



# Appraisal Environmental and Social Review Summary

## Appraisal Stage

### **(ESRS Appraisal Stage)**

Date Prepared/Updated: 11/17/2022 | Report No: ESRSA02410



**BASIC INFORMATION**

**A. Basic Project Data**

Country	Region	Project ID	Parent Project ID (if any)
Tajikistan	EUROPE AND CENTRAL ASIA	P178819	
Project Name	Technical Assistance for Financing Framework for Rogun Hydropower Project		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
Energy & Extractives	Investment Project Financing	10/27/2022	12/20/2022
Borrower(s)	Implementing Agency(ies)		
Ministry of Finance	Project Management Group for Energy Facilities Construction		

Proposed Development Objective

The development objectives are to improve the financial and commercial frameworks of the Rogun hydropower project, enhance its environmental and social sustainability, improve transparency, and contribute to improved benefit sharing mechanism.

Financing (in USD Million)	Amount
Total Project Cost	15.00

**B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?**

No

**C. Summary Description of Proposed Project [including overview of Country, Sectoral & Institutional Contexts and Relationship to CPF]**

The Project will support the following components:

Component 1: Development of macroeconomically sustainable financing plan and a commercial framework for Rogun HPP project. This component will finance: (a) preparation of a macroeconomically sustainable Rogun HPP Project construction completion schedule taking into account the existing and projected macro-fiscal framework of the country; (b) preparation of the Rogun HPP Project financing plan taking into account the updated construction



completion schedule; (c) transaction advisory service to help the Government draft, negotiate, and sign long-term PPAs for sale of Rogun HPP electricity; and (d) additional economic and financial analysis and studies that may be required for the needs of the Rogun HPP Project.

Component 2: Improvement of the dam safety. This component will finance: (a) POE for the dam safety, which will carry out due diligence of existing design and project solutions; provide high level and professional independent advice and guidance to support objectivity and credibility in the development and implementation of designs and in the construction of the Rogun HPP Project; share technical expertise and knowledge and so contribute to dialogue amongst the various stakeholders; and (b) additional technical and engineering studies and consultancy services that may be required for various technical aspects of the Rogun HPP Project and preparation of procurement documents.

Component 3: Strengthening of environmental and social (E&S) aspects of Rogun HPP Project. This component will finance the following: (a) update of E&S instruments for Rogun HPP Project to align them with the requirements of the World Bank's Environmental and Social Framework (ESF); assistance to Rogun PMG in developing a Contractor Management Plan that will include the details of how Rogun PMG will supervise the E&S performance of its contractors; recommendations on modification of existing contracts, to include relevant E&S requirements to comply with the applicable E&S standards and requirements; (d) E&S POE; and (e) design of community benefit-sharing program that would contribute to equitable development and sustainable socio-economic growth at the local and national levels.

Component 4: Strengthening of institutional capacity of Rogun PMG and other technical assistance. This component will finance: (a) strengthening of PMG team to implement the TA Project; (b) capacity building for the Rogun PMG and Rogun JSC staff in dam safety, operation and management of hydro facilities, and project management; (c) public communication support to the Government on matters related to Rogun HPP Project; (d) Purchase of Information and Communication Technologies and office equipment for the Rogun PMG; (e) measures to address the gender gaps; (f) project financial audits; and (g) incremental operating costs of the Rogun PMG.

## **D. Environmental and Social Overview**

D.1. Detailed project location(s) and salient physical characteristics relevant to the E&S assessment [geographic, environmental, social]

Tajikistan is a landlocked country in southeast Central Asia, bordering Afghanistan, China, Kyrgyz Republic, and Uzbekistan. Natural hazards such as floods, earthquakes, landslides, mudflows, avalanches and heavy snowfalls are common. The Amu Darya, Central Asia's largest river, is formed by the confluence of the Panj (40%) and Vakhsh (26%). Flow pattern is highly seasonal, high in summer due to snow and glacier melt and low in winter. Due to HPPs, the Vakhsh's flows are now regulated and controlled. The Vakhsh is characterized by a high sediment load due to intense erosion in its catchment and water quality characterized by high salinity levels. Poor water quality has influenced the quality of fish habitats and, according to the 2014 Rogun HPP Environmental and Social Impact Assessment (ESIA), no long-range fish migration takes place.



