Environmental Monitoring Report

Semi-annual report
July-December 2020

February 2021

Kyrgyz Republic: Toktogul Rehabilitation Phase 3 Project

Prepared by the Open Joint Stock Company Electric Power Plants for the Asian Development Bank.

TABLE OF CONTENTS

LIST OF PICTERS

LIST OF SCHEMES

LIST OF ANNEXS

Abbreviations:

ADB	Asian Development Bank
CC	Construction Contractor
EMP	Environmental Management Plan
EPP/OJSC EPP	Open Joint Stock Company Electric Power Plant Company
ES	Environmental Specialist
HPP	Hydro Power Plant
IEE	Initial Environmental Examination
IPID	Investment Projects Implementation Department within EPP
PIC	Project Implementation Consultant
PIU	Project Implementation Unit
SAEPF	State Agency on Environmental Protection and Forestry
SSEMP	Site Specific Environmental Management Plan

1. INTRODUCTION

1.1. Preamble

1. This report represents the Semi-annual Environmental Monitoring Report (SAEMR) covering July – December 2020 for Toktogul Hydropower Plant Rehabilitation Project Phase 3 (called the Project).
2. This report is *the second* SA EMR for the Project.

1.2. Headline Information

3. The general objective of the rehabilitation works is to improve the technical and operational performances of Toktogul HPP. Considering the strategic importance of Toktogul HPP for the stability of the national and regional grid two main objectives have been identified:

   - Ensuring a proper reliability and availability of the plant,
   - Increasing the overall capacity of the power plant.

4. Rehabilitation studies and rehabilitation works of Toktogul HPP are divided into 3 Phases. As originally planned, the Phase 3 Project was consisting the following works:

   - Replacement of units 1 and 3 of Toktogul hydropower plant;
   - Civil structure refurbishment;
   - Dam monitoring system. Overhaul the dam monitoring systems at five dams along the Naryn cascade.

   Not all tenders for construction contractors for Phase 3 are announced yet.

5. During tender document preparation for Toktogul HPP Rehabilitation Phase 2 Project construction works, the decision was made to group the rehabilitation of all four units of Toktogul HPPs in a *single Package 2* and to replace the existing by completely new units. Thus, Package 2 consists of two lots:

   Lot 1: Rehabilitation of Toktogul powerhouse by replacing 2x300 MW turbine generator units 2 and 4 and associated auxiliary systems; and

   Lot 2: Rehabilitation of Toktogul powerhouse by replacing 2x300 MW turbine generator units 1 and 3 and associated auxiliary systems.

   Replacement of units 1 and 3 of Toktogul HPP works (Lot 2 Package 2) relates to Project Phase 3.

6. The Contract for the Package 2 has been awarded to the Consortium of the legal entities of GE Hydro France and GE Renewable Switzerland GmbH (GE) and the Contract Agreement was signed by EPP and the Contractor on 9th February 2018.

7. Thus, the replacement of all four units No 1,2,3, and 4 of Toktogul HPP was included in Package 2 of Phase 2 and Phase 3 Projects.

8. Works of Package 2 include the rehabilitation and replacement of the following components:

Lot 1: Unit 2 and Unit 4 and part of the common auxiliaries:

- Turbines;
- Governing Systems;
- Low Pressure Compressed Air System;
- Cooling Water System;
- Drainage and Dewatering System;
- Powerhouse Travelling Cranes;
- Generators;
- Excitation Systems;
- Generator Fire Fighting System;
- Generator Cooling System;
- Generator Neutral Grounding System;
- Unit Control System;
- Unit Monitoring System;
- Unit Protection System;
- Plant Control and Monitoring System and SCADA System;
- Plant Fire Fighting System;
- Plant Lighting System;
- Miscellaneous Auxiliary Transformers;
- Isolated Phase Bus Ducts;
- MV Switchgears;
- 400 V AC Station Distribution System;
- DC System;
- Emergency Diesel Generator;
- Mandatory and recommended spare parts;

Lot 2: Unit 1 and Unit 3 and part of the common auxiliaries:

- Turbines;
- Governing Systems;
- High Pressure Compressed Air System;
- Cooling Water System;
- Generators;
- Excitation Systems;
- Generator Fire Fighting System;
- Generator Cooling System;
- Generator Neutral Grounding System;
- Unit Control System;
- Unit Monitoring System;
- Unit Protection System;
- Isolated Phase Bus Ducts.

