are observed that could lead to injury or property damage. In such a case, only the project manager and the ESHS personnel would have the authority to allow work to resume, and only then if the issue had been resolved.

In addition, workers may refuse to undertake a task if they are in fear of serious injury of death. In such a case, the supervisor and project manager must investigate and order appropriate action to reduce the risk or change the job.

6.5 Reporting

Reports by the PMC to Barqi Tojik and by the contractor to the PMC will be as required in the respective contracts. Monthly reports will include details of environmental, social, and health and safety performance, including at least the following, some of which may be in addition to what may be required by the contracts:

- Status of violations and corrective actions reported as outstanding in the previous month's report
- Summary of activities undertaken and completed in the previous month
- Workforce: number of workers (PMC, contractor, and subcontractors), number local vs other Tajikistan vs foreign, number women and men, number of new hires, and number of terminations and reasons

- Summary of ESHS supervision actions: person-days by ESHS specialists, number of inspections, areas visited, etc.)
- Results of ESHS supervision actions: issues identified and actions taken (warnings or dismissals, stop work orders, requirements for safety equipment or new PPE, other actions)
- Description of environmental issues observed (spills, improper materials storage, improper waste management, etc.) and actions taken to bring into compliance
- Description of consultations with local authorities and local community members, including who participated, reasons, and outcomes
- Visits by authorities, Barqi Tojik PRG, World Bank, and others with oversight responsibility: reasons for visits and outcomes
- Summary of stakeholder grievances received during period and to date, number resolved during period and to date, and number outstanding. For grievances not resolved as of the end of the period, the report should provide a description of grievance, reason for lack of resolution, and actions to be taken.
- Summary of worker grievances (PMC, contractor, and subcontractor workers) received during period and to date, number resolved during period and to date, and number outstanding. For grievances outstanding over 30 days, the report should provide a description of grievance, reason for lack of resolution, and actions to be taken.

In addition to regular monthly reports, significant issues and events would be reported by the contractor to the PMC, and by the PMC to Barqi Tojik, as soon as possible. Such issues and events would include severe injuries or fatalities to workers, any damage to private property or injuries to community members, significant spills or releases of hazardous substances, protests or incidents of unrest associated with the project, and other incidents specified in the respective contracts. Barqi Tojik will submit a quarterly report to the World Bank that summarizes EHSH performance on the Project. In addition, Barqi Tojik will report serious incidents, including severe injuries or fatalities, to the World Bank as soon as possible and follow up with detailed reports within two weeks.

6.6 Implementation, Staffing and Cost

Barqi Tojik will oversee the Project Management Consultant (PMC), which will in turn review and approve the contractors' own management plans and then oversee the contractors to ensure that these companies, their subcontractors, and all workers are fully implementing the required mitigation measures during the preconstruction, construction, and demobilization phases. These measures include training for workers so they are familiar with their own personal responsibilities as well as their employers'. The first level of monitoring during construction will be conducted by the contractors in routine management of ongoing activities. This will be supplemented by nearly continuous monitoring by the Project Management Consultant (PMC).

As required by the construction contract, the contractor will submit progress reports on a monthly basis to the Project Management Consultant, which in turn will report to Barqi Tojik. These reports will include a summary of environmental and social performance, including compliance with the

requirements of this ESMP. Barqi Tojik, in turn, will submit reports on environmental and social performance to the World Bank at least quarterly.

ESHS staff and managers who will be responsible for implementing and overseeing implementation of the ESMP include the following:

- **Barqi Tojik** has a Health, Safety, and Environment (HSE) Manager on staff who is responsible for the overall Nurek Hydropower Rehabilitation Project and appoints consultants as needed for consultation and other support.
- The **Project Management Consultant** has a single ESHS specialist for construction supervision for the overall Nurek Hydropower Rehabilitation Project, but this specialist is currently limited to two days per month. At least one additional full-time specialist, with expertise in occupational health and safety, will be appointed (by Barqi Tojik or the Consultant) to supervise ESHS performance for the HPP and bridge rehabilitation.
- The **Contractor** will be required to have an HSE Manager qualified to supervise occupational health and safety, plus at least one safety officer for each 50 workers. Additionally, there must be one part-time environmental officer to deal with waste, wastewater, hazardous materials. management on-site and a qualified person to deal with other worker issues (i.e., general employment and human resources issues)
- The need for **Subcontractor(s)** will be determined by the Contractor. If there are subcontractors, there will need to be an HSE Manager and at least one safety officer for every 50 workers.
- An **international consultancy** will be appointed by Barqi Tojik to conduct periodic third-party audits of ESHS performance of the overall Nurek Hydropower Rehabilitation Project, including the bridge rehabilitation.