The Rogun Hydropower Project (HPP) is located 70 km upstream of the Nurek HPP, which has operated since the 1980s, on the Vakhsh river. Design works on Rogun started in the 1960s. The site is about 110 km northeast of Dushanbe. Rogun HPP was intended to be the furthest upstream of a series of HPPs on the Vakhsh River to provide regional irrigation and hydropower that benefits all of Central Asia. Construction began in 1976 and was interrupted in 1992 after the breakup of the Soviet Union. It restarted on small scale in 2007 before being stopped again (except for maintenance activities) while technical, economic, and environmental studies were completed. Between 2011 and 2014, the World Bank provided funding to Tajikistan to conduct the Technical-Economic Assessment Studies (TEAS) and ESIA. The studies were carried out in parallel and with extensive cooperation between the study teams. Construction then restarted in 2016 and has continued since.

Tajikistan’s total installed generation capacity is 6,100 MW, over 90% being hydropower. At 300 m, Nurek is currently the highest embankment dam in the world. This position would be taken by Rogun, which is designed to be 335 m high. Rogun will be the largest HPP in Central Asia, with a 3,780 MW generation capacity and average annual generation of about 14,400 gigawatt hour. Rogun dam is expected to have a useful life of 115 years, and, by intercepting sediment, will also extend the life of Nurek HPP.

Rogun HPP operation will be consistent with existing water allocation agreement (Agreement on joint actions to address the problem of the Aral Sea and socio-economic development of the Aral Sea basin” - was signed by the Heads of the five states in 1996). The ICWC meets twice annually to set surface water withdrawal quotes, taking into account the main river’s water flow prognosis for the October–March and April–September seasons). Once the Rogun dam reaches the full supply level, it will become the regulating HPP for the entire Vakhsh cascade considering that it would have the largest reservoir. It will also provide flood protection against the Probable Maximum Flood to the entire downstream Vakhsh cascade, which is designed for a lower extreme flood. The Rogun reservoir is expected to be filled while taking into account the water withdrawal limits under existing water-sharing agreements in place.

77 villages were found to be within the future footprint of the reservoir and other Rogun HPP sites, and this was predicted to require about 42,000 people to be resettled. Considering the long construction time, resettlement was proposed to take place in two phases, each with its own Resettlement Action Plan. Resettlement began in the 1980s but then slowed or stopped when construction was interrupted. As of 2014, only Phase 1 activities were underway, and this involved resettlement of six villages (289 project-affected households) that were located within the construction footprint or would be flooded during early reservoir filling. Phase 1 included less than 5 percent of the total to be resettled. Phase 2 resettlement is currently underway. The Phase 2 RAP needs to be updated to address the following key challenges: lack of a census; no customized livelihood restoration program; insufficient documentation to confirm if the Resettlement Framework and first phase RAP is being managed appropriately, including grievances; no compensation for improvements and buildings beyond residences, nor for informal uses of land; and challenges with the independent monitoring of the RAP.

The area of the Rogun HPP is in the administrative region called “Districts of Republican Subordination” and is predominately rural, depending on subsistence agriculture. The poverty rate was 26 percent in Tajikistan in 2019 and it is typically higher in the mountainous regions.

#### D. 2. Borrower’s Institutional Capacity

The Government of Tajikistan and the Ministry of Energy and Water Resources (MEWR) have a long history of cooperation with the World Bank that includes the initial design and ESIA preparation for the Rogun HPP as well as the successful design and implementation of several major energy and water infrastructure projects under both the



World Bank's Safeguard Policies and, since 2018, the newer Environmental and Social Framework (ESF). The implementation of the environmental and social instruments to date have demonstrated capacity challenges on several environmental health and safety issues, as well as commitments to ongoing stakeholder engagement, consultations and disclosure and grievance redress (See ESS 1 and ESS 5 below).