9. The design works developed by the Contractor and design review of Contractor's submittals by PIC of Phase 2 Project (Tractebel) are currently under process.

10. The Initial Environmental Examination (IEE) to the Project containing an Environmental Management Plan (EMP) was prepared in 2015 and approved by ADB. The State Agency of Environmental Protection and Forestry (SAEPF) approved it with an official letter No 04-01-28/33 dated 29 January 2016 (Annex 1).

11. According to the IEE prepared to the Project, the main environmental impacts are (i) occupational health and safety at the project site; (ii) handling of used oil and grease waste; (iii) disposal of scrap metal and other solid waste; (iv) civil works for dam refurbishment; (v) transportation of construction materials and heavy equipment to the project site; and (vi) removal of generated waste from the project site. The EMP specifies adequate mitigation measures and monitoring plans to cover these impacts. Released oils and scrap metals will be kept safe at the on-site storage area, which was improved with financing under the Phase 1 for usage throughout the whole Toktogul rehabilitation program. EPP is responsible for ensuring that licensed companies, under the monitoring and supervision of the PIC and PIU, recycle and dispose oils and scrap metals.

12. According to ADB Project Data Sheet of 14 January 2014, the Project is considered to be of Category B.

13. In the reporting period, the selection of Project Implementation Consultant (PIC) for Project Phase 3 was conducted. Fichtner GmbH &Co. KG, Germany was selected as a PIC, and a contract was signed on 8 December 2020.

14. Commencement date of Package 2 Lot II of Phase 3 Project is November, 14, 2019.

15. A case of force majeure due to Covid-19 was declared in February-March 2020 by the Contractor GE. During reporting period, the Contractor updated its health and safety management system so as to implement construction works in compliance with all relevant government regulations and guidelines on Covid-19 prevention and control. The closure of borders as well as ban on international travels, especially in regards to China where the pandemic started and where most equipment was being manufactured, has put a strain on the manufacturing and delivery schedule. After temporarily stopping site works due to Covid-19 pandemic issues, works for Package 2 at site were recommenced in September-October 2020.

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1.Project Description

16. The Toktogul Dam is a concrete gravity dam with a height of 215 m. It is equipped with a large hydropower plant of 1.200 MW capacity. The Toktogul Hydro Power Plant (HPP) provides 40% of the average Kyrgyz Republic electricity output. The dam's construction began in 1960 and the hydropower plant was put into services in 1975 (*Picture 1*).

17. The Toktogul HPP plays a major role in Kyrgyz Republic electrical grid and in the Central Asian power system, providing energy and frequency regulator services. It is equipped with 4 vertical Francis turbines with 300 MW each. Since its commissioning significant rehabilitation measures have never conducted.

18. The Kyrgyz Republic has received funding from the Asian Development Bank (ADB) for the Phase 3 of Toktogul HPP Rehabilitation Project. The executing agency of this project is the Open Joint-Stock Company Electric Power Plants (EPP).

Picture 1. Toktogul hydropowerplant dam

2.2. Project Contracts and Management

19. The objective of the executing agency EPP is to improve the technical and operational performance of the Toktogul HPP. Main task of EPP is to contract the rehabilitation of the Toktogul HPP on an Engineering Procurement and Construction scheme. The selected Project Implementation Consultant will closely work with the Investment Project Implementation Department (IPID) of EPP.

20. IPID is one of the EPP's departments specially assigned for implementation of projects funded by international development organizations such as e.g. ADB and World Bank (WB) etc.

