

# Environmental Monitoring Report

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Semestral Report for January – June 2016

## UZB: Talimarjan Power Project

Prepared by State Joint Stock Company UzbekEnergo for the Republic of Uzbekistan and the Asian Development Bank.

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## **Table of Contents**

<b>1. PART I INTRODUCTION .....</b>	<b>5</b>
1.1 CONSTRUCTION ACTIVITIES AND PROJECT PROGRESS DURING THE PREVIOUS 6 MONTHS.....	5
1.2 CHANGE IN PROJECT ORGANIZATION AND ENVIRONMENTAL MANAGEMENT TEAM.....	9
1.3 RELATIONSHIP WITH CONTRACTOR, OWNER, AND LENDER.....	10
<b>2. PART II ENVIRONMENTAL MONITORING.....</b>	<b>12</b>
2.1 NOISE .....	12
2.2 WATER QUALITY .....	12
2.3 AIR QUALITY .....	13
2.4 FLORA AND FAUNA MONITORING.....	13
2.5 OTHERS.....	13
<b>3. PART III ENVIRONMENTAL MANAGEMENT .....</b>	<b>16</b>
3.1 ENVIRONMENTAL MANAGEMENT SYSTEM (EMS), SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN, AND WORK PLAN.....	16
3.2 SITE INSPECTIONS AND AUDITS.....	18
3.3 NON-COMPLIANCE NOTICES.....	18
3.4 CORRECTIVE ACTION PLANS .....	19
3.5 ACTIONS TAKEN TO REFLECT THE FINDINGS OF ADB MISSION DURING THE REPORTING PERIOD.....	22
3.6 CONSULTATION AND COMPLAINTS .....	24
<b>4. PART IV – ACTION PLAN FOR THE NEXT PERIOD.....</b>	<b>25</b>
<b>5. ANNEXES.....</b>	<b>31</b>
5.1 ANNEX 1. MONITORING DATA .....	31
5.2 ANNEX 2. PHOTOGRAPHS.....	31
5.3 ANNEX 3: REVISED SITE BASED ENVIRONMENTAL MANAGEMENT PLAN (HDEC, AUGUST 2014) WITH CSMM STATUS JUNE 2016.....	37



## ABBREVIATIONS

ADB	Asian Development Bank
CS-MM	Corporate Solutions and Mott MacDonald Team
CCGT	Combined Cycle Gas Turbine
CSCL	Corporate Solutions Consulting Ltd
DMF	Design and Monitoring Framework
DRM	Design Review Meeting
EA	Executing Agency
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPC	Engineering Procurement Construction
GoU	Government of Uzbekistan
GTG	Gas Turbine Generator
HDEC	Consortium of Hyundai and Daewoo
H&S	Health & Safety
HSE	Health, Safety, and Environment
HRSR	Heat Recovery Steam Generator
HVAC	Heating Ventilation and Air Conditioning
IA	Implementing Agency
IC	Implementation Consultant
IAS	International Accounting Standards
IFI	International Financial Institution
ISO	International Organisation for Standardisation
JICA	Japan International Cooperation Agency
MFERIT	Ministry for Economic Relations and International Trade
MoM	Minutes of Meeting
MPR	Monthly Progress Report
PAM	Project Administration Manual
PFS	Project Financial Statements
PMU	Project Implementation Unit
PPE	Personal Protective Equipment
PPMS	Project Performance Monitoring System
STG	Steam Turbine Generator
TPP	Talimarjan Power Project
UE	SJSC UzbekeEnerg
UFRD	Fund for Reconstruction and Development of the Republic of Uzbekistan
UZS	Uzbekistan Som (currency unit)
VAT	Value Added Tax
WA	Withdrawal Application
ZEP	Zone Environmentally Protected -Environmental Effects/Impact Statement
ПДВ	Maximum permitted emissions to air
ПДО	Maximum permitted waste disposal
ПДС	Maximum permitted water discharges



## 1. PART I INTRODUCTION

The Government of Uzbekistan has received a loan from the ADB to part finance the construction of the Talimarjan Clean Power Project (the project) - a combined cycle gas generation plant. The project is located in Kashkadarya Province of Uzbekistan, 440 km south west of Tashkent. The site is an existing power plant, which currently generates 800 megawatts (MW). The project will install two combined cycle gas turbine (CCGT) units of about 450 MW each at the site.

Construction of CCGT units is planned for the expansion of TPP to improve the overall efficiency and environmental performance of Uzbekenergo's generating activities across the country. The most advanced and efficient CCGT units available in the 370-450 MW range were considered for this project.

Based on ADB's safeguards policy statement (SPS), the Project is classified as follows: (i) environment (category A) – environmental impact assessment (EIA), (ii) involuntary resettlement (category C) – no actions, and (iii) indigenous peoples (category C) – no actions. Therefore, an environmental clearance from ADB was obtained in December 2009.

According to the Decree of the Cabinet of Ministry of Republic of Uzbekistan № 491 "On government ecological expertise", the Project was classified as a class 1 Project under the Uzbekistan Environmental Legislation. The environmental clearance was obtained from the Nature Protection Committee (NPC) on 5 October 2009. Moreover, in order to comply with environmental legislations of the Republic of Uzbekistan, a new Conclusion of Ecological Expertise № 18/768 was received on 13 August 2013 from the State Nature Protection Committee for the project.

The State Committee for Nature Protection, Kashkadaria regional committee for nature protection, was given the responsibility to oversee compliance to the local environmental legislations on the protection of nature during the project implementation.

The Environmental Impact Assessment (EIA) has been prepared to meet the requirements of the Uzbekistan Environmental Legislation as well as the ADB's environment policy requirements. The EIA was published on 15 December 2009. Two rounds of public consultations were held prior to project appraisal. The environmental sensitivity of the Project site and its surrounding areas is low. Town of Nuristan is the only community close to the plant where the employees of Talimarjan TPP live. The nearest settlements are over 5 km away. The Project's key environmental issues are **air quality** and **emissions, noise impacts** on the Nuristan settlement and **waste management**.

The objective of this report is to report progress of implementing Site Specific Environmental Management Plan and Environmental Monitoring Plan (EMP), as stated in the Environmental Impact Assessment report. This bi-annual environmental monitoring report covers the period January to June 2016. The report is prepared jointly by the Project Implementation Unit (PMU) and the project implementation consultant, Corporate Solutions and Mott MacDonald (CS-MM).

### 1.1 CONSTRUCTION ACTIVITIES AND PROJECT PROGRESS DURING THE PREVIOUS 6 MONTHS

In this review period, the Project is at an advance stage of construction. Below is a summary of construction activities and project progress during the reporting period:

- ▶ The Weather conditions in October, November and December 2015 were cold, rainy with light/severe wind. The maximum and minimum temperatures were around 15 °C and (-7°C) with average temperature being around (+3/+5) °C.



- ▶ At present, eighteen (18) cranes are operational, out of which six (6) are crawler cranes, having capacity 600 ton, 450 ton, two (2) 100 ton and two (2) are 25 ton. These are being used to erect high columns, HRSG's steel structures, casing, modules, drums, stack, transformers, pipe rack steel structure, admin and main building structures and other major equipment. In addition, twelve (12) tyre mounted cranes, two (2) diesel elevators and forklifts are being utilised.
- ▶ All the foundations of HRSG-2 and HRSG-3 areas, including pipe rack foundation, were completed. Grouting of the main structure of both the HRSG was also completed.
- ▶ All the major components (modules, drums, deaerators, blow down tanks, platform and stairs, etc.) of HRSG-2 were installed. All the major mechanical installation works, except few piping joints, are completed. C&I cable and instrument installation is in progress. Erection of the main stack of HRSG-2 is completed and all modules of HRSG-3 already arrived at site.
- ▶ Condensate Preheater pumps and Deaerator Bypass pump and Boiler Feed Pumps (BFP) of unit-2 are placed on the foundation as well as the BFPs of unit-3.
- ▶ The foundation of GT-2/GTG-2 and GT-3/GTG-3, including auxiliaries, were completed, as well as the installation of sole plate for GT-2&3 and GTG-2&3 and the underground piping (waste pipe, oil drain pipe, etc.). GT auxiliaries (Lube oil unit, Control oil unit, GT lube oil cooler, GT washing skid, GT seal oil unit, etc.) were placed on the foundation. Lube oil piping installation and grouting of auxiliary equipment are in progress. Installation of exhaust gas duct of unit-2 & 3 is ongoing. GT Air cooler of GT-2 & 3 is installed. Gas Turbine control package of unit-2 and unit-3 is placed on the foundation.
- ▶ Diverter Dampers of both the units are placed on the foundation and installation of bypass stack of unit -2 is started.
- ▶ The foundation of ST-2/STG-2 and ST-3/STG-3, including auxiliaries, were completed as well as the installation of sole plate for ST-2&3 and STG-2&3. HIP turbine and Generator Stator, including bearing pedestal of unit-2 and 3, are placed on the foundation. Installation of LP turbine casing of both units are in progress. ST Auxiliaries (Lube oil unit, closed cooling water pumps, heat exchanger, condensate extraction pumps, etc.) of unit-2 are installed. Installation of Lube oil pipe and condensate pipe of both units are in progress. ST Auxiliaries (Lube oil unit, closed cooling water pumps, heat exchanger, Auxiliary cooling water pump, etc.) of unit-3 are installed. Closed cooling water piping of both the unit is in progress.
- ▶ Condenser vacuum pumps and Water box vacuum priming pumps of both units are placed on the foundation as well as the air compressors, receivers and air drier.
- ▶ All the transformers (Step-up transformers, auxiliary transformer and standby transformer) were placed on the foundation. Electrical field testing of standby transformer is completed and other transformers are in progress. No decision has been taken regarding the auxiliary transformer-3 which was damaged during transportation/installation. CSMM declared that transformer-3 should be sent to the Vendor, repaired properly, tested and brought in a brand-new condition.
- ▶ Cable tray installations in different areas (Admin Building, MV Switchgear room-2 & 3, existing cooling water pump house, GT control package-3, HRSG-2, Cooling Tower, etc.) are also completed.
- ▶ For 500 kV Switchyard, all of the major foundations including backfilling and soil compaction were completed. Gantry tower installation is completed and the



installation of the supporting insulators for disconnecting switches and high voltage T/L (transmission line) is in progress and the grouting of supports is in progress.

- ▶ For 220kV Switchyard in the existing plant, all the equipment installation is completed but some of the equipment (broken tube of CB, grounding blade shaft of DS, etc.) has been found defective. These items will be replaced during the next shutdown.
- ▶ All the foundation and ground floor civil works for the Main and Administration buildings was completed. The structural works in the Main building is progressing slowly but the progress is comparatively better than the last period. Installation of steel structures in the Administration building is started and significant progress has been observed in comparison to the last period.
- ▶ Installation of circulating water pipe -GRP pipe (Direct cooling water system), between condenser and the existing channel works of unit-2 & 3, are on-going. Significant progress has been observed in comparison to the last period. Joint leak test of the laid pipe is already completed. Backfilling in some of the area is also completed, fire fighting pipeline installation is in progress, and hydro test of some of the fire fighting pipe is already completed.
- ▶ Cable Ducts and Pits, PVC pipe installation for cable lying around the main power block are completed. Other areas are in progress.
- ▶ In Intake facility and cooling tower pump house area, rebar work, form work and embedded materials installation are in progress. Rebar work and form work of canal and perimeter drainage for cooling tower basin area is in progress. Installation of the cooling tower material (FRP), cooling tower fan and motor, fills, spray nozzle, distribution header has progressed significantly and the backfilling around the canal is on-going. Foundation slabs of the electrical building are completed and the installation of reinforcing cages and formworks for the columns of the electrical building is in progress.
- ▶ All civil works (foundation, ground floor, electrical building), including backfilling, are completed in the Fuel Gas Station Area. Structural work of the Fuel Gas Shelter is started and reasonable progress has been observed. All the Fuel Gas compressors and auxiliaries, including vent stack, are placed on foundation. All the piping works are in progress and all C&I and electrical panels are placed in the Electrical control Building. Nitrogen Generation unit is placed on the foundation and pipe bridge pedestal foundation and cable gallery are completed.
- ▶ Fuel gas tie-point -1: Fuel gas connectivity between existing pipeline and new pipe line, as well as both tie-ins, are fully completed.
- ▶ The Emergency Diesel Generator (EDG), DM transfer pump and GT Evaporative make-up pump foundation works are completed. EDGs, DM transfer pump and GT Evaporative make-up pumps are placed on the foundation and grouting completed.
- ▶ All the foundation in condensate polishing plant (CPP) regeneration building, Sewage Treatment plant and Waste water treatment area are completed. Roof concreting of CPP regeneration building is completed and the brick work of wall will shortly be completed. All vessels and dosing pump skid in the Condensate Polishing Plant (CPP) regeneration building are placed on the foundation, as well as the bio-module of Sewage treatment plant.
- ▶ Chemical dosing building for GT Evaporative system and HRSG of unit -2 & 3 is completed with the exception of doors, windows and finishing works. All the equipment of dosing skid (dosing tanks, dosing pumps, etc) for both the unit is placed on the foundation.

