



## Nurek Hydropower Rehabilitation Project Phase I (P150816)

EUROPE AND CENTRAL ASIA | Tajikistan | Energy & Extractives Global Practice |  
IBRD/IDA | Investment Project Financing | FY 2017 | Seq No: 9 | ARCHIVED on 29-Jun-2022 | ISR51636 |

Implementing Agencies: Ministry of Energy and Water Resources, Tajikistan, Ministry of Finance, Tajikistan, OJSHC Barqi Tojik

### Key Dates

#### Key Project Dates

Bank Approval Date: 03-May-2017

Effectiveness Date: 27-Apr-2018

Planned Mid Term Review Date: 17-Oct-2022

Actual Mid-Term Review Date:

Original Closing Date: 31-Dec-2023

Revised Closing Date: 31-Dec-2023

### Project Development Objectives

Project Development Objective (from Project Appraisal Document)

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

Has the Project Development Objective been changed since Board Approval of the Project Objective?

No

### Components Table

Name

Rehabilitation of the three generating units, the key infrastructural components of the plant, and replacement of auto-transformers:(Cost \$310.00 M)  
Enhancement of dam safety:(Cost \$30.00 M)  
Technical assistance:(Cost \$10.00 M)

### Overall Ratings

Name	Previous Rating	Current Rating
Progress towards achievement of PDO	<input type="checkbox"/> Moderately Satisfactory	<input type="checkbox"/> Moderately Satisfactory
Overall Implementation Progress (IP)	<input type="checkbox"/> Moderately Satisfactory	<input type="checkbox"/> Moderately Satisfactory
Overall Risk Rating	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate

### Implementation Status and Key Decisions

The project implementation is progressing well with the process of rehabilitation and installation works for the Unit 1 generating equipment at the completion stage and production of design documents for the autotransformers and rehabilitation of the hydromechanical equipment are ongoing. Specifically, Unit 1 has undergone wet testing and has demonstrated performance.

The major dam safety activities on rehabilitation of the spillway tunnels and gates, upgrade of monitoring instruments and management system and preparation of the Emergency Preparedness Plan, Operation and Maintenance Plan, Instrumentation Plan and installation of a flood forecasting system are ongoing.

Consultants has been hired for preparation of Emergency Preparedness Plan (EPP) for the Vakhsh Cascade and the Feasibility Study for the rehabilitation of Baipaza HPP. The studies are progressing.



**Risks**

**Systematic Operations Risk-rating Tool**

Risk Category	Rating at Approval	Previous Rating	Current Rating
Political and Governance	High	Moderate	Moderate
Macroeconomic	High	Low	Moderate
Sector Strategies and Policies	High	Low	Low
Technical Design of Project or Program	Substantial	Low	Low
Institutional Capacity for Implementation and Sustainability	Substantial	Moderate	Moderate
Fiduciary	High	Substantial	Substantial
Environment and Social	Moderate	Moderate	Moderate
Stakeholders	Substantial	Low	Low
Other	Substantial	Low	Low
Overall	Substantial	Moderate	Moderate

**Results**

**PDO Indicators by Objectives / Outcomes**

Rehabilitate and restore the generating capacity of three power generating units of Nurek HPP				
► Generation Capacity of Hydropower constructed or rehabilitated under the Project (Megawatt, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	112.00	1,005.00
Date	31-Dec-2016	16-Nov-2021	28-Jun-2022	31-Dec-2022
Comments:	Rehabilitation of the hydro and electromechanical equipment of the Unit 1 documents with internal tests and verifications have been completed, and Unit 1 is expected to be commissioned in July 2022.			
► Estimated annual electricity generation of three units included in the scope of the project (Gigawatt-hour (GWh), Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	3,750.00	2,996.00	2,996.00	3,783.00



Date	31-Dec-2016	16-Nov-2021	28-Jun-2022	31-Dec-2023
Comments:	The decrease was due to unfavorable hydrology year.			

<b>Improve efficiency of three power generating units of Nurek HPP</b>				
▶ Estimated increase of winter electricity generation of rehabilitated units due to efficiency improvements (Gigawatt-hour (GWh), Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	3.60	33.00
Date	31-Dec-2016	16-Nov-2021	27-Jun-2022	31-Dec-2023
Comments:	Efficiency of the rehabilitated unit 1 to be commissioned in July 2022 will increase significantly.			