Tajikistan established the Rogun Joint Stock Company (JSC) to construct, own and operate the Rogun HPP and the Projects Management Group (PMG) for Energy Facilities Construction under the President of the Republic of Tajikistan, which is the implementing entity for the proposed TA Project. Rogun PMG will be carrying out an update of environmental and social instruments of the Rogun HPP, ensuring compliance with national environmental and social legislation, the World Bank's ESF, and relevant environmental and social requirements of other financiers. Rogun PMG is also responsible for and supervising environmental and social compliance and performance of all contractors and sub-contractors engaged in the construction of Rogun.

The Environmental and Social Impact Assessment and Environmental and Social Management Plan (ESIA/ESMP) for the Rogun HPP was prepared with World Bank financing between 2011 and 2014. Following the disclosure and Tajikistan's approval of the ESIA, the Rogun JSC committed to implementing the mitigation measures specified in the ESMP and to meeting international environmental and social standards during construction and operation. Rogun JSC then re-started construction, which had been suspended for a certain time period. This included appointment of contractors to continue construction of the dam, tunnels and underground works, and associated facilities. As of the autumn of 2021, three Engineering, Procurement, and Construction (EPC) contractors had been appointed for electromechanical works and for the dam and tunneling (with one EPC contractor for some tunneling works yet to be appointed). A number of non-EPC contractors to prepare the site for major works and support ongoing operation of the partially completed HPP have also been appointed. Rogun JSC is supervising engineering and environmental compliance and performance of the non-EPC contractors and has appointed an Employer's Representative or Project Management Consultant to supervise the EPC contractors.

In 2020, the World Bank completed an audit of the resettlement program and observed the site at the time of public consultations on the ESIA. In 2021, the World Bank reviewed the ongoing construction to evaluate the adequacy of the mitigation measures in the ESMP to reduce the potential impacts to acceptable levels and comply with the ESF, and also to evaluate the extent to which Rogun JSC and its contractors were implementing the requirements of the ESMP. This TA Project will be helping to address the shortcomings identified as a result of that review.

The Rogun JSC's and PMG's capacity for delivering the Rogun HPP Project will be further strengthened. Specifically, the team of the existing Project Management Consultant will be expanded to include experienced environmental, social, and Occupational Health and Safety (OHS) specialists in order to allow for improved supervision of E&S performance of the Rogun HPP construction works. Moreover, Rogun PMG will hire international and local environmental, social, and OHS specialists to coordinate with PMC and ensure timely resolution of all issues. These new staff will be engaged by Rogun PMG and the Project Management Consultant within 60 days of TA Project effectiveness and by Rogun PMG - prior to TA effectiveness.

To further strengthen the overall E&S compliance of the Rogun HPP Project, Rogun PMG has already engaged an Independent Environmental and Social Panel of Experts (POE) based on terms of reference approved by the Bank. The POE includes a Senior Environmental Specialist, Senior Social Specialist /POE Chair, and a Senior Hydrology Specialist.



The POE will be retained throughout the implementation period of the TA Project (end of 2026) and the Government has committed to finance it after the closure of the TA Project.