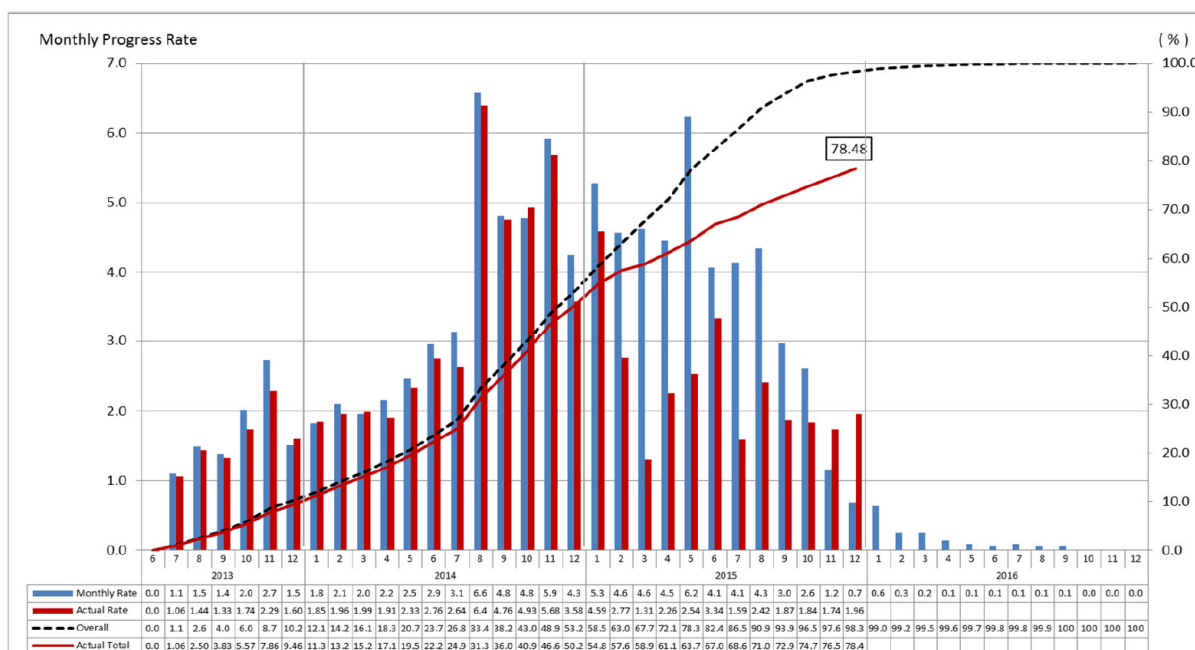


- ▶ Civil work of Chemical dosing building for direct cooling water system (Circulating water system) is in progress.
- ▶ Installation of circulating water pumps-1&2 and its auxiliaries (travelling band screen) of the direct cooling water system in the existing cooling water pump house are completed. Installation of Circulating water pumps-3& 4 is in progress.
- ▶ Significant number of calibrated field instruments (Pressure transmitter, Temperature transmitter, Level indicator including Remote Drum Level indicator, etc ) for HRSG-2, Fuel gas area, Gas Turbine area, etc. have been installed. Transmitter for the emission control monitoring system of the Main Stack-3 is installed. Much of the C&I panels in different areas (HRSG, Fuel Gas area, GT area, etc) are already installed and the installation of the C&I cable is in progress.
- ▶ CSMM declared that the damaged LP rotor of Steam Turbine should be sent back to the vendor, thoroughly checked, damaged blades replaced with the new ones, then re-balanced and brought to the Site back. However, this has not been accomplished yet.

The latest overall progress S-curve, extracted from HDEC's Monthly Progress Report, is shown in Figure 1.

Figure 1

**Figure 1: Overall Project S-Curve as of 31 December 2015**



\* Attached S-Curve was amended based on the Detail Project Schedule submitted on 20<sup>th</sup> Jun. 2014. (Log No : LET-HDEC-PMU-0229)

- ▶ \* Прилагаемая S-кривая была изменена в соответствии с Рабочим графиком реализации Проекта, представленного 20 июня 2014 г. (№LET-HDEC-PMU-0229)

The overall progress was 78.48% at the end of December 2015 which is significantly behind the planned schedule (98.3%).



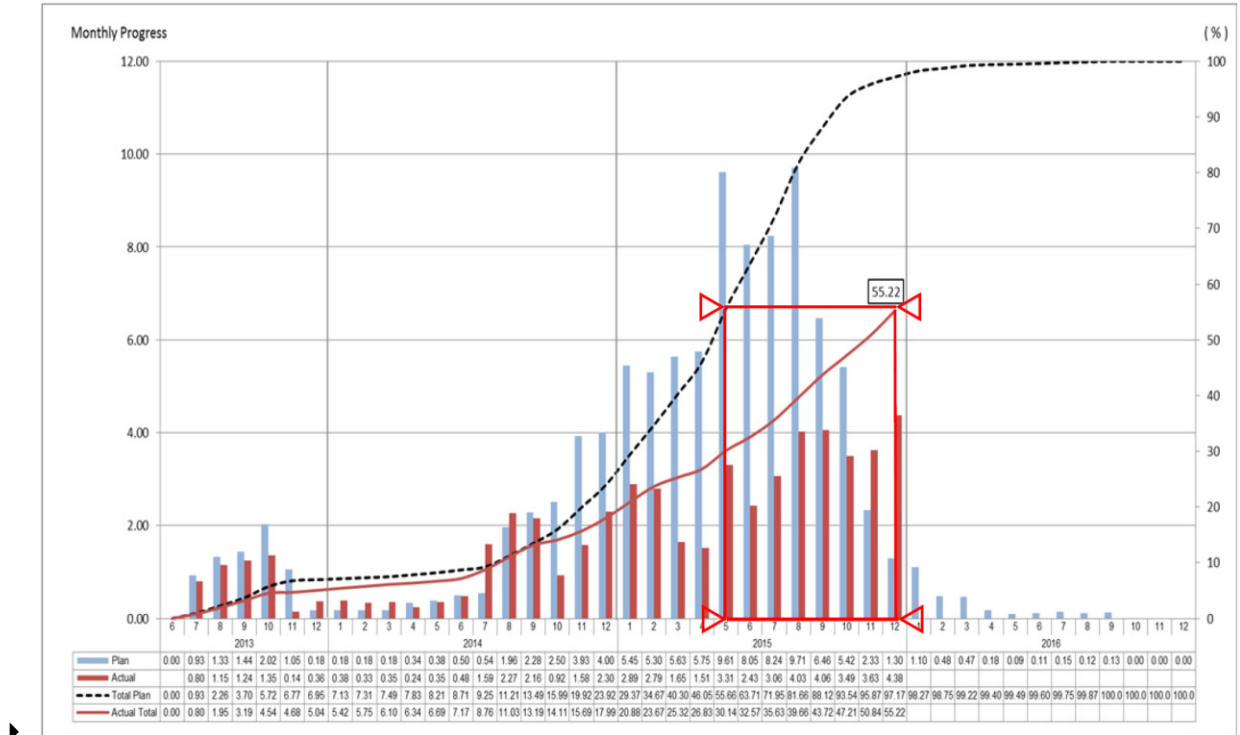


Figure 2: Construction S-Curve as of 31 December 2015

The overall construction S-curve, extracted from the HDEC's Monthly Progress Report for December 2015, is shown in the Figure 2 above.

Actual construction by the end of December 2015 is 55.22%. Compared to the planned 97.17%, the difference is 41.95%. It was 44.4% at the end of September 2015. This shows that the delay in completion of the project is still significant. In percentage sense it is decreasing, but the progress curve is non-linear and the time delay is still increasing in each quarter. Within this quarter, the average monthly construction progress is 3.60% only.

## 1.2 CHANGE IN PROJECT ORGANIZATION AND ENVIRONMENTAL MANAGEMENT TEAM

The PMU and the CS-MM's Organizational Structure has remained the same during this reporting period. But, there are slight changes in organizational structure of the contractor due to lacking of health safety and environment measures in the site. In order to strengthen the HSE measures, contractor's Senior International HSE manager was mobilized in March 2016. Moreover, former contractor's International HSE Manager Mr. Jeong-Hyeon Kim left the site in May 2016 and former environmental expert of sub-contractor Tupalang, Mr. Oybek Shaybalov started working as local environmental expert for sub-contractor KTI in January 2016, and accordingly sub-contractor Tupalang hired a new local environmental expert Mr. Erkin Kayliyev in January 2016. Environmental Management team for the project is shown in Table 1.



**Table 1: Environmental Management Team for the Project**

Name	Company	Position	Contact (email and/or tel.)
Ms.Magfirat Muminova	Uzbekenergo	Head, Environmental Department	ecology@mail.ru +998909291302
Ms.Diana Rakhimova	PMU	Environmental/Social Expert	<a href="mailto:diana_arlanseva@mail.ru">diana_arlanseva@mail.ru</a> +998935550595
Nizom Rakhimov	TPP Talimarjan	Environmental expert	+998 93 900 1936
Asim Acikel	CS-MM	International Environmental/Social Expert	asim.acikel@cscl.biz
Ki Ho Kang	Hyundai	Senior International HSE Manager	<a href="mailto:Shrkt38@hyundai.co.kr">Shrkt38@hyundai.co.kr</a> +998906176908
Husan Khidirov	Hyundai	Local HSE Engineer	<a href="mailto:husankhidirov@gmail.com">husankhidirov@gmail.com</a> +998 93 423 3114
Oybek Amanov	Hyundai	Local Environmental Officer	<a href="mailto:oybeka1980@gmail.com">oybeka1980@gmail.com</a> +998 90 639 5418
Erkin Kayliyev	PGU Tupalang	Local Environmental Officer	+998 93 930 09 89
Oybek Shaybalov	KTI	Local Environmental Officer	+998 93 697 1112
Arsalan Chowhan	RCG	International HSE Inspector	<a href="mailto:safety.uzb@rcgint.com">safety.uzb@rcgint.com</a> +998 919496187
Nurjan Niltullaev	KTI	Local HSE Manager	<a href="mailto:nokisli@mail.ru">nokisli@mail.ru</a> +998 905930035

### 1.3 RELATIONSHIP WITH CONTRACTOR, OWNER, AND LENDER

The project is implemented by the Executing Agency (EA), Uzbekenergo. It is under the control of a Project Management Unit (PMU), headed by a Project Director appointed by the EA. The PMU works closely with the corresponding departments within the existing TPP organization to achieve the necessary coordination and integration with the ongoing operation of TPP Unit 1.

The contractor (HDEC) was appointed in March 2013 as the EPC Contactor responsible for the design, supply, delivery, erection, testing, and commissioning of the two CCGT units. The contractor conducts environmental monitoring at site and prepares and submits monthly environmental monitoring report to the PMU. There are a number of sub-contractors for the implementation of the project, and the list of main companies working during this reporting period is shown in Table 2.

**Table 2: Main Companies Working during reporting period**

Company	Position
HDEC	EPC Contractor
PGU Tupalang	Sub-Contractor for civil works
KTI	Sub-Contractor for piping work and welding
RCG	Sub-Contractor of PGU Tupalang for HRSG, ST, GT erection



The Consultant's contract was signed on 26 November 2011. The role of the Consultant is to help PMU assure that the plant is constructed to the standard specified in the EPC Contract, completed on schedule, and costs are monitored and controlled. The Consultant's role covers design audit, monitoring of the Contractor's works, issuance of necessary progress reports and payment certificates, and the provision of general project management. Audit of compliance with the site-based Environmental Management Plan and site monitoring are carried out on a monthly basis by the Consultant and monthly Environmental Reports are prepared and submitted to the PMU. Consultant also reviews the contractor's monthly environmental report to identify any non-compliance issues and to evaluate environmental monitoring progress and prepare written comments to allow the PMU to control compliance with the site based Environmental Management Plan, and to be aware of any issues affecting the project.

Initially Monthly Progress Review Meetings were foreseen between the PMU, the contractor, and CS-MM. The PMU decided to cancel the Monthly meetings but instead meet on every Friday since June 2015. The TPP management is responsible for the agenda of progress meetings, but CS-MM was neither requested to submit items for the agenda, to reflect environmental issues, nor requested to participate in the progress meetings. During this reporting period, the environmental issues were not on the agenda of the progress meeting at all.

Environmental and Social expert of CS-MM and the environmental experts of TPP and the contractor and sub-contractors meet regularly to discuss and coordinate environmental concerns and agree remedial actions. CS-MM provides on the job training on environmental matters to the PMU environmental expert, contractor's environmental expert and sub-contractor's environmental experts.

The PMU reviews and analyses monthly environmental reports both from the contractor and the CS-MM. To ensure proper and timely implementation of the EMP and adherence to the agreed environmental covenants, the ADB requires Uzbekenergo to submit bi-annual reports on the implementation of the EMP, and this requirement is reflected in the loan agreement. The PMU submits the bi-annual environmental monitoring reports to the ADB. The PMU also sends the bi-annual Environmental monitoring reports to the Kashkadarya Regional Committee of the Nature Protection for reference as well.

There was some reluctance by the contractor to provide access to the environmental documents and copies of requested environmental documents for verification. This makes CS-MM works on environmental issues difficult. In this context, the PMU issued an official letter on 16 September 2015 (PMU letter no 950) to the contractor to address this issue. Despite the official letter of the PMU, the contractor was still reluctant and was not responsive to the request of the CS-MM to provide access to the environmental documents so that CS-MM can properly conduct environmental audits. Moreover, the PMU issued an official letter on 3 November 2015 (PMU letter no:1046) to the contractor regarding a list of environmental documents to be provided by the contractor for review and verification, but despite a reminder the contractor has not yet responded to the request of the PMU as of 30 June 2016.



## 2. PART II ENVIRONMENTAL MONITORING

Main progress during this reporting period is that the contractor completed obtaining conclusions of ecological expertise/environmental permits for all temporary facilities except welding workshop as well as borrow pit as of 30 June 2016. The main non-compliance with local environmental regulation is that the measures required/mentioned in the environmental permits have not been executed by the Contractor as of end of 30 June 2016. Moreover, the normative documents provided/listed in the environmental permits of the temporary facilities were not filled in/executed by the contractor as of end of 30 June 2016 in order to meet requirements of the environmental permits. Due to this non-compliance with the environmental permits, the Contractor was requested to pay compensation including penalty for non-compliances with local environmental regulations. Paying compensation fines/fees should be avoided by the contractor for many reasons one being that this is an internationally funded project by the ADB. And it poses reputational risk to the Project. Moreover, due to both non-execution of normative documents and monitoring measures in the permit, the environmental monitoring at site is not in line with the local statutory monitoring requirements.

### 2.1 NOISE

The EIA requires monitoring of noise during the construction stage. During construction of the CCGT units, there are short-term and reversible impacts on local residents caused by construction noise. Sources of noise include increased traffic and construction equipment. Construction works involving particularly noisy equipment or activities are, however, contained to daylight hours. Equipment are properly maintained and operated to minimize noise and its impact on the residents of Nuriston. A survey of the site and surrounding areas were undertaken during construction at weekly intervals, with additional checks during unusual high noise activities to check for excessive noise levels.