21. Within IPID, EPP has established a dedicated Project Implementation Unit (PIU) in February 2013 for implementing concerned components of the "Power Sector Rehabilitation Project" and "Toktogul HPP Rehabilitation Phase 2, Phase 3 Projects". Vacancy of a Head of PIU is open but there is a Deputy Head of PIU Mr. Marat Botoev (emails: piu2@es.kg (Toktogul HPP Rehabilitation Project Phase 2 and Phase 3). The IPID administers all consulting and procurement contracts on behalf of EPP. It is responsible for bid evaluation, contract award, construction supervision, and report to the Government and ADB.

22. The IPID head Mr Isak Khudaiberdiev reports directly to the General Director of EPP. The IPID is the main contact point for working communication between EPP and ADB. The IPID coordinates the consultants and contractors.

23. The IPID, assisted by the PIC, submits necessary project plans, tender evaluation reports, progress reports, applications for withdrawal of funds, and any other required reports to ADB, EDB and the Government.

24. The Environmental Specialist of PIU EPP Toktogul HPP Rehabilitation Project Phases 1, 2, and 3 is Ms. Jyldyz Moldosanova (email: piu2@es.kg).

25. PIC of EPP for Toktogul HPP Rehabilitation Phase 3 Project is the Fichtner GmbH &Co. KG, Germany.

26. Construction Contactor of the Contract for the Package 2 of Phase Phase 2 and Phase 3 Projects is the Consortium of the legal entities of GE Hydro France and GE Renewable Switzerland GmbH (GE). GE's National Environmental Specialist is Mr. Orcun Duymaz (email: orcun.duymaz@ge.com).

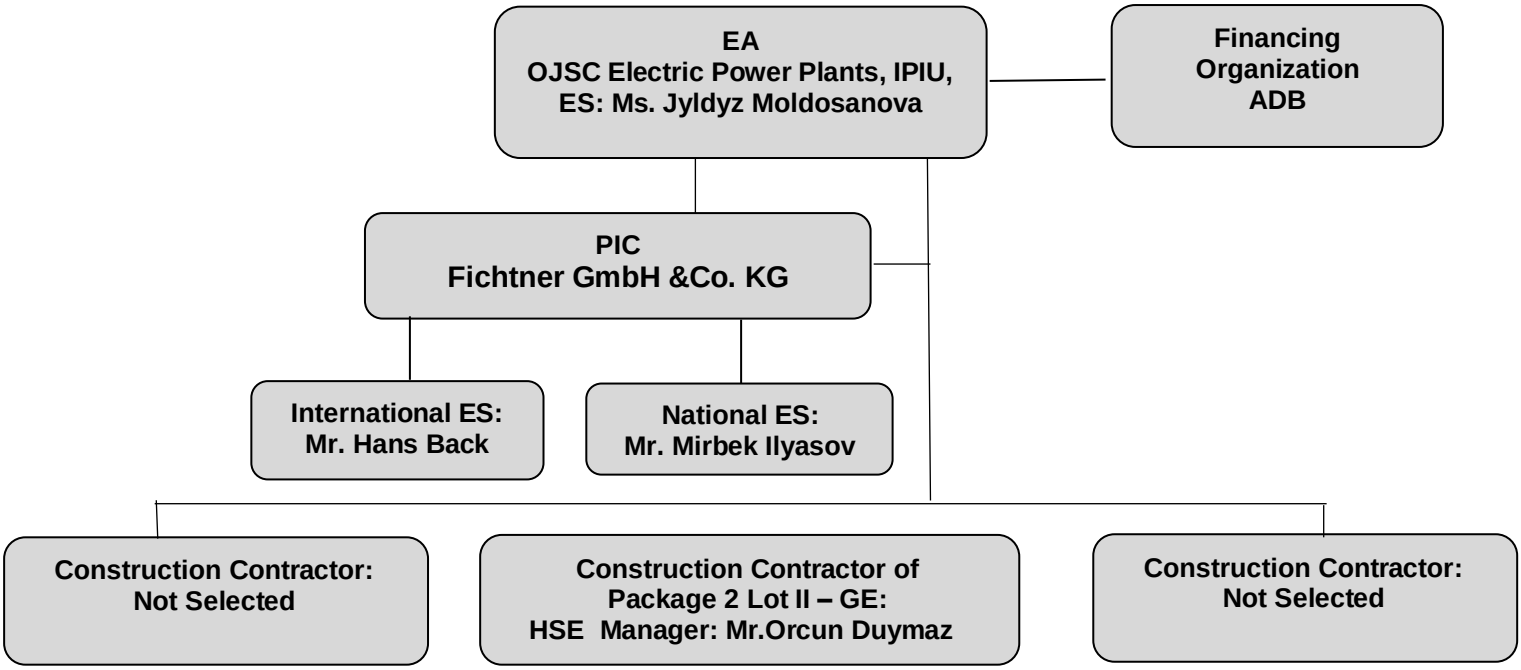
27. The Project Contract under implementation of the Project as of reporting period is shown in