**II. SUMMARY OF ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS**

**A. Environmental and Social Risk Classification (ESRC)**

High

**Environmental Risk Rating**

High

The TA, under Component 2, will strengthen the environmental and social aspects of the Rogun HPP by: (a) updating or preparing environmental and social instruments to align Rogun HPP Project with the requirements of the ESF; (b) developing a Contractor Management Plan that will include the details of how Rogun JSC will supervise the environmental and social compliance and performance of its contractors; (c) recommending necessary modifications to existing contracts, to include relevant ESF requirements, to comply with the relevant environmental and social standards (ESSs) and other requirements; (d) establishing an environmental and social panel of experts; and (e) designing a community benefit-sharing program that would contribute to equitable development and sustainable socio-economic growth at the local and national levels. The Rogun HPP Project is the furthest upstream in the Vakhsh cascade designed to provide regional irrigation and hydropower benefits for Central Asia. It will be the largest HPP in Central Asia, with a 3,780 MW generation capacity and about 14,400 gigawatt hour average annual generation. At 335 m high, Rogun will be the world’s highest dam. The Rogun HPP dam is expected to have a useful life of 115 years, and, by intercepting sediment, will also extend the life of the Nurek HPP reservoir, which is located 70 km downstream. Construction of Rogun HPP began in 1980 and was interrupted by the breakup of the Soviet Union. It began again in 2008 before being stopped again (except for maintenance activities) while technical, economic, and environmental studies were completed. Between 2011 and 2014, the World Bank provided funding to conduct the Technical and Economic Assessment Study and Environmental and Social Impact Assessment (ESIA). The studies were carried out in parallel and with extensive cooperation between the study teams. Construction then restarted in 2014-2015 and has continued since. The Rogun HPP involves significant civil works related to the completion of the dam; right bank structures and spillways; left bank structures, headrace tunnel, and power house; and access roads and camps. Rogun will entail permanent inundation of a reservoir with gross storage of 13.3 km3 with the reservoir surface area of about 110 km2. The ESIA identified two areas of natural habitat that would be flooded and recommended more detailed surveys to determine if they are critical habitats. These surveys will be undertaken under the TA Project in order to make the final determination if the areas should be considered “natural” or “critical” habitats or neither. The ESIA also recommended an offset and the TA Project will support work with authorities responsible for the downstream Tigrovaya Balkan protected area to determine how best to contribute to the management of this area, identify necessary environmental flows within the Vakhsh cascade and whether artificial floods could help maintain and restore habitats degraded due to changes in flows resulting from operation of Nurek HPP. This work will need to be completed and the final biodiversity management plan operationalized before filling is completed. While this is not considered a material risk at this present, it will become one as the reservoir is filled. The Rogun HPP is expected to involve significant civil works which are expected to have significant adverse and long term risks and impacts on the biophysical and cultural environment. Occupational and community health and safety risks and impacts are also expected to be adverse and significant considering the large number of workers to be deployed at the site during construction. Rogun HPP also requires substantial security measures to protect the large site. The works and inundation of the reservoir area are expected to have potential adverse risks and impacts on both

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terrestrial and aquatic ecosystems and biodiversity, including potential cumulative impacts and transboundary impacts.

**Social Risk Rating**

High

As explained above, the TA Project will finance the updating and preparation of environmental and social instruments. Given the complexity of the social risks and impacts to be assessed, the social risk rating is High. Key challenges include: (1) stakeholder and citizen engagement in an HPP project that will have profound socio-economic impacts on project-affected peoples (PAPs) – including vulnerable groups – due to economic and physical displacement, worker retrenchment, establishment of new communities and restoration of livelihoods (e.g. agriculture, fisheries, light manufacturing, service occupations, etc.); (2) large resettlement (some 42,000 people); (3) establishment of an effective grievance mechanism for handling a potentially large volume of complaints; (4) labor management challenges, including working terms and conditions, OHS, and the establishment of safe and effective work camps; (5) community health and safety issues, including labor influx, with attendant risks related to social conflict, gender-based violence, sexual exploitation and abuse/sexual harassment (GBV/SEA/SH), transmission of disease and security issues. In addition, the Rogun HPP may have some adverse impacts on tangible and intangible cultural heritage. The management of social risks and impacts will be addressed in the updated environmental and social instruments, namely the ESIA, Phase 1 RAP audit, Resettlement Policy Framework (RPF), Phase 2 RAP (including a livelihood restoration plan), Skills Development Plan and Retrenchment Plan, as well as the newly prepared Labor Management Procedures (LMP), Stakeholder Engagement Plan (SEP), a Cultural Heritage survey Plan, a benefit-sharing study and other plans and studies, as necessary.