The noise monitoring results at the Nuriston community indicate that the existing noise emissions at and near the site are lower than limits set by Uzbekistan legislation (regulatory noise limits for Uzbekistan is 75 dBA for day and 75 dBA for night) but are higher than limits set by the World Bank. The noise monitoring results are in line with the baseline conditions. The noise measurements were carried out by the contractor Environmental expert with noise meters of the contractor. The main concern related to noise data is about its reliability due to absence of licenses/certificate for both the noise meter and for the user. It is recommended that the contractor either obtains calibration/certificate for both the noise meter and for the user or conclude contract with a licensed laboratory to conduct noise measurements.

The noise monitoring data extracted from the contractor's June 2016 monthly environmental report is given at Annex 1.

### 2.2 WATER QUALITY

The area surrounding the TPP has no natural surface water features and the manmade structures, such as the irrigation canal, have low environmental values. The potential risks to surface water features from the construction of the new turbines are therefore low, which is why the EIA does not require monitoring of surface water quality during the construction phase.

As groundwater exists over than 16 m deeper, therefore, the EIA does not require monitoring of ground water quality during construction phase as well.



### 2.3 AIR QUALITY

The EIA does not require monitoring of air emissions, but the EIA requires monitoring of dust levels in the surrounding areas to adjust or increase the frequency or intensity of control measures accordingly during construction phase. Although, dust level monitoring measurement was required by the EIA, the Contractor was not carrying out such monitoring measurement since the beginning of the project. The Contractor was requested to take necessary measures and actions to monitor dust levels in the surrounding areas during rest of construction phase.

Obtaining environmental permits and normative documents : ПДВ (maximum permitted emissions to air), were completed for all temporary facilities except welding workshops from the local environmental authorities during this reporting period. The environmental permits for temporary facilities requires monitoring of air emissions by the contractor. However, the contractor did not monitor air emissions as requested in the environmental permits of these facilities during the reporting period. This issue has been pending since the beginning of the project. In the absence of air emissions monitoring requested/required in the environmental permits, the air emissions monitoring at site is not in line with the local statutory monitoring requirements. Therefore, the contractor should take necessary measures and actions to monitor air emissions during rest of construction phase.

### 2.4 FLORA AND FAUNA MONITORING

Despite the region generally being a source of habitat to a significant number of native and introduced species, including some of conservation significance, the CCGT and TPP sites are highly modified, having been cleared of vegetation, and having a habitat unlikely to support any flora or fauna species of environmental significance. No impacts that would adversely affect these areas are likely to result from the construction of the new CCGT units, therefore, the EIA does not requires flora and fauna monitoring during construction phase.

### 2.5 OTHERS

**Record of water consumption:** Both the EIA and local environmental regulations require the monitoring of water consumption. But, the Contractor was not monitoring actual water usage since the beginning of the project. The monthly water data for non-potable and potable water is 240 591 and 59 336 m3 cumulative total respectively extracted from the contractor's monthly environmental report for June 2016, provided at Annex 1 of this report indicates total monthly allocated water quantity by the TPP, but it is not the actual usage data consumed at the construction site. With advice and guidance of the CS-MM, the Contractor did obtain normative documents for water usage monitoring (ПОД-11) and started to install additional water meters at the site. TPP requested that the contractor completes the proper installation of water meters and obtains certification for the installed water meters from the TPP during this reporting period. However, little progress has been made during this reporting period with regards to water meter installation and obtaining certification for installed water meters. In this context, the contractor installed and received certification from the TPP only for a water meter in KTI workers camp during the period. However, main non-compliance with local environmental regulation is that normative documents for the water usage monitoring (ПОД-11) have not been filled in/executed by the contractor except KTI workers camp. Due to this non-compliance with the environmental permits, the Contractor was requested by the local environmental authorities to pay compensation including penalty for non-compliances with local environmental regulations. Paying compensation fines/fees should be avoided by the contractor for many reasons one being that this is an internationally funded project by the



ADB, and it poses reputational risk to the Project. Therefore, the contractor should install water meters and obtain certification for the installed water meters from TPP and the contractor should fill in/execute normative document (ПОД-11) for monitoring water usage in order to be in line with the local environmental regulations and keep records for the rest of the construction period.

**Waste:** The EIA requires that prior to the start of construction, the contractor develops an inventory of waste fractions expected to be generated during construction for the approval of disposal routes and sites by the local authorities, but the inventory of waste fractions was not prepared by the contractor and the issue is still pending since the beginning of the project. Both the EIA and local environmental regulations require keeping record of waste generated during construction phase. With advice and clear guidance of the CS-MM, the Contractor obtained environmental permits and normative documents (i.e. waste passports) for all temporary facilities except welding workshop. Environmental permits require filling in/execution of normative documents for waste (i.e. waste passport) which were provided in the environmental permits. In this context, main non-compliance with environmental permits and local environmental regulations is that normative documents for waste (i.e. waste passport) which were provided in the environmental permits have not been filled in/executed by the contractor as of end of June 2016.. Due to this non-compliance with the environmental permits, the Contractor was requested by local environmental authorities to pay compensation including penalty for non-compliances with local environmental regulations. Paying compensation fines/fees should be avoided by the contractor for many reasons one being that this is an internationally funded project by the ADB, and it poses reputational risk to the Project.. Therefore, the contractor should fill in/execute normative documents in order to be in line with the environmental permits measures.

Total disposable waste cumulative quantity is 1226851.5 kgas per the contractor's June 2016 monthly report which is indicated at Annex 1 of this report. The disposed waste data does not reflect places of disposal, all type of wastes, for example quantity of hazardous wastes, medical wastes, etc., are not indicated in the contractor's waste data. Moreover, there are no data regarding re-use and recycling of waste. Waste management on site still needs to be improved with more accessible and appropriate waste bins and a site based waste management plan for various waste types and waste classifications, and re-use, recycling and proper disposal according to the environmental permits requirements and local environmental regulations. The contractor was requested to fill in a monthly waste disposal form, (which was provided by the PMU with an official letter of 18.12.2015 No:1110), to ensure that the Contractor provides proper data on monitoring of different waste types, quantity of re-used and recycled waste and quantity of disposed waste and places of disposal. The waste disposal form should be attached to the monthly environmental report of the Contractor.

**Drinking Water:** A filter was installed on the 26/06/2014, but it was damaged / poorly maintained after 20 days of operation and has not been repaired. The drinking water for workers is not filtered in construction site to provide clean potable water supply to workers. The contractor was requested by ADB review mission in May 2016 to install filters to provide clean potable water supply to workers at construction site as well as the contractor was requested to provide clean potable water in bottles for all workers. The contractor has not installed filter as well as has not provided clean potable water in bottles for all workers during this reporting period. Therefore, as requested by the ADB mission, the contractor should install filter and should provide clean potable water in bottles for all workers.

**Wastewater:** Both the EIA and local environmental regulations require monitoring of wastewater discharges. The contractor monitors only domestic wastewater quality quarterly, but the quantity of domestic wastewater is not monitored. However, water and wastewater analysis data has not been provided in the contractor's monthly environmental report since June 2015. The main concern is the reliability of domestic wastewater quality data due to the





absence of accredited certificates of the laboratory for wastewater analysis. Therefore, it was advised by the CSMM that the contractor should ensure that the laboratory for wastewater analysis has an accreditation certificates. In line with the CSMM's advise, the contractor is in process of concluding a contract with the TPP laboratory to conduct wastewater analysis. Another concern is that wastewater monitoring is not in line with the local environmental regulations. With advice and clear guidance of the CS-MM, the Contractor obtained environmental permits and normative documents for wastewater discharge monitoring (ПОД-13). But, main non-compliance with environmental permits and local environmental regulation is that normative documents for wastewater discharge monitoring (ПОД-13) have not been filled in/executed by the contractor during the reporting period. Due to this non-compliance with the environmental permits, the Contractor was requested to pay compensation including penalty for non-compliances with local environmental regulations. Paying compensation fines/fees should be avoided by the contractor for many reasons one being that this is an internationally funded project by the ADB, and it poses reputational risk to the Project. Therefore, the contractor should fill in/execute normative document (ПОД-13) for monitoring wastewater discharges in order to be in line with the environmental permits and local environmental regulations and keep records for the rest of the construction period.

**Soil and Borrow pit:** Obtaining licences and permit for borrow pit by the contractor is still pending as of 30 June 2016. The contractor should manage the borrow pit as required by the permit and keep record of all soil taken from the borrow pit and returned to the pit. The soil data are cumulative total 384,795 m<sup>3</sup> for excavation and 468,483 m<sup>3</sup> for backfilling respectively as stated in contractor's monthly environmental report for May 2016. Moreover, size and duration of stockpiles should be minimized at the site. The contractor should provide a plan for minimizing size and duration of stockpiles at the site.

**Accident and incidents:** The EIA requires monitoring and keeping reports of accident and incidents. But, the contractor is not reporting accident and incidents in contractor's Monthly Environmental Report. CSMM reported on an accident when a worker died in May 2016 due to high blood pressure.

Overall, project construction stage lacks reliable qualitative and quantitative environmental monitoring data for making proper analysis of environmental assessment. Environmental monitoring measurements and records needs to be improved. This has been emphasized by CS-MM in monthly environmental reports. Without qualitative and quantitative data it is difficult to do any environmental assessment aside from visual inspections. Photographs are given at Annex 2 in order to illustrate site conditions.

Executing monitoring requirements specified both in the EIA and environmental permits are essential for collecting reliable qualitative and quantitative environmental monitoring data. Therefore, the contractor should execute monitoring requirements specified both in the EIA and environmental permits for the rest of the construction period for effective environmental assessment.



### 3. PART III ENVIRONMENTAL MANAGEMENT

#### 3.1 ENVIRONMENTAL MANAGEMENT SYSTEM (EMS), SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN, AND WORK PLAN

The contractor established an operational system for managing environmental impacts and carries out the monitoring and mitigation measures set out in the Site based Environmental Management Plan. The contractor submits to the PMU monthly environmental reports on the implementation of such measures.

The contractor prepared site specific environmental management plan (EMP) at the beginning of the project. The site specific EMP was revised by the Contractor and was reviewed and commented by the CSMM ( no endorsement of it by the CSMM) and reviewed and approved by the PMU on 6 August 2014. The status of environmental plans is given in Table 3. The PMU issued an official letter on 03 November 2015 (PMU letter no:1046) to the HDEC for management plans to be provided by the contractor for review and verification, but despite a reminder the contractor still had not responded to this request of the PMU as of 30 June 2016. Main concern about the site specific EMP is that local statutory environmental management and monitoring requirements were not reflected in the plan due to the absence of permits and normative documents.

Table 3. Status of Environmental Management Plans

Management Plan	Status
Site Based Environmental Management Plan	Submitted, approved on 06.08.2014
Environmental monitoring program	Submitted as an annex to the site specific environmental management plan, approved on 06.08.2014
HS Plan	Submitted,
Dust control plan	Not submitted
Noise control plan	Not submitted
Wastewater control plan	Not submitted
Waste management plan	Submitted as a part of HS plan
Pollutants spillage control plan	Not submitted
MSDS contents of hazardous materials	Not submitted
Traffic plan	Not submitted
Rainwater control plan	Not submitted
Emergency preparedness and response plan	Not submitted
Site plan	Not submitted

A review of the site-based EMP, to facilitate reporting site conditions and status, has not yet been performed by the contractor. It has been agreed that every 6 months the site based EMP will be reviewed and revised by the Contractor to reflect the current situation at the construction site and for continual enhancement. But, during ADB review mission on 18 May





2016, it was agreed by all parties that the Site Specific Environmental Management Plan will be further updated by the contractor in consultation with RETA 8663 consultant of ADB in May 2016, but the contractor has not updated the EMP as of 30 June 2016. Therefore, the contractor should update the EMP in July 2016.

The two environmental officers from the contractor and the main subcontractor need to continue to work together on implementing the site-based EMP and improving the environmental conditions. The revised site-based EMP from 6 August 2014 has been used for this review. The contractor is not adhering to the EMP in a number of areas. The environmental situation at the construction site is not adequate and many aspects are not compliant with the site-based EMP. Limited progress has been made by the contractor in addressing environmental issues raised during this reporting period. Key issues on site include: drainage, water metering, waste management, wastewater discharges, handling of hazardous materials such as bitumen, storage and disposal of hazardous wastes, vehicle washing area, and environmental monitoring and monthly reporting from the contractor, as well as compliance with the local environmental regulations.

The status of the EMP implementation as of the end of June 2016 is given at Annex 3.

Monitoring of the compliance with site-based EMP for January, February, March, April, May and June 2016 were carried out on the site by CS-MM and monthly environmental reports prepared and submitted to the PMU. The contractor submitted monthly environmental reports for January, February, March, April, May, and June 2016 to the PMU. Contractor's monthly environmental reports for January, February, March, April, May and June 2016 were also reviewed by CS-MM to identify any non-compliance issues and to evaluate environmental monitoring progress. The comments are included as appendices to the monthly environmental reports for January, February, March, April, May and June 2016. The main concern on the monthly environmental reports from the Contractor is that there are many statements in reports that are misleading. Some of the statements do not reflect the actual situation at the site, and some statements are not related or relevant to the mitigation measures. The reports lack information on key environmental issues such as mitigation measures, compliance with local regulations, payments, qualitative and quantitative environmental measurement/monitoring data, etc. Moreover, an additional concern is that the site specific EMP requires that the contractor's head office appoints an independent internal environmental audit team to audit the site annually and the results of audits to be included in the monthly environmental reports, but this had not been done as of end of June 2016.

It is required that the contractor have a Project Execution Plan (POS - plan organizatsiya stroitelstva). POS contains environmental measures as it is a requirement of the quarterly report to be submitted to the Environmental Committee. Once this is obtained, the HDEC can create the required Statements of Work (PPR - plan proizvodstvo raboti). Statements of work (PPR) are being prepared and submitted to the Employer/CS-MM for approval. At present the PPR does not contain any environmental measures. The PPRs are important and should state how much water is going to be used, how much soil is going to be supplied from borrow site and how much soil is going to be disposed to borrow site as well as how much waste is going to be produced and waste types, etc. It also includes where they will get permissions and where they will dispose of wastewater, waste, etc.

Moreover, the contractors are not providing any reports and statistics for the produced waste, waste water and emissions arising from the construction activities and operation/running of temporary facilities to the local Environmental Committee. The contractors are responsible for providing details of produced wastes and its disposal according to the article 2 and article 9 of the Ministerial decree of 1 May 2003. Therefore, the contractor should take immediate action to address this issue which was first raised in January 2014 and should to be closed.



