

SBF Project Implementation Monitoring Report

Tajikistan: Nurek Hydropower Rehabilitation Project Phase I

1. Project Information

Project ID:	000018	Investment Number:	L0018A
Member:	Tajikistan	Region:	Central asia
Sector:	Energy	Sub-sector:	Large hydropower generation
AIB Financing Type:	Loan: 60 USD million	Co-financier(s):	WB-led (IDA)
E&S category:	B	Borrower:	Republic of Tajikistan
Red Flags Assigned:	1 (Q1: 1)	Monitoring Regime:	Regular Monitoring
Implementing Agency:	Barki Tojik (BT), Open Joint Stock Holding Company		
Project Team Leader:	Emil Zalinyan		
Project Team Members:	Chongwu Sun, Senior Environment Consultant; Somnath Basu, Principal Social Development Specialist; Yunlong Liu, Procurement Specialist; Liu Yang, Counsel - Investment Operations; Shonell Robinson, FM Specialist; Shodi Nazarov, FM Consultant; Haiyan Wang, Senior Finance Officer.		
Completed Site Visits by AIB:	Mar, 2019		
Planned Site Visits by AIB:	Possibility of site visits will be considered subject to COVID19 development, however, the project team has regular calls with the project team of the World Bank, as the lead financier, to review the project progress and any implementation issues. In addition, the Client's project implementation support consultant prepares and submits monthly progress reports in the first week of every month.		

2. Project Summary and Objectives

The objectives of the Project are to rehabilitate and restore the generating capacity of three units of the Nurek hydropower plant, improve their efficiency, and strengthen the safety of the Nurek dam.

Components: 1) Power Plant Rehabilitation Component, 2) Dam Safety Component.

Total Project Cost (Phase I): US\$350 million

Financing plan: IDA US\$225.7 million and AIB US\$60 million (joint co-financing); EaDB US\$40 million (parallel co-financing).

Project beneficiaries: The beneficiaries of the Project are all electricity consumers in the country and BT. In particular, the project will preclude loss of electricity supply from Nurek HPP, which accounts for 70 percent of winter generation during the time period of October-March when demand is the highest. Thus, the entire 8.5 million population of the country (including 4.2 million females) will benefit from the project. Moreover, 53,680 legal entities connected to the electricity network will also benefit because the project will help to meet their demand in a reliable manner. Rehabilitation of Nurek HPP will also allow BT to reduce revenue loss due to equipment failures caused by dilapidation and obsolescence. Those equipment failures lead to electricity under-supply from the power plant, which creates a financial loss for BT. In case of disconnection of Nurek HPP from the power supply network due to failure of equipment or infrastructural components, the power plant does not supply electricity until the technical issues are fixed.

3. Key Dates

Approval:	Jun. 15, 2017	Signing:	Aug. 1, 2017
Effective:	Apr. 30, 2018	Restructured (if any):	
Orig. Closing:	Dec. 31, 2023	Rev. Closing (if any):	

4. Disbursement Summary (million)

Currency:	USD		
a) Committed:	60	b) Cancellation (if any):	
c) Disbursed:	21.3	d) Most recent disbursement: (amount / date)	0.89, Aug. 18, 2021
e) Undisbursed:	38.7	f) Disbursement Ratio(%) ¹ :	35.5

¹ Disbursement Ratio is defined as the volume (i.e. the dollar amount) of total disbursed amount as a percentage of the net committed volume, i.e., $f = c / (a - b)$

5. Project Implementation Update

Rehabilitation on generating unit 1 is still in progress. The works related to the installation of the Unit 1 generator are ongoing. The production of design documents for the hydromechanical equipment continued. Site survey on intake gate and surface spillway structure, and firefighting and drainage system area was conducted. Dam safety works continue to make good progress.

Component s	Physical Progress	Environmental & Social Compliance	Procurement
Component 1: Power Plant Rehabilitation (design, model testing and installation of turbines) (US\$45 M)	\$21.3m	No major non-conformities were observed on all construction sites.	<p>Component 1.1 Replacement and refurbishment of mechanical, electrical, and electromechanical equipment.</p> <p>Subcomponent – Electrical equipment. Power Plant Equipment Contract was awarded to ANDRITZ HYDRO GMBH (Germany and Austria)/ANDRITZ HYDRO CORPORATION (USA) and signed on July 21, 2018.</p> <p>Subcomponent – Hydromechanical equipment. The contract was awarded to Sinohydro (China) and signed in March 2020.</p> <p>Component 1.2. Replacement of six autotransformers: 100% financed by the Eurasian Development Bank. The contract was awarded to Tojikgidroelektromontaj.</p>