Table **1**.

Table 1. Project Contract under implementation of Toktogul HPP Rehabilitation Phase 3 Project

Contract	Title	Construction Contractor
D-15-22/69 dated 9 February 2018	Package No. 2, Lot II: Toktogul Powerhouse Rehabilitation – Design, Supply, Installation, Pre-commissioning and Commissioning, units 1 and 3.	Consortium of GE Hydro France and GE Renewable Switzerland

28. Environmental management of the Rehabilitation of Toktogul HPP Phase 3 Project as of December 2020 is shown in Scheme 1 below.



Scheme 1. *Environmental management of the Rehabilitation of Toktogul HPP Phase 3 Project as of December 2020*

2.3. Project Activities during current reporting period

29. Works of Package 2 (Lot 1 and Lot 2) have already started at site which relates to both phases: Phase 2 and Phase 3 Projects. During reporting period, CC GE continues to be under Project detailed design stage and/or manufacturing for most equipment. Works of Lot 2 (Units 1 and 3) is under design stage.

30. Works were started for powerhouse crane equipment in last quarter of 2019 but there was a delay on delivery of some equipment due to customs clearance issues. Major works on Unit 4 were scheduled to start on March 1st of 2020 but major delay is foreseen due to pending issues with GE and Covid-19 pandemic. The project is expected to shift by one year.

31. All works take place within the fenced area of Toktogul HPP. All rehabilitation measures are implemented within the facilities and building constructions of the EPP. Area of Toktogul HPP is secured and no admittance except business.

2.4. Description of Any Changes to Project Design

32. No changes to Project Design

2.5. Description of Any Changes to Agreed Construction methods

33. No changes to agreed construction methods

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1. General Description of Environmental Safeguard Activities

34. Not applicable in reporting period.

3.2. Issues Tracking (Based on Non-Conformance Notices)

35. Not applicable in reporting period.

3.3. Trends

36. Not applicable in reporting period.

3.4. Unanticipated Environmental Impacts or Risks

37. Covid-19 outbreak has led to health-related risks and shutdown of site activities. Medical preparedness response plan implemented and reinforced by Construction Contractor's personnel and at Toktogul HPP by the customer. Particular measures are as follows: develop schedules of doctors' duty, continue daily medical check-up of staff at going in and going out of buildings, oblige all staff to report to his/her head when having high temperature, dry cough, short breath, social distancing, wearing mask, sanitary hygiene maintenance, barrier gesture; operating from home office and engage limited number of personnel; regular disinfection of offices; ban on business trips to Bishkek and Chui oblast; avoid crowded places; stay home.