Local environmental regulations require submission of quarterly reports to the Nishon branch of Kaskadaryanski Regional Environment Committee according to terms and conditions and conclusions of the Ecological expertise review. The PMU is submitting quarterly report to the Nishon branch of the Committee, the last quarterly report was submitted in April 2016.

### **3.2 SITE INSPECTIONS AND AUDITS**

During the reporting period, January-June 2016, the site monitoring was conducted on a monthly basis by TPP's environmental expert, and audit of compliance with the Environmental Management Plan and site monitoring were carried out on a monthly basis by CS-MM Environmental/Social expert and Environmental Reports were prepared and submitted to the PMU in January, February, March, April, May and June 2016.

To assist the PMU the TPP's environmental expert monthly conducted site monitoring, but the PMU's representatives did not conduct site monitoring during this reporting period due to budgetary constraints. Contractor's local environmental specialist conducted site monitoring on a daily basis. ADB conducted a review mission in May 2016. The PMU representatives accompanied to the ADB review mission in May 2016.

### **3.3 NON-COMPLIANCE NOTICES**

During this reporting period, no non-compliance report was issued by CS-MM. But, 13 Non-Compliance Reports on environmental concerns issued by CS-MM during previous reporting period had not been rectified by the contractor as of 30 June 2016. The summary and details of NCRs are as follows:

- ▶ Resource records keeping: No accurate monitoring of water usage at the project site. Keeping a resource records for water usage is required by the local environmental regulations, which is a high ranking risk.
- ▶ No waste log is kept for all type of wastes produced at the project site. Keeping a waste log is required by both the local environmental regulations and site based EMP, which is a high ranking risk.
- ▶ No waste separation to the domestic, metal scrap, used oil, paper, hazardous, etc., as well as no separate waste disposal area designated at the project site. Both local environmental regulations and site based EMP require waste separation and designation of separate waste disposal area in the project site, which is a high ranking risk.
- ▶ Normative documents (ПДВ (maximum permitted emissions to air), ПДО (maximum permitted waste disposal), ПДС (maximum permitted water discharges) and permits must be obtained from the local environmental authorities for temporary facilities such as the batching plant, two reinforcement shops, welding stations, inert material warehouses, hazardous chemical materials warehouses, vehicles washing, fuel station, two camps, two canteens, etc., which is a high ranking risk.
- ▶ No spill response kits are present at the project site, which is a medium ranking risk.
- ▶ Normative documents: ПДВ (maximum permitted emissions to air), ПДО (maximum permitted waste disposal), ПДС (maximum permitted water discharges) must be obtained for the erection works (montajnaya rabota) in the construction site from local environmental committee, which is a high ranking risk,
- ▶ The practice of burning of waste, wood, etc., on site, which is a low ranking risk.



- ▶ Bitumen is not handled in accordance with provisions of site based EMP as well as the local environmental requirements, which is a medium ranking risk.
- ▶ Wastewater and residue from cleaning of concrete-mixing equipment are discharged on the ground, which is a low ranking risk.
- ▶ Hazardous waste are not stored separately in accordance with the provisions of site based EMP and local environmental regulations, which is a medium ranking risk.
- ▶ The disposal of hazardous waste are not in accordance with site based EMP and local environmental regulations, which is a high ranking risk.
- ▶ The watering to control dust is not sufficient due to the summer conditions, which is a low ranking risk.
- ▶ The surplus excavated soils are not removed in a timely fashion from the construction site causing dust pollution due to summer conditions, which is a low ranking risk.

The contractor claims that there are no provisions in the EPC Contract allowing the PMU and/or CS-MM to issue NCRs on Environmental issues. This issue should be clarified between the PMU and the contractor.

### 3.4 CORRECTIVE ACTION PLANS

The contractor is yet to take actions to rectify the NCRs and limited progress has been made to address environmental concerns raised previously during this reporting period. CS-MM is also concerned that the local environmental requirements are not being properly followed. The EIA clearly states that “ *as specified by law, **the contractor** will be required to retain an ecologic expert with EIA experience to prepare the CEAP and **obtain all relevant permits**. The contractor will not be permitted to mobilize the workers without an approved CEAP and the appropriate permits in place*”.

The CS-MM's Environmental and Social specialist has helped address a number of important issues. This included obtaining the required environmental permits from local environmental committee for temporary facilities. This issue has been pending since the start of the project and this issue was also one of the findings of ADB mission in November 2015 and May 2016. Main progress is that the contractor obtained environmental permits for all temporary facilities except welding workshop. Although a deadline of 15 June 2016 was given by the ADB mission in May 2016 to the contractor for completion of environmental permits for all temporary facilities, the obtaining of environmental permit for welding workshop is still pending as of 30 June 2016. . In this context, the contractor should obtain environmental permits for welding workshop by end of July 2016 in order to become complaint with the local environmental regulations

Obtaining licences and permit for borrow pit by the contractor is still pending as of 30 June 2016, although a deadline of 15 June 2016 was given by ADB review mission in May 2015 to the contractor. Therefore, the contractor should obtain licences and permit for borrow pit by end of July 2016.

The status of corrective actions taken are given in Table 4. As seen from Table 4 that the contractor has yet to take action to rectify the action plan of previous bi-annual environmental monitoring report.

**Table 4.** Status of corrective actions taken to reflect the action plan of the previous report

Date of submission	Description on non-compliance	Corrective Action Required (CAR) including deadline	Performance Date/Resolution Status of CAR
ADB Mission in June 2015	<b>Local environmental permits for all temporary facilities-</b> obtaining local environmental permits for all temporary facilities by the Contractor are still pending.  Statutory monitoring measurements requested by the permits are not conducted by the contractor yet.	Local environmental permits for all temporary facilities should be obtained from local authorities by end of March 2016  Statutory monitoring measurements requested by the permits should be conducted regularly by the contractor starting April 2016	Mostly completed. The Contractor obtained permits for all temporary facilities except welding workshops  Partially completed
ADB Mission in June 2015	<b>Licences and permits for borrow pit-</b> obtaining licences and permits for borrow pit by the Contractor are still pending since beginning of construction Works.  <b>Poor environmental management at borrow site-</b> Borrow site near the Project site is becoming a dumpsite. No record of all soil taken from the borrow pit and returned to the pit	Licences and permits for borrow pit should be obtained from local authorities by end of March 2016  The Contractor should improve environmental management at borrow pit. After completion of the operations in its certain section, the idle material should be backfilled, compacted, terraced and harmonized with the landscape by end of March 2016. The contractor should keep record of all soil taken from the borrow pit and returned to the pit and the data should be included in monthly environmental reports of the contractor	Not completed  Not completed  partially completed
ADB Mission in November 2015 (Gender Action Plan Recoms)	<b>Drinking water-</b> drinking water for workers is not filtered in construction site to provide clean potable water supply to workers.	Filter should be installed to provide clean potable water supply to workers at construction site by end of March 2016	Not completed
ADB Mission in November 2015	<b>environmental non-compliance notices-</b> environmental non-compliance notices issued by CSMM are still pending for closure	The Contractor should respond to environmental non-compliance notices issued by CSMM by end of March 2016	Not completed
ADB Mission in November 2015	Batching plant site-Poor environmental management at the batching plant site  Cement sludge is seen everywhere and settling	The Contractor should improve environmental management at the batching plant site and batching plant should be cleaned up and surface graveled by end of March 2016.	Not completed  Not completed



Date of submission	Description on non-compliance	Corrective Action Required (CAR) including deadline	Performance Date/Resolution Status of CAR
	basins are not being used,	No washing of cement mixers outside the washing areas by end of March 2016	
ADB Mission in November 2016/PMU and CSMM	Vehicle/mixer washing area- there is no oil separator at vehicle/mixer washing area and poor environmental management at vehicle/mixer washing area	oil separator should be installed at vehicle/mixer washing area and proper drainage system should be installed and wastewater should not be disposed onto ground. It is recommended that the contractor should conclude a contract with TPP to accept wastewater from the vehicle/mixer washing area.	Not completed
November 2015	Monitoring measurement data for wastewater- normative documents for wastewater discharge monitoring (ПОД-13) are not kept by the Contractor as requested by local environmental permits for temporary facilities	normative documents for wastewater discharge monitoring (ПОД-13) should be kept regularly starting April 2016	Not completed
November 2015	Water usage records- normative documents for water usage monitoring (ПОД-11) are not kept by the Contractor as requested by local environmental permits for temporary facilities	normative documents for water usage monitoring (ПОД-11) should be kept regularly as requested by local environmental permits starting April 2016	Partially completed
June 2015	The EIA requires that prior to the start of construction, the contractor develops an inventory of waste fractions expected to be generated during construction for the approval of disposal routes and sites by the local authorities, but the issue is still pending	The Contractor should develop an inventory of waste fractions expected to be generated during construction for the approval of disposal routes and sites by the local authorities by end of March 2016,	Not completed
June 2016	The contractor has no contract with the licensed organization on the hand-over and disposal of municipal waste and construction waste	The contractor should execute a contract with the licensed organization on the hand-over and disposal of municipal waste and construction waste by end of March 2016	Partially completed
June 2015	The contractor has not executed the contract with the licensed organization on the hand-over and disposal of hazardous waste	The contractor should execute the contract with the licensed organization on the hand-over and disposal of hazardous waste by end of March 2016	Partially completed
November 2015	Waste passports- normative documents (i.e.waste passports) are not kept for different	normative documents (i.e. waste passports) should be kept for different waste types and classes	Not completed





Date of submission	Description on non-compliance	Corrective Action Required (CAR) including deadline	Performance Date/Resolution Status of CAR
	waste types and classes as requested by local environmental permits for temporary facilities	starting April 2016	
June 2015	absence of licenses/certificate for both the noise meter and for the user.	The Contractor should obtain certificate/calibration for both the noise meter and for the user or conclude a contract with a licensed laboratory to conduct noise measurements by end of March 2016.	Not completed
November 2015	Submissions of environmental plans (i.e. Dust control plan, Noise control plan, Wastewater control plan, Pollutants spillage control plan, MSDS contents of hazardous materials, Traffic plan, Rainwater control plan, Emergency preparedness and response plan and site plan) are stil pending	The contractor should submit environmental plans (i.e. Dust control plan, Noise control plan, Wastewater control plan, Pollutants spillage control plan, MSDS contents of hazardous materials, Traffic plan, Rainwater control plan, Emergency preparedness and response plan and site plan) by end of March 2016	Not completed

### 3.5 ACTIONS TAKEN TO REFLECT THE FINDINGS OF ADB MISSION DURING THE REPORTING PERIOD

For the identified shortcomings by ADB review mission in May 2016, the status of corrective actions taken to reflect the findings of ADB missions are given in Table 5. As seen from Table 5 that the contractor has yet to take action to rectify the recommendations/action plan of ADB Mission in May 2016. Therefore, it is suggested that ADB should introduce mechanisms to ensure that the contractor rectifies recommendations/action plan of ADB Missions.

**Table 5.** Status of corrective actions taken to reflect the findings of ADB missions

Date of submission	Description on non-compliance	Corrective Action Required (CAR) including deadline	Performance Date/Resolution Status of CAR
ADB Mission in May 2016	Local environemntal permits for all temporary facilities- obtaining local environmental permits for all temporary facilities by the Contractor are stil pending.	Local environmental permits for all temporary facilities should be obtained from local authorities by 15 June 2016	Mostly completed. The Contractor obtained permits for all temporary facilities except welding workshop.
ADB Mission in May 2016	Licences and permits for borrow pit- obtaining licences and permits for borrow pit	HDC to obtain permit for borrow pit by <b>15 June 2016</b> .	Not completed Not completed



Date of submission	Description on non-compliance	Corrective Action Required (CAR) including deadline	Performance Status of CAR	Date/Resolution
	<p>by the Contractor are still pending since beginning of construction Works.</p> <p>Borrow site near the Project site is becoming a dumpsite. It is owned by a private company which has a service contract with HDC to supply soil, and collect and dispose solid waste (including spoil soil). The borrow site is in the status of uncontrolled soil mining, and becoming a dumpsite which poses reputational risk to the Project.</p>	HDC to manage the borrow pit as required (remove waste from the borrow pit), keep record of all soil taken from the pit and returned to the pit.		
ADB Mission in May 2016	Poor Waste Management (poor hazardous waste management): The EIA requires that prior to the start of construction, the contractor develops an Inventory of Waste Fractions expected to be generated during construction for the approval of disposal routes and sites by the local authorities, but the issue is still pending.	HDC to submit Waste Inventory for verification on 15 June 2016. HDC to improve hazardous waste management on site: in particular, medical waste management, bitumen management, contaminated soil management, wastewater management, etc. The contractor should execute the contract with the licensed organization on the hand-over and disposal of hazardous waste by end of May 2016. Waste logs are kept at contractor's office for different waste types and classes.	partially completed	
ADB Mission in May 2016	Drinking water- drinking water for workers is not filtered in construction site to provide clean potable water supply to workers	Filter should be installed to provide clean potable water supply to workers at construction site by May 2016. Clean potable water in bottles to be provided for all workers by the contractor.	Not completed	
ADB Mission in May 2016	Updating of Site-Specific Environmental Management Plan (SSEMP). During ADB review mission on 16-27 November 2015,	SSEMP to be updated by HDC in consultation with RETA 8663 Regional Environmental Consultant of the ADB in May	Not completed	





Date of submission	Description on non-compliance	Corrective Action Required (CAR) including deadline	Performance Status of CAR	Date/Resolution
	updating of SSEMP was agreed by all sides.	2016.		
ADB Mission in May 2016	Health Safety and Environment measures lacking. Although HSE manager was mobilized in March 2016, CSMM warns that risk of potential accident remains, and HSE measures need to be strengthened.	PMU and HDC to inspect HSE facilities and their condition, and take measures as needed. HDC to make a doctor and first-aid facilities readily available by 15 June 2016.	Not completed	
ADB Mission in May 2016	The PMU regularly inspected works undertaken by the contractor to check on the implementation of environmental management and monitoring requirements. Noncompliance notices have been issued to the contractor if the employer requires action to be taken.	Noncompliance notices have been issued to the contractor the employer requires action to be taken The contractor is required to prepare a corrective action plan which is to be implemented by a date agreed with the employer.	Not Completed	

### 3.6 CONSULTATION AND COMPLAINTS

Grievances redress mechanism is in place at the project site. The logbook is available for logging of complaints at the TPP's entrance gate. A contact phone number and a contact email address were publicly made available at public consultation events and at the TPP entrance. Complaints will be reviewed by the TPP Environmental Management Team as part of each audit. There are no complaints received and logged on the logbook during the construction phase of the project by the stakeholders and local residents as of 30 June 2016.