**B. Environment and Social Standards (ESSs) that Apply to the Activities Being Considered**

**B.1. General Assessment**

**ESS1 Assessment and Management of Environmental and Social Risks and Impacts**

**Overview of the relevance of the Standard for the Project:**

Overview of the relevance of the Standard for the Project:

The environmental and social risk ratings are both High making the overall ESF risk rating High as well. ESS's 1, 2, 3, 4, 5, 6, 8, and 10 are considered relevant and will be applied to identify mitigation measures required for the overall Rogun HPP.

The implementation to date of 2014 Environmental and Social Impact Assessment/Environmental and Social Management Plan (ESIA/ESMP) and first phase of the Resettlement Action Plan have provided some lessons learned for the Rogun HPP. Key challenges for bringing these instruments in line with the ESF include: lack of E&S requirements in construction contracts; insufficient staffing for E&S supervision; lack of supervision of labor management practices; inadequate management of solid, liquid, and hazardous waste; inadequate reporting on E&S performance, including OHS; a lack of detailed surveys of natural habitats, which might require a biodiversity offset plan; and, a lack of surveys on tangible and intangible cultural heritage impacts. In order to begin addressing these short-coming immediately, while the TA is implemented, the Rogun PMG's capacity for delivering the Rogun HPP will be further strengthened. Specifically, the team of the existing Project Management Consultant will be expanded to include experienced environmental, social, and Occupational Health and Safety (OHS) specialists in order to allow for





improved supervision of E&S performance of the HPP construction works. Moreover, Rogun PMG will hire international and local environmental, social, and OHS specialists to coordinate with PMC and ensure timely resolution of all issues. These new staff will be engaged by the Project Management Consultant within 60 days of TA effectiveness and by Rogun PMG prior to TA Project's effectiveness.

While this TA Project only involves support for strengthening the environmental and social performance and commercial framework for Rogun HPP, the HPP itself does involve a series of potentially adverse, significant, and long term environmental and social risks and impacts due to the construction of the dam which will cause permanent inundation and creation of a reservoir, headrace tunnel, powerhouse, and required transmission line as well as ancillary facilities such as access roads, and workers camps. Social risks and impacts would include land acquisition, resettlement, labor influx, occupational and community health and safety, gender, sexual exploitation and abuse/gender based violence (SEA/GBV). Environmental risks and impacts will involve permanent inundation of the reservoir area and permanent changes in landscapes, impacts on river flows, quality and morphology, terrestrial and aquatic ecosystems, ecosystem services and biodiversity, pollution and waste disposal during construction, vibration impacts from blasting and heavy equipment, and changes in hydrology of the Vakhsh river as well as potential cumulative environmental and social impacts, etc. The assessment of cumulative impacts in the updated ESIA will include impacts to both upstream and downstream PAPs, environmental flows, sediment transport and management, ecosystem services, and the potential need for biodiversity offsets (and, if needed, a biodiversity offset strategy).

The TA Project's Component 2: Strengthening of environmental and social aspects of Rogun HPP will finance:

(a) Update or, where necessary, prepare environmental and social instruments for Rogun HPP to align it with the requirements of the World Bank's Environmental and Social Framework (ESF) – these instruments will include, but not be limited to, the update of the 2014 ESIA/ESMP; the preparation of Labor Management Procedures (LMP); the preparation of a Resettlement Management Framework (RPF); the update of the 2014 Resettlement Action Plan (RAP) and related documents ; the preparation of a Biodiversity Management Plan (BMP) to be included in the ESIA; and the preparation of the Stakeholder Engagement Plan (SEP). The updates to the ESIA/ESMP and RAP and the preparation of the RPF will include updated cost estimates for implementation of all environmental and social mitigation measures (including OHS) related to the Rogun HPP, including resettlement, any further preparatory work, as well as the construction, operational, and decommissioning phases.