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1. Overview of Monitoring Conducted during Current Period

38. Not applicable in reporting period

4.2. Trends

39. Not applicable in reporting period.

4.3. Summary of Monitoring Outcomes

40. Not applicable in reporting period.

4.4. Material Resources Utilisation

41. Not applicable in reporting period.

4.5. Waste Management

42. Not applicable in reporting period.

4.6. Health and Safety

43. Not applicable in reporting period.

4.7. Training

44. Not applicable in reporting period.

5. FUNCTIONING OF THE SSEMP

5.1. SSEMP Review

45. SSEMP for the Contract for the Package 2 Lot II of Phase 3 Project has been developed by the Construction Contractor GE and approved by PIU and ADB. The Contractor GE has also prepared the following documents:
    - Asbestos Containing Material Management Plan (ACMMP),
    - Health and Safety Plan,
    - Overhead Crane Area Cleaning Method Statement,
    - Toktogul HPP Site Specific Covid-19 Plan,
    - Project Emergency Response Plan.
46. Construction Contractor is able to implement fully the requirements set out in SSEMP and other plans.
47. SSEMP mitigation measures set out are appropriate and they don't need changing.

6. Good practice and opportunity for improvement

48. Not applicable in reporting period.

7. Summary and recommendations

49. The Construction Contractor shall pay careful attention to health and safety issues, especially within the current Covid-19 situation and after. Social distance and masks wearing shall be controlled regularly by each HSE team and shall be applied as per the policy outlined in the Contractor's health and safety plans as well as PIU or national guidelines. This is in particular important in meeting rooms where the contagion risk is higher.

Annex 1. Conclusion of the State environmental expert reviewon IEE developed for the Project Phase 3.

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№

Утверждаю
Заместитель директора
Государственного агентства
охраны окружающей среды
и лесного хозяйства
при Правительстве КР
А.А. Рустамов
«29» января 2016 г.

ЗАКЛЮЧЕНИЕ
ГОСУДАРСТВЕННОЙ ЭКОЛОГИЧЕСКОЙ ЭКСПЕРТИЗЫ
к отчету «Предварительная экологическая оценка (ПЭО)
проекта АБР«Реконструкция Токтогульской ГЭС Фаза III»

На рассмотрение в Государственное агентство охраны окружающей среды и лесного хозяйства при Правительстве Кыргызской Республики на государственную экологическую экспертизу представлен отчет «Предварительная экологическая оценка (ПЭО) проекта АБР «Реконструкция Токтогульской ГЭС Фаза III», разработанный ОАО «Электрические станции» в 2015 году.

Предварительная экологическая оценка (ПЭО) проекта АБР «Реконструкция Токтогульской ГЭС Фаза III» состоит из следующих основных разделов:

1. Краткий обзор.
2. Политические, Правовые и Административные Рамки.
3. Описание Проекта.
4. Описание Окружающей Среды.
5. Ожидаемые Экологические Последствия и Смягчающие Меры.
6. Анализ Альтернатив.
7. Раскрытие Информации и Консультации.
8. Механизм Разрешения Жалоб.
9. План Управления Окружающей Средой.
10. Заключение и Рекомендации.
11. Приложения

0017472 1

График реализации: Начало строительства будет начато во второй половине 2016 года и продлится до 2020/2021гг.

Описание Проекта и Возможные Воздействия

В ходе работ на Токтогульской ГЭС предусмотрены следующие мероприятия:

- замена/реабилитация двух турбин;
- замена/реабилитация и модернизация двух генераторов;
- замена двух основных трансформаторов, связанных с двумя турбинами / генераторами;
- замена систем управления агрегатами для двух блоков;
- замена систем защиты блока, в том числе соответствующего трансформатора, шлейфа и ограждения для двух блоков;
- замена блока электрических и механических вспомогательных систем (Распределительное устройство МВ и НН, система охлаждения, дренажные и водо-насосные системы и т.д.) для двух блоков (по блокам);
- реабилитация Гидравлических стальных конструкций и гидромеханического оборудования на впуске и ниже по течению;
- реконструкция гидротехнических стальных сооружений и гидромеханического оборудования (напорных водоводов, донных выпускных отверстий, кранов и т.д.).

Согласно Отчету, следующие возможные экологические последствия могут быть связаны с перечисленными мероприятиями:

- возможным отключением электроэнергии в ходе строительства;
- утилизацией старого масла (около 180 тонн, не содержащих ПХД);
- вопросами соблюдения техники безопасности и здравоохранения во время строительства;
- увеличением движения грузовиков в период строительства через населенные пункты; транспортировкой тяжелого оборудования, строительных материалов и отходов;
- утилизацией железа / стали (почти 4 тысячи тонн), и других отходов;
- строительными отходами, образовавшихся в результате строительных работ, и некоторых бытовых отходов, образовавшихся в результате жизнедеятельности рабочих.