#### 4. PART IV – ACTION PLAN FOR THE NEXT PERIOD

The contractor should conduct monitoring of environmental quality under the project during next 6 months. The specific plan for measurement is provided in Table 6.

Table 6. Monitoring Environmental Quality

Parameters	Frequency of Measurements
Dust	Weekly
Air emissions	Bi annually
Noise	Weekly
Water usage record	Daily and monthly total
Wastewater quality and quantity	Quarterly
Potable water quality	Quarterly

Limited progress has been made in response to corrective measures during this reporting period. Action Plan for corrective measures for the next period is provided in Table 7.



Table 7. Corrective Measures for the Next Period

Date of submission	Description on non-compliance	Corrective Action Required (CAR) including deadline	Performance Date/Resolution Status of CAR
ADB Mission in May 2016	Local environmental permits for some temporary facilities- obtaining local environmental permits for some temporary facilities by the Contractor are still pending.  Statutory monitoring measurements requested by the permits are not conducted by the contractor yet.	Local environmental permits for some temporary facilities should be obtained from local authorities by end of July 2016.  Statutory monitoring measurements requested by the permits should be conducted regularly by the contractor starting July 2016.	
ADB Mission in June 2015	Licences and permits for borrow pit- obtaining licences and permits for borrow pit by the Contractor are still pending since beginning of construction Works.  Poor environmental management at borrow site- Borrow site near the Project site is becoming a dumpsite.  Record of all soil taken from the borrow pit and returned to the pit	Licences and permits for borrow pit should be obtained from local authorities by end of July 2016.  The Contractor should improve environmental management at borrow pit. After completion of the operations in its certain section, the idle material should be backfilled, compacted, terraced and harmonized with the landscape by end of July 2016.  The contractor should keep record of all soil taken from the borrow pit and returned to the pit and the data should be included in monthly environmental reports of the contractor	
ADB Mission in November 2015 (Gender Action Plan recommendations)	Drinking water- drinking water for workers is not filtered in construction site to provide clean potable water supply to workers	Filter should be installed to provide clean potable water supply to workers at construction site by end of July 2016	
ADB Mission in November 2015	environmental non-compliance notices- environmental non-compliance notices issued by CSMM are still pending for closure	The Contractor should respond to environmental non-compliance notices issued by CSMM by end of July 2016	
ADB Mission in	Batching plant site-Poor environmental	The Contractor should improve environmental	



Date of submission	Description on non-compliance	Corrective Action Required (CAR) including deadline	Performance Date/Resolution Status of CAR
November 2015	management at the batching plant site. Cement sludge is seen everywhere an settling basins are not being used,	management at the batching plant site and batching plant should be cleaned up and surface graveled by end of July 2016.  No washing of cement mixers outside the washing areas by end of July 2016	
ADB Mission in November 2016/PMU and CSMM	Vehicle/mixer washing area- there is no oil separator at vehicle/mixer washing area and poor environmental management at vehicle/mixer washing area.	oil separator should be installed at vehicle/mixer washing area and proper drainage system should be installed and wastewater should not be disposed onto ground by end of July 2016. It is recommended that the contractor should conclude a contract with TPP to accept wastewater from the vehicle/mixer washing area by end of July 2016.	
November 2015	Monitoring measurement data for wastewater- normative documents for wastewater discharge monitoring (ПОД-13) are not kept by the Contractor as requested by local environmental permits for temporary facilities.	normative documents for wastewater discharge monitoring (ПОД-13) should be kept regularly starting July 2016.	
November 2015	Water usage records- normative documents for water usage monitoring (ПОД-11) are not kept by the Contractor as requested by local environmental permits for temporary facilities	normative documents for water usage monitoring (ПОД-11) should be kept regularly as requested by local environmental permits starting July 2016	
June 2015	The EIA requires that prior to the start of construction, the contractor develops an inventory of waste fractions expected to be generated during construction for the approval of disposal routes and sites by the local authorities, but the issue is still pending	The Contractor should develop an inventory of waste fractions expected to be generated during construction for the approval of disposal routes and sites by the local authorities by end of July 2016,	
June 2015	The contractor has not executed the contract	The contractor should execute the contract with the	



Date of submission	Description on non-compliance	Corrective Action Required (CAR) including deadline	Performance Date/Resolution Status of CAR
	with the licensed organization on the hand-over and disposal of all hazardous waste types	licensed organization on the hand-over and disposal of all hazardous waste types by end of July 2016	
November 2015	Waste passports- normative documents (i.e.waste passports) are not kept for different waste types and classes as requested by local environmental permits for temporary facilities	normative documents (i.e. waste passports) should be kept for different waste types and classes starting July 2016	
June 2015	absence of licenses/certificate for both the noise meter and for the user.	The Contractor should obtain certificate/calibration for both the noise meter and for the user or conclude a contract with a licensed laboratory to conduct noise measurements by end of July 2016.	
November 2015	Submissions of environmental plans (i.e. Dust control plan, Noise control plan, Wastewater control plan, Pollutants spillage control plan, MSDS contents of hazardous materials, Traffic plan, Rainwater control plan, Emergency preparedness and response plan and site plan) are stil pending	The contractor should submit environmental plans (i.e. Dust control plan, Noise control plan, Wastewater control plan, Pollutants spillage control plan, MSDS contents of hazardous materials, Traffic plan, Rainwater control plan, Emergency preparedness and response plan and site plan) by end of July 2016	



## 5. ANNEXES

### 5.1 ANNEX 1. MONITORING DATA

Sound Level (dBA) / Уровень шума (дБА)					
Location/ Место	Test Date / Дата проверки				Limits Лимит
	03.06.2016	10.06.2016	17.06.2016	24.06.2016	
Contractor Office Офис Подрядчика	41,2	53,2	43,5	42,8	85 dBA
Contractor Camp Городок Подрядчика	46,7	59,6	48,3	45,6	
Power Block Gate У Ворот Силового Блока	56,5	63,7	56,7	56,3	
Power Block Area #1 Участок Силового Блока #1	60,4	65,9	61,2	62,4	
Power Block Area #2 Участок Силового Блока #2	63,7	66,9	59,6	60,9	
Cooling Tower Gate У Ворот Градирни	55,4	60,4	54,7	56,8	
Batch plant Бетонный Завод	52,2	65,2	60,0	51,2	
Subcontractor Camp area Городок Субподрядчика	56,7	60,3	54,1	53,6	
Existing Power Plant Gate Ворота Существующей ТЭС	53,5	57,0	56,5	54,1	
Nuristan Нуристан	51,2	58,2	57,1	56,9	
The Greenhouse of Existing TPP Теплица Существующей	52,7	62,4	57,8	63,0	
Customs Warehouse Таможенный Склад	49,7	61,3	58,4	52,8	
Parking lot Автостоянка	50,3	60,8	52,7	51,6	
					Approve Одобрить

Noise monitoring data extracted from the HDEC Monthly Environmental Report of June 2016.

The Monitoring of: Контроль:		This Month В этом месяце	Cumulative Общий
Fuel(l) Топливо (л)	Diesel Дизель	60250	2010656
	Benzin Бензин	1100	15004
Electricity (kv/h) Электричество (кв/ч)		312000	2118143
Disposed Waste (kg)		95618	1226851.5

Отходы.			
Water Вода (л)	Non-potable water (m <sup>3</sup> ) Вода негодная для питья	9379	240591
	Potable water (m <sup>3</sup> ) Вода годная для питья	2593	59336

Monitoring data extracted from the HDEC Monthly Environmental Report of June 2016.



	Types of Wastes Виды Отходов	Quantity for Month Количество за Месяц	Cumulative Quantity Общее Количество
1	Domestic Wastes (kg) Бытовые Отходы	17267	110906
2	Paper Wastes (kg) Бумажные Отходы	86	532
3	Plastic Wastes (kg) Пластиковые Отходы	239	690.5
4	Metal Scraps (kg) Металлолом	-	26245
5	Wood Wastes(m <sup>3</sup> ) Древесных отходов	6m <sup>3</sup>	216,07m <sup>3</sup>
6	Food Wastes(kg) Пищевые отходы	5949	28169
7	Construction wastes (kg) Строительные отходы	72077	976474
8	Fluorescent lamps (EA) Люминесцентной лампы	-	438
	Total Общий	95618	1226851.5

Waste monitoring data extracted from the HDEC Monthly Environmental Report of June 2016.





## 5.2 ANNEX 2. PHOTOGRAPHS



Photograph 1: Construction site- bitumen handling, no spill response kits, (28/06/2016)



Photograph 2: Vehicle/Mixer washing area– pipe inserted to drains wastewater from the settling tanks onto ground, no drainage, no cleaning (28/06/2016)



Photograph 3: Construction site –road watering (24/06/2016)



Photograph 4: Construction site – no waste bin, no waste separation, waste dumped onto ground (24/06/2016)



Photograph 5: Construction area –falling of trees, (22/06/2016)



Photograph 6: Construction site- no filters for drinking water at the construction site (06/06/2016)



Photograph 7: Construction site –dust pollution, (06/06/2016)



Photograph 8: Construction site- wastewater from cleaning of pre-commissioning work is discharged into sewerage network (08/06/2016)



Photograph 9: Vehicle maintenance –fumes From vehicle, (03/06/2016)



Photograph 10: Construction site- construction materials not properly stored, wastes (09/06/2016)



Photograph 11: Construction site–no good housekeeping (06/06/2016)



Photograph 12: Construction site–Mixer residue dumped onto ground (28/06/2016)





Photograph13: Construction site- no good house keeping, (07/06/2016)



Photograph 14: Construction site: oily metal scraps disposed onto ground (06/06/2016)



Photograph 15: Construction site-no good housekeeping (08/06/2016)



Photograph 16: Construction site- no good housekeeping (08/06/2016)



Photograph 17: Construction site- Transportation of chemicals (20/06/2016)



Photograph 18: Construction site-water taps not closed, wasting of water (28/06/2016)



Photograph 1: Construction site- bitumen handling, no spill response kits, (03/05/2016)



Photograph 2: Vehicle/Mixer washing area– pipe inserted to drains wastewater from the settling tanks onto ground, no drainage (25/05/2016)



Photograph 3: Fuelling station –fuel spills collection, not appropriate (25/05/2016)



Photograph 4: Construction site – no waste bin, no waste separation, waste dumped onto ground (03/05/2016)



Photograph 5: Construction area –excavated soil, no soil plan for duration and size, no trees protection (10/05/2016)



Photograph 6: Construction site- no filters for drinking water at the construction site (06/05/2016)





Photograph 7: Fuelling station –no drainage, (12/05/2016)



Photograph 8: Construction site- wastewater from cleaning for pre-commissioning work is discharged into sewerage network (31/05/2016)



Photograph 9: Vehicle maintenance workshop–used oil filters, (25/05/2016)



Photograph 10: Construction site- washing outside vehicle washing area (10/05/2016)



Photograph 11: Construction site–no good housekeeping (05/05/2016)



Photograph 12: Construction site– hydro test wastewater discharged into sewerage network (03/05/2016)





Photograph13: Construction site- restoration of Exposed areas, (13/05/2016)



Photograph 14: Construction site: oily metal scraps disposed onto ground (25/05/2016)



Photograph 15: Construction site-no good housekeeping (25/05/2016)



Photograph 16: Construction site- no good housekeeping (05/05/2016)



Photograph 17: Construction site- mixer residue dumped onto ground (03/05/2016)



Photograph 18: Construction site- water leaks (05/05/2016)



### 5.3 ANNEX 3: REVISED SITE BASED ENVIRONMENTAL MANAGEMENT PLAN (HDEC, AUGUST 2014) WITH CSMM STATUS JUNE 2016

No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
1		Management/ Управление					
	1.1	Informing	Introduce types of emission and countermeasures. Представьте виды выбросов и счетчиков мер.		Officially Официально	1) PMU ГРП	This plan fulfills this point, and therefore it is considered complete as long as the EMP is periodically (every 6 months) updated for continual improvement.
	1.2	Emergency	a) Every three months has emergency drills. Провести противоаварийную тренировку в каждом три месяце. b) Confirms the role of individual Подтвердить индивидуальную ответственность.	Project Site Площадка проекта	Observation of emergency Наблюдение	1) Contract or Подрядчик 2) Subcontractor Субподрядчик	a) Yes. Emergency drills are taking place and are recorded in the HDEC Monthly Environmental Reports b) Yes
	1.3	Traffic	a) All traffic signs, signals, and road markings must be obeyed. Все дорожные знаки, сигналы и дорожные отметки должны быть соблюдены. b) Authorized transportation of equipments and materials entry to the site Уполномоченная перевозка оборудования и	Project Site Площадка проекта	Inspection of traffic conditions Проверка	1) Contract or Подрядчик 2) Subcontractor	a) Traffic signals and road signs are present on site. Drivers are occasionally observed driving too fast or talking on their phones while working however it is being controlled by HDEC. b) Yes - checks are made on