Component 2: Dam Safety (civil works) (US\$15 M)	0	No issue	<p>Dam Safety Component consists of the following parts:</p> <p>1) Dam monitoring instrumentation, geodetic instrumentation and geotechnical investigations. Tojkgidroelektromontaj and Barqi Tojik signed the contract on 10/03/2020.</p> <p>2) Miscellaneous civil works for the improvement of dam safety (rehabilitation of spillway tunnels, spillway outlet works, slope stability of the left bank, replacement of Nurek Bridge, etc.). Subject to rapid procurement, miscellaneous civil works are expected to commence on January 1, 2022.</p>

Financial Management:

On April 23, 2021, AIIB received the project audit report for the year ended on Dec 31, 2020. The auditor concluded that the special purpose financial statements were prepared, in all material respect, with International Public Sector Accounting Standard and World Bank's Financial Management Sector Board's "Guidelines: Annual Financial Reporting and Auditing for World Bank Financed Activities". The audit report also stated that the BT management complied with the requirements of the Financing Agreement. The Entity financial statement audit report for the fiscal year ending on December 31, 2020, was submitted on July 15, 2021.

6. Status of the Grievance Redress Mechanism (GRM)

A grievance redress commission (GRC) including representatives at central and local levels, nominated by Nurek HPP, Stucky, site PIU, local authority, jamoat Dukoni and jamoat Puli Sangin, is fully functional. Contractor Andritz / TajikSGEM has relevant complaint forms in place for workers to apply. HSE specialist of TGEM-TT and TGEM also has complaints logbooks. No complaints were recorded since the previous Q1 PIMR. To date, 36 questions/issues/complaints have been received and resolved/addressed.

7. Results Monitoring

Detailed implementation progress by indicator is presented below.

Baseline Year: Dec. 31, 2017 End Target Year: Dec. 31, 2023

Project Objective Indicators #1

Indicator #1: Generation capacity of energy constructed or rehabilitated under the Project (MW)

Year	Target	Actual	Others, if any
Dec. 31, 2018	0	0	
Dec. 31, 2019	0	0	
Dec. 31, 2020	0	0	
Dec. 31, 2021	335	n/a	
Dec. 31, 2022	670	n/a	
Dec. 31, 2023	1,005	n/a	

Project Objective Indicators #2

Indicator #2: Estimated annual electricity generation of three units included in the scope of the Project (GWh)

Year	Target	Actual	Others, if any
Dec. 31, 2018	At least 3,750GWh	3,750	
Dec. 31, 2019	At least 3,750GWh	3,716GWh	The decrease was due to unfavorable hydrology year
Dec. 31, 2020	At least 2,500GWh	3,510GWh	
Dec. 31, 2021	At least 2,511GWh	n/a	
Dec. 31, 2022	At least 2,522GWh	n/a	
Dec. 31, 2023	At least 3,783GWh	n/a	

Project Objective Indicators #3

Indicator #3: Estimated increase of winter electricity generation of rehabilitated units due to efficiency improvements

Year	Target	Actual	Others, if any
Dec. 31, 2018	0	0	
Dec. 31, 2019	0	0	
Dec. 31, 2020	0	0	
Dec. 31, 2021	at least 11GWh	n/a	
Dec. 31, 2022	at least 22GWh	n/a	
Dec. 31, 2023	at least 33GWh	n/a	

Project Objective Indicators #4

Indicator #4: Improved dam safety against hydrological and geological risks

Year	Target	Actual	Others, if any
Dec. 31, 2018	No	No	
Dec. 31, 2019	No	No	
Dec. 31, 2020	No	No	
Dec. 31, 2021	No	n/a	
Dec. 31, 2022	Yes	n/a	
Dec. 31, 2023	Yes	n/a	

Project Objective Indicators #5

Indicator #5: People provided with improved electricity service

Year	Target	Actual	Others, if any
Dec. 31, 2018	0	0	
Dec. 31, 2019	0	0	
Dec. 31, 2020	0	0	
Dec. 31, 2021	8,276,000	n/a	
Dec. 31, 2022	8,276,000	n/a	
Dec. 31, 2023	8,276,000	n/a	

Project Objective Indicators #6

Female beneficiaries

Year	Target	Actual	Others, if any
Dec. 31, 2018	0%	0%	
Dec. 31, 2019	0%	0%	
Dec. 31, 2020	0%	0%	
Dec. 31, 2021	49.3%	n/a	
Dec. 31, 2022	49.3%	n/a	
Dec. 31, 2023	49.3%	n/a	