В рамках мероприятий по реализации Проекта негативного воздействия в трансграничном контексте, не ожидается.

Зонами возможного значительного воздействия на окружающую среду могут являться места сбора и хранения старого масла при условии обнаружения в нём ПХБ. Мероприятия по обеспечению экологической безопасности на этот случай предусмотрены в Плане управления окружающей средой.

Аварийные ситуации на ГЭС и за проектные аварии в настоящем ПЭО не рассматриваются, поскольку работы в рамках Проекта не нарушают нормального функционирования Токтогульской ГЭС и осуществляется в пределах существующих регламентных и ремонтных работ.

Согласно Отчету ПЭО, все мероприятия проекта будут осуществляться на территории объектов, находящихся в собственности ОАО «Электрические станции». Меры по реабилитации будут проходить в пределах зданий и защитных камерах электростанций. Утилизация и обращение с металлоломом, маслом, строительными отходами и некоторыми бытовыми отходами жизнедеятельности самих работников производиться в соответствии с установленными правилами по охране окружающей среды.

Все эти воздействия, степень воздействия и предлагаемые меры по смягчению последствий, рассматриваются в табличной форме в Разделе План управления окружающей средой.

Устойчивость плотины не будет подвергаться воздействиям предусмотренных мер. Ни одна из этих мер не будет влиять на конструкцию плотины. Работы по реабилитации плотины во время Фазы 3 никак не отразятся на ее устойчивости и водном режиме ниже по потоку.

Все отходы по мере максимальной возможности будут переработаны как стальной лом, так и старое масло. Результаты анализа показали, что ПХБ не содержится в масле оборудования, подлежащего замене на Фазе 2. Однако необходимо проверить остальные объемы масла в старом оборудовании, подлежащем замене на Фазе 3. Для этих целей Отдел управления проектом «Развитие сектора энергетики» при Министерстве энергетики и промышленности КР в I-II квартале 2016 года закупит экспресс-анализаторы для определения наличия ПХБ в старом масле.

Масла и металлолом будут надежно храниться в специальном хранилище, построенном в период первой фазы Проекта.

План управления окружающей средой (ПУОС) разработан в рамках ПЭО. Он содержит меры по смягчению последствий и мониторингу для стадии строительства.

В период эксплуатации, необходимости в выполнении каких-либо дополнительных мероприятий не требуется.

Особое внимание уделяется большому количеству образовавшегося металлолома (около 3220 т) и 58 тоннам старого масла, которое необходимо слить из старого оборудования. Образовавшегося строительного мусора немного, и, по оценкам, его количество может варьироваться от 10 до 20 куб. метров; мусор, в основном, представляет собой колотый бетон. Большинство мероприятий по смягчению последствий воздействия на окружающую среду во время строительства осуществляет подрядчик, за которым будет наблюдать КРП. Переработка/повторное использование металлолома и старого масла возлагается на ЭС не за счет средств кредита.

Рекомендуется регулярно контролировать осуществление предлагаемых мер по смягчению воздействий в течение всего периода строительства с особым акцентом на надлежащее управление утилизацией отходов и транспортных вопросов.

Консультант по реализации проекта является лицом, которое несет ответственность за контроль всех экологических вопросов, также будет готовить ежемесячные отчеты, в том числе о ходе реализации ПУОС. Эти отчеты должны быть представлены в ОАО «Электрические станции» и распространены среди всех заинтересованных ведомств. Отчет должен содержать все несоответствия ПУОС и перечислить все инциденты и аварии по линии ЗБОС, которые происходят во время выполнения ремонтных мероприятий. На основе этих докладов и по регулярной проверке объектов Консультант вместе с ОАО «Электрические станции»/ ОРП подготовит отчет по производительности за полгода и о результатах мониторинга, и представит их в АБР.