No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответственные	CS-MM comments as of the 31 June 2016
			вступления материалов на сайт  c) Speed of transport vehicles should be strictly controlled in the access road to TPP  Скорость транспортных средств должны быть строго контролированы на подъездных дорогах к ТЭС.			Субподрядчик	a random basis  c) Yes
	1.4	Monitoring	Monthly monitoring of the following should take place: <ul style="list-style-type: none"> <li>Fuel (m<sup>3</sup>)/ Топливо</li> <li>Electricity (KWh)/ Электричество</li> <li>Water (m<sup>3</sup>)/ Вода</li> </ul>	Project Site Площадка проекта	Observation use of sources Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	Resource records need to be improved. HDEC needs to have more detailed and accurate information.  The water meters have not been installed properly and the actual consumption is not recorded. This is unacceptable.  Overall more environmental resource monitoring needs to take place.
2	Air / Воздух,						
	2.1	Plan / План	Identify all possible air pollution sources related to construction activities Определить все возможные источники загрязнения воздуха.	Project Site Площадка проекта	Examination of air plan Оценка	1) Contractor Подрядчик	HDEC should provide the plan to CS-MM and the PMU.  <b>Conclusion of ecological expertise as well as ПДВ (maximum permitted emissions to air) were obtained for temporary facilities except welding workshops from local</b>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
							<b>environmental authorities</b> , but normative documents for air emissions monitoring should be kept regularly as requested by local environmental permits
	2.2	Exhaust fumes Выхлопные газы	a) Regularly serviced and maintained to be in good condition vehicles and Equipment Транспортные средства и оборудование постоянно обслуживаются и поддерживаются в хорошем состоянии b) Forbid the burning of coal, waste, or wood on site Запретить сжигание угля, отходов или дерева на площадке c) Reduce idle time of all vehicles Уменьшить время простоя всех транспортных средств	Maintenance Area Зона обслуживания Project Site Площадка проекта	Inspection of air emission Проверка  Observation of air pollution Наблюдение	1) Subcontractor Субподрядчик 2) Appropriate manager Соответствующий менеджер	a) Yes - vehicles in bad condition are repaired. The vehicle rental company needs to supply vehicles in good condition. The on-site vehicle repair shop is operational and in good condition. b) No – rarely burning is observed on site. c) Yes – vehicles are not seen idling.
3	Dust / Пыль						
	3.1	Plan / План	Identify all possible dust pollution sources related to construction activities Определить все возможные источники загрязнения пылью, связанные со строительными работами	Project Site Площадка проекта	Examination dust plan Оценка	1) Contractor Подрядчик 2) PMU ГРП	<b>HDEC should provide CS-MM/PMU with the official list of dust sources;</b> dust level monitoring measurement was required by the EIA, <b>the contractor should conduct dust level monitoring measurement as required by the EIA</b>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответственные	CS-MM comments as of the 31 June 2016
							<b>Conclusion of ecological expertise needs to be obtained from local environmental authorities</b>
	3.2	Watering Увлажнение	Watering shall be implemented to control dust where Увлажнение должно быть применено для контроля запыленности: a) Working areas Рабочие зоны b) Exposed areas Открытые зоны c) Active cuts excavation and fill sites Действующие срезы выемки и засыпки	Project Site Площадка проекта	Observation of watering Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	a, b, c) The roads are watered 3-6 times per day using a water truck. <b>It is unknown where the water truck is filled up and the monthly environmental reports do not record the actual quantities of water used.</b>
	3.3	Site control Контроль площадки	a) Minimize size and duration of exposed areas Минимизировать размер и продолжительность открытых зон b) Keep hauling roads in good condition Сохранить транспортировочных дорог в хорошем состоянии.	Project Site Площадка проекта	Observation dust control Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	a) Yes – exposed areas are kept to a minimum wherever possible. Exposed areas are restored  b) Yes - hauling roads are in decent condition, however no engineering of the access roads has taken place.
	3.4	Material control Контроль материалов	Minimize size and duration of materials stockpiles Минимизировать размер и продолжительность склада материалов.	Lay down Складская площадка	Observation material storage Наблюдение	1) Contractor Подрядчик 2) Subcontractor	Yes – size and duration of stockpiles are kept to a minimum.



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
						Субподр ядчик	
	3.5	Material control Контроль материалов	<p>a) Minimum practical height to limit the fugitive dust generation from unloading excavated materials Высота, с которой выкопанные материалы сбрасываются, должна контролироваться до минимальной практической высоты для ограничения образования сдуваемой пыли от разгрузки.</p> <p>b) Cement debagging should take place in a sheltered area.</p> <p>Вынимание из мешков цемента должно происходить на закрытой площадке</p>	<p>Project Site Площадка проекта</p> <p>Batching Plant area</p>	Observation of work Наблюдение	<p>1) Contractor Подрядчик</p> <p>2) Subcontractor Субподрядчик</p>	<p>a) Yes – training has been provided on how to control dust related to excavated materials. Dust is still abundant during excavation on windy and dry days but its difficult to practically reduce this.</p> <p>b) Yes – cement is deposited directly from the train into the bunkers.</p>
	3.6	Vehicle control Контроль транспортных средств	<p>a) Limiting vehicle-entrained dust from unpaved roads Ограничивать пыль, поднимаемую транспортными средствами, с грунтовых дорог</p> <p>b) Limiting vehicle speeds (20 km/h in Project Site) and restricting traffic volumes Ограничение скорости транспортных средств и ограничения объемов транспортных потоков</p> <p>c) Trucks have proper fitting side and tail boards Грузовики должны иметь подходящие боковые и задние откидные стенки</p>	<p>Project Site road Дорога площадк и проекта</p>	Observation of traffic condition Наблюдение	<p>1) Contractor Подрядчик</p> <p>2) Subcontractor Субподрядчик</p>	<p>a) Yes - all roads on site are currently unpaved, however dust is being controlled</p> <p>b) Yes - there are signs on the road limiting speed and vehicles are controlled by HDEC</p> <p>c) Yes</p> <p>d) Yes</p> <p>e) Not presently necessary</p>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
			<p>d) Materials shall also be dampened, if necessary, before transportation Материалы также должны быть увлажнены, если необходимо, перед транспортировкой</p> <p>e) Covering trucks during transport of materials (if required) Накрывать грузовики во время транспортировки материалов</p>				
4	Noise / Шум						
	4.1	Plan / План	<p>a) Identify all possible noise pollution sources related to construction activities Определить все возможные источники шума, относящиеся к строительным работам</p> <p>b) Posting Signboards on construction sites and/or stickers on equipment outlining how affected parties can lodge complaint Установить вывески на строительных площадках и/или наклейки на оборудование с изложением как заинтересованные стороны могут подать жалобу.</p>	Project Site Площадка проекта	Examination of noise plan Оценка	<p>1) Contractor Подрядчик</p> <p>2) Subcontractor Субподрядчик</p>	<p><b>a) They have not been identified in a formal or systematic way. This should be improved and a list should be provided to CS-MM/PMU</b></p> <p><b>Conclusion of ecological expertise needs to be obtained from local environmental authorities</b></p> <p><b>b) Not taking place</b></p>
	4.2	Noise level Уровень шума	<p>a) Inspect noise level of the construction equipment Проверить уровень шума с использованием строительного оборудования</p> <p>b) Equipment Noise limit will comply with Item</p>	Project Site Площадка проекта	Inspection of noise level Проверка	<p>1) Contractor Подрядчик</p> <p>2) Subcontractor</p>	a, b) Noise levels are inspected 4 times per month using a hand held device. The results are provided to CS-MM and the PMU in the environmental



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответственные	CS-MM comments as of the 31 June 2016
			<p>223 of EIA. For example. Direction of Nuristan are limited to 80 dba 1m</p> <p>Оборудование определения шума будет соответствовать пункту 223 ОВОС. Например. Направление Нуристан ограничен на 80 дБА 1м</p> <p>c) Use appropriate PPE (earplug, earmuff) if exceeds noise limits Используйте соответствующие СИЗ (затычка для уш, наушник), если превышает пределы шума</p>			tractor Субподрядчик	monthly reports. <b>It is advised to also record the time of the measurements.</b> absence of licenses/certificate for both the noise meter and for the user <b>c) Not everyone is wearing appropriate PPE for high-level noise. Site staff have been instructed to wear ear protection.</b>
	4.3	Vehicle control Контроль транспортных средств	<p>a) Limiting vehicle speeds (20 km/h at Project Site) Ограничение скорости транспортных средств</p> <p>b) Restrict truck movements at night time and restrict truck movements to major transport routes Ограничить передвижение грузовиков только в ночные часы и ограничить передвижение грузовиков к основным транспортным маршрутам.</p>	Project Site road Дорога площадк и проекта	Observation of traffic control Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	<p>a) Yes – there are occasionally some violations but HDEC is keeping this under control</p> <p>b) Yes – trucks are not currently being used during night shifts</p>
	4.4	Vehicle control Контроль транспортных средств	Regularly serviced and maintained to be in good condition vehicles and Equipment Транспортные средства и оборудование постоянно обслуживаются и поддерживаются в хорошем состоянии	Maintenance area Зона обслуживания	Inspection of repair records Проверка	1) Subcontractor Субподрядчик 2) Appropriate	Yes. There is a vehicle repair workshop on site. All vehicles are kept in good working condition and HDEC is controlling this.





No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответственные	CS-MM comments as of the 31 June 2016
						е manager Соответствующий менеджер	Random checks are carried out and inadequate vehicles are removed. <b>The environmental officer should have a plan for checking the maintenance plans of vehicles and be able to carry out spot checks.</b>
	4.5	Equipment control Контроль оборудования	<p>a) Equipment shall be operated within specifications and capacity Оборудование должно использоваться в пределах спецификаций и мощности</p> <p>b) Equipment shall be operated in as diversified a manner as possible Оборудование должно использоваться максимально диверсифицировано</p> <p>c) Equipment shall be turned off when not in use Оборудование должно выключаться, когда не используется</p> <p>d) Work using machines or vehicles shall be prohibited at night shift work time. Работы с использованием машин или транспортных средств должны быть запрещены в ночное время.</p> <p>e) Air intakes, vents, and stacks should be</p>	Project Site Площадка проекта	Observation work of equipment Наблюдение	<p>1) Contractor Подрядчик</p> <p>2) Subcontractor Субподрядчик</p>	<p>a) Yes</p> <p>b) Yes</p> <p>c) Yes</p> <p>d) Yes - heavy machinery is not being used during night shifts. In the case that it is needed, a working permit must be obtained.</p> <p>e) Yes – vendor packages are being examined to ensure they have the appropriate devices.</p>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответственные	CS-MM comments as of the 31 June 2016
			fitted with suitable noise attenuating equipment (if required) Воздухозаборники, вентиляторы и вентиляционные каналы должны быть оборудованы соответствующим шумопоглощающим оборудованием (при необходимости)				
	4.6	Equipment control Контроль оборудования	Select the time when the environment is least sensitive to noise impact using pile drivers, jack hammers, and rock drills Выбрать время, когда окружающая среда наименее чувствительна к воздействию шума при использовании сваебойных каперов, отбойных молотков и буров	Project Site Площадка проекта	Inspection of noise level Проверка	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	Yes – this is taking place and it should also be noted that the construction site is not near to any sensitive receptors.
5	Waste water / Сточные воды						
	5.1	Plan / План	Identify all possible wastewater pollution sources related to construction activities Определить все возможные источники сточных вод, относящиеся к строительным работам	Project Site Площадка проекта	Examination of wastewater plan Оценка	1) Contractor Подрядчик	<p><b>They have not been identified in a formal or systematic way. This should be improved and a list should be provided to CS-MM/PMU</b></p> <p><b>Conclusion of ecological expertise as well as ПДС (maximum permitted water discharges) were obtained for temporary facilities except welding workshops from local environmental authorities normative documents for</b></p>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
	5.2	Batch plant control Контроль РБУ	Waste water from concrete batching plant operation and shall not be discharged overland Сточные воды, образованные от работы РБУ, не должны сбрасываться на поверхность земли	Batching Plant area Зона РБУ	Observatio n of wastewater Наблюден ие	1) Contra ctor Подрядч ик 2) Subcon tractor Субподр ядчик	<p>waste water monitoring (ПОД-13) should be kept regularly as requested by local environmental permits .</p> <p><b>Inadequate. The draining as the batch plant is not adequate. This issue has been raised constantly in all monthly environmental reports of CS-MM. The drawings for the drainage plans need to be improved and implemented as soon as possible.</b></p> <p>As the batch plant is operational on site, <b>Conclusion of ecological expertise as well as ПДВ (maximum permitted emissions to air) ПДО (maximum permitted waste disposal), ПДС (maximum permitted water discharges) were obtained for the batch plant from local environmental authorities</b> normative documents for monitoring should be kept regularly as requested by</p>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответственные	CS-MM comments as of the 31 June 2016
							local environmental permits
	5.3	Washing water Промывочная вода	Undertake settling and neutralization of alkaline washing water containing excessive cement prior to discharge Произвести осадку и нейтрализацию воды щелочения, содержащей большое количество цемента, до утилизации	Batching Plant area Зона РБУ	Observation of washing water Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	<b>Inadequate. The settling ponds at the batch plant are operational, but not used. The batch plant is in full operation.</b>
	5.4	Washing water Промывочная вода	a) All washing of equipment or machinery shall be undertaken in designated areas Мойка всего оборудования и машин должна производиться в обозначенных зонах b) Washing of equipment areas must be equipped with a suitable impermeable floor and sump/oil trap Зоны мойки должны быть оборудованы подходящими водонепроницаемыми полами источниками колодцами /маслоуловителями.	Truck washing area Зона промывки	Observation of washing area Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	<b>a) No – there is a vehicle washing area on site, however vehicles are not always washed there.</b>  <b>b) Inadequate – the vehicle washing area is not properly paved and the oil trap is not functional. This needs to be improved as soon as possible.</b>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
							As the vehicle washing is operational on site, <b>Conclusion of ecological expertise as well as ПДВ (maximum permitted emissions to air), ПДО (maximum permitted waste disposal), ПДС (maximum permitted water discharges) were obtained for vehicle washing from local environmental authorities</b> normative documents for monitoring should be kept regularly as requested by local environmental permits
	5.5	Waste water emission Выделение сточных вод	Waste water collected within bunded area around the fuelling area be disposed of as hazardous waste Сточные воды, собранные внутри зоны обваловки вокруг заправочной зоны, должны быть утилизированы как опасные отходы	Fuelling area Зона заправки	Observation of wastewater Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	<b>Inadequate. The refueling area does not have proper drainage and therefore the wastewater cannot be collected and discharged effectively.</b> As the fueling station is operational on site, <b>Conclusion of ecological expertise as well as ПДВ (maximum permitted emissions to air), ПДО (maximum permitted waste</b>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
							<b>disposal), ПДС (maximum permitted water discharges) were obtained for fuel station from local environmental authorities, normative documents for monitoring should be kept regularly as requested by local environmental permits</b>
	5.6	Natural water Естественные воды	Natural run-off diverted away from any camps Естественный сток должен быть отведен от строительного городка	Camp area Зона строительного городка	Observation of natural water Наблюдение	a) Contractor Подрядчик b) Subcontractor Субподрядчик	Yes – natural runoff is not entering any of the camps. There have been no heavy rains.
	5.7	Rain water Дождевая вода	Rain water plan to be and implemented for the construction phase of the Project План дождевых вод должен быть применен для строительной фазы Проекта.	Project Site Площадка проекта	Observation of rain water Наблюдение	a) Contractor Подрядчик b) Subcontractor Субподрядчик	<b>HDEC should provide the rain water plan to CS-MM and the PMU.</b>  There has been no heavy rain during this reporting period.
	5.8	Contaminated water	Sand, silt and silt-laden water do not enter the water drain system or KMC	Project Site	Observation of water	a) Contractor	a) Yes this is being controlled.