<b>Strengthen the safety of the Nurek Dam</b>				
▶ Improved dam safety against hydrological and geological risks (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	No	Yes	Yes
Date	31-Dec-2016	16-Nov-2021	27-Jun-2022	31-Dec-2023
Comments:	Dam safety activities are progressing well, particularly with respect to rehabilitation of dam instrumentation and geotechnical investigations and rehabilitation of weirs and inverted pendulum at the intake tower.			

<b>Cumulative indicators (achieved through the project interventions)</b>				
▶ People provided with improved electricity service (Number, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	8,617,000.00	9,575,000.00
Date	31-Dec-2016	16-Nov-2021	27-Jun-2022	31-Dec-2023
▶ Female beneficiaries (Percentage, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	15.00	49.30
Date	31-Dec-2016	16-Nov-2020	27-Jun-2022	31-Dec-2023

**Intermediate Results Indicators by Components**



Rehabilitation of the three generating units, the key infrastructural components of the plant, and replacement of auto-transformers				
► Cumulative number of generating units rehabilitated (Number, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	1.00	3.00
Date	31-Dec-2016	16-Nov-2021	28-Jun-2022	31-Dec-2023
Comments:	Unit 1 is completely rehabilitated and to be commissioned in July 2022			
► Cumulative number of autotransformers replaced (Number, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	6.00
Date	31-Dec-2016	16-Nov-2021	28-Jun-2022	31-Dec-2022
Comments:	Due to the soil subsidence and settlements observed in the switchyard area requiring additional investigations to design appropriate mitigation measures, it is likely that the layout of the autotransformers will need to be modified and there will be some delays with completion of this activity.			

Enhancement of dam safety				
► Enhanced hydrological safety (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Once in 10,000 years flood	Once in 10,000 years flood	Once in 10,000 years flood	Once in 100,000 years flood
Date	31-Dec-2016	16-Nov-2021	28-Jun-2022	31-Dec-2023
► Upgrade of the dam monitoring instrumentation completed (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	The contract is under implementation	ongoing	The dam monitoring instrumentation is fully operational
Date	31-Dec-2016	16-Nov-2021	28-Jun-2022	31-Dec-2022
► Civil, electrical and mechanical works for improvement of the dam safety completed (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	The bidding documents to be finalized in March 2022 once geotechnical	The bidding documents to be finalized in July 2022	Rehabilitation of the spillway tunnel, gates



		investigations are completed.	with delays due to additional scope added delaying completion of the geotechnical investigations.	and hoisting system is completed
Date	31-Dec-2016	16-Nov-2021	28-Jun-2022	31-Dec-2022
► Update of EPP and preparation of O&M plans completed (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	The preparation of Vakhsh Cascade level EPP would commence in December 2021. This intermediate result indicator would be updated accordingly during the restructuring after mid-term review in March 2022. The O&M and instrumentation plans would be finalized once the technical specifications of all supplied equipment are made available to BT. The deadline would be confirmed during March 2022 mid-term review.	The preparation of Vakhsh Cascade level EPP is progressing and with finalization of the EPP this intermediate result indicator will be updated accordingly.	Final updated EPP and O&M plans are effective and implemented
Date	31-Dec-2016	16-Nov-2021	28-Jun-2022	31-Dec-2020
Comments:	Until adoption of Vakhsh Cascade level EPP, the Project would continue relying on existing Nurek EPP.			

Technical assistance				
► Percentage of registered project related grievances (disaggregated by gender) responded to within stipulated service standards for response times (Percentage, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	100.00	100.00	100.00
Date	31-Dec-2016	16-Nov-2021	28-Jun-2022	31-Dec-2023
Comments:	To ensure active engagement with citizens, BT undertook the first round of information sharing and consultation meetings during 2018-19 after the project effectiveness. The events were attended by about 100 representatives of local communities. The report of these CE activities is available at BT and was submitted to the World Bank. These events are scheduled annually and over the last year BT has discussed the difficulties of proceeding with the annual information sharing and consultations meetings due to the social distancing and travel restrictions imposed by the Government due to COVID-19. To ensure the continuity of the planned CE actions, BT has started to share information on its website ( <a href="http://www.barqitajik.tj">www.barqitajik.tj</a> ) about the project progress related to main aspects of implementation, including engagement of local labor for civil works, and requested feedback from key stakeholders. BT has ensured that the GRM is fully functional (staffing, procedures and logs are available), monthly progress reports are submitted to the Bank along with the annual reports; to date 36 questions/issues/complaints have been received and resolved/addressed.			