В период подготовки Отчета проведены общественные консультации и встречи с уполномоченными государственными органами, с общественностью г. Кара-Куль Джалал-Абадской области, где все поддержали о необходимости реабилитационных мер, предусмотренные Проектом АБР по реабилитации Токтогульской ГЭС.

Рассмотрев представленные материалы, Государственное агентство охраны окружающей среды и лесного хозяйства при Правительстве Кыргызской Республики выносит положительное заключения государственной экологической экспертизы к отчету «Предварительная экологическая оценка (ПЭО) проекта АБР«Реконструкция Токтогульской ГЭС Фаза III».

При этом необходимо:

- в период реализации проекта ОАО «Электрические станции» обеспечить своевременное представление отчетов в установленной форме по вопросам охраны окружающей среды и оплаты нормативных платежей за загрязнения окружающей среды в Джалал-Абадское территориальное управления ГАООСЛХ.
- перед началом работ необходимо уведомить Джалал-Абадское ТУ ГАООСЛХ.

В случае невыполнения заключения государственной экологической экспертизы и проведения работ не по проектным решениям, заключение автоматически теряет силу.

Председатель экспертной комиссии
начальник управления государственной
экологической экспертизы и природопользования
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Informal Translation

The State Agency for Environmental Protection and Forestry

under the Government of the Kyrgyz Republic

No. 04-01-28/33 dated 29 January 2016

Approved by Deputy Director
of State Agency for
Environmental
Protection and Forestry
under the Government
of the Kyrgyz Republic
/signed/ A.A. Rustamov
date 29.01.2016

STATEMENT

OF THE STATE ENVIRONMENTAL EXPERTISE

to the report on "Initial environmental Examination" (IEE) of ADB funded project "Rehabilitation of Toktogul HPP Phase III"

The "Initial Environmental Examination" (IEE) report of ADB funded project "Rehabilitation of Toktogul HPP Phase III"**,** developed by OJSC Electric Power Plants in 2015 is submitted for consideration to the State Agency of Environmental Protection and Forestry under the Government of the Kyrgyz Republic for the state environmental assessment.

The "Initial Environmental Examination" (IEE) of ADB project "Rehabilitation of Toktogul HPP Phase III" consists of the following main sections:

1. Short review
2. Political, Legal and Administrative Framework.
3. Project description
4. Description of the Environment
5. The expected Ecological Effects and the Mitigating Measures
6. Analysis of Alternatives
7. Disclosure of Information and Consultation
8. Grievance Redress Mechanism GRM
9. Environmental Management Plan EMP
10. Conclusion and Recommendations
11. Annexes

Implementation Schedule: The beginning of construction will start in the second half of 2016 and will last until 2020/2021.

Project description and Potential Impacts

During works at Toktogul HPP the next activities are provided for:

- replacement/rehabilitation of two turbines;
- replacement/rehabilitation and modernization of two generators;
- replacement of two main transformers connected with two turbines / generators;
- replacement of control systems of units for two blocks;
- replacement of systems of block protection, including corresponding transformer, bypass and fence for two blocks;
- replacement of block of electric and mechanical auxiliary systems (MV and LV Switchgear, the cooling system, drainage and water-pump systems, etc.) for two blocks (on blocks);
- rehabilitation of Hydraulic Steel Structures HSS and the hydromechanical equipment at the inlet and downstream;
- reconstruction of hydraulic engineering steel constructions and hydromechanical equipment (penstocks, bottom outlets, cranes, etc.).

According to Report, the following possible ecological effects can be connected with the listed activities:

- possible blackouts during construction works;
- utilization of old oil (about 180 tons which are not containing PCBs);
- safety and health compliance issue during construction;
- increase in the movement of trucks during construction through residential areas; transportation of heavy equipment, construction materials and waste;
- utilization of iron / steel (nearly 4 thousand tons), and other waste;
- construction waste, formed as a result of construction works, and some household waste formed as a result of activity of workers.

Within the actions for Project implementation the negative impact in a cross-border context not expected.