No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответственные	CS-MM comments as of the 31 June 2016
		Загрязненная вода	Песок, осадок и вода, насыщенная взвешенными наносами не должны попадать в систему дренажа сильных дождевых вод или КМК	Площадка проекта	system Наблюдение	Подрядчик b)Subcontractor Субподрядчик	
	5.9	Material control Контроль материалов	<p>a) All hazardous material storage areas designed to reduce risk of spillages Все зоны хранения опасных материалов должны быть спроектированы для уменьшения риска утечек</p> <p>b) All materials covered during transport to prevent them from spilling (if needed). Все материалы должны быть накрыты во время транспортировки для предотвращения утечки (При необходимости).</p> <p>c)Store all liquid/solid waste properly above ground to avoid spills/leaks Хранение всех жидких/твердых отходов как следует над землей во избежание разлива/утечки</p> <p>d)Develop a hazardous materials and handling plan .provide spill response kits at all HazMat storage areas and work site Разработать план опасных материалов и обработки. Предоставить комплектов</p>	Material storage areas Зоны хранения материалов	Observation of material storage condition Наблюдение	a)Contractor Подрядчик b)Subcontractor Субподрядчик	<p>a) Yes – there are hazardous materials on site at the moment and there is only one storage area designated for all hazardous materials. But, it should be arranged such as to store in compatible materials,</p> <p>b) Not necessary to cover materials.</p> <p>c) Yes – there is minimal liquid waste, and all solid waste is stored above ground.</p> <p>d) <b>Spill kits are not currently available on site. They need to be provided in all areas where hazardous material will be stored and employees must be trained on how to</b></p>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
			<p>ликвидации разливов на всех местах хранения Опасные вещества и на рабочих сайтах.</p> <p>e) Chemicals and fuels on site should be kept to a minimum</p> <p>Химикаты и топлива на площадке должны храниться в минимальном количестве</p>				<p><b>use them. Not all workers are aware of what a spill response kit is or what the procedure is if there is a spill.</b> However there are oil spill trays located at the vehicle repair shop.</p> <p>e) Yes – chemicals and fuels are being kept to a minimum.</p>
	5.10	Straining Фильтрование	Construct of dirt trap, interceptor pond and the attenuation dam (if required) commenced as early as possible in the construction phase Строительство грязеуловителя, отстойника коллектора сточных вод и сдерживающей плотины (при необходимости) должно быть произведено как можно раньше до начала фазы строительства.	Project Site Площадка проекта	Observation of strain system. Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	Not necessary
	5.11	Hazardous waste Опасные отходы	Storage of hazardous waste in bunded areas to avoid leaks escaping to the ground or nearby surface waters Хранение опасных отходов в обвалованных местах, чтобы избежать утечек на землю или поблизости поверхности воды	Hazardous waste bunded area	Observation of hazardous waste Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	There is no designated hazardous waste storage area for storage of hazardous waste. Hazardous waste has not been identified in large quantities on site.
	5.12	Monitoring Контроль	a) Monitoring water quality according to local standards	Project Site	Experimentation of waste water	1) Laboratory	a) Water quality results both for drinking water and wastewater



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
			<p>Контроль качества воды в соответствии с местными стандартами.</p> <p>b) Water samples, sent to Talimarjan TPP laboratory to be tested for water quality.</p> <p>Образцы воды, отправленные на местной лаборатории, которые будут проверены на качество воды.</p>	Площадк а проекта		Лаборат ория	<p>were not presented in the HDEC environmental monthly report since June 2015.</p> <p><b>Furthermore the quality indicators for discharge do not show the locations and quantities of discharge.</b></p> <p>b) No – water samples are not sent to the Talimarjan TPP laboratory. The laboratory has no accreditation certificate.</p>
6	Soil / Почва						
	6.1	Plan / План	<p>Identify all possible soil pollution sources related to construction activities</p> <p>Определить все возможные источники загрязнения почвы, относящиеся к строительным работам</p>	Project Site Площадка проекта	Examination of soil plan. Оценка	1)Contractor Подрядчик	<p><b>They have not been identified in a formal or systematic way. This should be improved and a list should be provided to CS-MM/PMU</b></p> <p><b>How and Where contaminated soil disposed is questioned</b></p> <p><b>Conclusion of ecological expertise needs to be obtained from local environmental authorities</b></p>
	6.2	Site control Контроль площадки	<p>a) Minimize size and duration of exposed areas</p> <p>Минимизировать размер и</p>	Project Site Площадк	Observation of soil emission	1)Contractor Подрядчик	<p>a) Yes</p> <p>b) This point is still unclear</p> <p>c) Yes – the overall slopes of the</p>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
			<p>продолжительность открытых зон</p> <p>b) Minimize the excavation during construction of fuel oil Минимизировать экскаваторные работы во время строительства дамбы топливного масла и известняка</p> <p>c) Minimize the overall slope of the site Минимизировать общий откос площадки</p> <p>d) Ensure good landscaping and erosion control</p> <p>Гарантировать хороший контроль благоустройства и разрушения</p>	а проекта	Наблюдение	ик 2)Subcon tractor Субподр ядчик	site are being controlled d) Yes – there are no observed erosion risks on site, especially given the climate
	6.3	Covering Накрытие	<p>a)Exposed slope surface shall be covered during the rainy day Открытая поверхность склона должна быть накрыта в дождливые дни</p> <p>b)Open stockpiles of construction materials covered during rainy day Открытые склады строительных материалов должны быть накрыты во время ливней</p>	Project Site Площадк а проекта	Observatio n of material store Наблюдение	1)Contra ctor Подрядч ик 2)Subcon tractor Субподр ядчик	a, b) There have been no heavy rains during this reporting period.
	6.4	Sediment Осадок	<p>Sediment tanks can be used for settling wastewater prior to disposal Грязеуловители достаточной могут быть использованы для осаждения сточных вод до утилизации</p>	Equipment Maintenance, Batch plant and Truck washing areas	Inspection of sediment tank ability Проверка	1)Contra ctor Подрядч ик b)Subcon tractor Субподр ядчик	<b>Sediment tanks have not been properly constructed or installed. This needs to take place.</b> See comments to points 5.2, 5.3, 5.4, and 5.5



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответственные	CS-MM comments as of the 31 June 2016
	6.5	Drainage facilities Дренажные устройства	All drainage facilities, erosion and sediment control structures shall be regularly inspected and maintained Все дренажные сооружения, конструкции контроля осадения и эрозии должны постоянно проверяться и обслуживаться		Inspection for maintenance Проверка	a) Contractor Подрядчик b) Subcontractor Субподрядчик	<b>The drainage facilities at the construction site are inadequate.</b> See comments to points 5.2, 5.3, 5.4, and 5.5
	6.6	Vehicle control Контроль транспортных средств	a) All vehicles must be cleaned once in a week Все транспортные средства должны быть очищены один раз в неделю. b) Ensure no earth, mud, debris and the like is deposited by them on roads Обеспечить, чтобы земля, грязь, строительный мусор и тому подобное не скапливались на дорогах	Equipment maintenance shop	Observation of traffic condition Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	<b>a) No Vehicles are washed on a regular basis however the vehicle washing area needs to be improved. See comment on point 5.4</b>  b) Yes – roads are kept clean and free of debris
	6.7	Road control Дорожный контроль	a) All road works separated from surface waters Все дорожные работы должны быть отделены от поверхностных вод b) All roads shall be properly sloped and have adequate culverts to manage run off Все дороги должны быть скошены надлежащим образом и иметь соответствующие водоспуски для управления стоками c) Earth works to construct drainage ditches and to lay subsurface drainage conduits	Project Site road Дорога площадк и проекта	Observation of traffic condition Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	a) N/A - No road works are taking place as of yet b) No road works as of yet, but current access roads are not sloped, paved, and do not have any engineered drainage c) No road works as of yet, however the current access roads do not have drainage ditches or conduits



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
			Земляные работы для строительства дренажных канав и для прокладки каналов подпочвенного дренажа				
	6.8	Excavated material Материалы выемки	<p>a) Excavated materials possible to used reclamation fill Материалы выемки могут быть использованы для повторного заполнения</p> <p>b) Surplus excavated materials quarry over burden, rock rejected for aggregate, aggregate surplus to the requirements and the like not discarded indiscriminately Излишние материалы выемки, избыточные камни, камни, не принятые для заполнения, излишние заполнители и тому подобное не должны беспорядочно списываться</p> <p>c) Different types of surplus excavated materials deposited separately in the spoil dumps designated for the purpose outside the Project site Различные типы материалов выемки могут накапливаться отдельно в отвалах вынутого грунта, предназначенных для данной цели за пределами площадки</p>	Project Site Площадка проекта	Observation of excavated material Наблюдение	1) Contractor Подрядчик 2) Subcontractor	<p>a) Yes</p> <p>b) Yes – this is being controlled by HDEC</p> <p>c) Yes, but surplus excavated soils sometimes are dumped on adjacent land to the quarry Borrow pit has no permit and licences.</p>
7		Overall Spill Control/ Общая управления разливов					
	7.1	Management Управление	<p>a) Any spillage of fuel shall straight away be absorbed using sand or other absorbent materials Любая утечка топлива должна быть незамедлительно впитана</p>	Project Site Площадка проекта	Observation spill Наблюдение	1) Contract or Подрядчик	<b>a) Not adequate – workers are not trained on spill control and there are no spill kits available on site.</b>





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			<p>использованием песка или других впитывающих материалов.</p> <p>b) Develop spill response plan разработать план ликвидации разливов.</p> <p>c) Only people with adequate training and knowledge should handle fuel and chemicals to avoid spills Только люди с адекватной подготовкой и знанием должны управлять топливом и химические вещества, чтобы избежать от утечек.</p> <p>d) Fuelling should be one on concrete surface provided with spill catch tank that can be easily cleaned and all spilled fuel recovered/safety disposed Заправка топливом должна происходить на бетонном покрытии, снабженном коллектором утечки который легко моется и все разлитое топливо восстанавливается /безопасно хранится</p> <p>e) All repair and maintenance work to be done either on concrete surface with oil spill catch basins or oil catch pans provided at all service areas Все ремонтные работы и работы по техническому обслуживанию должны проводиться на бетонной поверхности с</p>		<p>Examination of spill plan Оценка</p> <p>Observation of spilling Наблюдение</p>	<p>2) Subcontractor Субподрядчик</p>	<p><b>b) HDEC has an internal spill response plan and this plan should be well communicated to and implemented by all subcontractors</b></p> <p><b>c) More training should be provided to subcontractors regarding spills and fuel handling.</b></p> <p><b>d) Inadequate – fuelling is done on a concrete surface however there is no spill catch tank</b></p> <p>e) Yes – the repair and maintenance workshop is concrete and there is oil spill tray.</p> <p>f) Yes</p> <p>g) Yes</p> <p>h) Waste oils are not produced in large enough quantities to be recycled.</p> <p>i) Yes</p>



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			<p>коллектором для масла или поддоном-ловушкой для масла, которые должны быть предоставлены на всех сервисных площадках</p> <p>f) Routinely inspect all equipment handling hazardous materials for leaks and spills monthly</p> <p>Регулярно проверять все оборудование оперирующего с опасными материалами на утечки и розлив</p> <p>g) All fuel where spills and leakage area possible e.g. the generator, must have basins installed to prevent leakage</p> <p>На всех местах где возможна утечка и розлив топлива, например генератор, должны быть предоставлены резервуары для предотвращения утечки</p> <p>h) The recovered materials must be recycled monthly</p> <p>Вторичное сырье должно перерабатываться</p> <p>i) Fuelling equipment must be fitted with proper fuel nozzles and devices to avoid accidental spills</p> <p>Заправочное оборудование должно быть оснащено должными топливными форсунками для предотвращения случайных утечек</p>				



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	7.2	Storing Хранение	<p>a) All fuel stored on site shall be kept in drums or in bulk tanks Все топливо, хранимое на площадке, должно держаться в металлических бочках или наливных цистернах</p> <p>b) Fuel storage area should be located at a designated place away from any source of ignition or open drain Зоны хранения топлива должны быть расположены в определенном месте вдали от любых источников возгорания или открытого дренажа</p> <p>c) <b>"NoSmoking"</b> sign displayed at the storage location and a charged fire extinguisher of the correct type Знак <b>«Не курить»</b> должен быть повешен в месте хранения и заряженный огнетушитель соответствующего типа должен быть готов к использованию.</p> <p>d) All fuel tanks and storage areas provided with concrete embankments to readily contain spills Все топливные баки и зоны хранения должны быть предусмотрены с бетонным защитными дамбами для удержания утечек</p> <p>e) Provide spill response kits at all working areas Обеспечить комплекты ликвидации</p>	Fuel Storage area Зона хранения топлива	Observation of oil storage Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	<p>a) Yes – fuel is kept at the refueling area in two large tanks (the area around should be paved over to contain accidental spills)</p> <p>b) Yes</p> <p>c) Yes</p> <p><b>d) Inadequate – the concrete embankment needs to be improved.</b></p> <p><b>e) Inadequate – there are no spill response kits on site.</b></p>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
			разливов на всех рабочих местах				
	7.3	Oil emission Выброс масла	Treat oily wastewater in coalescence separator prior to discharge Обрабатывать нефтезагрязненные промстоки в сепараторе-коагуляторе до слива.	Project Site Площадк а проекта	Observatio n of oily water Наблюден ие	1) Contra ctor Подрядч ик 2) Subcon tractor Субподр ядчик	<b>Inadequate – there is no oil separator at the vehicle washing area. This needs to be improved as soon as possible.</b>
	7.4	Refueling Заправка	Refueling of vehicles shall take place only in designated areas Заправка автомобилей будет пройти только в специально отведенных местах.	Fuel Storage area Зона хранени я топлива	Observatio n of refuelling Наблюден ие	1) Contra ctor Подрядч ик 2) Subcon tractor Субподр ядчик	Yes
	7.5	Training Обучения	Fuel handling training shall include chemical handling in the training program for assigned personnel. Обучения управлением топливом будет включить в себе химическую обработку в программе подготовки для назначенных персоналов.	Training Center Центр обучени я	Training of oil handling Обучение	Contract or Подрядч ик	<b>Training needs to be increased to include environmental emergency situations and chemical handling</b>
8		Waste control/ Контроль отходов					
	8.1	Plan / План	a) Identify all possible waste pollution sources Определить все возможные источники отходов	Project Site Площадка	Examinatio n of waste plan	1) Contra ctor Подрядч	<b>a) They have not been identified in a formal or systematic way. This should</b>