(b) Assistance to Rogun PMG in developing a Contractor Management Plan that will include the details of how Rogun PMG will supervise the ongoing and future environmental and social compliance and performance of its contractors.

(c) Review of all existing contracts under the Rogun HPP and make recommendations on modification of those contracts, to include relevant ESF requirements to comply with the relevant environmental and social standards (ESS) and other requirements.

(d) The appointment of an Independent Environmental and Social Panel of Experts (POE), that will include, at a minimum, a Senior Environmental Specialist, a Senior Social Specialist (Chair of the Panel), and a Senior Hydrology Specialist. The E&S POE will be appointed within six months of the TA's effectiveness based on Terms-of-Reference approved by the Bank.





(e) Design of community benefit-sharing program that would contribute to equitable development and sustainable socio-economic growth at the local and national levels.

The terms of reference for the Update of Environmental and Social Instruments of Rogun HPP Project and Support to Rogun Implementing Entity” for this High Risk TA were reviewed and cleared by the Regional Safeguard Adviser and disclosed during the preparation of the TA Project. Rogun PMG completed the procurement process and hired an international consultant to carry out this work.

Under Component 1, the TA Project will also strengthen the the Dam Safety aspects of the HPP by financing a Dam Safety POE, which will carry out due diligence and ensure international quality standards in the design and construction of Rogun HPP; provide high level and professional independent advice and guidance to support objectivity and credibility in the development and implementation of designs and in the construction of the Rogun HPP; share technical expertise and knowledge and so contribute to dialogue amongst the various stakeholders.

**ESS10 Stakeholder Engagement and Information Disclosure**

The TA Project activities and the Rogun PMG will involve a wide range of stakeholders at regional, national, oblast, and local levels, from public, private sector, NGO, and local communities. It is expected that the stakeholders will have varying interest and influence in the decision-making, design, construction and operational phase of Rogun. The Rogun HPP has already begun to have varying impacts upon local stakeholders, particularly the impacted communities and the project workers. Another factor is legacy concerns related to the periodic civil works related to the Rogun HPP. Finally, the project systems for stakeholder engagement, consultations and disclosure, and grievance redress need to be strengthened so that there are consistent measures to manage social risks and impacts. Proactive engagement and participation of the stakeholders during this TA Project are critical in the successful design and implementation of the overall Rogun HPP.

A Stakeholder Engagement Plan (SEP) has been developed for the TA Project, as all aspects of TA Project implementation require intensive engagement and consultation with stakeholders, PAPs, civil society, other interested parties. The SEP includes a description of the GRM, which will be established by the Effective date of the Project.

During implementation of the TA Project, Rogun PMG will develop a SEP for the Rogun HPP Project summarizing consultations and stakeholder engagement for the remainder of the TA activities, remainder of construction activities, and all resettlement activities. A grievance redress mechanism will be designed for the Rogun HPP as part of the SEP and put in place with the PMG prior to the completion of the TA activities.

**B.2. Specific Risks and Impacts**

**A brief description of the potential environmental and social risks and impacts relevant to the Project.**

**ESS2 Labor and Working Conditions**

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The TA Project will involve selection of consultants as direct workers who will carry out the activities under the four components. The contract for these consultants will stipulate safe working conditions and procedures (including OHS and measures to address SEA/SH risks), workforce protection measures and a labor grievance mechanism.

The Rogun HPP construction is expected to have a workforce of over 12,000 at the height of construction. This TA Project will support the preparation of Labor Management Procedures (LMP) for the Rogun HPP as well as an Occupational Health and Safety Plan that is in compliance with the ESS 2 and the World Bank Group Environmental Health and Safety (ESH) Guidelines. The LMP will also include guidance on addressing labor influx, establishing safe and effective work camps and preparing measures to address GBV/SEA/SH risks. The LMP will contain a workers grievance mechanism that will be established by the PMG prior to the completion of the TA activities.