Performance-Based Conditions

Data on Financial Performance

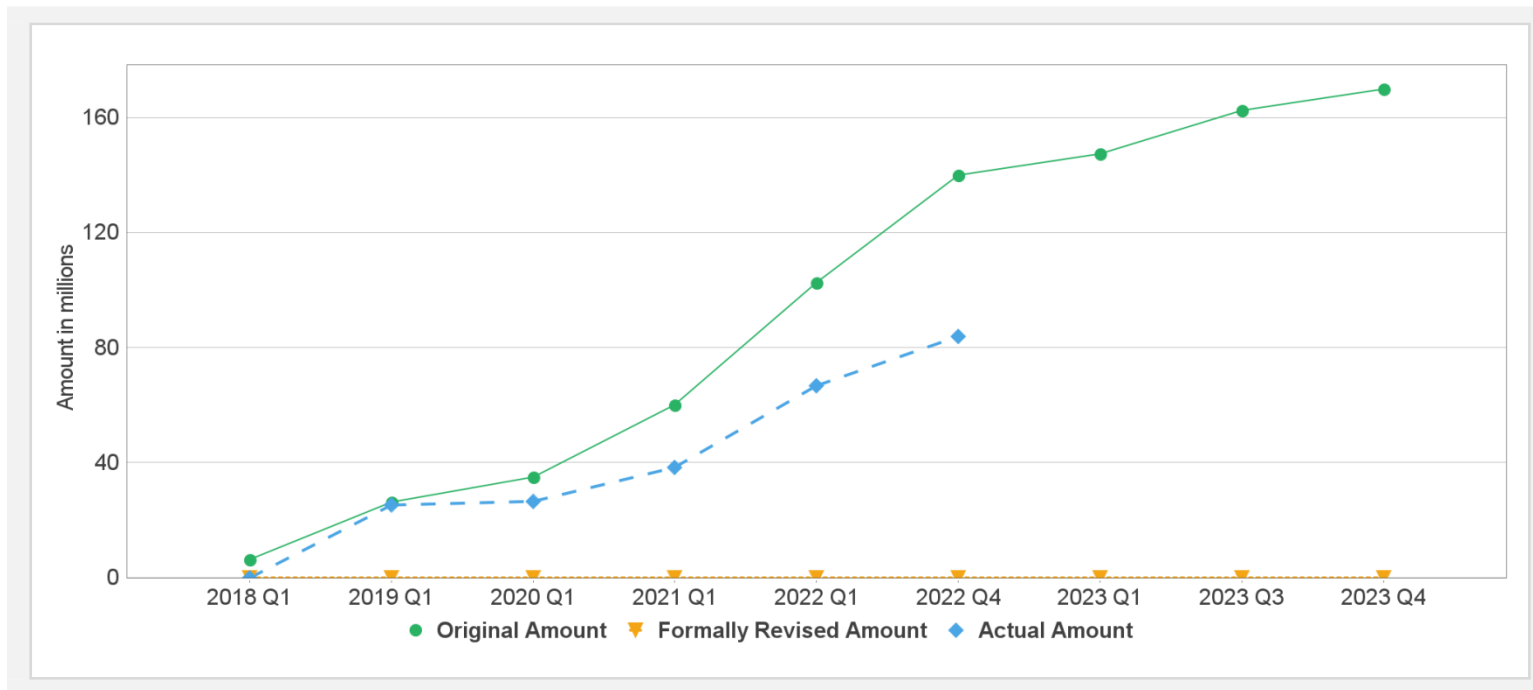
Disbursements (by loan)

Project	Loan/Credit/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P150816	IDA-60240	Effective	USD	69.14	69.14	0.00	24.90	44.23	36%
P150816	IDA-60250	Effective	USD	100.00	100.00	0.00	0.25	99.75	0.3%
P150816	IDA-D1790	Effective	USD	56.57	56.57	0.00	58.91	0.00	100%

Key Dates (by loan)

Project	Loan/Credit/TF	Status	Approval Date	Signing Date	Effectiveness Date	Orig. Closing Date	Rev. Closing Date
P150816	IDA-60240	Effective	03-May-2017	02-Jun-2017	27-Apr-2018	31-Dec-2023	31-Dec-2023
P150816	IDA-60250	Effective	03-May-2017	02-Jun-2017	27-Apr-2018	31-Dec-2023	31-Dec-2023
P150816	IDA-D1790	Effective	03-May-2017	02-Jun-2017	27-Apr-2018	31-Dec-2023	31-Dec-2023

Cumulative Disbursements





### **Restructuring History**

Level 2 Approved on 29-Nov-2018

### **Related Project(s)**

There are no related projects.

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