Areas of possible significant environmental impact can be places where old oil is collected and stored if PCBs are found in it. Actions for ensuring environmental safety on this case are provided in Environmental Management Plan.

Emergency situations at HPPs and for design basis accidents are not considered in this IEE report, since work under the Project does not disrupt the normal functioning of Toktogul HPP and is carried out within the framework of existing routine maintenance and repair work.

According to IEE Report, all activities of the project will be carried out in the territory of facilities which are owned by OJSC Electric Power Plants. Measures for rehabilitation will take place within the buildings and containment chambers of the power plants. Disposal and handling of scrap metal, oil, construction waste and some household waste of employees themselves is carried out in accordance with the established rules for environmental protection.

All these influences, level of impact and proposed measures on mitigation, are considered in a tabular form in the Section Environmental Management Plan.

Stability of dam will not be affected by the provided measures. None of these measures will affect the design of the dam. The rehabilitation works of dam during Phase 3 will not affect its stability and water regime downstream in any way.

All waste will be recycled as much as possible, both steel scrap and old oil. The results of the analysis showed that PCBs are not contained in the oil of the equipment to be replaced in Phase 2. However, it is necessary to check the remaining volumes of oil in the old equipment to be replaced in Phase 3. For this purpose, the Energy Sector Development Project Management Department under the Ministry of Energy and Industry Kyrgyz Republic in the I-

II quarter of 2016 will purchase express analyzers to determine the presence of PCBs in old oil.

Oils and scrap metal will be securely stored in a dedicated storage facility built during the first phase of the Project.

The Environmental Management Plan (EMP) has been developed as part of IEE. It contains mitigation and monitoring measures for the construction phase.

During the period of operation, the need to perform any additional measures is not required.

Particular attention is paid to the large amount of scrap metal formed (about 3220 tons) and 58 tons of old oil, which must be drained from old equipment. The generated construction waste is small, and it is estimated that the amount can vary from 10 to 20 cubic meters; the debris is mainly crushed concrete. Most of the mitigation activities during construction are carried out by a contractor who will be monitored by PIC. Recycling / re-use of scrap metal and old oil is assigned to EPP not at the expense of the loan.

It is recommended that the implementation of the proposed mitigation measures be regularly monitored throughout the construction period, with particular emphasis on proper waste management and transport issues.

The Project Implementation Consultant is the person responsible for overseeing all environmental issues and will also prepare monthly reports, including on the progress of the EMP. These reports shall be submitted to OJSC Electric Power Plants and distributed to all interested departments. The Report should contain all non-compliance with EMP and list all incidents and accidents related to ZBOSthat occur during the implementation of the repair measures. Based on these reports and on regular site inspections, the Consultant, together with OJSC Electric Power Plants /PIU, will prepare six-month performance report and monitoring results and submit them to ADB.

During the period of preparation of Report, public consultations and meetings were held with authorized state bodies, with the public of Kara-Kul city, Jalal-Abad region, where everyone supported the need for rehabilitation measures envisaged by ADB project for Rehabilitation of Toktogul HPP.

- Having considered the submitted materials, the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic issues a positive conclusion of the state environmental expertise to the report "Initial Environmental Examination" (IEE) of ADB funded project "Rehabilitation of Toktogul HPP Phase III".

In this case, it is necessary:

- during the implementation of the project of OJSC Electric Power Plants to ensure the timely submission of reports in the prescribed form on environmental protection and payment of standard payments for environmental pollution to the Jalal-Abad territorial administration.
- before starting work, it is necessary to notify the Jalal-Abad territorial administration

In case of non-fulfillment of the state ecological expertise conclusion and carrying out work not according to design decisions, the conclusion automatically loses its force.

Chairman of the Expert Committee, Head of the Department of State Ecological Expertise and Environmental Management

/signed/ Zhumabekov K.K.

Expert Committee Members:

Head of State Ecological Expertise Department /signed/ Ryspekov A.A.

Senior Specialist of State Ecological Expertise Department /signed/ Sarybaev I.M.