Intermediate Result Indicators #1

Indicator #1: Cumulative number of generating units rehabilitated

Year	Target	Actual	Others, if any
Dec. 31, 2018	Contract for rehabilitation is signed and effective	Since physical project implementation has not started yet and some contracts are still under procurement stage, no result has been generated.	
Dec. 31, 2019	Turbine hydraulic model test is completed	Contract signed, model testing started.	
Dec. 31, 2020	Design for generating units is completed and manufacturing commenced	Completed	
Dec. 31, 2021	1	Rehabilitation on generating unit 1 is still in progress.	
Dec. 31, 2022	2	n/a	
Dec. 31, 2023	3	n/a	

Intermediate Result Indicators #2

Indicator #2: Cumulative number of auto-transformers replaced

Year	Target	Actual	Others, if any
Dec. 31, 2018	Bidding document is issued and evaluation of bids is completed	n/a	
Dec. 31, 2019	Contract for replacement of autotransformers is signed and effective	n/a	
Dec. 31, 2020	The supply of autotransformers is underway	0	
Dec. 31, 2021	Installation of autotransformers is underway	Preparation of design documents continued. Delays encountered due to civil issues (underground voids due to quality of soil)	
Dec. 31, 2022	6	n/a	
Dec. 31, 2023	6	n/a	

Intermediate Result Indicators #3

Indicator #3: Enhanced hydrological safety

Year	Target	Actual	Others, if any
Dec. 31, 2018	Once in 10,000 years flood	Once in 10,000 years flood	

Dec. 31, 2019	Once in 10,000 years flood	Once in 10,000 years flood	
Dec. 31, 2020	Once in 10,000 years flood	Once in 10,000 years flood	
Dec. 31, 2021	Once in 10,000 years flood	n/a	
Dec. 31, 2022	Once in 10,000 years flood	n/a	
Dec. 31, 2023	Once in 100,000 years flood	n/a	

Intermediate Result Indicators #4

Indicator #4: Upgrade of the dam monitoring instrumentation completed

Year	Target	Actual	Others, if any
Dec. 31, 2018	Bidding document is issued	n/a	
Dec. 31, 2019	Contract for upgrade of dam instrumentation is signed and effective	n/a	
Dec. 31, 2020	The supply and installation of the dam monitoring instrumentation commenced	The contract is under implementation	
Dec. 31, 2021	The dam monitoring instrumentation is partly operational	Foreseen completion of dam monitoring system is postponed as it was required to update the design of the geodetic network to local geological constrains and partial update of dam monitoring system.	
Dec. 31, 2022	The dam monitoring instrumentation is fully operational	n/a	

Intermediate Result Indicators #5

Indicator #5: Civil, electrical and mechanical works for improvement of the dam safety completed

Year	Target	Actual	Others, if any
Dec. 31, 2018	Bidding document is issued	n/a	
Dec. 31, 2019	Contract for procurement of the dam safety improvement works is signed and effective	n/a	
Dec. 31, 2020	The dam safety improvement works are in progress	The bidding documents to be finalized in Oct 2021 once geotechnical investigations are completed. The delay is caused by delays in exploratory drilling works on left bank caused by COVID-19.	
Dec. 31, 2021	The dam safety improvement works are in progress	Subject to rapid procurement, miscellaneous civil works are expected to commence on January 1, 2022.	
Dec. 31, 2022	Rehabilitation of the spillway tunnel, gates and hoisting system is completed	n/a	

Intermediate Result Indicators #6

Indicator #6: Update of Emergency Preparedness Plan (EPP) and preparation of O&M plans completed

Year	Target	Actual	Others, if any
Dec. 31, 2018	Draft updated EPP and O&M	n/a	

	plans are reviewed by BT and other relevant state agencies		
Dec. 31, 2019	Draft updated EPP and O&M plans are reviewed by BT and other relevant state agencies	n/a	
Dec. 31, 2020	Final updated EPP and O&M plans are effective and implemented	Until adoption of Vakhsh Cascade level EPP, the Project would continue relying on existing Nurek EPP. The decision to prepare Cascade level EPP was found justified, consistent with the World Bank's ESF, and thus the update of Nurek EPP was discontinued. The preparation of Vakhsh Cascade level EPP would commence in August 2021. The interim result indicator would be updated accordingly. The O&M and instrumentation plans would be finalized once the technical specifications of all supplied equipment are made available to BT.	

Intermediate Result Indicators #7

Indicator #7: Percent of registered Project-related grievances (disaggregated by gender) responded to within stipulated service standards for response times

Year	Target	Actual	Others, if any
Dec. 31, 2018	100%	100%	
Dec. 31, 2019	100%	100%	
Dec. 31, 2020	100%	100%	
Dec. 31, 2021	100%	100%	
Dec. 31, 2022	100%	n/a	
Dec. 31, 2023	100%	n/a	

Remarks: Regardless of delays in the project's physical progress, no data collection delays are foreseen.