An important aspect of the TA Project is the review of Rogun HPP contracts and recommendations on modifying those contracts, to include relevant ESF requirements to comply with the relevant environmental and social standards (ESS) and other requirements. Acting on those recommendations and updating existing contracts accordingly would be a requirement for further World Bank engagement in the Rogun HPP, beyond the TA Project.

### **ESS3 Resource Efficiency and Pollution Prevention and Management**

The Rogun HPP involves significant civil works and will generate large volume of waste for disposal. It will also require large volume of resources and construction materials and will generate air and water pollutants during construction.

All risks and impacts relevant to ESS 3 will be assessed in the updated ESIA/ESMP and relevant measures and plans will be developed accordingly. Including the development or refinement of Cascade Sediment Study and Modeling program, Cascade Dam and Reservoir Operating Plan, Bathymetric Monitoring and Sediment Characterization program, environmental flow requirement and related monitoring, a Residual Flow Monitoring Plan, and Vakhsh/Amu Darya Hydrologic Monitoring program. The updated ESIA/ESMP will analyze the recommendations of the 2014 ESIA/ESMP and update them as necessary to ensure they are consistent with the ESF.

As part of the modeling effort, assist Rogun HPP in evaluating the adequacy of the 2014 ESIA's cumulative impact assessment in identifying and addressing potential cumulative impacts, and its consistency with the cumulative impact guidelines in the applicable standards. As needed, conduct additional evaluations of cumulative impacts and identify additional measures to mitigate potential impacts, if needed. GHG emissions analysis of the project is also included in the TORs for updating the ESIA.

### **ESS4 Community Health and Safety**

The construction of the Rogun HPP will have health and safety implications for communities in the project area from the influx of workers, large-scale physical and economic displacement of PAPs, increased vehicle traffic, vibration impacts, exacerbation of landslide hazard and prone areas and possible security issues. These impacts will be assessed and mitigated in the updated ESIA/ESMP in line with the requirement ESS 4, including preparation of a community health and safety plan, emergency management plan, traffic management plan and security management plan.



Additionally, Component 1 will establish the Dam Safety Panel of Experts (POE) for the Rogun HPP. The POE will carry out due diligence and ensure international quality standards in the design and construction; provide high level and professional independent advice and guidance to support objectivity and credibility in the development and implementation of designs and in the construction of the project; share technical expertise and knowledge and so contribute to dialogue amongst the various stakeholders.

### **ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement**

The Phase 1 RAP has been completed and audited. The audit reports note there have been several challenges, including: maintaining an ongoing stakeholder engagement process; ensuring timely and full compensation; providing adequate livelihood restoration measures; handling grievances; and, keeping track of vulnerable PAPs. The project will conduct an audit of resettlement and livelihood restoration completed to date under the Phase 2 RAP to identify areas where the program has and has not accomplished its goals and been fully compliant with applicable standards. This will involve identifying and assessing the adequacy of measures in the RAPs as implemented on the ground in replacing houses and land, restoring standards of living and livelihoods, and taking measures to correct deficiencies when they are identified (i.e., mid-course corrections). The expected resettlement under Phase 2 is about 42,000 people. It is noted the 2014 ESIA concluded that downstream communities were not expected to be significantly affected, since operation of Rogun HPP was not expected to change flows downstream in the lower river, which would continue to be controlled by Nurek HPP.