The overall budget for implementing the requirements of the Environmental and Social Management and Monitoring Plans is estimated to be approximately $100,000, excluding HR costs. This will include the following approximate costs:

- Barqi Tojik and Project Management Consultant staff costs: $10,000-$25,000
- Contractor (includes all costs, except HR): approximately $60,000
- Third-party audits: included in overall Nurek Hydropower Rehabilitation Project costs
- Waste and materials management: $20,000

Some other costs would be included in the budget for environmental and social performance for the overall Nurek HPP Rehabilitation Project, including the third-party audits and annual consultations.

7 STAKEHOLDER ENGAGEMENT

Scoping consultations was held in March and April 2020 to provide information about the overall Nurek Hydropower Rehabilitation Project, including the bridge rehabilitation, and to allow stakeholders to ask questions and express any concerns. Meetings were held in Dushanbe and Nurek, and involved over 100 participants, including representatives of Barqi Tojik, Nurek HPP, Nurek City, local housing administrations, and local communities. Issues raised during the scoping meetings were addressed in this final updated ESIA and in this final bridge ESMP.

The draft documents, including the updated HPP ESIA, the bridge ESMP, an Executive Summary, and a Stakeholder Engagement Plan were disclosed for public review and comment in early May. No public meetings were held due to the COVID-19 pandemic, so the following steps were undertaken to consult with stakeholders during the first two weeks of May.

- Announcements were made on a local radio station about the availability of the updated Nurek HPP ESIA, the bridge rehabilitation ESMP, and the SEP at Barqi Tojik in Dushanbe, at Nurek City Hall, and on the Barqi Tojik website.
- The documents were made available for review at Barqi Tojik Headquarters, at Nurek HPP, and at the Nurek City Town Hall.
- With appropriate precautions due to COVID-19, meetings were held with representatives of key stakeholders to distribute copies of documents. Representatives then distributed documents to others and placed them at signboards.
- Key representatives of stakeholder groups were called on the telephone to tell them the documents were available, to ask if they wanted paper copies, and to tell them how they could submit comments (email, telephone, or paper).

The key stakeholders who were consulted include Nurek local authorities and divisions of Government organizations (local/city level SES, CES, CEP (Environmentalists), economic department, tourism department, women and family department, department on labor, migration and employment, traffic police and City Municipality), four housing operational administrations of the Nurek city (communal-housing agency sub-divisions), the local communities (Nurek City and the neighboring Jamoats of Dukoni and Puli Sangin), and the Nurek HPP administration.

Table 8 summarizes concerns raised by stakeholders. A report that summarizes the consultations is presented as Annex 6 in the Nurek HPP ESIA.

Table 8. Issues Raised by Stakeholders

Stakeholder comments on Nurek HP rehabilitation	*Response*
Local people should be involved as workers to the construction	The ESMP encourages the Contractor to hire local workers
Notify pedestrians about the closure of the bridge passage before it is closed	The ESMP requires notices of bridge closures
Take into account the drinking water supply line to the left bank	This has been incorporated into the design

Stakeholder comments on Nurek HP rehabilitation	*Response*
Announce the availability of positions to be hired	The ESMP requires the contractor to advertise positions to be filled
Special protection measures should be applied during the transportation of construction materials to protect people from accidents	The ESMP requires a Traffic Management Plan
The project should consider following additional activities: – Carrying drinking water – Building of a sports arena – Construction of a school for primary school students – Construction of medical clinic – Construction of a library with a reading room – Asphalting of roads – Construction of children's playgrounds near residential buildings in housing operational administration #3	The recommendations are beyond the scope of this project but are suitable for government support
Assure the presence of a medical specialist on site	The ESMP requires proper medical personnel and care for workers
Several technical corrects	Corrections have been made in the final documents
Universal support for the project	Noted with appreciation

As required by the updated SEP, Barqi Tojik will continue its current practice of having consultations with local stakeholders at least annually, with additional consultations if needed to communicate with stakeholders. Following each meeting, Barqi Tojik will publish a report on its website that summarizes the discussions and actions.

In addition to consultations concerning environmental and social documentation and planning, a key element of effective stakeholder engagement is providing a mechanism that stakeholders can use to submit comments or complaints concerning the project and be sure they will be received and addressed. The Stakeholder Engagement Plan describes the Grievance Redress Mechanism that Barqi Tojik will make available for stakeholders to submit complaints or comments. The Stakeholder Engagement Plan and Barqi Tojik's website provide a form that can be used for comments and also provide contact information (email address, street address, telephone number) for submission of comments or complaints.