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			<p>b) Procedures detailed in the Material Safety Data Sheet (MSDS) for hazardous materials included in pollutants spillage control plan and followed in the event of an emergency situation Процедуры, детально описанные в Листах данных безопасности материалов для опасных материалов, должны быть включены в план контроля утечки загрязнителей и соблюдаться в случае чрезвычайной ситуации.</p> <p>c) Should have "Keep a waste log" for all type of wastes produced in construction area. Должен иметь "Журнал для отходов» для всех типов отходов, образующихся в строительной площадке.</p>	проекта	Оценка	ик	<p><b>be improved and a list should be provided to CS-MM/PMU</b></p> <p><b>Conclusion of ecological expertise as well as ПДО (maximum permitted waste disposal) were obtained for temporary facilities except welding workshops from local environmental authorities.</b> normative documents for waste monitoring should be kept regularly as requested by local environmental permits <b>b) The spillage control plan needs to be better communicated to all subcontractors</b> <b>c) There is no waste log describing the quantities and types of waste produced on site. It is a requirement of this plan and local environmental regulations.</b></p>
	8.2	Waste Disposal Утилизация отходов	Dispose unusable waste streams at permitted waste disposal facilities Ликвидировать непригодные потоки отходов в разрешенных местах удаление отходов	Disposal facilities Установки утилизации	Observation of waste facility Наблюдение	Waste disposal company Организация коммунальных	the contractor has a contract with a waste disposal company for domestic wastes. Waste from the vehicle maintenance area is taken away and deposited by the vehicle rental company.





No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
						ХОЗЯЙСТВ	<p><b>Conclusion of ecological expertise as well as ПДО (maximum permitted waste disposal) were obtained for temporary facilities except for welding workshops from local environmental authorities.</b></p> <p>normative documents for waste monitoring should be kept regularly as requested by local environmental permits</p>
	8.3	Waste disposal Утилизация отходов	<p>a) Separate waste disposal area shall be designated on the construction site Отдельная зона утилизации отходов должна быть разработана на строительной площадке</p> <p>b) Separate waste disposal area contains clearly demarcated skips and bins to allow different types of waste Отдельная зона утилизации отходов содержит разграниченные контейнеры и мусорные баки для разделения различных типов отходов</p> <p>c) Waste is separated into non-hazardous and hazardous / potentially hazardous prior to reuse, recycling or transport to Landfill Разделение отходов на неопасные и опасные / потенциально опасные перед</p>	Disposal area Зона утилизации	Observation of waste control Наблюдение	<p>1) Contractor Подрядчик</p> <p>2) Subcontractor Субподрядчик</p> <p>3) Disposal company Утилизирующая компания</p>	<p><b>a) No- there is no separate waste disposal area for hazardous waste</b></p> <p><b>b) There are different bins for different types of domestic waste however waste separation is not taking place properly and needs to be improved. Some form of waste identification is required on each and every bin in both Uzbek and Russian.</b></p> <p><b>c) No- waste is not separated into non-hazardous and hazardous/potentially</b></p>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
			повторным использованием, переработкой или транспортировкой на свалку. d) Must be separated to the domestic, metal scrap, used oil, paper, hazardous etc. Должны разделяться на внутренний, металлолом, отработанные масла, бумаги, опасные и т.д.				<b>hazardous</b>
	8.4	Reuse Вторичное использование	a) Re-use the waste during construction Вторично использовать отходы во время строительства b) Re-use or recycle waste streams to other users at other locations Вторично использовать потоки отходов к другим пользователям в других местах c)The design of formwork will maximize the use of standard wooden panels Проект опалубки будет увеличить использование стандартных деревянных панелей d)Alternatives such as steel formwork or plastic facing can be considered to increase the potential for re-use Альтернативы, такие как стальная опалубка или пластмассовая облицовка, могут быть учтены для увеличения возможного повторного использования	Project Site Площадка проекта	Observation of reuse waste. Наблюдение	1)Contractor Подрядчик 2)Subcontractor Субподрядчик	a, b) Yes – reuse takes place where possible. c) Yes d) Yes
	8.5	Recycle Waste	Develop dedicated area for storage of recycled	Out of the	Training of	1)Contra	Behind the rebar shop at the



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответственные	CS-MM comments as of the 31 June 2016
		Переработка	material away from active construction works and near site access point Разработать отдельную зону для продажи переработанных материалов от действующих строительных работ и около места доступа на площадку.	project site Вне площадки	waste disposal Обучение	ctor Подрядчик 2)Subcontractor Субподрядчик	cooling tower there is a temporary storage area for scrap metal. <b>There are bins near the administration building for domestic waste disposal. However they are not being used properly.</b>
	8.6	Rubbish bins Мусорные баки	a) Provide sufficient bins with lids to store the solid waste produced on a daily basis Предоставить достаточное количество баков с крышками для хранения твердых отходов, производимых ежедневно. b) Bins not allowed to become overfull and shall be emptied as a minimum on a weekly basis Баки не должны быть переполнены и должны опустошаться как минимум еженедельно.	Project Site Площадка проекта	Observation of waste disposal Наблюдение	1)Contractor Подрядчик 2)Subcontractor Субподрядчик 3)Disposal company Утилизирующая компания	a) The quantity of waste bins should be increased. Some of the bins provided are too heavy to be manually lifted and therefore need to be emptied using shovels resulting in a high waste to human contact, which is a health risk.  b) The bins are emptied in a timely manner by the waste disposal company
	8.7	Rubbish bins Мусорные баки	Install signage encouraging use of rubbish bins on site and in construction camps Установить знаки, рекомендующие использование мусорных баков на площадке и	a)Project Site Площадка проекта b)Camp	Observation of waste disposal Наблюдение	1)Contractor Подрядчик 2)Subcon	<b>Yes –however inadequate signage and proper separation of waste does not take place.</b>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
			в строительном городке			tractor Субподр ядчик 3) Dispos al company Утилизирую щая компания	
	8.8	Discharge Сброс	Prohibit dumping of dredge material in canal or elsewhere on site Запретить сброс вынутого грунта в КМК, канал и прочие районы на площадке	Project Site Площадк а проекта	Observation of dumping Наблюдени е	1) Contra ctor Подрядч ик 2) Subcon tractor Субподр ядчик	Construction debris in the canal
	8.9	Storing Хранение	a) Design and implement a temporary waste storage area for domestic waste located away from living and eating areas Разработать и применить место временного хранения отходов для бытовых отходов расположенного вдали от жилых мест и мест употребления пищи b) Separation of storage of hazardous and non-hazardous waste Отдельное хранение опасных и неопасных	Project Site Площадк а проекта	Observatio n of waste store area Наблюдени е	1) Contra ctor Подрядч ик 2) Subcon tractor Субподр ядчик	a.) Yes, but not in accordance with local environmental regulations <b>b.) no separation of storage of hazardous and non-hazardous waste</b>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответственные	CS-MM comments as of the 31 June 2016
			отходов				
	8.10	Storing Хранение	Containers used for the storage of chemical wastes shall Контейнеры, используемые для хранения химических отходов, должны  a) Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed Подходить для веществ, которые в них хранятся, быть устойчивыми к коррозии, содержать в хорошем состоянии, и плотно закрываться  b) Stored chemical in roofed areas with concrete flooring. Хранить химикаты в местах с крышей и бетонным полом.	Storage area Зона хранения	Observation of waste store area Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	a) The containers are not suitable for storage of chemical wastes. There is minimal chemical waste produced on site. b) Yes- chemical materials are stored in roofed area with concrete flooring. (Note: here the wording and content of b) is not clear if it is related to the chemical materials or chemical waste)  <b>Conclusion of ecological expertise needs to be obtained from local environmental authorities</b>
	8.11	Storing Хранение	The storage area for chemical waste shall Зона хранения химических отходов должна  a) Be located away from surface water bodies. Находиться вдали от поверхностных вод  b) Be constructed with a weatherproof cover, concrete floor with bunding, and with adequate securable storage bins for waste. Быть построена с устойчивой к погоде крышей, бетонным полом с обваловкой и с	Project Site Площадка проекта	Observation of waste store area Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	<b>a) There is no chemical waste storage area in the project site</b> <b>b) No</b> <b>c) No</b> <b>d) No</b> <b>e) No</b> <b>f) No</b>





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			<p>соответствующими закрепляющимися баками для отходов</p> <p>c) Have appropriate signage and signage system. Иметь соответствующие знаки и систему вывесков.</p> <p>d) Be clearly labeled and used solely for the storage of chemical waste. Быть четко промаркированной и использоваться исключительно для хранения химических отходов</p> <p>e) Been closed on at least 3 sides. Быть закрытой как минимум с трех сторон</p> <p>f) Be arranged such as to separate in compatible materials Быть организованной таким образом, чтобы разделять несовместимые материалы</p>				
	8.12	Training Обучение	<p>Include information on solid waste management in construction worker training program Включить информацию об управлении твердыми отходами в программу обучения строительных рабочих</p>	Training center Учебный центр	Training of waste disposal Обучение	<p>1) Contractor Подрядчик</p> <p>2) Subcontractor Субподрядчик</p>	Yes – this is taking place in the monthly HSE meetings and in the induction sessions for workers.



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	8.13	Separating Сортировка	Wood and other scrap material with a commercial value shall be separated and stored in segregated areas prior to removal Дерево и прочие отходы с коммерческой ценностью должны быть отделены и храниться в отдельных зонах до удаления	Project Site Площадка проекта	Observation of waste control Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	Yes – there is a scrap metal storage area behind the rebar workshop in the cooling tower area.
	8.14	Battery Батареи	a) The dead batteries will be given to specialized organizations for reuse Отработанные батареи будут переданы специализированным организациям для повторного использования	Project Site Площадка проекта	Observation of battery Наблюдение	1) Contractor Подрядчик 2) Subcontractor Субподрядчик	Batteries are removed by the vehicle rental company  <b>Conclusion of ecological expertise were obtained for temporary facilities except welding workshops from local authorities,</b> normative documents for waste monitoring should be kept regularly as requested by local environmental permits
	8.15	Chemical waste Химические отходы	Disposal of chemical waste shall Утилизация химических отходов должна a) Be treated by a licensed waste collector. Обрабатываться лицензированным коллектором отходов b) Be to a facility licensed to receive chemical	Project Site Площадка проекта	Observation of chemical waste Наблюдение	1) Contractor Подрядчик 2) Subcontractor	a, b) There are plans in place for this. <b>Conclusion of ecological expertise needs to be obtained from local authorities</b>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
			<p>waste, such as the chemical waste treatment Быть учреждением, лицензированным на получение химических отходов, таким как учреждение обработки химических отходов</p> <p>c) Hazardous and toxic waste shall not be disposed of on the canal Опасные и токсичные отходы не должны утилизироваться в канал</p> <p>d) Hazardous waste shall be removed from the site property within 6 month. Опасные отходы должны быть удалены с площадки в течение 6 месяцев.</p> <p>e) Hazardous waste shall not be dumped onto the ground, into rain water sewers or into sanitary sewer system Опасные отходы не должны сбрасываться на землю, дождевые стоки или санитарные стоки</p>			<p>Субподрядчик 3)Waste collector Коллектор отходов</p>	<p>c) Yes d) Yes e) Yes – <b>although there is potentially oily waste that is not being disposed of properly at the refueling area, and vehicle maintenance area.</b></p>
	8.16	Waste of catering Кухонные отходы	<p>a)Catering wastes is divided into food waste and non-food waste Кухонные отходы подразделяются на пищевые и непищевые отходы</p> <p>b)All organic food waste generated by kitchen facilities to be disposed of at the farm Все органические пищевые отходы, производимые на кухнях должны утилизироваться на ферме</p> <p>c)Food waste daily removed from the kitchen</p>	Catering Места общественного питания	Observation of catering Наблюдение	<p>1)Contractor Подрядчик 2)Subcontractor Субподрядчик 3)Catering company</p>	<p>a) Yes b) Food waste is taken to farms for disposal c) Yes d) Yes e) <b>Separation of waste needs to improve (see comment to 8.5)</b></p>



No	No	Aspect Аспект	Mitigation Меры по снижению воздействия	Location Место	Monitoring Контроль	Responsible Ответствен ные	CS-MM comments as of the 31 June 2016
			<p>Пищевые отходы должны ежедневно удаляться с кухни</p> <p>d) Food waste always contained in plastic containers for disposal</p> <p>Пищевые отходы должны всегда храниться в пластиковых ящиках для утилизации</p> <p>e) Non-food waste collected in separate containers as beverage cans, packing materials, etc.</p> <p>Непищевые отходы должны собираться в отдельные контейнеры, например, банки из-под напитков, упаковочные материалы и пр.</p>			Компания общественного питания	
	8.17	Oily wastewater Масло содержащие сточные воды	<p>Oil and other lubricants collected in drums and disposed of in accordance with CONTRACTOR instructions</p> <p>Масло и прочие смазки должны собираться в металлические баки и утилизироваться в соответствии с инструкциями Подрядчика</p>	Project Site Площадка проекта	Observation of oily waste water. Наблюдение	<p>1) Contractor Подрядчик</p> <p>2) Subcontractor Субподрядчик</p>	<p><b>Inadequate – oily wastewater is not being disposed of properly and needs to be improved.</b></p> <p><b>Conclusion of ecological expertise were obtained for temporary facilities except welding workshops . normative documents for waste water monitoring should be kept regularly as requested by local environmental permits</b></p>

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