The TA Project will support the Resettlement Unit in preparing a RPF which will set out the principles for land acquisition, restrictions on land use, involuntary resettlement and livelihood restoration across the Rogun HPP area. In addition, the TA project will finance the completion of a full census of potentially affected households and individuals, updating the compensation matrix, and revising their initial Phase 2 RAP to comply with applicable standards. This will involve, at a minimum, identifying people and property that will be affected, developing an inventory of lost and affected assets, completing socioeconomic surveys and studies of affected people, analyzing surveys and studies to update the, designing appropriate income restoration and sustainable development initiatives, identifying baseline monitoring indicators, and consulting with affected populations regarding mitigation of effects and development opportunities. This RAP will also incorporate a Livelihood Restoration Plan. The TA Project will also assess potential impacts on downstream communities and households of reservoir filling, and account for any expected effects on their livelihoods in the Livelihood Restoration Plan. Throughout development of the RAPs, the project will identify and evaluate opportunities for equitable benefit-sharing based on robust and transparent governance and stakeholder engagement processes.

### **ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources**

The Rogun HPP is expected to have risks and impacts on terrestrial and aquatic ecosystems and biodiversity resulting from civil works, inundation of the reservoir, and extraction of construction materials, among others. To address these risks, the TA Project will include preparation of a Biodiversity Management Plan for inclusion into the updated ESIA/ESMP. The 2014 ESIA identified two areas of natural habitat that will be flooded and recommended more detailed surveys to determine if they are critical habitats. These surveys will be undertaken as part of the preparation of the updated ESIA/ESMP in order to make the final determination if the areas should be considered “natural” or



“critical” habitats or neither. The ESIA also recommended an offset, which will be confirmed and finalized as part of the Biodiversity Management Plan. Under the TA Project, Rogun PMG will work with authorities responsible for the downstream Tigrovaya Balkan protected area to determine how best to contribute to the management of this area and also to identify necessary environmental flows within the Vakhsh cascade and whether artificial floods could help maintain and restore habitats degraded due to changes in flows resulting from operation of Nurek HPP.

**ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities**

ESS7 is not relevant, as there are no groups which meet the requirements of this standard in Tajikistan.

**ESS8 Cultural Heritage**

Tajikistan is home to many known ancient sites of historical and cultural significance dating from the bronze age including two UNESCO World Heritage Sites (the Tajik National Park in the Pamir Mountains and the old settlement of Sarazm) as well as nine candidate sites. It is clear that a project of the scope of the Rogun HPP might interact with Tajikistan’s unique cultural heritage. The updated ESIA/ESMP will require a cultural heritage survey for the impoundment area to identify any potential sites that may need to be studied and excavated prior to impoundment. Although construction works are not expected to have direct physical impact on any known heritage monuments, the updated ESIA/ESMP will include a section on protection of Cultural Heritage as well as proper "chance find" procedures in compliance with ESS 8.

With regards to non-tangible cultural heritage, the ESIA/ESMP requires ethnographic surveys to be completed in villages that will be resettled in order to document oral traditions and to identify any sites of intangible cultural value. Those surveys will be carried out under the TA Project in advance of the implementation of the final RAP.

**ESS9 Financial Intermediaries**

The TA does not involve any FIs as defined in the ESS 9.

**C. Legal Operational Policies that Apply**

<b>OP 7.50 Projects on International Waterways</b>	Yes
<b>OP 7.60 Projects in Disputed Areas</b>	No

**B.3. Reliance on Borrower’s policy, legal and institutional framework, relevant to the Project risks and impacts**

**Is this project being prepared for use of Borrower Framework?** No

**Areas where “Use of Borrower Framework” is being considered:**

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The Borrower Framework will not be used.

**IV. CONTACT POINTS**

**World Bank**

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**Borrower/Client/Recipient**

Borrower: Ministry of Finance

**Implementing Agency(ies)**

Implementing Agency: Project Management Group for Energy Facilities Construction

**V. FOR MORE INFORMATION CONTACT**

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**VI. APPROVAL**

Task Team Leader(s):	Christopher Philip Trimble, Artur Kochnakyan
Practice Manager (ENR/Social)	Varalakshmi Vemuru Cleared on 15-Nov-2022 at 00:26:47 GMT-05:00
Safeguards Advisor ESSA	Abdoulaye Gadiere (SAESSA) Concurred on 17-Nov-2022 at 07:42:58 GMT-05:00

Public Disclosure